

FACT SHEET

INTENT TO REISSUE A HAZARDOUS WASTE MANAGEMENT PERMIT

Facility Name: Safety-Kleen Systems, Incorporated

Location: 3536 Fite Road
Millington, TN 38053

Owner/Operator: Safety-Kleen Systems, Incorporated

Facility Contact: Ms. Emily DeVore
Vice President of Environmental Compliance
Safety-Kleen Systems, LLC
P.O. Box 2050, Mail Stop 8009
4704 Northeast 22nd Street
Des Moines, IA 50313

Permit Type: Hazardous Waste Storage

Units: Container/Tank/Two Return and Fill Units

EPA Identification Number: TND000614321

Permit Number: TNHW-141

Comment Period: Begins: May 8, 2025
Ends: June 22, 2025

PURPOSE

This fact sheet is prepared pursuant to Tennessee Rule 0400-12-01-.07(7)(d) for the draft Hazardous Waste Permit developed by the Tennessee Department of Environment and Conservation (TDEC) Division of Solid Waste Management (DSWM). The purpose of this permitting process is to afford any interested persons the opportunity to evaluate the ability of Safety-Kleen Systems, LLC., to apply the applicable hazardous waste management requirements. The proposal is for the renewal permit to be reissued under the authority of the Tennessee Hazardous Waste Management Act of 1977, as amended, Tennessee Code Annotated, Section 68-212-101 et. seq., and Tennessee Rule Chapter 0400-12-01 Hazardous Waste Management. The draft permit is prepared in accordance with the provisions of Tennessee Rule 0400-12-01-.07.

FACILITY DESCRIPTION

Safety-Kleen Systems, Inc. (SKS) is an international service-oriented company whose customers are primarily engaged in automotive repair, industrial maintenance, and dry cleaning. Their service center in Millington, Shelby County, Tennessee began operations on September 15, 1982.

The property consists of a ten-acre parcel; a 9,553 square-foot covered warehouse, which houses a container storage area (CSA), product/equipment storage, dock space and a return/fill station. There are six trailers that are used for office space and a break room (only three trailers are actively used). There is also a block building used as a uniform change area and shower facilities. An exterior parking lot used for employee cars and an interior parking area for facility vehicles are also part of the property as are five single-walled aboveground storage tanks (ASTs) located in an enclosed tank farm. These tanks are as follows: One 15,000-gallon vertical tank used to store clean 150 mineral spirits, three 15,000-gallon vertical tanks used to store used oil, and one 10,000-gallon horizontal tank used to store spent mineral spirits.

PERMIT HISTORY

The current permit TNHW-141, was issued September 30, 2009, and was effective for ten years. SKS submitted its permit renewal to DSWM on April 2, 2019, six months before the expiration date and revisions of Part B application on June 2, 2022, thus allowing the facility to continue to operate under the current permit until a final decision is made on their application. DSWM published a public notice announcing receipt of the application that was published in the May 7, 2019, edition of The Millington Star Newspaper and a radio announcement on May 1-17, 2019, with iHeart Media. SKS held a pre-application public meeting on May 22, 2019, as announced May 7, 2019, in The Millington Star Newspaper. No members from the community attended this meeting, and no comments were received.

The current permit, TNHW-141, allows the facility to store a maximum quantity of 10,000 gallons in the aboveground Storage Tank, 17,690 gallons of hazardous waste in the Container Storage Area (CSA), and 375 gallons in the Return and Fill Units. The permitted use of the Container Area (CSA) in the service center warehouse is for the storage of (1) sediment from cleaning the drum washer in the return and fill station; (2) spent immersion cleaner; (3) dry cleaning wastes; (4) aqueous parts cleaner waste; (5) paint wastes; and (6) branch contaminated debris. These types of wastes are not mixed while on site and are segregated in properly labeled containers to indicate their contents.

At the service center, spent parts cleaner solvent and aqueous cleaner may be accumulated in a nominal 10,000-gallon aboveground storage tank via the ancillary return and fill station. Containers of spent solvent are emptied into the two drum washer units at the return and fill station. The solvent is then pumped into the spent solvent storage tank located in the tank farm. The return and fill station has secondary containment in the form of sloped concrete floors and sumps.

The five aboveground storage tanks in the tank farm have been designed in accordance with NFPA standards. They are constructed of carbon steel, painted a light color to reflect sunlight, and minimize corrosion. The secondary containment for the tank farm is a steel reinforced concrete dike measuring approximately 56'8"x38'8"x2'6" which holds approximately 40,980 gallons. Five storage tanks are in the diked area; four are for product and non-hazardous waste and one is for spent parts cleaner solvent. The spent parts cleaner solvent tank may store petroleum naphtha cleaner as well as aqueous cleaner. Each tank is equipped with an audiovisual high-level alarm.

CORRECTIVE ACTION

Included as part of this permit are the corrective action conditions for the solid waste management units (SWMUs) and areas of concern (AOCs) at the facility. SKS is required to investigate any release of hazardous waste or hazardous constituents at the facility, regardless of the time at which waste was placed in a unit, and to take appropriate correct action for any such releases. Presently, there are no SWMUs or AOCs requiring further action in accordance with the corrective action conditions of this permit. The proposed permit also requires notification of imminent hazards, and when applicable compliance with the requirements developed under land disposal restrictions and organic emission standards. Currently there are three SWMUs at the site that require no further action and three SWMUs that will be regulated by this hazardous waste permit.

PROPOSED RENEWAL PERMIT

Based on SKS's application, the DSWM has drafted a permit for public review. The permit is proposed to be reissued under the authority of the Tennessee Hazardous Waste Management Act of 1977, as amended, Tennessee Code Annotated, Section 68-212-101 et seq., and Rule Chapter 0400-12-01, Hazardous Waste Management. In accordance with Rule 0400-12-01-.07(7)(e), a public notice is being issued to provide a 45-day comment period, beginning May 8, 2025. This fact sheet has been prepared to provide additional information. If issued, the permit will be valid for up to 10 years.

If the proposed renewal application is approved, the proposes maximum hazardous waste storage capacity of 17,690 gallons in the container storage area (CSA), 326 gallons in the return/fill station (two wet dumpster) miscellaneous unit and 10,000 gallons in the spent mineral spirit tank.

Solid waste management units (SWMUs) and areas of concern (AOCs) at the facility, including previous or ongoing investigations or corrective actions for all releases of hazardous wastes or hazardous constituents. The conditions of this permit will require that any future and existing SWMUs or AOCs be evaluated for potential releases and remediation, as necessary. Currently there are three SWMUs at the site that require no further action and three SWMUs that will be regulated by this hazardous waste permit.

The draft permit also requires notification of imminent hazards, and when applicable, compliance with the requirements developed under land disposal restrictions and organic emissions standards.

PERMIT FORMAT

The permit format consists of six sections that specify the duties, conditions and other requirements that Safety-Kleen Systems must meet for compliance with their hazardous waste storage permit. An outline of those sections follows.

I. STANDARD CONDITIONS

This section provides the authorization and severability of the permit. Definitions, general duties and requirements, document maintenance, maintenance fee, notices,

precedence, and permit structure are also provided in this section. The language in this section is consistent in all hazardous waste permits issued by the State of Tennessee.

II. GENERAL FACILITY CONDITIONS

This section provides the general conditions that apply to permitted hazardous waste storage and treatment facilities in the State of Tennessee. This section addresses the following: site security, facility inspections, personnel training, financial assurance, recordkeeping and reporting, land disposal restrictions, organic air emission standards, and restriction on ownership of the facility.

III. SPECIFIC CONDITIONS FOR STORAGE IN CONTAINERS

This section provides the specific conditions related to container condition; compatibility; container management; inspection; leaks and spill management; special requirements for ignitable, reactive, and incompatible wastes; and for final closure of the container storage unit.

IV. SPECIFIC CONDITIONS FOR STORAGE IN TANK(S)

This section provides the specific conditions related to tank management of releases; operating requirements; inspection; leaks and spill management; special requirements for ignitable, reactive, and incompatible wastes; final closure of the tank storage; and air emission standards.

V. SPECIFIC CONDITIONS FOR STORAGE IN MISCELLANEOUS UNITS

This section provides the specific conditions related miscellaneous units operating requirements; management of units; management of releases, leaks and spills; inspection; special requirements for ignitable, reactive, and incompatible wastes; final closure of the miscellaneous unit storage; and monitoring and inspections.

VI. SPECIFIC CONDITIONS FOR CORRECTIVE ACTION

This section provides the specific conditions that apply to solid waste management units and areas of concern, which are located on-site and off-site at the facility. The corrective action conditions describe the process that SK shall follow in addressing any release to the environment, which includes the discovery, reporting requirements of a release and the entire investigation/ remediation process.

The following are the attachments to the permit sections. The attachments provide specific procedures and details as to how Safety-Kleen Systems shall comply with the duties, conditions and other requirements specified in those sections.

ATTACHMENT 1. HAZARDOUS WASTES TO BE MANAGED

ATTACHMENT 2. WASTE ANALYSIS PLAN
ATTACHMENT 3. SECURITY
ATTACHMENT 4. INSPECTION
ATTACHMENT 5. PERSONNEL TRAINING
ATTACHMENT 6. CONTINGENCY PLAN
ATTACHMENT 7. CLOSURE PLAN
ATTACHMENT 8. CONTAINER MANAGEMENT
ATTACHMENT 9. TANK MANAGEMENT
ATTACHMENT 10. RETURN AND FILL UNITS MANAGEMENT
ATTACHMENT 11. SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

DOCUMENTS AVAILABLE FOR REVIEW

Electronic copies of the draft permit and fact sheet are available online at <http://tn.gov/environment/notices/sks-millington-intent>, at the DSWM Central Office located at the Davy Crockett Tower, 500 James Robertson Parkway, 7th Floor, Nashville, TN 37243 (615-532-0780) and at the TDEC Memphis Environmental Field Office, 8383 Wolf Lake Drive, Bartlett, TN 38133 (901-371-3000). A paper copy of the draft permit is available for public inspection at the Millington Public Library, 4858 Navy Road, Millington, TN (901-872-1585).

COMMENTS

To comment on the proposal, contact Mr. Brett Harris, Hazardous Waste Permitting/Corrective Action Section Manager, in DSWM's Central Office, Davy Crockett Tower, 500 James Robertson Parkway, 7th Floor, Nashville, TN 37219, by phone at 615-393-9221, or by email at Brett.Harris@tn.gov. **Comments must be received by June 22, 2025 to ensure consideration.**

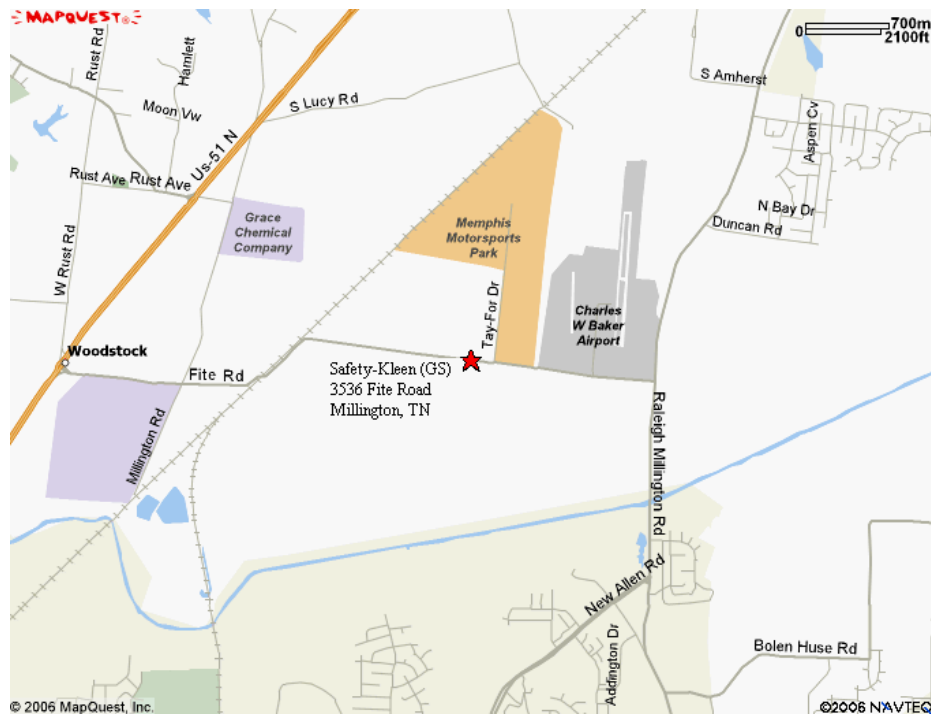
After considering all comments, DSWM will make a final decision to either issue or deny the permit modification. Notice will be given to the applicant and to each person who has submitted written comments or requested notice of the final decision. At the time of a final decision, a Response to Comments addressing all significant input received on the proposed modification will be made available to the public. The final decision shall become effective upon signing by the Director of DSWM.

TDEC is an Equal Employment Opportunity/Affirmative Action (EEO/AA) employer. TDEC does not unlawfully discriminate on any basis prohibited by applicable law in any of its programs, services or activities.

EEO/AA inquiries or complaints may be directed to the EEO/AA Coordinator, Office of General Counsel, at 1-888-867-7455. ADAAA inquiries or complaints should be directed to the ADAAA Coordinator, HR Division, at 1-866-253-5827. Hearing impaired callers may use the Tennessee Relay Service (1-800-848-0298).

If it is hard for you to read, speak, or understand English, TDEC may be able to provide translation or interpretation services free of charge. Please contact Janelle Starke at 615-906-2950 for more information.

Persons who wish to be on DSWM's mailing list should request a Mailing List Request form by calling or writing: Public Participation Officer; TDEC Division of Solid Waste Management, Davy Crockett Tower 7th Floor, 500 James Robertson Parkway, Nashville, TN 37243 (615-532-0798); or e-mail Solid.Waste@tn.gov.



**State of Tennessee
Department of Environment
and Conservation
Division of Solid Waste Management**

**Hazardous Waste Management Program
500 James Robertson Parkway
Davy Crockett Tower, 7th Floor
Nashville, Tennessee 37243**

HAZARDOUS WASTE MANAGEMENT PERMIT

Permittee: Safety-Kleen Systems, Inc.
Facility: Safety-Kleen Systems, Inc.
Owner/ Operator: Safety-Kleen Systems, Inc.
Location: 3536 Fite Road, Millington, TN 38053
Type: Hazardous Waste Storage Units
Unit(s): Container Storage Building, 10,000 Gallon Spent Mineral Spirits Tank Storage, and Miscellaneous (Two Return and Fill)
EPA ID Number: TND000614321
Permit Number: TNHW-DRAFT

Pursuant to the Tennessee Hazardous Waste Management Act, as amended (Tennessee Code Annotated (TCA) 68-212-101 et seq.) and regulations (Rule Chapter 0400-12-01) promulgated there under by the Underground Storage Tanks and Solid Waste Disposal Control Board, a hazardous waste management permit is issued to Safety-Kleen, (hereinafter also referred to as the permittee), to operate a hazardous waste storage facility for the management of hazardous wastes, located in Millington, Tennessee, latitude 36° 16' 24" N and longitude 89° 56' 47" W. The permittee is authorized to store hazardous waste in storage container unit, one tank and two miscellaneous units in accordance with the terms of this permit.

This permit is issued under the authority of T.C.A. §68-212-108. The permittee shall be required to investigate, any releases of hazardous waste or hazardous constituents pursuant to this permit at the facility regardless of the time at which waste was placed in a unit and to take appropriate corrective action for any such releases. The permit also requires the permittee to comply with all land disposal restrictions and air emission standards applicable to this facility, and to notify the appropriate authorities of imminent hazards, and to certify annually that on-site generation of hazardous waste is minimized to the extent practicable.

The permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and the applicable regulations contained in Chapter 0400-12-01 or 0400-12-02, as specified in the permit. Applicable regulations are those from Tennessee Rule (Rule) 0400-12-01-.06 or from Rule 0400-12-01-.03, which are in effect on the date of issuance of the permit. For all other rules in Chapter 0400-12-01 or 0400-12-02, applicable regulations are those in effect on the date of the issuance of this permit and any subsequent modifications to those rules as they become effective.

Continuation, Transfer, Modification, Revocation and Reissuance, and Termination of this permit shall comply with and conform to Rule 0400-12-01-.07(9).

This permit is based on the premise that the information and reports submitted by the permittee prior to issuance of this permit or prior to any subsequent modification to this permit are accurate. Any inaccuracies found in this information or information submitted as required by this permit may be grounds for termination or modification of this permit and enforcement action.

The Commissioner may modify this permit if information is received which was not available at the time of permit issuance and which would have justified the application of different permit conditions at the time of issuance. The permittee must notify the Commissioner of any deviation from or changes in the information in the application which would affect the permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of DRAFT, and shall remain in effect until DRAFT, unless revoked and reissued, or terminated, or continued.

Lisa A. Hughey, CHMM
Director, Division of Solid Waste Management

Date

Facility: Safety-Kleen Systems, Inc.
EPA Identification Number: TND000614321
Permit Number: TNHW-DRAFT

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EPA ID Number: TND000614321

Permit Number: TNHW-DRAFT

I. STANDARD CONDITIONS

A. EFFECT OF PERMIT

The permittee is allowed to store hazardous waste in containers and a tank in accordance with the conditions of this permit. The permittee is allowed to store hazardous waste for up to one year. The permittee is also required to conduct corrective action for any releases of hazardous waste or hazardous constituents in accordance with the conditions of this permit. Any receipt or handling of hazardous waste not authorized in this permit is prohibited, unless such management is not subject to a permit as set forth at Rule 0400-12-01-.07(1)(b), is operating under interim status as set forth in Rule 0400-12-01-.07(3)(a), or is subject to a separate hazardous waste management permit issued by the Tennessee Department of Environment and Conservation (TDEC or Department).

The permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and the applicable regulations contained in Chapter 0400-12-01 or 0400-12-02, as specified in the permit. Applicable regulations are those from Tennessee Rule (Rule) 0400-12-01-.06 or from Rule 0400-12-01-.03, which are in effect on the date of issuance of the permit. For all other rules in Chapter 0400-12-01 or 0400-12-02, applicable regulations are those in effect on the date of the issuance of this permit and any subsequent modifications to those rules as they become effective.

Pursuant to Rule 0400-12-01-.07(8)(g), compliance with this permit during its term constitutes compliance, for the purposes of enforcement, with the Tennessee Hazardous Waste Management Act of 1977, as amended, as it applies to the permitted activities, except for those requirements not included in the permit which: (1) become effective by statute or (2) are promulgated under Rule 0400-12-01-.10 restricting the placement of hazardous waste in or on the land, or (3) are promulgated under Rules 0400-12-01-.06(30), (31), or (32) limiting air emissions. However, this permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in this permit and Rule 0400-12-01-.07(9).

Issuance of this permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local laws or regulations. This permit does not convey any property rights of any sort or any exclusive privilege.

Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Section 3013 or Section 7003 of the Resource Conservation and Recovery Act of 1976 as amended (42 U.S.C.A. 6901 et seq., commonly referred to as RCRA), Sections 104, 106(a) and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C.A. 9601 et seq., commonly known as CERCLA), Sections 68-212-206(a), 207, and 215(c) of the Tennessee Hazardous Waste

Management Act of 1983, as amended, or any other law providing for protection of public health or the environment.

B. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

C. DEFINITIONS

For the purpose of this permit, terms used herein shall have the same meaning as those in Rules 0400-12-01-.01, 0400-12-01-.02, 0400-12-01-.06, 0400-12-01-.07, and 0400-12-01-.10, and T.C.A § 68-212-101 et. seq., unless this permit or any attachment to this permit specifically provides otherwise. Where terms are not defined in the regulations or the permit, the meaning associated with such terms shall be as defined by applicable U.S. Environmental Protection Agency (EPA) and TDEC guidelines or publications. Otherwise, the generally accepted scientific or industrial meaning of the term or the standard dictionary reference shall apply.

1. “Above ground tank” means a device meeting the definition of “tank” in Rule 0400-12-01-.01 and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface, and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.
2. “Act” means the Tennessee Hazardous Waste Management Act, as amended, Tennessee Code Annotated (T.C.A.) §§ 68-212-101 et seq.
3. “Ancillary equipment” means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal off-site.
4. “Annual” means a period not to exceed 365 days but not within 180 days of a prior event.
5. “Area of concern” or “AOC” means any area having a probable release of a hazardous waste or hazardous constituent that is not from a solid waste management unit and is determined by the Commissioner to pose a current or potential threat to human health or the environment. Such areas of concern may require investigations and remedial action as required by this permit and Rule 0400-12-01-.07(8)(b)2(ii), in order to ensure adequate protection of human health and the environment.

6. “At reasonable times” shall mean, for the purposes of this permit condition, at least but not limited to, any time the facility is in operation.
7. “Board” means the Underground Storage Tanks and Solid Waste Disposal Control Board established by T.C.A. §68-211-111.
8. “Commissioner” means the Commissioner of the Tennessee Department of Environment and Conservation (formerly the Tennessee Department of Health and Environment) or his authorized representative.
9. “Compatible” means that the commingling with other hazardous secondary materials will not produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases; or that the placement in a particular unit will not cause detectable corrosion or decay of containment materials (e.g., container inner liners or tank walls.)”
10. “Container” means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.
11. “Contamination” refers to the presence of any hazardous constituent in a concentration which exceeds the naturally occurring concentration of that constituent in the immediate vicinity of the unit (i.e., having higher concentrations of a constituent as compared to nearby areas that have not been affected by the unit).
12. “Corrective action” shall be defined as all activities, including activities conducted beyond the facility boundary, that are proposed or implemented to facilitate assessment, monitoring, and active or passive remediation of releases of hazardous waste or hazardous constituents to soil, groundwater, surface water, or the atmosphere associated with SWMUs and/or AOCs and/or areas of contamination located at the facility or off-site, as required by Rule 0400-12-01-.06(6)(k) and (l), or as otherwise required and specified by this permit.
13. A “corrective action management unit” or “CAMU” means any area within a facility that is used for managing remediation wastes for implementing corrective action or cleanup at the facility.
14. “Corrective measures” include all corrective action necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any solid waste management unit at the facility, regardless of the time at which the waste was placed in the unit, as required under Rule 400-12-01-.06(6)(l). Corrective measures may address releases to air, soil, sediment, surface water or groundwater.
15. “CO” means in the permit compliance.
16. “Daily” means a calendar day not to exceed 24 hours.

17. “Department” means the Tennessee Department of Environment and Conservation.
18. “Division Director” or “Director” means the Director of the Division of Solid Waste Management of the Department, or his designee. This person also serves as the Technical Secretary to the Board, and functions as the chief of staff to both the Commissioner and the Board in matters relating to these rules and their implementation.
19. “Dry Weight Equivalent” as used within this permit means the total volume capacity of a container regardless of its contents being solid or liquid.
20. “Electronic manifest” or “e-Manifest” means the electronic format of the hazardous waste manifest that is obtained from EPA’s national e-Manifest system and transmitted electronically to the system, and that is the legal equivalent of EPA Forms 87100-22 (Manifest) and 8700-22A (Continuation Sheet).
21. “Electronic manifest system” or “e-Manifest system” means EPA’s national information technology system through which the electronic manifest may be obtained, completed, transmitted, and distributed to users of the electronic manifest and to regulatory agencies.
22. “Extent of contamination” is defined as the horizontal and vertical area in which the concentrations of hazardous constituents in the environmental media are above detection limits or background concentrations indicative of the region, whichever is appropriate as determined by the Commissioner.
23. “Facility” means:
 - (a) All contiguous land, structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste, or for managing hazardous secondary materials prior to reclamation. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).
 - (b) For the purposes of implementing corrective action under Rule 0400-12-01-.06(6)(I), all contiguous property under the control of the owner or operator seeking a permit under the Tennessee Hazardous Waste Management Act, T.C.A. §§ 68-212-101 et seq. This definition also applies to facilities implementing corrective action under T.C.A. §§ 68-212-111.
 - (c) Notwithstanding subparagraph (b) of this definition, a remediation waste management site is not a facility that is subject to Rule 0400-12-01-.06(6)(I) but is subject to corrective action requirements if the site is located within such a facility.
24. “Free Liquids” means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

25. “Hazardous waste” means a hazardous waste as defined in Rule 0400-12-01-.02(1)(c).
26. “Hazardous waste constituent” means a constituent that caused the Board to list the hazardous waste in Rule 0400-12-01-.02(4), or a constituent listed in Table 1 of Rule 0400-12-01-.02(3)(e).
27. “Hazardous waste management unit” (HWMU) is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system, and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.
28. “Incompatible waste” means a hazardous waste which is unsuitable for:
- (a) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or
 - (b) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.
29. “Institutional controls” (ICs) are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the corrective measures.
30. “Interim measures” or (IM) means actions necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented.
31. “Land disposal” when used in respect to a specified hazardous waste, shall be deemed to include, but not limited to any placement of such hazardous waste in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, or underground mine or cave.
32. “Landfill” includes any disposal facility or part of a facility where hazardous waste is placed in or on a land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

- 33. “Leak Detection and Repair Program” or “LDAR Program” means the processes and procedures set forth in Subsections II.P, II.Q, II.R and Rules 0400-12-01-.06(30), (31), and (32).
- 34. “Leak detection system” means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.
- 35. “Management” or “waste management” or “hazardous waste management” means the orderly control of storage, transportation, treatment and disposal of hazardous waste.
- 36. “Manifest” means the shipping document EPA Form 8700-22 (including, if necessary, EPA Form 8700-22A), or the electronic manifest originated and signed in accordance with the applicable requirements of Rule 0400-12-01-.03 through 0400-12-01-.06.
- 37. “Manifest tracking number” means the alphanumeric identification number (i.e., a unique three letter suffix preceded by nine numerical digits), which is pre-printed in Item 4 of the Manifest by a registered source.
- 38. “Miscellaneous unit” means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 CFR part 146 (as that Federal Regulation exists on the effective date of these rules), containment building, corrective action management unit, unit eligible for a research, development, and demonstration permit under Rule 0400-12-01-.07(1)(g), or staging pile.
- 39. “Monthly” means recurring by the end of the same day of the following month, but no later than the last day of the following month (e.g., if an action required to be conducted monthly is taken on the 3rd of a month, then the action must be conducted again by midnight ending the 3rd of the following month).
- 40. “Off-site” means any site which is not on-site.
- 41. “On-site” means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, are also considered on-site property.

- 42. “Point of compliance” or “POC” refers to the vertical surface located at the hydraulically down gradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated unit.
- 43. “Quarterly” means a period not to exceed 90 days.
- 44. “Registered engineer”, “registered professional engineer”, or “qualified professional engineer” shall mean a person authorized to perform engineering in Tennessee pursuant to Tennessee Code Annotated, Title 62, Chapter 2.
- 45. “Release” means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents.
- 46. “Remediation waste” means all solid and hazardous wastes, all media (including groundwater, surface water, soil and sediment), and debris, that are managed for implementing cleanup.
- 47. “Screening levels” means health-based concentrations of hazardous constituents determined to be indicators for the protection of human health and/or the environment.
- 48. “Semi-annual” means a minimum of two times per calendar year such that at least five months and no more than seven months have elapsed since the last semi-annual event.
- 49. “Solid waste” means a waste as defined in Rule 0400-12-01-.02(1)(b).

A “solid waste management unit” (SWMU) means any unit that has been used for the treatment, storage, or disposal of solid waste at any time, irrespective of whether the unit is or ever was intended for the management of solid waste. Permitted or interim status hazardous waste management units are also solid waste management units. Solid waste management units include areas that have been contaminated by routine and systematic releases of hazardous waste or hazardous constituents, excluding one-time accidental spills that are immediately remediated and cannot be linked to solid waste management activities, e.g., product or process spills.

- 50. “Storage” means the containment of hazardous waste in such a manner as not to constitute disposal of such hazardous waste.
- 51. “Sump” means any pit or reservoir that meets the definition of tank and those troughs/trenches connected to it that serve to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile rules, “sump” means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

52. “Surface impoundment” or “impoundment” means any facility or part of a facility which is a natural topographic depression, man-made excavation or diked area formed primarily of earthen materials, though it may be lined with man-made materials, which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.
53. “Tank” means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.
54. “Tank System” means any hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.
55. A “temporary unit” means any temporary tanks or container storage areas used solely for treatment or storage of hazardous remediation wastes during specific remediation activities. Designated by the Commissioner, such units must conform to specific standards and may only be in operation for the period of time as specified in this permit.
56. A “unit” includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank, container storage area, septic tank, drain field, wastewater treatment unit, elementary neutralization unit, transfer station, or recycling unit.
57. “User of the electronic manifest system” means a hazardous waste generator, a hazardous waste transporter, an owner or operator of a hazardous waste treatment, storage, recycling, or disposal facility, or any other person that:
- a. Is required to use a manifest to comply with:
 - (i) Any federal or state requirement to track the shipment, transportation, and receipt of hazardous waste or other waste material that is shipped from the site of generation to an off-site designated facility for treatment, storage, recycling, or disposal; or
 - (ii) Any federal or state requirement to track the shipment, transportation, and receipt of rejected wastes or regulated container residues that are shipped from a designated facility to an alternative facility, or returned to the generator.
 - b. Elects to use the system to obtain, complete and transmit an electronic manifest format supplied by the EPA electronic manifest system, or
 - c. Elects to use the paper manifest form and submits to the system for data processing purposes a paper copy of the manifest (or data from such a paper

copy), in accordance with Rule 0400-12-01-.06(5)(b)1(ii)(V) or Rule 0400-12-01-.05 or item Rule 0400-12-01-.06(5)(b)1(ii)(V) of Rule 0400-12-01-.06. These paper copies are submitted for data exchange purposes only and are not the official copies of record for legal purposes.

58. “Weekly” means recurring by the end of the same day of the following week (e.g., if an action required to be conducted weekly is taken on a Monday, then the action must be taken again by midnight ending the following Monday).

D. GENERAL DUTIES AND REQUIREMENTS

1. Duty to Comply: The permittee must comply with all conditions of this permit, except that the permittee need not comply with the conditions of the permit to the extent and for the duration such noncompliance is authorized in an emergency permit (see Rule 0400-12-01-.07(1)(d)). Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
2. Duty to Reapply: If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The permittee must submit a new application at least 180 calendar days before the expiration date of the effective permit, unless permission for a later date has been granted by the Commissioner. The Commissioner shall not grant permission for applications to be submitted later than the expiration date of the existing permit. The permittee must follow the procedural requirements of Rule 0400-12-01-.07(1)(m).
3. Need to Halt or Reduce Activity Not a Defense: It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. Duty to Mitigate: In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.
5. Proper Operation and Maintenance: The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

6. Permit Actions: This permit may be modified, revoked and reissued, or terminated for cause as specified in Rule 0400-12-01-.07(9)(c). The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes under Subparagraph I.D.12(a) or anticipated noncompliance under Subparagraph I.D.12(b) does not stay any existing permit condition.
7. Property Rights: This permit does not convey any property rights of any sort, or any exclusive privilege.
8. Duty to Provide Information: The permittee shall furnish to the Commissioner, within a reasonable time, any relevant information which the Commissioner may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Commissioner, upon request, copies of records required to be kept by this permit.
9. Inspection and Entry: The permittee shall allow the Commissioner, or any authorized representative, upon presentation of credentials and other documents as may be required by law, to:
 - (a) Enter, at reasonable times, upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 - (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit;
 - (d) Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location; and
 - (e) Make photographs for the purpose of documenting items of compliance or noncompliance at waste management units, or where appropriate to protect legitimate proprietary interests, make such photographs for him or her. If the permittee makes a claim of proprietary information, then the permittee shall make the photographs and submit them to the inspector pursuant to Rule 0400-12-01-.01(7) within 15 calendar days.
10. Monitoring and Records

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The permittee shall perform all monitoring in accordance with the methods described in this permit, including the attachments, or as follows. If not specified in this permit, the methods used to obtain, pack, mark, label, and ship a representative waste sample or media sample to be analyzed must be the appropriate methods from Appendix I of Rule 0400-12-01-.02(30) and the EPA Region 4 Science and Ecosystem Support Division's Field Branches Quality System and Technical Procedures (most recent version), or an equivalent method approved by the Commissioner. Media include soil, sediment, water, wastewater, and tissue. If not specified elsewhere in this permit, the type and size of containers for each constituent/parameter, the methods of preservation, holding times, and other sample preparation requirements used to prepare and preserve representative samples to be analyzed, must be the appropriate methods from EPA Region 4 Science and Ecosystem Support Division's Laboratory Operations and Quality Assurance Manual (most recent version). If not specified elsewhere in this permit, the methods used to handle and manage samples and other types of evidence after their collection and during delivery to the laboratory must be the appropriate methods from EPA Region 4 Science and Ecosystem Support Division's Field Branches Quality System and Technical Procedures Sample and Evidence Management Operating Procedure (most recent version), or an equivalent method approved by the Commissioner. Methods for the collection and handling of air, gas, or vapor samples must receive prior approval by the Commissioner. If not specified elsewhere in this permit, laboratory methods must be those specified in the most recent edition of Test Methods for Evaluating Solid Waste: Physical/ Chemical Methods, SW-846, or an equivalent method approved by the Commissioner.
- (b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, the certification required by Rule 0400-12-01-.06(5)(d)2(ix), and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report, certification, or application, or until corrective action is completed, whichever date is later. The permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and, for disposal facilities, for the post-closure care period as well. These periods may be extended by request of the Commissioner at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.
- (c) Records of monitoring information shall include:
- (i) The date, exact place, and time of sampling or measurements;

- (ii) The individual(s) who performed the sampling or measurements;
 - (iii) The date(s) analysis were performed;
 - (iv) The individual(s) who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses.
11. Signatory Requirement: All applications, reports, or information submitted to the Commissioner shall be signed and certified. All signatures and certifications shall satisfy the requirements of Rule 0400-12-01-.07(2)(a).
12. Reporting Requirements
- (a) Planned changes: The permittee shall give written notice to the Commissioner as soon as possible of any planned physical alterations or additions to the permitted facility. The notice shall include at a minimum, a summary of the planned change, the reason for the planned change, and a proposed time frame for the change to occur. If a SWMU or AOC is impacted, the notice shall include a discussion of the impact(s) the planned change will have on the ability to investigate contamination at or from the SWMU or AOC, and a discussion of the impact(s) the planned change will have on the known or suspected on-site and off-site contamination.
 - (b) Anticipated noncompliance: The permittee shall give advance notice to the Commissioner as soon as possible of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a facility being modified, the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility except as provided in Rule 0400-12-01-.07(9)(c)5, until:
 - (i) The permittee has submitted to the Commissioner by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and
 - (I) The Commissioner has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or
 - (II) Within 15 calendar days of the date of submission of the letter in Rule 0400-12-01-.07(8)(a)12(ii)(I), the permittee has not received notice from the Commissioner of his or her intent to

inspect, prior inspection is waived, and the permittee may commence treatment, storage, or disposal of hazardous waste.

- (c) Transfers: This permit is not transferable to any person except after notice to the Commissioner. The Commissioner may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act. (See Rule 0400-12-01-.07(9)(b); in some cases, modification or revocation and reissuance is mandatory.)
- (d) Monitoring reports: Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (e) Compliance schedules: Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 calendar days following each schedule date.
- (f) Twenty-four-hour reporting:
 - (i) The permittee shall orally report any noncompliance or any imminent or existing hazard from a release of hazardous waste or hazardous constituent which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances, including:
 - (I) Information concerning release of any hazardous waste or hazardous constituent that may cause an endangerment to public drinking water supplies.
 - (II) Any information of a release or discharge of hazardous waste or hazardous constituent, or of a fire or explosion from the hazardous waste management facility, which could threaten the environment or human health outside the facility.
 - (ii) The description of the occurrence and the cause shall include:
 - (I) Name, address, and telephone number of the owner or operator;
 - (II) Name, address, and telephone number of the facility;
 - (III) Date, time, and type of incident;
 - (IV) Name and quantity of material(s) involved;

- (V) The extent of injuries, if any;
 - (VI) An assessment of actual or potential hazards to the environment and human health outside the facility where this is applicable; and
 - (VII) Estimated quantity and disposition of recovered material that resulted from the incident.
- (iii) A written submission shall also be provided within five (5) calendar days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Commissioner may waive the five-day written notice requirement in favor of a written report within 15 calendar days.
- (g) Manifest discrepancy report: If a discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within 15 calendar days, the permittee must submit a letter report, including a copy of the manifest, to the Commissioner as outlined in Subparagraph II.J.13(c).
 - (h) Unmanifested waste report: Such report must be submitted to the Commissioner within 15 calendar days of receipt of unmanifested waste as outlined in Paragraph II.K.4.
 - (i) Annual report: An annual report must be submitted covering facility activities during the previous calendar year as outlined in Paragraph II.K.3.
 - (j) Other noncompliance: The permittee shall report all instances of noncompliance not reported under Subparagraph I.D.12(d), (e), and (f), at the time monitoring reports are submitted. The reports shall contain the information listed in Rule 0400-12-01.07(8)(a)12(vi).
 - (k) Other information: Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Commissioner, it shall promptly submit such facts or information.
13. Information Repository: The Commissioner may require the permittee to establish and maintain an information repository at any time, based on the factors set forth in Rule 0400-12-01-.07(7)(e)4(v)(II). The information repository will be governed by the provisions in Rule 0400-12-01-.07(7)(e)4(v)(III) through (VI).

14. Continuation of Expiring Permit: When the permittee has made timely and sufficient application for a new permit, the existing permit does not expire until the Commissioner has made a final determination on issuance or denial and, in case the application is denied, or the terms of the new permit are limited, until the last day for seeking review of the Commissioner's order or a later date fixed by order of the reviewing court.
15. Obligation for Corrective Action: Pursuant to the requirements of Section VI, Specific Conditions for Corrective Action, the permittee is required to select and implement corrective actions as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit. The permittee is required to continue this permit for any period necessary to comply with the corrective action requirements of this permit. If corrective action is expected to continue beyond the expiration date of this permit, the permittee is required to meet the reapplication requirement in Paragraph I.D.2.

E. PROPRIETARY INFORMATION

In accordance with Rules 0400-12-01-.01(7) and .07(1)(h), the permittee may assert a claim of confidentiality when submitting any proprietary information required by this permit.

F. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The permittee shall maintain at the facility, until closure is completed and certified by a qualified professional engineer, the following documents and amendments, revisions, and modifications to these documents:

1. A copy of this permit;
2. Waste analysis plan(s) required by this permit;
3. Personnel training documents and records required by this permit;
4. Contingency plan required by this permit;
5. Closure plan(s) required by this permit;
6. Operating and other applicable administrative records as required by this permit and Chapter 0400-12-01; and
7. Inspection records required by this permit.

G. ANNUAL MAINTENANCE FEE

The permittee shall submit to the Commissioner annual maintenance fees as required by Rule 0400-12-01-.08.

H. REQUIRED NOTICES

1. The permittee that is arranging or has arranged to receive hazardous waste subject to Rule 0400-12-01-.03(9) from a foreign source must submit the following required notices:
 - (a) As per Rule 0400-12-01-.03(9)(e)2, for imports where the competent authority of the country of export does not require the foreign exporter to submit to it a notification proposing export and obtain consent from EPA and the competent authorities for the countries of transit, the permittee, if acting as the importer, must provide notification of the proposed transboundary movement in English to EPA using the allowable methods listed in Rule 0400-12-01-.03(9)(e)2(i) at least 60 calendar days before the first shipment is expected to depart the country of export. The notification may cover up to one year of shipments of wastes having similar physical and chemical characteristics, the same United Nations classification, the same RCRA waste codes and OECD waste codes, and being sent from the same foreign exporter.
 - (b) As per Rule 0400-12-01-.03(9)(e)4(ii)(XV), a copy of the movement document bearing all required signatures must be sent, within three working days of receipt of the shipment to the foreign exporter, to the competent authorities of the countries of export and transit that control the shipment as an export and transit shipment of hazardous waste respectively; and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The original of the signed movement document must be maintained at the facility for at least three years. The permittee may satisfy this recordkeeping requirement by retaining electronically submitted documents in the facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that copies are readily available for viewing and production if requested by any EPA or authorized state inspector. No permittee may be held liable for the inability to produce the documents for inspection under this subpart if the permittee can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system for which the permittee bears no responsibility.
 - (c) As per Rule 0400-12-01-.03(9)(e)6(iv), if the facility has physical control of the waste and it must be sent to an alternate facility or returned to the country of export, such permittee must inform EPA, using the allowable methods listed in Rule 0400-12-01-.03 (9)(e)2(i) of the need to return or arrange alternate management of the shipment.

(d) As per Rule 0400-12-01-.03(9)(e)7, such permittee shall:

- (i) Send copies of the signed and dated confirmation of recovery or disposal, as soon as possible, but no later than 30 calendar days after completing recovery or disposal of the waste in the shipment and no later than one calendar year following receipt of the waste, to the foreign exporter, to the competent authority of the country of export that controls the shipment as an export of hazardous waste, and for shipments recycled or disposed of on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system.
- (ii) If the facility performed any of recovery operations R12, R13, or RC16, or disposal operations D13 through D15, or DC17, the receiving facility shall promptly send copies of the confirmation of recovery or disposal that it receives from the final recovery or disposal facility within one year of shipment delivery to the final recovery or disposal facility that performed one of recovery operations R1 through R11, or RC16, or one of disposal operations D1 through D12, or DC15 to DC16, to the competent authority of the country of export that controls the shipment as an export of hazardous waste, and for confirmations received on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The recovery and disposal operations are defined in Rule 0400-12-01-.03(9)(b).

2. If the permittee receives hazardous waste from an off-site source (except where the permittee is also the generator), he must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The permittee must keep a copy of this written notice as part of the operating record.
3. Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the permittee must notify the new owner or operator in writing of the requirements of this permit and Rules 0400-12-01-.07 and .08.

(Comment: The permittee's failure to notify the new owner/operator of the requirements of this permit condition in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.

I. ORDER OF PRECEDENCE

In the event of any inconsistency between the permit conditions and the material contained in any attachment to this permit, the permit conditions shall take precedence.

J. PERMIT STRUCTURE

This permit is organized, numbered, and referenced according to the following outline form:

I. Section

A. Subsection

1. Paragraph

(a) Subparagraph

(i) Part

(I) Subpart

(A) Item

EPA ID Number: TND000614321

Permit Number: TNHW-DRAFT

II. GENERAL FACILITY CONDITIONS

A. HAZARDOUS WASTES TO BE MANAGED

The hazardous wastes to be managed in the unit(s) as authorized by this permit, are identified in Attachment 1. The permittee shall not manage any other hazardous wastes identified by Rule 0400-12-01-.02 in the unit authorized by this permit, until this permit has been appropriately modified.

B. OPERATION AND MAINTENANCE OF THE FACILITY

The permittee must maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous materials, hazardous secondary material constituents, hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

C. SAMPLING, ANALYSIS, AND MONITORING

1. General Waste Analysis

Before the permittee stores any hazardous waste, he must obtain a detailed chemical and physical analysis of a representative sample of the waste or documented process knowledge of the waste. At a minimum, the analysis must contain all the information which must be known to manage the waste in accordance with this permit and Rule 0400-12-01-.10.

2. Waste Analysis Plan

- (a) The permittee shall follow the procedures described in the Waste Analysis Plan found in Attachment 2. The permittee may change the format or style of the forms in Attachment 2. Additions may be made to the forms, if deemed necessary, to provide the information needed to properly manage the facility in the event that those additions do not change the intent of the required content. Deletions of any information from the forms must be approved in advance in writing by the Commissioner as a modification to this permit. The permittee must keep this plan at the facility.
- (b) The permittee must ensure that the Waste Analysis Plan, required by Subparagraph II.C.2(a) above, at a minimum, specifies:
 - (i) The parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters;

- (ii) The test methods which will be used to test for these parameters;
 - (iii) The sampling method which will be used to obtain a representative sample of the waste to be analyzed;
 - (iv) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;
 - (v) For off-site facilities, the waste analysis the hazardous waste generators have agreed to supply; and
 - (vi) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in Paragraph II.G.3 and Subsection II.O, II.P, II.Q, and II.R.
 - (c) For off-site facilities, the Waste Analysis Plan, required by Subparagraph II.C.2(a) above, must also specify the procedures to be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan shall describe:
 - (i) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and
 - (ii) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.
3. Frequency of Analysis: The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:
- (a) When the permittee is notified or has reason to believe that the process or operation generating the hazardous waste has changed; and
 - (b) For off-site facilities, when the results of the inspection required in Subparagraph II.C.4(a) below indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.
4. Additional Analysis
- (a) The permittee must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity

of the waste specified on the accompanying manifest or shipping paper. The procedure which shall be followed is described in the Waste Analysis Plan, Attachment 2.

- (b) The permittee shall inspect and, if necessary, analyze all standing liquid in the secondary containment system(s) prior to its release from the facility. Sampling and analysis shall be performed as necessary to determine whether the liquid is a hazardous waste and how to properly manage it.
5. Sampling and Monitoring: Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The permittee shall perform all monitoring in accordance with the methods described in this permit including the attachments. If not specified in this permit, the method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of Rule 0400-12-01-.02(30), the most recent version of the USEPA Region 4, Science and Ecosystem Support Division's (SESD) Field Branches Quality System and Technical Procedures or an equivalent method approved by the Commissioner. If not specified in this permit, procedures for sampling media must be identified in the latest edition of the Field Branches Quality System and Technical Procedures, or an equivalent method approved by the Commissioner. Laboratory methods must be those specified in the most recent edition of Test Methods for Evaluating Solid Waste Physical/Chemical Methods.

D. SECURITY

- 1. The permittee must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility. The permittee must maintain security for the facility as described in Attachment 3, Security.
- 2. The permittee must post a sign with the legend, "Danger - Unauthorized Personnel Keep Out," or language to that effect, at each entrance to any active portion of the facility, and at other locations, in sufficient numbers to be seen from any approach to the active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility and must be legible from a distance of at least 25 feet.

E. GENERAL INSPECTION REQUIREMENTS

- 1. Inspections: The permittee must inspect the facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to (1) a release of hazardous waste or hazardous constituents to the environment or (2) a threat to human health. The permittee must inspect each listed item per the inspection schedule on the inspection form(s) in Attachment 4, Inspection. The inspection type and frequency shall be in accordance with Attachment 4.

2. Remedies: The permittee must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action shall be taken immediately.
3. Inspection Records: The permittee must record inspections in an inspection log or summary. The permittee must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. The permittee may change the format or style of the form(s) in Attachment 4 Inspections. Additions may be made to the forms if deemed necessary to provide the information needed to properly manage the facility if those additions do not change the intent of the required content. Deletions must be submitted to the Division as a modification request.

F. PERSONNEL TRAINING

The permittee must ensure that facility personnel successfully complete a program of classroom instruction and/or on the job training that teaches them to perform their duties in a way that ensures the permittee's compliance with this permit and the Tennessee Hazardous Waste Management Regulations. The permittee must ensure that the training program is directed by a person(s) trained in hazardous waste management procedures and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

1. Training Program: The training program shall at least conform to the personnel training included in this subsection and Attachment 5, Personnel Training. The permittee must ensure that the training program is, at a minimum, designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:
 - (a) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
 - (b) Key parameters for automatic waste feed cut-off systems;
 - (c) Communications or alarm systems;
 - (d) Response to fires or explosions;
 - (e) Response to groundwater contamination incidents; and
 - (f) Shutdown of operations.

2. Timing: Facility personnel must successfully complete the program within six months after the effective date of their employment or assignment to the facility, or to a new position at the facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements of this permit.
3. Annual Review: Facility personnel must take part in an annual review of the initial training required by this permit.
4. Training Documents and Records: The permittee must maintain the following documents and records at the facility:
 - (a) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;
 - (b) A written job description for each position listed in Subparagraph II.F.4(a). This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;
 - (c) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under Subparagraph II.F.4(a); and
 - (d) Records that document that the training or job experience required under Paragraphs II.F.1, 2 and 3 has been given to, and completed by, facility personnel.
5. Retention of Training Records: Training records on current personnel must be kept until closure of the facility; training records on former employees shall be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

G. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

1. The permittee must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to; open flames, smoking, cutting, and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat producing chemical reactions), and radiant heat. While ignitable or reactive waste is handled, the permittee must confine smoking and open flames to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

2. Where specifically required by this permit, the permittee that stores ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactions which:
 - (a) Generate extreme heat or pressure, fire or explosions, or violent reactions;
 - (b) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
 - (c) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
 - (d) Damage the structural integrity of the device or facility; or
 - (e) Through other like means threaten human health or the environment.
3. When required to comply with Paragraph II.G.1 or 2, the permittee must document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in Rule 0400-12-01-.06(2)(d)), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

H. PREPAREDNESS AND PREVENTION

1. Operation and Maintenance of the Facility: The permittee must maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.
2. Required Equipment: At a minimum, the permittee must equip the facility with the equipment listed in the Attachment 6, Contingency Plan, and with the following:
 - (a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;
 - (b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;
 - (c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

- (d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.
- 3. Testing and Maintenance of Equipment: All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.
- 4. Access to Communications or Alarm Systems: The permittee must ensure that:
 - (a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.
 - (b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance.
- 5. Required Aisle Space: The permittee must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility operation in an emergency. Aisle space shall also be provided between the containers and the limits (e.g., walls and containment curbs) of the container storage areas.
- 6. Arrangements with Local Authorities
 - (a) The permittee must attempt to make the following arrangements, as appropriate for the type of waste authorized to be managed by this permit and the potential need for the services of these organizations:
 - (i) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;
 - (ii) Where more than one police or fire department might respond to an emergency, agreements designating primary emergency authority to a specific, police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;
 - (iii) Arrangements with State emergency response teams, emergency response contractors, and equipment suppliers;

- (iv) Arrangements to familiarize local hospitals with the properties of hazardous wastes handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility; and
- (v) The permittee shall provide written information regarding waste quantities, types, and locations, to state and local authorities [including State Emergency Response Commissions (SERCs) and Local Emergency Response Commissions (LERCs)] and first responders for the purpose of emergency preparedness and prevention, and shall place a copy of this information in the facility's operating record, as well as to update such information as necessary, and shall provide the updates to state and local authorities and first responders. This information shall contain the following:
 - (I) Waste types (ignitable, reactive etc.)/names;
 - (II) Approximate quantities of each waste type;
 - (III) General locations of waste at the facility;
 - (IV) The layout of the facility;
 - (V) General locations within the facility where personnel normally work; and
 - (VI) Entrances and roads inside the facility and possible evacuation routes.

The facility shall submit the emergency and contingency information using paper and electronic format and also have such information readily accessible during an emergency.

- (b) Where State or local authorities decline to enter into such arrangements, the permittee must document this refusal in the operating record.

7. Loading and Unloading Operations

Prevention of hazards at the container loading (storage) area shall be accomplished by several means.

- (a) Hazardous waste shipments received at the facility shall be routed to the Shipment/Receiving Area, where the conveyance will be surveyed, as applicable, inspected (visually to determine if the containers in the shipment are the number and, type as identified on the manifest) and prepared for off-loading. Within 48-hours after hazardous waste has been received at the

facility, the waste will be unloaded, inspected, tracking system labeled, sampled for fingerprint analyses as applicable, and put into storage by trained operations personnel. Fingerprint analyses on each shipment of waste shall be completed within 48 hours of receipt at the facility as applicable.

- (b) Containers of hazardous waste shall be checked for proper closure, labeling, and proper placement prior to unloading.
- (c) Operational equipment (fork-lift trucks, straps, etc.) shall be properly maintained to prevent the occurrence of a spill or release of hazardous waste due to equipment malfunctions.
- (d) The loading and unloading area shall be checked prior to use for potential hazards due to aisle space obstructions, for improper container management practices, and for cleanliness.

I. CONTINGENCY PLAN: The permittee must have a contingency plan for the facility.

- 1. Purpose of the Contingency Plan: The Contingency Plan, contained in this permit as Attachment 6 must, at all times be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.
- 2. Implementation of Plan(s): The permittee must immediately carry out the provisions of the Contingency Plan, Attachment 6 whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment.
- 3. Content of the Contingency Plan
 - (a) The Contingency Plan, Attachment 6, must describe the actions facility personnel must take to comply with Paragraphs II.I.1 through II.I.7 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.
 - (b) The Contingency Plan, Attachment 6, must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to Paragraph II.H.6.
 - (c) The Contingency Plan, Attachment 6, must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see Paragraph II.I.6), and this list must be kept up to date. Where

more than one person is listed, one must be named as primary emergency coordinator, and others must be listed in the order in which they will assume responsibility as alternates.

- (d) The Contingency Plan, Attachment 6, must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the Contingency Plan in Attachment 6, must include the location and a physical description of each item on the list, and a brief outline of its capabilities.
 - (e) The Contingency Plan, Attachment 6, must include an evacuation plan for facility personnel where there is a possibility that an evacuation could be necessary. This evacuation plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).
4. Copies of Contingency Plan: The permittee must maintain, at the facility, a copy of the Contingency Plan and its subsequent revisions. In addition, the Contingency Plan and all revisions to the plan shall be submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.
5. Amendments to Contingency Plan: The permittee must review and immediately amend the Contingency Plan whenever:
- (a) This permit is revised;
 - (b) The Contingency Plan fails in an emergency;
 - (c) The facility changes its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous constituents, or changes the response necessary in an emergency;
 - (d) The list of emergency coordinators changes; or
 - (e) The list of emergency equipment changes.
6. Emergency Coordinator: There must be, at all times, at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's Contingency Plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all

records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the Contingency Plan.

7. Emergency Procedures

- (a) Whenever there is an imminent or actual emergency situation the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:
 - (i) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and
 - (ii) Notify appropriate State or local agencies with designated response roles if their help is needed.
- (b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.
- (c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).
- (d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:
 - (i) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and
 - (ii) He must immediately notify the Tennessee Emergency Management Agency (using their 24-hour toll free number 800/262-3300) and/or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:
 - (I) Name and telephone number of reporter;
 - (II) Name and address of facility;

- (III) Time and type of incident (e.g., release, fire);
 - (IV) Name and quantity of material(s) involved, to the extent known;
 - (V) The extent of injuries, if any; and
 - (VI) The possible hazards to human health, or the environment, outside the facility.
- (e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.
- (f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.
- (g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

(Comment: Unless the permittee can demonstrate, in accordance with Rule 0400-12-01-.02(1)(c)3 or 4, that the recovered material is not a hazardous waste, the permittee becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Rules 0400-12-01-.03, 0400-12-01-.04 and 0400-12-01-.06.)
- (h) The emergency coordinator must ensure that, in the affected area(s) of the facility:
 - (i) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and
 - (ii) All emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use before operations are resumed.
- (i) The permittee must note in the operating record the time, date, and details of any incident that requires implementing the Contingency Plan. Within 15 calendar days after the incident, he must submit a written report on the incident to the Commissioner. The report must include:

- (i) Name, address, and telephone number of the permittee;
- (ii) Name, address, and telephone number of the facility;
- (iii) Date, time, and type of incident (e.g., fire, explosion);
- (iv) Name and quantity of material(s) involved;
- (v) The extent of injuries, if any;
- (vi) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- (vii) Estimated quantity and disposition of recovered material that resulted from the incident.

J. MANIFEST SYSTEM

1. Use of the Manifest System

- (a) If a facility receives hazardous waste accompanied by a manifest, the permittee or his agent must sign and date the manifest as indicated in Subparagraph II.J.1(b) to certify that the hazardous waste covered by the manifest was received, that the hazardous waste was received except as noted in the discrepancy space of the manifest, or that the hazardous waste was rejected as noted in the manifest discrepancy space.
- (b) If a facility receives a hazardous waste shipment accompanied by a manifest, the permittee or his agent must:
 - (i) Sign and date, each copy of the manifest;
 - (ii) Note any discrepancies (as defined in Subparagraph II.J.12(a)) on each copy of the manifest;
 - (iii) Immediately give the transporter at least one copy of the manifest;
 - (iv) Within 30 days of delivery, send a copy (Page 2) of the manifest to the generator;
 - (v) Beginning June 30, 2021, the requirement to submit the top copy (Page 1) of the paper manifest and any paper continuation sheet to the e-Manifest system for purposes of data entry and processing may be met by the permittee only by transmitting to the EPA system an image file of Page 1 of the manifest and any continuation sheet, or by transmitting to the EPA system both a data file and the image file

corresponding to Page 1 of the manifest and any continuation sheet, within 30 calendar days of the date of delivery. Submissions of copies to the e-Manifest system shall be made to the electronic mail/submission address specified at the e-Manifest program website's directory of services; and

- (vi) Retain at the facility a copy of each manifest for at least three years from the date of delivery.
- (c) If the permittee receiving hazardous waste subject to Rule 0400-12-01-.03(9) from a foreign source must:
 - (i) Additionally list the relevant consent number from consent documentation supplied by EPA to the facility for each waste listed on the manifest, matched to the relevant list number for the waste from block 9b. If additional space is needed, the permittee should use a Continuation Sheet(s) (EPA Form 8700-22A); and
 - (ii) Send a copy of the manifest within 30 days of delivery to EPA using the addresses listed in Rule 0400-12-01-.03(9)(c)5 until the facility can submit such a copy to the e-Manifest system per Part II.J.1(b)(v).

2. Bulk Shipments: If the facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the Installation Identification Numbers, generator's certification, and signatures), the permittee, or his agent, must:

- (a) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;
- (b) Note any significant discrepancies (as defined in Subparagraph II.J.13(a)) each copy of the manifest or shipping paper;

(Comment: The Department does not intend that the permittee whose procedures under Subparagraph II.C.2(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Subparagraph II.J.12(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.)

- (c) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

- (d) Within 30 calendar days after the delivery, send a copy of the signed and dated manifest or a signed and dated copy of the shipping paper (if the manifest has not been received within 30 calendar days after delivery) to the generator; and

(Comment: Rule 0400-12-01-.03(3)(d)3 requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).)

- (e) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

3. Initiating a Shipment: Whenever a shipment of hazardous waste is initiated from the facility, the permittee must comply with the manifesting requirements of Rule 0400-12-01-.03. The provisions of Rule 0400-12-01-.03(1)(f), 0400-12-01-.03(1)(g), and 0400-12-01-.03(1)(h) are applicable to the onsite accumulation of hazardous wastes by generators. Therefore, the provisions of Rule 0400-12-01-.03(1)(f), 0400-12-01-.03(1)(g), and 0400-12-01-.03(1)(h) only apply to owners or operators who are shipping hazardous waste which they generated at that facility or operating as a large quantity generator consolidating hazardous waste from very small quantity generators under Rule 0400-12-01-.03(1)(h)6.
4. As per Rule 0400-12-01-.03(9)(e)4(ii)(XV), within three working days of the receipt of a shipment subject to Rule 0400-12-01-.03(9), the permittee must provide a copy of the movement document bearing all required signatures to the foreign exporter, to competent authorities of all other countries of export and transit that control the shipment as an export and transit of hazardous waste respectively; and on or after the electronic import-export reporting compliance date, to EPA electronically using EPA's Waste Import Export Tracking System (WIETS), or its successor system. The original copy of the movement document must be maintained at the facility for at least three years from the date of signature. The permittee may satisfy this recordkeeping requirement by retaining electronically submitted documents in the facility's account on EPA's Waste Import Export Tracking System (WIETS), or its successor system, provided that copies are readily available for viewing and production if requested by any EPA or authorized state inspector. The permittee may not be held liable for the inability to produce the documents for inspection under this paragraph if the permittee can demonstrate that the inability to produce the document is due exclusively to technical difficulty with EPA's Waste Import Export Tracking System (WIETS), or its successor system, for which the permittee bears no responsibility.
5. A facility must determine whether the consignment state for a shipment regulates any additional wastes (beyond those regulated Federally) as hazardous wastes under its state hazardous waste program. The permittee must also determine

whether the consignment state or generator state requires the facility to submit any copies of the manifest to these states.

6. Legal equivalence to paper manifests: Electronic manifests that are obtained, completed, and transmitted in accordance with Rule 0400-12-01-.03(3)(a)1(iii), and used in accordance with this paragraph in lieu of the paper manifest form are the legal equivalent of paper manifest forms bearing handwritten signatures, and satisfy for all purposes any requirement in this permit to obtain, complete, sign, provide, use, or retain a manifest.
- a) Any requirement in this permit for the permittee to sign a manifest or manifest certification by hand, or to obtain a handwritten signature, is satisfied by signing with or obtaining a valid and enforceable electronic signature within the meaning of Rule 0400-12-01-.03(3)(f).
 - b) Any requirement in this permit to give, provide, send, forward, or to return to another person a copy of the manifest is satisfied when a copy of an electronic manifest is transmitted to the other person.
 - c) Any requirement in this permit for a manifest to accompany a hazardous waste shipment is satisfied when a copy of an electronic manifest is accessible during transportation and forwarded to the person or persons who are scheduled to receive delivery of the hazardous waste shipment.
 - d) Any requirement in this permit for the permittee to keep or retain a copy of each manifest is satisfied by the retention of the facility's electronic manifest copies in its account on the e-Manifest system, provided that such copies are readily available for viewing and production if requested by any EPA or authorized state inspector.
 - (e) The permittee shall not be held liable for the inability to produce an electronic manifest for inspection under this permit if the permittee or his agent can demonstrate that the inability to produce the electronic manifest is due exclusively to a technical difficulty with the electronic manifest system for which the permittee bears no responsibility.
 - (f) The permittee or his agent may participate in the electronic manifest system either by accessing the electronic manifest system from the permittee's electronic equipment, or by accessing the electronic manifest system from portable equipment brought to the permittee's site by the transporter who delivers the waste shipment to the facility.
7. Special procedures applicable to replacement manifests: If a facility receives hazardous waste that is accompanied by a paper replacement manifest for a manifest that was originated electronically, the following procedures apply to the delivery of the hazardous waste by the final transporter:

- a) Upon delivery of the hazardous waste to the designated facility, the permittee or his agent must sign and date each copy of the paper replacement manifest by hand in Item 20 (Designated Facility Certification of Receipt) and note any discrepancies in Item 18 (Discrepancy Indication Space) of the replacement manifest,
 - b) The permittee or his agent must give back to the final transporter one copy of the paper replacement manifest,
 - c) Within 30 calendar days of delivery of the hazardous waste to the designated facility, the permittee or his agent must send one signed and dated copy of the paper replacement manifest to the generator, and send an additional signed and dated copy of the paper replacement manifest to the EPA e-Manifest system, and
 - d) The permittee must retain at the facility one copy of the paper replacement manifest for at least three years from the date of delivery.
8. Special procedures applicable to electronic signature methods undergoing tests: If the permittee, using an electronic manifest, signs this manifest electronically using an electronic signature method which is undergoing pilot or demonstration tests aimed at demonstrating the practicality or legal dependability of the signature method, then the permittee or his agent shall also sign with an ink signature the facility's certification of receipt or discrepancies on the printed copy of the manifest provided by the transporter. Upon executing its ink signature on this printed copy, the permittee shall retain this original copy among its records for at least three years from the date of delivery of the waste.
9. Imposition of user fee for electronic manifest use
- (a) As prescribed in 40 CFR § 264.1311, and determined in 40 CFR § 264.1312, the permittee who is a user of the electronic manifest system shall be assessed a user fee by EPA for the submission and processing of each electronic and paper manifest. EPA shall update the schedule of user fees and publish them to the user community, as provided in 40 CFR § 264.1313.
 - (b) The permittee subject to user fees under this paragraph, shall make user fee payments in accordance with the requirements of 40 CFR § 264.1314, subject to the informal fee dispute resolution process of 40 CFR § 264.1316, and subject to the sanctions for delinquent payments under 40 CFR § 264.1315
10. Electronic manifest signatures: Electronic manifest signatures shall meet the criteria described in Rule 0400-12-01-.03(3)(f).

11. Post-receipt manifest data corrections: After facilities have certified to the receipt of hazardous wastes by signing Item 20 of the manifest, any post-receipt data corrections may be submitted at any time by any interested person (e.g., waste handler) shown on the manifest.
- (a) Interested persons must make all corrections to manifest data by electronic submission, either by directly entering corrected data to the web-based service provided in e-Manifest for such corrections, or by an upload of a data file containing data corrections relating to one or more previously submitted manifests.
 - (b) Each correction submission must include the following information:
 - (i) The Manifest Tracking Number and date of receipt by the facility of the original manifest(s) for which data are being corrected;
 - (ii) The item number(s) of the original manifest that is the subject of the submitted correction(s); and
 - (iii) For each item number with corrected data, the data previously entered, and the corresponding data as corrected by the correction submission.
 - (c) Each correction submission shall include a statement that the person submitting the corrections certifies that to the best of his or her knowledge or belief, the corrections that are included in the submission will cause the information reported about the previously received hazardous wastes to be true, accurate, and complete:
 - (i) The certification statement must be executed with a valid electronic signature; and
 - (ii) A batch upload of data corrections may be submitted under one certification statement.
 - (d) Upon receipt by the system of any correction submission, other interested persons shown on the manifest will be provided electronic notice of the submitter's corrections.
 - (e) Other interested persons shown on the manifest may respond to the submitter's corrections with comments to the submitter, or by submitting another correction to the system, certified by the respondent as specified in subparagraph II.J.12(c), and with notice of the corrections to other interested persons shown on the manifest.

12. Manifest Discrepancies

- (a) Manifest discrepancies are:
 - (i) Significant differences (as defined by Subparagraph II.J.13(b)) between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives;
 - (ii) Rejected wastes, which may be a full or partial shipment of hazardous waste that the TSDF cannot accept; or
 - (iii) Container residues, which are residues that exceed the quantity limits for “empty” containers set forth in Rule 0400-12-01-.02(1)(g)2.
- (b) Significant differences in quantity are for bulk waste, variations greater than 10 percent in weight; and for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant differences in type or obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.
- (c) Upon discovering a significant difference in quantity or type, the permittee must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 calendar days after receiving the waste, the permittee must immediately submit to the Commissioner a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.
- (d) Upon rejecting waste or identifying a container residue that exceeds the quantity limits for “empty” containers set forth in Rule 0400-12-01-.02(1)(g)2, the permittee must consult with the generator prior to forwarding the waste to another facility that can manage the waste. If it is impossible to locate an alternative facility that can receive the waste, the permittee may return the rejected waste or residue to the generator. The permittee must send the waste to the alternative facility or to the generator within 60 calendar days of the rejection of the container residue identification.
 - i) While the permittee is making arrangements for forwarding rejected wastes or residues to another facility, the permittee must ensure that either the delivering transporter retains custody of the waste, or the permittee must provide for secure, temporary custody of the waste, pending delivery of the waste to the first transporter designated on the manifest prepared under Paragraphs II.J.13(e) and II.J.13(f).

- (e) Except as provided in Part II.J.13(e)(vii), for full or partial load rejections and residues that are to be sent off-site to an alternate facility, the facility is required to prepare a new manifest in accordance with Rule 0400-12-01-.03(3)(a) and the following instructions:
- (i) Write the generator's Installation Identification Number in Item 1 of the new manifest. Write the generator's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the generator's site address, then write the generator's site address in the designated space in Item 5.
 - (ii) Write the name of the alternate designated facility and the facility's Installation Identification Number in the designated facility block (Item 8) of the new manifest.
 - (iii) Copy the Manifest Tracking Number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest and indicate that the shipment is a residue or rejected waste from the previous shipment.
 - (iv) Copy the Manifest Tracking Number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a).
 - (v) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.
 - (vi) Sign the Generator's/Officer's Certification to certify, as the offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation and mail a signed copy of the manifest to the generator identified in Item 5 of the new manifest.
 - (vii) For full load rejections that are made while the transporter remains present at the facility, the facility may forward the rejected shipment to the alternate facility by completing Item 18b of the original manifest and supplying the information on the next destination facility in the Alternate Facility space. The facility must retain a copy of this manifest for its records, and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new manifest and comply with Parts II.J.13(e)(i), II.J.13(e)(ii), II.J.13(e)(iii), II.J.13(e)(iv), II.J.13(e)(v), and II.J.13(e)(vi).

- (f) Except as provided Part II.J.13(f)(vii), for rejected wastes and residues that must be sent back to the generator, the facility is required to prepare a new manifest in accordance with Rule 0400-12-01-.03(3)(a) and the following instructions:
- (i) Write the facility's Installation Identification Number in Item 1 of the new manifest. Write the facility's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the facility's site address, then write the facility's site address in the designated space for Item 5 of the new manifest.
 - (ii) Write the name of the initial generator and the generator's Installation Identification Number in the designated facility block (Item 8) of the new manifest.
 - (iii) Copy the Manifest Tracking Number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest and indicate that the shipment is a residue or rejected waste from the previous shipment.
 - (iv) Copy the Manifest Tracking Number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a).
 - (v) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.
 - (vi) Sign the Generator's/Officer's Certification to certify, as offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation.
 - (vii) For full load rejections that are made while the transporter remains at the facility, the facility may return the shipment to the generator with the original manifest by completing Item 18a and 18b of the manifest and supplying the generator's information in the Alternate Facility space. The facility must retain a copy for its records and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new manifest and comply with Parts II.J.13(f)(i), II.J.13(f)(ii), II.J.13(f)(iii), II.J.13(f)(iv), II.J.13(f)(v), II.J.13(f)(vi) and II.J.13(f)(viii).
 - (viii) For full or partial load rejections and container residues contained in non-empty containers that are returned to the generator, the

facility must also comply with the exception reporting requirements in Rule 0400-12-01-.03(5)(c)1.

- (g) If a facility rejects a waste or identifies a container residue that exceeds the quantity limits for “empty” containers set forth in Rule 0400-12-01-.02(1)(g)2 after it has signed, dated, and returned a copy of the manifest to the delivering transporter or to the generator, the facility must amend its copy of the manifest to indicate the rejected wastes or residues in the Discrepancy space of the amended manifest. The facility must also copy the Manifest Tracking Number from Item 4 of the new manifest to the Discrepancy space of the amended manifest and must re-sign and date the manifest to certify to the information as amended. The facility must retain the amended manifest for at least three years from the date of amendment, and must within 30 calendar days, send a copy of the amended manifest to the transporter and generator that received copies prior to their being amended.

K. RECORDKEEPING AND REPORTING

The permittee must keep a written operating record at the facility.

1. Operating Record: The following information must be recorded by the permittee, as it becomes available, and maintained in the operating record for three years unless noted as follows:
 - (a) A description and the quantity of each hazardous waste received and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by Rule 0400-12-01-.06(57), Appendix I. This information must be maintained in the operating record until closure of the facility;
 - (b) The location of each hazardous waste within the facility and the quantity at each location. This information must include cross-references to specific manifest document numbers if the waste was accompanied by a manifest. This information must be maintained in the operating record until closure of the facility;
 - (c) Records and results of waste analysis and waste determinations performed as specified in Subsections II.C, II.G, II.O, II.P, II.Q, and II.R;
 - (d) Summary reports and details of all incidents that require implementing the Contingency Plan as required by Subparagraph II.I.7(i).
 - (e) Records and results of inspections required by Paragraph II.E.3;
 - (f) Monitoring, testing or analytical data and corrective action where required by Sections III and IV and Subsections, II.P, II.Q, and II.R. This information

must be maintained in the operating record for three years, except for records and results pertaining to groundwater monitoring and cleanup, which must be maintained in the operating record until closure of the facility;

- (g) For off-site facilities, notices to generators as required by Paragraph I.H.2;
- (h) All closure cost estimates as required by Paragraph II.N.2 and 3. This information must be maintained in the operating record at the facility until closure of the facility;
- (i) A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment;
- (j) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under Rule 0400-12-01-.10(1)(g) or (h);
- (k) For an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under Rule 0400-12-01-.10(1)(g) or 0400-12-01-.10(1) (h);
- (l) Any records required under Rule 0400-12-01-.06(1)(b)9(xiii),
- (m) Certifications as required by Rule 0400-12-01-.06(10)(g)6 must be maintained in the operating record until closure of the facility.

2. Availability, Retention, and Disposition of Records

- (a) All records, including plans, required by this permit must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of the Department who is duly designated by the Commissioner.
- (b) The retention period for all records required under this permit is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Commissioner or Board.

3. Annual Report

- (a) The permittee must prepare and submit a single copy of an annual report to the Commissioner by March 1 of each year.
- (b) Annual reports must be submitted on forms provided by the Department and in accordance with the instructions accompanying the form.
- (c) The annual report must cover facility activities during the previous calendar year and must include the following information:
 - (i) The installation identification number, name, and address of the facility;
 - (ii) The calendar year covered by the report;
 - (iii) For off-site facilities, the installation identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator;
 - (iv) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information must be listed by installation identification number of each generator;
 - (v) The method of treatment, storage or disposal for each hazardous waste;
 - (vi) For generators who treat, store, or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated;
 - (vii) For generators who treat, store, or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984; and
 - (viii) The certification signed by the permittee or his authorized representative.

4. Unmanifested Waste Report: If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper (bulk shipments) as described in Rule 0400-12-01-.04(3)(a)5, and if the waste is not excluded from the manifest requirement by Rule 0400-12-01-.02(1)(e), then the permittee must prepare and

submit a letter to the Commissioner within fifteen calendar days after receiving the waste. The unmanifested waste report must be submitted on EPA Form 8700-13B. Such report must be designated "Unmanifested Waste Report" and include the following information:

- (a) The Installation Identification Number, name, and address of the facility;
 - (b) The date the facility received the waste;
 - (c) The Installation Identification Number, name, and address of the generator and the transporter, if available;
 - (d) A description and the quantity of each unmanifested hazardous waste the facility received;
 - (e) The method of treatment, storage, or disposal for each hazardous waste;
 - (f) The certification signed by the permittee or his authorized representative; and
 - (g) A brief explanation of why the waste was unmanifested, if known.
5. Additional Reports: In addition to submitting unmanifested waste reports and the annual report required by Paragraphs II.K.3 and 4, the permittee must also report to the Commissioner:
- (a) Releases, fires, and explosions as specified by Subparagraph II.I.7(i) and in the Attachment 6, Contingency Plan;
 - (b) Certifications of closures as required by Paragraph II.L.7; and
 - (c) As otherwise required by this Section and Section III, IV, V, and VI.

L. CLOSURE

1. Performance Standard

- (a) The permittee must close the facility in a manner that:
 - (i) Minimizes the need for further maintenance;
 - (ii) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and

- (iii) Complies with the closure requirements of Rule 0400-12-01-.06(7) and, as applicable, the requirements of Rules 0400-12-01-.06(9)(i), 0400-12-01-.06(10)(h), and (17).
 - (b) The permittee shall close the facility in accordance with the Closure Plan, Attachment 7.
- 2. Amendment to Closure Plan(s): The permittee must submit a written notification of or request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the procedures in Rule 0400-12-01-.07(9). The written notification or request must include four (4) paper copies and one electronic copy of the amended Closure Plan for review or approval by the Commissioner.
 - (a) The permittee may submit a written notification or request to the Commissioner for a permit modification to amend the closure plan(s) at any time prior to the notification of partial or final closure of the facility.
 - (b) The permittee must submit a written notification of or request for a permit modification to authorize a change in the approved closure plan whenever:
 - (i) Changes in operating plans or facility design affect the closure plan; or
 - (ii) There is a change in the expected year of closure, if applicable; or
 - (iii) In conducting partial or final closure activities, unexpected events require a modification of the approved Closure Plan.
 - (c) The permittee must submit a written request for a permit modification including at least four (4) copies of the amended Closure Plan for approval at least 60 calendar days prior to the proposed change in facility design or operation, or no later than 60 calendar days after an unexpected event has occurred which has affected the Closure Plan. If an unexpected event occurs during the partial or final closure period, the permittee must request a permit modification no later than 30 calendar days after the unexpected event. The Commissioner will approve, disapprove, or modify this amended plan in accordance with the procedures in Rule 0400-12-01-.07. In accordance with Rule 0400-12-01-.07(8)(b), the approved Closure Plan will become a condition of this permit.
 - (d) The Commissioner may request modification to the plan under the conditions described in Subparagraph II.L.2(b). The permittee must submit the modified plan within 60 calendar days of the Commissioner's request or within 30 calendar days if the change in facility conditions occurs during

partial or final closure. Any modifications requested by the Commissioner will be approved in accordance with the procedures in Rule 0400-12-01-.07.

3. Notification of Partial and Final Closure

- (a) The permittee must notify the Commissioner in writing at least 45 calendar days prior to the date on which he expects to begin final closure of the facility.
- (b) The date when the permittee "expects to begin closure" must be no later than 30 calendar days after the date on which any hazardous waste management unit receives the known final volume of hazardous waste, or; if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous waste, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the permittee can demonstrate to the Commissioner that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Commissioner may approve an extension to this one-year limit.
- (c) If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order under the Act, to cease receiving hazardous wastes or to close, then the requirements of this paragraph do not apply. However, the permittee must close the facility in accordance with the deadlines established in Paragraph II.L.5.

4. Removal of Wastes and Decontamination or Dismantling of Equipment: Nothing in this Subsection (II.L) shall preclude the permittee from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

5. Time Allowed for Closure

- (a) Within 90 calendar days after receiving the final volume of hazardous wastes at a hazardous waste management unit or facility, the permittee must treat or remove from the unit or facility, all hazardous waste in accordance with the approved Closure Plan, Attachment 7. The Commissioner may approve a longer period if the permittee complies with all applicable requirements for requesting a modification to the permit and demonstrates that:
 - (i) The activities required to comply with Subparagraph II.L.5(a) above will, of necessity, take longer than 90 calendar days to complete; or

- (A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes;
 - (B) There is a reasonable likelihood that the permittee or another person will recommence operation of the hazardous waste management unit or the facility within one year; and
 - (C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site;
 - (ii) The permittee has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements.
- (b) The permittee must complete partial and final closure activities in accordance with the approved Closure Plan, Attachment 7, and within 180 calendar days after receiving the final volume of hazardous wastes at the hazardous waste management unit or facility. The Commissioner may approve an extension to the closure period if the permittee complies with all applicable requirements for requesting a modification to the permit and demonstrates that:
 - (i) The partial or final closure activities will, of necessity, take longer than 180 calendar days to complete; or
 - (I) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes;
 - (II) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and
 - (III) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site.
 - (ii) The permittee has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements.
- (c) The demonstrations referred to in Parts II.L.5(a)(i) and II.L.5(b) (i) must be made as follows:

- (i) The demonstration in Part II.L.5(a)(i) must be made at least 30 calendar days prior to the expiration of the 90-day period in Subparagraph II.L.5(a); and
 - (ii) The demonstration in Part II.L.5(b)(i) must be made at least 30 calendar days prior to the expiration of the 180-day period in Subparagraph II.L.5(b).
- 6. Disposal or Decontamination of Equipment, Structures, and Soils: During the partial and final closure periods, all contaminated equipment, structures and soils must be properly disposed of or decontaminated, unless otherwise specified in the approved Closure Plan, Attachment 7. By removing any hazardous waste or hazardous constituents during partial or final closure, the permittee may become a generator of hazardous waste and must handle that hazardous waste in accordance with all applicable requirements of Rule 0400-12-01-.03.
- 7. Certification of Closure: Within 60 calendar days of completion of final closure of each hazardous waste management unit and within 60 calendar days of the completion of final closure, the permittee must submit to the Commissioner, by registered mail, four copies of a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved Closure Plan (Attachment 7). The certification must be signed by the permittee and by a qualified Registered Professional Engineer. Documentation supporting the qualified Registered Professional Engineer's certification must be furnished to the Commissioner upon request until he releases the permittee from the financial assurance requirements for closure under Subsection II.M.5.

M. FINANCIAL REQUIREMENTS

The requirements of this subsection apply to owners and operators of this facility.

- 1. Cost Estimate for Closure: The permittee must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements of Subsection II.L and Rule 0400-12-01-.06(8).
 - (a) The closure cost estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its Closure Plan in Attachment 7.
 - (b) The closure cost estimate must be based on the costs to the permittee of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the permittee;
 - (c) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous waste, facility structures or equipment,

land, or other assets associated with the facility at the time of partial or final closure.

- (d) The permittee may not incorporate a zero cost for hazardous wastes that might have economic value.

2. Closure Cost Adjustments

- (a) During the active life of the facility, the permittee must adjust the closure cost estimate for inflation within 60 calendar days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with Paragraph II.M.5. If the permittee is using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 calendar days after the close of the firm's fiscal year and before submission of updated information to the Division Director as specified in 0400-12-01-.06(8)(g)8(v). The adjustment may be made by recalculating the maximum costs of closure in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business, as specified in Parts II.M.2(a)(i) and (ii). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.
 - (i) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.
 - (ii) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.
- (b) During the active life of the facility, the permittee must revise the closure cost estimate no later than 30 calendar days after the Commissioner has approved the request to modify the Closure Plan, if the change in the Closure Plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in Subparagraph II.M.2(a).

3. Maintenance of the Closure Cost Estimate: The permittee must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with Paragraph II.M.1 and Subparagraph II.M.2(b) and, when this estimate has been adjusted in accordance with Subparagraph II.M.2(a), the latest adjusted closure cost estimate. Such cost estimates must be itemized and address all closure activities.

4. Submission of the Revised Closure Cost Estimate: Within 30 calendar days of the date the closure cost estimate is revised, the permittee must submit the latest closure cost estimate to the Commissioner.

5. Financial Assurance for Closure: The permittee must file and maintain with the Division Director financial assurance for closure of the facility in accordance with the requirements of Rule 0400-12-01-.06(8)(d).
- (a) The permittee must choose from the financial assurance mechanisms as specified in Rule 0400-12-01-.06(8)(g).
 - (b) The permittee must file and maintain financial assurance in an amount at least equal to the current closure cost estimate.
 - (i) Whenever the closure cost estimate increases to an amount greater than the amount of financial assurance currently filed with the Division Director, the permittee must, within 60 calendar days after the increase, file additional financial assurance at least equal to this increase.
 - (ii) Whenever the current closure cost estimate decreases, and upon the written request of the permittee, the Division Director shall, provided he or she validates the decrease, reduce the amount of financial assurance required for the facility to the amount of the current closure cost estimate. Upon such occurrence, the Division Director shall, as appropriate considering the financial assurance mechanism(s) on file, either cause to be released to the permittee cash or collateral equal to this reduction or allow the permittee to substitute for the mechanism(s) on file a new mechanism(s) in the reduced amount.
 - (c) For new facilities, financial assurance must be filed with the Commissioner and must be effective before the date on which hazardous waste is first received for treatment, storage, or disposal.
 - (d) The financial assurance must be maintained until the Commissioner or Board releases the permittee from the requirements of this Paragraph II.M.5, as specified in this Subparagraph II.M.5(d), or until the Commissioner orders forfeiture of the financial assurance as provided in Subparagraph II.M.5(e).
 - (i) Within 60 calendar days after receiving certifications from the permittee and a qualified Professional Engineer that final closure has been accomplished in accordance with the approved Closure Plan, Attachment 7, the Division Director will notify the permittee in writing that he is no longer required by this Paragraph II.M.5 to maintain financial assurance for final closure of the particular facility, unless the Commissioner or Board has reason to believe that final closure has not been in accordance with the approved Closure Plan, Attachment 7. The Commissioner shall provide the permittee a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan. At the

time of such notification, the Division Director shall also cause to be released to the permittee (or issuing institution, if appropriate) the financial assurance filed to provide for such closure.

- (ii) Financial assurance will normally be released in the form(s) it was submitted. However, where such release involves an amount equal to only a portion of the funds assured by a financial assurance mechanism (see Rule 0400-12-01-.06(8)(i) and (j)), the Commissioner shall, as appropriate considering the type of mechanism involved, either cause to be released to the permittee cash or collateral equal to that amount or allow the permittee to substitute for the mechanism on file a new mechanism(s) reduced by that amount.
 - (e) The Commissioner or Board may order that any financial assurance filed by the permittee pursuant to this Paragraph II.M.5 be forfeited to the State if the Commissioner determines that the permittee has failed to perform final closure in accordance with the approved Closure Plan, Attachment 7 when required to do so. Any such forfeiture action shall follow the procedures provided in Paragraph II.M.7 below and Rule 0400-12-01-.06(8)(m).
6. Alternate Financial Assurance: The permittee may substitute alternate financial assurance meeting the requirements of Paragraph II.M.5 above for the financial assurance already filed with the Division Director. However, the existing financial assurance shall not be released by the Commissioner until the substitute financial assurance has been received and approved by him or her.
7. Procedures for Forfeiture of Financial Assurance
- (a) Upon his or her determination that the permittee has failed to perform final closure in accordance with the approved Closure Plan Attachment 7 when required to do so, the Division Director shall cause a notice of non-compliance to be served upon the permittee. Such notice shall be hand delivered or forwarded by certified mail. The notice of non-compliance shall specify in what respects the permittee has failed to perform as required and shall establish a schedule of compliance leading to compliance with the plan and other permit requirements as soon as possible.
 - (b) If the Division Director determines that the permittee has failed to perform as specified in the notice of non-compliance, or as specified in any subsequent compliance agreement which may have been reached by the permittee and the Division Director, the Division Director shall cause a notice of show cause meeting to be served upon the permittee. Such notice shall be signed by the Division Director and either hand-delivered or forwarded by certified mail to the permittee. The notice of show cause meeting shall establish the date, time, and location of a meeting scheduled to provide the permittee with the

opportunity to show cause why the Division Director should not pursue forfeiture of the financial assurance filed to guarantee such performance.

- (c) If no mutual compliance agreement is reached at the show cause meeting, or upon the Division Director's determination that the permittee has failed to perform as specified in such agreement that was reached, the Division Director shall request the Commissioner to order forfeiture of the financial assurance filed to guarantee such performance.
 - (d) The Commissioner shall order forfeiture of the financial assurance upon his or her validation of the Division Director's determinations and upon his or her determination that the procedures of Subparagraphs II.M.7(a), (b) and (c) above have been followed. The Commissioner may however, at his or her discretion, provide opportunity for the permittee to be heard before issuing such order. Upon issuance, a copy of the order shall be hand delivered or forwarded by certified mail to the permittee. Any such order issued by the Commissioner shall become effective 30 calendar days after receipt by the permittee unless it is appealed to the Board as provided in T.C.A. §68-212-113.
 - (e) If necessary, upon the effective date of the order of forfeiture, the Commissioner shall give notice to the State Attorney General who shall collect the forfeiture.
 - (f) All forfeited funds shall be deposited in a special account within the Tennessee Environmental Protection Fund for use by the Commissioner as set forth in T.C.A. §68-212-108(c)(6) and T.C.A §68-203-101 et seq.
8. Liability Requirements: The permittee must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities, in accordance with the requirements of Rule 0400-12-01-.06(8)(n).
9. Incapacity of the Permittee, Guarantors, or Financial Institutions
- (a) The permittee must notify the Division Director by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the permittee (owner or operator) as debtor, within 10 calendar days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in Rule 0400-12-01-.06(8)(g)8, must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (Rule 0400-12-01-.06(8)(p)8);
 - (b) The permittee who fulfills the requirements of Paragraph II.M.5 or 8 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or

revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The permittee must establish other financial assurance or liability coverage within 60 calendar days after such an event.

N. CO-MANAGEMENT OF OTHER MATERIALS

The permittee must not treat, store, or dispose of other wastes or other materials along with hazardous waste in any hazardous waste management unit or facility covered by this permit unless:

1. The other waste or other material is labeled, marked, or otherwise clearly identifiable as to what it is;
2. The permittee is able to demonstrate that the other waste or other material is not a hazardous waste; and
3. The other waste or other material is managed in a manner that does not adversely impact compliance with the conditions of this permit.

O. LAND DISPOSAL RESTRICTIONS

1. Applicability

- (a) Land Disposal Restrictions(LDR): Rule 0400-12-01-.10 identifies hazardous wastes that are prohibited from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed. The permittee shall comply with all applicable requirements of Rule 0400-12-01-.10. Where the permittee has applied for an extension, exemption, waiver or variance under Rule 0400-12-01-.10, the permittee shall comply with all applicable restrictions of Rule 0400-12-01-.10 pending final approval of such application.
- (b) Dilution as a Substitute for treatment: Except as provided in Rule 0400-12-01-.10(1)(c)2, the Permittee shall not in any way dilute a restricted waste or the residual from the treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with Rule 0400-12-01-.10(3), to circumvent the effective date of a prohibition in Rule 0400-12-01-.10(2), to otherwise avoid a prohibition in Rule 0400-12-01-.10(2), or to circumvent a land disposal prohibition imposed by T.C.A. § 68-212-107(d)9.
- (c) LDR testing, tracking, and recordkeeping: The Permittee shall comply with the requirements of Rule 0400-12-01-.10(1)(g).
- (d) Special Rules Regarding Wastes That Exhibit a Characteristic: The Permittee shall comply with the requirements of Rule 0400-12-01-.10(1)(i).

2. Treatment Standards: A restricted waste identified in Rule 0400-12-01-.10(2) may not be placed in a land disposal unit without further treatment unless the requirements of Rule 0400-12-01-.10(2) and/or Rule 0400-12-01-.10(3) are met.
3. Prohibitions: The storage of hazardous waste restricted from land disposal under Rule 0400-12-01-.10 shall be in compliance with the requirements of Rule 0400-12-01-.10(4) are met.

P. AIR EMISSION STANDARDS FOR PROCESS VENTS

1. Applicability

Rule 0400-12-01-.06(30) contains emission standards for process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, and air or steam stripping operations that manage hazardous wastes with an annual average total organic concentration of at least ten (10) parts per million by weight (ppmw). Rule 0400-12-01-.06(30) also contains standards for closed-vent systems and control devices.

2. Notification of Modifications, Additions, or New Units

- (a) The Permittee does not currently operate and is not currently authorized under this Permit to operate, any process vents, closed-vent systems, or control devices at the Facility that are subject to Rule 0400-12-01-.06(30).
- (b) Prior to installing or operating any process vents, closed-vent systems, or control devices subject to Rule 0400-12-01-.06(30), or modifying any existing equipment, procedure, or process such that the process vents, closed-vent systems, or control devices will become subject to Rule 0400-12-01-.06(30), the Permittee shall apply for a permit modification under Rule 0400-12-01-.07(9)(c), provide specific Part B permit application information required under Rule 0400-12-01-.07(5), as applicable, with the modification request, and shall obtain a permit modification in accordance with Rule 0400-12-01-.07(9)(c).

Q. AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

1. Applicability

The permittee shall comply with the air emission standards for equipment leaks set forth in the requirements of Rule 0400-12-01-.06(31) for all equipment that contains or contacts hazardous waste with organic concentrations of at least ten (10) percent by weight that are managed in units that are subject to this permit or in any on-site hazardous waste recycling unit.

2. The Permittee does not currently operate and is not currently authorized under this Permit to operate ancillary equipment, subject to Rule 0400-12-01-.06(31), which contains or contacts hazardous waste with organic concentrations of more than ten (10) percent by weight, for greater than 300 hours per calendar year.
3. Prior to installing or operating any new unit or equipment subject to Rule 0400-12-01-.06(31), or modifying any existing unit, equipment, procedure, or process such that the unit(s) or equipment will become subject to Rule 0400-12-01-.06(31), the Permittee shall apply for a permit modification under Rule 0400-12-01-.07(9)(c), provide specific Part B permit application information required under Rule 0400-12-01-.07(5), as applicable, with the modification request, and shall obtain a permit modification in accordance with Rule 0400-12-01-.07(9)(c).

R. AIR EMISSION STANDARDS FOR TANKS, CONTAINERS AND MISCELLANEOUS UNITS

1. Applicability

- (a) Rule 0400-12-01-.06(32) for hazardous waste tanks, miscellaneous units, and containers that contact hazardous waste containing an average volatile organic concentration equal to or greater than 500 ppmw at the point of waste origination, as determined by the procedures outlined in Rule 0400-12-01-.06(32)(d), except as excluded by Rule 0400-12-01-.06(32)(a)2 or specifically exempted by Rule 0400-12-01-.06(32)(d)3.
- (b) The permittee operates container units which contact hazardous waste containing an average volatile organic concentration equal to or greater than 500 ppmw and are therefore subject to Rule 0400-12-01-.06(32). The requirements of Rule 0400-12-01-.06(32) apply to the hazardous waste management units, as well as their covers, closure devices, and control devices.

2. Notification of New Modifications, Additions, or New Units

- (a) The permittee does not currently operate and is not currently authorized under this Permit to operate any tanks, surface impoundments, or miscellaneous units that are subject to Rule 0400-12-01-.06(32).
- (b) Prior to installing or operating a tank, container unit, surface impoundment, miscellaneous unit, closed vent system, or control device subject to Rule 0400-12-01-.06(32), or modifying any existing unit, procedure, or process such that the unit(s) will become subject to Rule 0400-12-01-.06(32), the Permittee shall apply for a permit modification under Rule 0400-12-01-.07(9)(c), provide specific Part B permit application information required under Rule 0400-12-01-.07(5), as applicable, with the modification request,

and shall obtain a permit modification in accordance with Rule 0400-12-01-.07(9)(c).

3. Waste Determination Procedures

- (a) The permittee must follow the waste determination procedures of Rule 0400-12-01-.06(32)(d) and Attachment 2, Waste Analysis Plan of the Permit.
- (b) The permittee must conduct an annual re-characterization of the hazardous waste managed at the Facility at least once every twelve (12) months pursuant to, Attachment 2, Waste Analysis Plan, of the Permit.

4. Standards: Containers

- (a) The permittee is permitted to operate container storage areas with total capacity of 17,690 gallons. The container storage areas must comply with the standards set forth in Rule 0400-12-01-.06(32)(g).

- (a) Level 1 Container Requirements

The permittee must manage the containers with a design capacity greater than 0.1 m³ (26 gallons) and less than or equal to 0.46 m³ (119 gallons), and the containers with a design capacity greater than 0.46 m³ (119 gallons) that are not in light material service, as defined in Rule 0400-12-01-.06(32)(g)3. When storing hazardous waste in Level 1 containers, the permittee must comply with the following requirements:

- (i) A Level 1 container must satisfy one of the following requirements:
 - (I) Meet the applicable Department of Transportation (DOT) regulations as specified in Rule 0400-12-01-.06(g)6;
 - (II) Be equipped with a cover and closure devices with an acceptable tightness and construction materials in accordance with Rule 0400-12-01-.06(32)(g)3(i)(II), or
 - (III) Be an open-top container with an organic vapor suppressing barrier to prevent hazardous waste from being exposed to the atmosphere as specified in Rule 0400-12-01-.06(32)(g)3(i)(III).

Containers, which do not meet DOT regulation specified in Rule 0400-12-01-.06(32)(g)6, must be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to

maintain the equipment integrity, for as long as the container is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability, the effects of any contact with the hazardous waste or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used.

- (ii) All covers and closure devices must be in closed position whenever hazardous waste is in a container. Opening of a closure device or cover is allowed if it meets the purpose of and operates as defined in Rule 0400-12-01-.06(32)(g)3(iii)(I) through (V).
- (iii) The permittee must inspect the containers and their covers and closure devices in accordance with Rule 0400-12-01-.06(32)(g)3(iv)(I) and (II) and repair defects in accordance with Rule 0400-12-01-.06(32)(g)3(iv)(III). For the containers with capacity of 0.46m³ or greater, which do not meet applicable DOT regulations, the permittee must maintain at the facility a copy of the procedure used to determine those containers are not managing hazardous waste in light material service, as specified in Rule 0400-12-01-.06(g)3(v).

(b) Level 2 Container Requirements

The permittee must manage the containers with a design capacity greater than 0.46 m³ (119 gallons) that are in light material service, as defined in Rule 0400-12-01-.06(32)(b), with Container Level 2 standards as described at Rule 0400-12-01-.06(32)(g)4. When storing hazardous waste in Level 2 containers the permittee must comply with the following requirements:

- (i) The permittee shall receive and handle a container complying with one of the following requirements as specified in Rule 0400-12-01-.06(32)(g)4(i):
 - (I) The permittee shall receive and handle a container complying with one of the following requirements as specified in Rule 0400-12-01-.06(32)(g)6;
 - (II) A container that operates with no detectable organic emissions as defined in Rule 0400-12-01-.06(32)(b) and determined in accordance with the procedure Rule 0400-12-01-.06(32)(g)7; or
 - (III) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR Part 60,

appendix A, Method 27 in accordance with the procedure specified in Rule 0400-12-01-.06(32)(g)8.

- (ii) The permittee shall transfer hazardous waste into or out of a container in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, as specified in Rule 0400-12-01-.06(32)(g)4(ii). When transferring hazardous waste into or out of a container, the permittee shall conduct such transferring activity by opening only the bung portion of the container. The permittee shall not open the entire top portion of the container to transfer hazardous waste into or out of a container at any time.
- (iii) For the treatment activities in containers other than the prohibited waste stabilization process, the permittee shall comply with the requirements specified in the Section III, Container Management, and Attachment 8 of the permit;
- (iv) The permittee shall install all covers and closure devices for the container whenever a hazardous waste is in a container. The permittee shall secure and maintain each closure device in the closed position except during filling and removal operations as specified in Rule 0400-12-01-.06(32)(g)4(iii).
- (v) The permittee shall inspect the containers and their covers and closure devices in accordance with Rule 0400-12-01-.06(32)(g)4(iv)(I) and (II). When a defect is detected for the container, cover, or closure devices, he shall repair the defect in accordance with Rule 0400-12-01-.06(32)(g)4(iv)(III).

(c) Level 3 Container Requirements

The Permittee currently does not have any containers which are subject to Rule 0400-12-01-.06(32) with Container Level 3 standards.

5. Standard: Tanks

The permittee is permitted to store hazardous wastes in tanks venting through a closed vent system to a control device. The tanks must comply with Level 2 tank standards of Rule 0400-12-01-.06(32)(e)4 and 0400-12-01-.06(32)(e)7.

- (a) For a tank design capacity equal to or greater than 75m³ (20,000gal.), the maximum organic vapor pressure limit for the tank is 76.6kPa (11.1 psi).
- (b) The hazardous waste in the tank is not heated by the permittee to a temperature that is greater than the temperature at which the maximum

organic vapor pressure of the hazardous waste is determined under Rule 0400-12-01-.06(32)(d).

- (c) The hazardous waste in the tanks is not treated by the permittee using a waste stabilization process, as defined in Rule 0400-12-01-.05(29)(b).
- (d) Whenever a hazardous waste is in a tank, all openings (e.g., manholes, instruments connections, pipe nozzles) must be securely closed to prevent releases of vapors into the atmosphere, except for routine inspections, maintenance, and other activities needed for normal operations.
- (e) The permittee must inspect the tanks, and all covers and closure devices, at least once per year, or retest the tanks to ascertain that the air emissions from the tank systems comply with the design and with the requirements specified in Rule 0400-12-01-.06(32)(e)3(iv). All inspection and monitoring activities must be conducted at times when the unit is in operation, and by qualified persons with the appropriate training.
- (f) The permittee shall control the air emissions from the tanks in accordance with Rule 0400-12-1-.06(32)(e)3(ii)(III) by venting the tanks through closed vent system to carbon adsorption system designed and operated to recover the organic vapors vented to them with an efficiency of 95 percent or greater by weight. If the carbon system is offline due to a power outage or maintenance, the vapor emission shall be routed through closed-vent system to the stand-by carbon adsorption unit to be controlled.
- (g) The tanks shall be covered by a fixed roof and vented directly through the closed-vent system to a control device in accordance with the requirements specified in Rule 0400-13-01-.06(32)(e)7.
- (h) The Permittee shall transfer hazardous waste to a tank subject to Rule 0400-12-01-.06(32)(e) in accordance with the requirements of Rule 0400-12-01-.06(32)(e)10, including the use of continuous hard piping.
- (i) The Permittee shall repair each defect detected during inspection performed in accordance with Rule 0400-12-01-.06(32)(e)11, 0400-12-01-.06(32)(e)3(iv), 0400-12-01-.06(32)(e)5(iii), 0400-12-01-.06(32)(e)6(iii), or 0400-12-01-.06(32)(e)7(iii).
- (j) In the event that the Permittee has designated a cover as unsafe to inspect or monitor, the conditions of Rule 0400-12-01-.06(32)(e)12 must be met. Only covers subject to the Rule 0400-12-01-.06(32) requirements can be designated as unsafe to monitor. No other components subject the Rule 0400-12-01-.06(32) regulations can be designated unsafe to monitor. "Unsafe to inspect and monitor covers" include covers under extreme

pressure or heat, or other circumstances where monitoring personnel would be exposed to an immediate danger.

- (k) The permittee shall comply with the specification, monitoring, inspection, and repair requirement of the Carbon Adsorption unit.
- (l) The permittee shall comply with monitoring, inspection, and repair requirements for closed-vent system.

6. Standard: Miscellaneous Units

- (a) The requirements in this paragraph apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units, except as paragraph (1) of this rule provides otherwise.
- (b) Environmental Performance Standards [40 CFR 264.601]. A miscellaneous unit must be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. Permits for miscellaneous units are to contain such terms and provisions as necessary to protect human health and the environment, including, but not limited to, as appropriate, design and operating requirements, detection and monitoring requirements, and requirements for responses to releases of hazardous waste or hazardous constituents from the unit. Permit terms and provisions must include those requirements of paragraphs (9) through (15), (30), (31), and (32) of this rule, Rule 0400-12-01-.07, 40 CFR 63 Subpart EEE, and 40 CFR 146 that are appropriate for the miscellaneous unit being permitted. Protection of human health and the environment includes, but is not limited to:
 - (i) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in the ground water or subsurface environment, considering:
 - (I) The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures;
 - (II) The hydrologic and geologic characteristics of the unit and the surrounding area;
 - (IV) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water;
 - (V) The quantity and direction of ground-water flow; (v) The proximity to and withdrawal rates of current and potential

ground-water users; (vi) The patterns of land use in the region; (vii) The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-chain crops and other vegetation; (viii) The potential for health risks caused by human exposure to waste constituents; and (ix) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

- (ii) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands or on the soil surface considering:
 - (I) The volume and physical and chemical characteristics of the waste in the unit; Hazardous Waste Management Chapter 0400-12-01 (Rule 0400-12-01-.06, continued) April 2022 (Revised) 237:
 - (II) The effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration;
 - (III) The hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit;
 - (IV) The patterns of precipitation in the region;
 - (V) The quantity, quality, and direction of ground-water flow;
 - (VI) The proximity of the unit to surface waters;
 - (VII) The current and potential uses of nearby surface waters and any water quality standards established for those surface waters;
 - (VIII) The existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils;
 - (IX) The patterns of land use in the region;
 - (X) The potential for health risks caused by human exposure to waste constituents; and

- (XI) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.
- (iii) Prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering:
 - (I) The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates;
 - (II) The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;
 - (III) The operating characteristics of the unit;
 - (IV) The atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area;
 - (V) The existing quality of the air, including other sources of contamination and their cumulative impact on the air;
 - (VI) The potential for health risks caused by human exposure to waste constituents; and
 - (VII) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.
- (c) Monitoring, Analysis, Inspection, Response, Reporting, and Corrective Action [40 CFR 264.602]

Monitoring, testing, analytical data, inspections, response, and reporting procedures and frequencies must ensure compliance with subparagraph (b) of this paragraph, and HAZARDOUS WASTE MANAGEMENT CHAPTER 0400-12-01 (Rule 0400-12-01-.06, continued) April 2022 (Revised) 238 subparagraphs (2)(f), (3)(d), (5)(f) and (g) and (h), and (6)(l) of this rule as well as meet any additional requirements needed to protect human health and the environment as specified in the permit.
- (d) Post-closure Care [40 CFR 264.603] A miscellaneous unit that is a disposal unit must be maintained in a manner that complies with subparagraph (b) of this paragraph during the post-closure care period. In addition, if a treatment or storage unit has contaminated soils or ground water that cannot be

completely removed or decontaminated during closure, then that unit must also meet the requirements of subparagraph (b) of this paragraph during post-closure care. The post-closure plan under subparagraph (7)(i) of this rule must specify the procedures that will be used to satisfy this requirement.

7. Inspection and Monitoring Requirements

- (a) The permittee shall comply with the inspection and monitoring requirements of Rule 0400-12-01-.06(32)(i), this permit, and Attachment 4 of the permit;
- (b) The permittee shall inspect and monitor air emission control equipment at least annually to ensure that there are no detectable emissions exceeding the permit and regulatory limits. Any covers designated as unsafe to inspect or monitor shall meet the requirements of Rule 0400-12-01-.06(32)(e)12 and/or Rule 0400-12-01-.06(32)(f)7;
- (c) All inspections and monitoring must be conducted at times when the hazardous waste management unit or equipment is in operation, and by qualified persons with the appropriate training.

8. Recordkeeping Requirements

- (a) Records demonstrating compliance with Rule 0400-12-01-.06(32), including any third party's records, shall be maintained in an accessible manner at the Facility or other appropriate location approved by the Regional Administrator, for a period of not less than three years. All records necessary for demonstrating compliance shall include, at a minimum, the required recordkeeping information in Rule 0400-12-01-.06(32)(j) and this permit;
- (b) These records shall include but are not limited to the (1) current list of regulated hazardous waste management units and their unique identification number, covers, closure and control devices and their physical location at the Facility as illustrated on a P&ID and/or Facility Map; (2) all associated operating information, specifications, and standards for each hazardous waste management unit; (3) annual waste determinations; (4) all maintenance, inspection, leak detection and repair records associated with each hazardous waste management unit; and (5) training documentation for persons conducting inspections or monitoring;
- (c) Records justifying covers designated as unsafe to inspect or monitor shall comply with Rule 0400-12-01-.06(32)(e)12 or Rule 0400-12-01-.06(32)(f)7, be kept at the Facility or other appropriate location approved by the Commissioner, be available for inspection at reasonable times, and demonstrate compliance with the requirements of Rule 0400-12-01-.06(j)7.

9. Reporting Requirements

- (a) In accordance with Rule 0400-12-01-.06(32)(k)1 and 2, the permittee shall prepare and submit a report within 15 calendar days to the Regional Administrator documenting each occurrence of non-compliance, if such non-compliance occurs;
- (b) In accordance with Rule 0400-12-01-.06(32)(k)3, the permittee shall submit a report semiannually to the Regional Administrator documenting, for control devices operating in accordance with Rule 0400-12-01-.06(32)(h), each instance where the control device could not be returned to compliance within 24 hours and the actions taken to correct the noncompliance, if such an event occurs;
- (c) The semiannual report shall be submitted by January 31st and July 31st of each calendar year, if applicable, due to a qualifying event(s) occurring.

S. RESTRICTION ON OWNERSHIP OF THE FACILITY

No person who has been convicted of any felony or has been convicted of a misdemeanor for the unlawful storage, treatment, or disposal of hazardous waste may, at any time, be the legal or beneficial owner of ten percent (10%) or more of the stock of the facility.

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III. SPECIFIC CONDITIONS FOR STORAGE IN CONTAINERS

A. WASTE IDENTIFICATION

The permittee may store hazardous waste in containers in the unit(s) as a commercial facility per Rule 0400-12-02, as described in Attachment 8, and subject to the terms of this permit and Rule 0400-12-01-.06(9):

1. Wastes as listed in Attachment 1.
2. The maximum quantity of hazardous waste that may be stored in the container storage area will not exceed 17,690 gallons.
3. The permittee is prohibited from storing in containers any hazardous waste that is not identified in Attachment 1.

For purposes of compliance with the capacity limitations of this permit, each container will be considered as storing an amount of hazardous waste equal to its maximum size capacity (i.e., 55-gallon drum, 15-gallon bucket, etc.) and not based on actual or estimated volume of hazardous waste in container. However, if the container is a RCRA empty container and does not have any hazardous waste stored in it, the container will not be considered part of the capacity limitation for compliance. Containers within the management areas may range from 1-gallon buckets to bulk containers.

B. CONDITION OF CONTAINERS

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the permittee shall transfer the hazardous waste from that container to a container that is in good condition or otherwise manage the waste in some other way that complies with the conditions of this permit.

C. COMPATIBILITY OF WASTE WITH CONTAINERS

The permittee shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

D. MANAGEMENT OF CONTAINERS

1. Containers of hazardous waste shall be managed, and the units operated as described in Attachment 8.

2. The permittee shall assure that containers holding hazardous waste are always closed during storage, except when necessary to add or remove waste.
3. The permittee shall assure that a container holding hazardous waste shall not be opened, handled or stored in a manner which may rupture the container or cause it to leak.
4. The permittee shall maintain aisle space within the container management units in a manner consistent with the requirements of Section II.H.5 and as required by Attachment 8 regarding the dimensions of the primary and secondary aisles.
5. If a container storage unit is storing any quantity of hazardous waste which contains free liquids, the permittee shall place all containers on pallets or similar devices which elevate the containers above the floor or place the containers on a sloped floor to drain and remove liquids.
6. Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by Paragraph III.G.2, except as provided by Paragraph III.D.7 below or provided that:
 - (a) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation; or
 - (b) The containers are elevated or are otherwise protected from contact with accumulated liquid.
7. Storage areas that store containers holding the following wastes that do not contain free liquids must have a containment system defined by Paragraph III.G.2: F020, F021, F022, F023, F026, and F027.
8. Where applicable, the permittee shall arrange palletized waste in rows to facilitate inspections of the containers and the base underlying the containers.
9. When ignitable or reactive hazardous wastes are stored, non-sparking tools and equipment shall be used. (See Subsection II.G for additional requirements.)
10. According to Rule 0400-12-01-.10(4)(a)2, the owner/operator of a treatment, storage, or disposal facility may store such waste for up to one year unless the Department can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

E. AISLE SPACING

The permittee shall maintain aisle space within the container management units in a manner consistent with Attachment 8 regarding the dimensions of the primary and secondary aisles.

Rows of containers shall be separated by a minimum aisle space of 2 feet (24 inches), at all times.

F. CALIBRATION, INSPECTION, MONITORING, AND RECORDKEEPING

1. At least weekly or as required in Attachment 4, the permittee shall inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. For the purpose of this permit condition, "weekly" shall be defined as a period not to exceed seven days.
2. The permittee shall inspect the containment system daily when in use (when waste is present in area) for the presence of any release of hazardous waste or accumulated liquid as described in the inspection checklist for each unit in Attachment 4. For the purpose of this permit condition, "each operating day" (or "daily during use") is equivalent to "daily when in use" and means when wastes are being moved, and therefore, subject to spills.
3. The permittee shall install, maintain, calibrate, and operate equipment which monitors and records operating parameters. The permittee shall record the results of the required monitoring in the operating record.
4. The permittee shall maintain a copy of the manufacturer's literature pertaining to installation, maintenance, operation, and calibration for all equipment in the operating record. The permittee shall calibrate the equipment in accordance with the manufacturer's recommendation.
5. The permittee shall record and maintain in the operating record all the calibrations, monitoring, and inspections required in this subsection. Written calibration, monitoring, and inspection records shall be a part of the operating record for this permit. At a minimum, the record shall include the following information:
 - (a) The date that the calibration, monitoring, and inspection was completed;
 - (b) The piece of equipment or instrumentation calibrated, monitored, or inspected, including the part number or other appropriate descriptive identifier;
 - (c) The type of calibration, monitoring, or inspection;
 - (d) The name of the person(s) conducting the calibration, monitoring, or inspection;
 - (e) Any other information associated with the calibration, monitoring, or inspection; and
 - (f) Any follow-up activity conducted as a result of the calibration, monitoring, or inspection.

6. The operating record must be maintained until closure is completed and certified by a registered professional engineer unless another time frame is specified in the Tennessee Hazardous Waste Management Regulations.

G. CONTAINMENT, DETECTION, AND MANAGEMENT OF LEAKS OR SPILLS

1. The permittee shall ensure that the container storage areas have a containment system that is designed, operated, and maintained in accordance with Paragraph III.G.2, and is constructed and maintained as specified in the plans and specifications found in Attachment 8. When normal maintenance or replacement of equipment or minor piping rearrangements are necessary to properly operate the facility, the permittee shall use parts or items which meet or exceed the performance standards of those set forth in the attachments. If parts or items are to be used which do not meet or exceed the standards set forth in the attachments, prior approval from the Commissioner shall be required.
2. A containment system shall be designed, operated, and maintained as follows:
 - (a) A base shall underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;
 - (b) The base shall be sloped, or the containment system shall be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;
 - (c) The containment system shall have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater.
 - (d) Run-on into the containment system shall be prevented unless the collection system has sufficient excess capacity in addition to that required in Subparagraph III.G.2(c) to contain any run-on which might enter the system; and
 - (e) Spilled or leaked waste and accumulated precipitation shall be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

(Comment: If the collected material is a hazardous waste under Rule 0400-12-01-.02, it must be managed as a hazardous waste in accordance with all applicable requirements of Rules 0400-12-01-.03 through .07 and .09. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.)

3. In addition to the requirements of Subparagraph III.G.2(e), spilled or leaked waste and accumulated precipitation must be removed in as timely a manner as is possible and as is necessary to prevent overflow of the collection system, and wash waters must be removed from the containment system within 24 hours of discovery, or in as timely a manner as is possible to prevent harm to human health and the environment if the permittee can demonstrate that removal of the released waste and/or accumulated waters could not be accomplished within 24 hours.
 - (a) The permittee shall have available at all times at least one portable pump (dedicated to the hazardous waste management units) and necessary appurtenances (e.g., hoses) for use in removing liquids from the containment systems. For hazardous waste container management units where ignitable wastes are stored, this pump shall be of a type that will not generate heat or sparks that might result in ignitable vapors and shall be maintained in proper working order.
 - (b) The permittee shall determine if the collected materials are hazardous wastes in accordance with Rule 0400-12-01-.03(1)(b). Unless the permittee can demonstrate in accordance with Rule 0400-12-01-.02(1)(c)4 that the collected material removed from the containment system is not a hazardous waste, the permittee becomes a generator of hazardous waste and shall manage it in accordance with applicable requirements of Rules 0400-12-01-.03 through 0400-12-01-.10.

H. RECORDKEEPING

1. The permittee shall provide in the operating record a description and the quantity of each hazardous waste received, and the method(s) and date(s) of its storage at the facility as required by Appendix I in paragraph (57) of Rule 0400-12-01-.06.
2. The location of each hazardous waste within the facility and the quantity at each location. This information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest.
3. Records and results of waste analyses and waste determinations performed as specified in subparagraphs (2)(d), (2)(h), (14)(o), (15)(b), (30)(e), (31)(n), and (32)(d) of Rule 0400-12-01-.06, and part (1)(d)1 and subparagraph (1)(g) of Rule 0400-12-01-.10;
4. Records and results of inspections as required by Rule 0400-12-01-.06(2)(f)4.

I. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

The permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line.

J. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

The permittee must ensure that:

1. Incompatible wastes, or incompatible wastes and materials, are not placed into the same container unless Section II.G.2 is complied with.
2. Hazardous wastes are not placed in an unwashed container that previously held an incompatible waste or material unless Section II.G.2 is complied with.
3. A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments is separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

(Comment: The purpose of this part is to prevent fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.)

K. CLOSURE OF THE CONTAINER MANAGEMENT UNIT(S)

1. At closure, the permittee shall remove all hazardous waste and hazardous waste residues from the containment system, treatment processes or equipment, discharge control equipment, and discharge confinement structures. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues shall be decontaminated or removed.
2. At closure, as throughout the operating period, unless the permittee can demonstrate, in accordance with Rule 0400-12-01-.02(1)(c)4, that the wastes removed from the containment system is not a hazardous waste, the permittee becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of Rule 0400-12-01-.03 through .07 and .09.

L. AIR EMISSION STANDARDS

The permittee shall manage all hazardous waste placed in containers in accordance with the applicable requirements of Section II.R. of this permit and Rules 0400-12-01-.06(30), (31), and (32).

EPA ID Number: TND000614321

Permit Number: TNHW-DRAFT

IV. SPECIFIC CONDITIONS FOR STORAGE IN TANKS

A. WASTE IDENTIFICATION

The permittee may store hazardous wastes in one 10,000 gallon above ground storage tank as described in Attachment 9, subject to the terms of this permit.

1. The permittee is prohibited from storing in tanks any hazardous waste that is not identified in Attachment 1.
2. The maximum amount of hazardous wastes stored in the horizontal spent mineral spirit tank at any given time will not exceed 10,000 gallons. The storage tank is located behind container storage building dock area, as seen in Attachment 3 Site Map drawing.

B. INSTALLATION OF TANK SYSTEMS (RESERVED)

C. CONTAINMENT, DETECTION AND MANAGEMENT OF RELEASES TO THE SECONDARY CONTAINMENT SYSTEMS

1. The permittee shall ensure that secondary containment systems, which are constructed as described in Attachment 9, are designed, installed and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater, or surface water at any time during the use of the tank system; and capable of detecting and collecting releases and accumulated liquids until the collected material is removed.
2. The secondary containment system shall meet the following conditions, at a minimum.
 - (a) Be constructed of or lined with materials that are compatible with the wastes(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic);
 - (b) Be placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

- (c) Be provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the owner or operator can demonstrate to the Commissioner that existing detection technologies or site conditions will not allow detection of a release within 24 hours; and
- (d) Be sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment if the owner or operator can demonstrate to the Commissioner that removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

(Note: If the collected material is a hazardous waste under Rule 0400-12- 01-.02, it is subject to management as a hazardous waste in accordance with all applicable requirements of Rules 0400-12-01-.03 through .06. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to a Publicly Owned Treatment Works (POTW), it is subject to the requirements of section 307 of the Clean Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR Part 302.)

- 3. Secondary containment for tanks must include one or more of the following devices:
 - (a) A liner (external to the tank);
 - (b) A vault;
 - (c) A double-walled tank; or
 - (d) An equivalent device as approved by the Commissioner.
- 4. In addition to the requirements of Paragraphs C.2 and C.3, secondary containment systems must satisfy the following requirements:
 - (a) External liner systems must be:
 - (i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

- (ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;
 - (iii) Free of cracks or gaps; and
 - (iv) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).
- (b) Double-walled tanks must be:
 - (i) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell;
 - (ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and
 - (iii) Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the Commissioner, and the Commissioner concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

(Note: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks" may be used as guidelines for aspects of the design of underground steel double-walled tanks.)

5. Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of Paragraphs C.2 and C.3 except for:
 - (a) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;
 - (b) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;
 - (c) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

- (d) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.
- 6. The permittee shall inspect the secondary containment systems each operating day for the presence of any release of hazardous waste or accumulated liquid, as described in Attachments 4 and 9. For the purpose of this permit Section, “operating day” is any calendar day during which one or more of the tanks, including the secondary containment systems, are used to contain wastes.
- 7. The permittee shall remove all spilled or leaked waste and accumulated precipitation from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health or the environment if removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.
 - (a) The permittee shall have available at all times at least one portable pump dedicated to hazardous waste areas and necessary appurtenances (e.g., hoses) for use in removing liquids from the secondary containment systems. These pumps shall be of a type that will not generate heat or sparks that might result in ignition of vapors and shall be maintained in proper working order.
 - (b) Prior to or after removal from the containment systems, the permittee must determine if the collected materials are a hazardous waste in accordance with Rule 0400-12-01-.03(1)(b). Unless the permittee can demonstrate, in accordance with Rule 0400-12-01-.02(1)(c)4, that the collected material removed from the containment system is not a hazardous waste, the permittee becomes a generator of hazardous waste and shall manage it in accordance with applicable requirements or Rules 0400-12-01-.03 through 0400-12-01-.10.

D. GENERAL OPERATING REQUIREMENTS

- 1. The permittee shall ensure that hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.
- 2. The permittee shall use appropriate controls and practices to prevent spills and overflows from tank or containment systems. Prior to the placement of any tank system into operation, the permittee shall submit to the Division Director, and obtain the Division Director’s approval of, a detailed description of controls and practices. These include at a minimum:
 - (a) Spill prevention controls (e.g., check valves, dry disconnect couplings);

- (b) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and
 - (c) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.
- 3. The permittee shall comply with the requirements of Subsection IV.F if a leak or spill occurs in the tank system.
- 4. Prior to the placement of any tank system into operation, the permittee shall submit to the Division Director, and obtain the Division Director's approval of, a detailed description of controls and practices that will be utilized to prevent spills and overflows. Upon approval by the Division Director, those controls and practices shall become conditions of this permit.

E. INSPECTION OF THE TANK SYSTEMS

- 1. The permittee shall develop and follow a schedule and procedure for inspecting over-fill controls.
- 2. The permittee shall inspect at least once each operating day:
 - (a) Aboveground portions of the tank system, if any, to detect corrosion or releases of waste;
 - (b) Data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and
 - (c) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).
- 3. The permittee shall inspect the tank system(s) in accordance with the schedule in Attachment 4 and document in the operating record of the facility an inspection of those items as set forth in Paragraphs IV.E.1 and 2.

F. RESPONSE TO LEAKS OR SPILLS

The permittee shall immediately remove from service any tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use. Further, if such a release occurs, the permittee shall satisfy the following requirements in addition to implementing the Contingency Plan found in Attachment 6:

1. The permittee must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.
2. If the release was from a tank system, the permittee shall, within 24 hours after detection of the leak or, if the permittee demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.
3. The permittee shall remove and manage all material released to a secondary containment system as set forth in Paragraph IV.C.3.
4. If visible releases to the environment have occurred, the permittee shall immediately conduct a visual inspection of the release and based on that inspection, take necessary actions to:
 - (a) Prevent further migration of the leak or spill to soils or surface water; and
 - (b) Remove, and properly dispose of, any visible contamination of the soil or surface water.
5. Unless it consists of less than or equal to a quantity of one pound of hazardous waste and is immediately contained and cleaned up, the permittee shall:
 - (a) Within 24 hours of detection, report any release of hazardous waste to the environment to the Commissioner or Division Director. If the release has been reported to the National Response Center pursuant to 40 CFR 302 or the Tennessee Emergency Management Agency, that report will satisfy this requirement.
 - (b) Within 30 calendar days of detection of a release to the environment, submit to the Division Director a report containing the following information:
 - (i) Likely route of migration of the release;
 - (ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, and climate);
 - (iii) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Division Director as soon as they become available.

- (iv) Proximity to downgradient drinking water, surface water, and populated areas; and
 - (v) Description of response actions taken or planned.
- 6. Unless the permittee satisfies one or more of the following requirements, the tank system must be closed in accordance with the Closure Plan, Attachment 7.
 - (a) If the cause of the release was a spill that has not damaged the integrity of the system, the permittee may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.
 - (b) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.
 - (c) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the permittee must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of Rule 0400-12-01-.06(10)(d) before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of Paragraph IV.D.7 are satisfied. If a component is replaced to comply with the requirements of this Paragraph, that component must satisfy the requirements for new tank systems or components in accordance with Rules 0400-12-01.06(10)(c) and (d). Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or on-ground tank), the entire component must be provided with secondary containment in accordance with Rule 0400-12-01-.06(10)(d) prior to being returned to use.
- 7. If the permittee has repaired a tank system in accordance with Paragraph IV.D.6 and the repair has been extensive (e.g., installation of an internal liner, repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the permittee has obtained a certification by an independent, qualified, registered professional engineer in accordance with Rule 0400-12-01-.07(2)(a)10 that the repaired system is capable of handling hazardous wastes without release for the intended life of the system.

This certification must be submitted to the Division Director within seven days after returning the tank system to use.

G. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

1. The permittee shall ensure that no ignitable or reactive waste is placed in tank systems unless:
 - (a) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:
 - (i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under Rule 0400-12-01-.02(3)(b) or (d); and
 - (ii) Paragraph II.G.2 of this permit is complied with; or
 - (b) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or
 - (c) The tank system is used solely for emergencies.
2. The permittee shall ensure, through modification of the facility (and/or operations) and this permit, that the facility maintains compliance where ignitable or reactive waste is stored or treated in a tank with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981). The permittee shall notify the Division Director as soon as possible of any anticipated change in property lines or public rights-of-way that might impact such compliance.

H. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

The permittee shall ensure that, unless Paragraph II.G.2 of this permit is complied with:

1. Incompatible wastes, or incompatible wastes and materials, are not placed into the tank system; and
2. Hazardous wastes are not placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material.

I. CLOSURE OF THE TANK SYSTEMS

1. The permittee shall remove or decontaminate at closure, all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless Rule 0400-12-01-.02(1)(c)4 applies.

2. If the permittee demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in Paragraph IV.I.1 then the permittee shall close the tank system and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills. In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the permittee must meet all of the requirements for landfills.

J. AIR EMISSION STANDARDS

The owner or operator shall manage all hazardous waste placed in a tank(s) in accordance with the applicable requirements of Rule 0400-12-01-.06(30), (31) and (32).

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V. SPECIFIC CONDITIONS FOR STORAGE IN MISCELLANEOUS UNITS

A. WASTE IDENTIFICATION

The permittee may store hazardous wastes in miscellaneous units, described in Attachment 10, subject to the terms of this permit.

1. Wastes as listed in Attachment 1.
2. The maximum quantity of hazardous waste stored in the two Wet Dumpsters located in the Return and Fill Station is based off of two drum washers with a capacity of 163 gallons each. Hazardous Waste stored in this area will not exceed 326 gallons.
3. The permittee is prohibited from storing any hazardous waste that is not identified in Attachment 1 in the miscellaneous units described in Attachment 10.

B. GENERAL OPERATING REQUIREMENTS

1. Consistent with subsection II.B, the miscellaneous units shall be operated and maintained by the permittee in a manner that will ensure protection of human health and the environment.
2. The permittee shall maintain and operate the miscellaneous units and their associated systems, including those used to prevent releases to air, soil, or water, as described in Attachment 10.
3. All maintenance and operation data shall be placed in the operating record for each respective unit.
4. Hazardous waste shall not be placed in a miscellaneous unit if the unit or its ancillary equipment fails to operate properly.
5. The permittee shall keep the written hazardous waste miscellaneous unit assessments of each hazardous waste miscellaneous unit's integrity and suitability for handling hazardous waste on file at the facility. These records shall be kept until such time that the hazardous waste miscellaneous unit is certified closed in accordance with this permit.
6. In the event that a hazardous waste miscellaneous unit exceeds the maximum allowable capacity designated for that unit in this permit, the permittee shall document in the operating record, as required by this permit, the following information:

- (a) The date and time of occurrence;
 - (b) Identification of the unit; and
 - (c) Indicate if any other available miscellaneous unit, within the system, is available and identify such unit.
- 7. The permittee shall document and record the results of each miscellaneous unit's waste analysis required by Attachment 2 of this permit.
- 8. The permittee shall ensure that hazardous wastes or treatment reagents must not be placed in a miscellaneous unit if they could cause the miscellaneous unit, its ancillary equipment, or the containment system to rupture, leak, corrode or otherwise fail before the end of its intended life.
- 9. The permittee shall use appropriate controls and practices to prevent spills and overflows from miscellaneous units or their containment systems. Prior to the placement of any miscellaneous unit into operation, the permittee shall submit to the Division Director, and obtain the Division Director's approval of, a detailed description of controls and practices that will be utilized to prevent spills and overflows. Upon approval by the Division Director, those controls and practices shall become conditions of this permit by modification.

C. MANAGEMENT OF THE MISCELLANEOUS UNITS

- 1. The permittee shall adhere to proper handling procedures in order, to prevent damage to the miscellaneous units and their associated systems during management of hazardous waste.
- 2. Prior to storage of hazardous waste in the miscellaneous units, the permittee shall install and test all process equipment to ensure that the equipment meets design specifications.
 - (a) The permittee must ensure that all miscellaneous units and ancillary equipment are tested for tightness prior to being covered, enclosed, or placed in use. If a miscellaneous unit is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the miscellaneous unit being covered, enclosed, or placed into use.
 - (b) The permittee must notify the Division Director at least two (2) calendar days in advance of the date the testing for tightness required in subparagraph V.C.3(a) is to be conducted so that the Division Director may, if he chooses, inspect this procedure.

3. The permittee must ensure that ancillary equipment is supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.
4. In addition to the requirements of subparagraph I.D.11(b) of this permit, the permittee shall not process or store hazardous waste in the miscellaneous unit until:
 - (a) A qualified Professional Engineer, acceptable to the Commissioner, has completed an assessment of the miscellaneous units and certifies that:
 - (i) The units have sufficient structural integrity.
 - (ii) The units are acceptable for storing the maximum permitted capacity.
 - (iii) The foundation, structural support, seams, connections, and pressure controls are adequately designed and have sufficient structural strength.
 - (iv) The equipment is compatible with the waste to be stored or managed, and there is sufficient interior or exterior corrosion protection to ensure that it will not collapse, rupture or fail.
 - (b) The assessment required by subparagraph V.C.5(a) shall also describe the design standards according to which the miscellaneous units' ancillary equipment have been constructed and recognize the hazardous waste that will be handled.
5. The permittee must obtain written statements by those persons required to certify the design of the miscellaneous unit and supervise the installation of the miscellaneous unit in accordance with paragraphs V.C.3, 4, and 5, that attest that the miscellaneous unit was properly designed and installed and that repairs, pursuant to paragraph V.C.2 and subparagraph V.C.3(a) were performed. These written statements must also include the certification statement as required in Rule 0400-12-01-.07(2)(a)10. The written statements and certifications shall be kept in the operating records at the facility.

D. CONTAINMENT, DETECTION, AND MANAGEMENT OF RELEASES TO THE SECONDARY CONTAINMENT SYSTEMS

1. The permittee shall ensure that secondary containment systems are operated and maintained as shown and described in Attachment 10 and the documentation approved by the Division Director pursuant to subsection II.B of this permit and operated to prevent any migration of wastes or accumulated liquid out of the

system to the soil, groundwater or surface water at any time during the use of the miscellaneous unit.

2. The permittee shall inspect the secondary containment systems each operating day for the presence of any release of hazardous waste or accumulated liquid, as described in Attachments 4 and 10. An "operating day" is any calendar day during which one or more of the miscellaneous units, including the secondary containment systems, are used to contain and/or transfer wastes.
3. The permittee shall remove all spilled or leaked waste and accumulated precipitation from the secondary containment systems within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment if he can demonstrate that removal of the released waste or accumulated precipitation could not be accomplished within 24 hours.
 - (a) The permittee shall have available at all times at least one portable pump dedicated to hazardous waste areas and necessary appurtenances (e.g., hoses) for use in removing liquids from the secondary containment system. These pumps shall be of a type that will not generate heat or sparks that might result in ignitable vapors and shall be maintained in proper working order.
 - (b) Prior to or after removal from the containment systems, the permittee must determine if the collected materials are a hazardous waste in accordance with Rule 0400-12-01-.03(1)(b). If they are, the permittee must manage them as set forth in Rule 0400-12-01-.03 and this permit. Whether a hazardous waste or not, the permittee must manage the collected materials in full compliance with this permit and applicable federal, state, and local regulations.

E. RESPONSE TO LEAKS OR SPILLS

The permittee shall immediately remove from service any miscellaneous unit or secondary containment system from which there has been a leak or spill. Further, if such a release occurs, the permittee shall satisfy the following requirements in addition to implementing the Contingency Plan:

1. The permittee must immediately stop the flow of hazardous waste into the miscellaneous unit or secondary containment system and inspect the system to determine the cause of the release.
2. If the release was from a miscellaneous unit, the permittee shall, within 24 hours after detection of the leak or, if the permittee demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the miscellaneous unit to be performed.

3. The permittee shall remove and manage all material released to a secondary containment system as set forth in paragraph V.D.3.
4. If visible releases to the environment have occurred, the permittee shall immediately conduct a visual inspection of the release and based on that inspection, take necessary actions to prevent further migration of the leak or spill to soils or surface water, and to remove and properly dispose of, any visible contamination of the soil or surface water.
5. Unless it consists of less than or equal to a quantity of one pound of hazardous waste and is immediately contained and cleaned up, the permittee shall:
 - (a) Within 24 hours of its detection, report any release to the environment to the Commissioner. If the release has been reported to the National Response Center pursuant to 40 CFR 302 or the Tennessee Emergency Management Agency, that report will satisfy this requirement.
 - (b) Within 30 calendar days of detection of a release to the environment, submit to the Division Director a report containing the following information:
 - (i) Likely route of migration of the release;
 - (ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);
 - (iii) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 calendar days, these data must be submitted to the Division Director as soon as they become available.
 - (iv) Proximity to downgradient drinking water, surface water, and populated areas; and
 - (v) Description of response actions taken or planned.
6. Unless the permittee satisfies one or more of the following requirements, the miscellaneous unit must be closed in accordance with the Closure Plan:
 - (a) If the cause of the release was a spill that has not damaged the integrity of the system, the permittee may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

- (b) If the cause of the release was a leak from the primary miscellaneous unit into the secondary containment system, the system must be repaired prior to returning the miscellaneous unit to service.
 - (c) If the source of the release was a leak to the environment from a component of a miscellaneous unit without secondary containment, the permittee must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of Rule 0400-12-01-.06(10)(d) before it can be returned to service, unless the source of the leak is an aboveground portion of a miscellaneous unit that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph V.E.7 are satisfied. If a component is replaced to comply with the requirements of this paragraph, that component must satisfy the requirements for new miscellaneous units or components in accordance with Rules 0400-12-01-.06(10)(c).
 - (d) Additionally, if a leak has occurred in any portion of a miscellaneous unit component that is not readily accessible for visual inspection, the entire component must be provided with secondary containment in accordance with Rule 0400-12-01-.06(10)(d) prior to being returned to use.
7. If the permittee has repaired a miscellaneous unit in accordance with paragraph V.E.6, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the miscellaneous unit must not be returned to service unless the permittee has obtained a certification by a qualified Professional Engineer in accordance with Rule 0400-12-01-.07(2)(a)10 that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the Division Director within seven calendar days after returning the miscellaneous unit to use.

F. INSPECTION OF THE MISCELLANEOUS UNITS

- 1. The permittee shall develop and follow a schedule and procedures for inspecting overfill controls.
- 2. The permittee shall inspect at least once each operating day:
 - (a) Aboveground portions of the miscellaneous unit, if any, to detect corrosion or releases of waste; and
 - (b) The construction materials and the area immediately surrounding the externally accessible portion of the miscellaneous unit, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

3. The permittee shall regularly inspect during each batch.
4. The permittee shall document in the operating record of the facility an inspection of those items as set forth in paragraphs IV.F.1, 2, and 3.

G. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTES

1. The permittee shall ensure that no ignitable or reactive waste is placed in miscellaneous units unless:
 - (a) The waste is treated, rendered or mixed before or immediately after placement in the miscellaneous unit so that:
 - (i) The resulting waste, mixture or dissolved material no longer meets the definition of ignitable or reactive waste under Tennessee Rule 0400-12-01-.02(3)(b) or (d); and
 - (ii) Paragraph II.G.2 of this permit is complied with; or
 - b) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or
 - (c) The miscellaneous unit is used solely for emergencies.
2. The permittee shall ensure, through modification of the facility (and/or operations) and this permit, that the facility maintains compliance with the requirements for the maintenance of protective distances between the waste management areas and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code" (1977 or 1981). The permittee shall notify the Division Director as soon as possible of any anticipated change in property lines or public rights-of-way that might impact such compliance.

H. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTES

The permittee shall ensure that unless paragraph II.G.2 of this permit is complied with:

1. Incompatible wastes, or incompatible wastes and materials, are not placed in the same miscellaneous unit; and
2. Hazardous wastes are not placed in a miscellaneous unit that has not been decontaminated and that previously held an incompatible waste or material.

I. CLOSURE OF THE MISCELLANEOUS UNITS

1. At closure, the permittee shall close the miscellaneous units and their associated systems in accordance with Subsection II.L and Attachment 7.
2. At closure, as throughout the operating period, unless the permittee can demonstrate, in accordance with Rule 0400-12-01-.03(1)(b), that the wastes removed from the containment system, miscellaneous units or their associated systems is not a hazardous waste, the permittee becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of Rule Chapter 0400-12-01-.03.

J. MONITORING AND INSPECTIONS

The permittee must conduct, as a minimum, the following monitoring and inspections when treating hazardous waste:

1. The complete miscellaneous treatment process and associated equipment must be inspected at least daily for leaks, spills, and fugitive emissions.
2. The permittee shall maintain a copy of the manufacturer's literature pertaining to installation, maintenance, operation, and calibration for all equipment in the operating record until closure.
3. The permittee shall record and maintain in the operating record all the inspections required in this subsection. At a minimum, the record shall include the following information:
 - (a) The date that the inspection was completed;
 - (b) The piece of equipment inspected including the part number or other appropriate descriptive identifier;
 - (c) The type of inspection;
 - (d) The name(s) of the person(s) conducting the inspection;
 - (e) Any other information associated with the inspection; and
 - (f) Any follow-up activity conducted as a result of inspection.

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VI. SPECIFIC CONDITIONS FOR CORRECTIVE ACTION

A. APPLICABILITY

The conditions of this section apply to:

1. The solid waste management units (SWMUs) and areas of concern (AOCs) identified in Attachment 11.1, Table 11.1-1, which require no further action under the corrective action conditions of this permit at this time;
2. The SWMUs and AOCs identified in Attachment 11.1, Table 11.1-2, which require confirmatory sampling;
3. The SWMUs and AOCs identified in Attachment 11.1, Table 11.1-3, which require a RCRA Facility Investigation;
4. The SWMUs and AOCs identified in Attachment 11.1, Table 11.1-4, which require interim measures;
5. The SWMUs and AOCs identified in Attachment 11.1, Table 11.1-5, which require a corrective measures study;
6. The SWMUs and AOCs identified in Attachment 11.1, Table 11.1-6, which require a corrective action remedy;
7. The SWMUs and AOCs identified in Attachment 11.1, Table 11.1-7, which are regulated by a hazardous waste permit;
8. Any additional SWMUs or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means. As used in this section of the permit, the terms “discover”, “discovery”, or “discovered” refer to the date on which the permittee either (1) visually observes evidence of a new SWMU or AOC, (2) visually observes evidence of a previously unidentified release of hazardous constituents to the environment, or (3) receives information which suggests the presence of a new release of hazardous waste or hazardous constituents to the environment; and
9. Contamination that has migrated or is migrating beyond the facility boundary. The permittee shall implement corrective actions beyond the facility boundary where necessary to protect human health and the environment, unless the permittee demonstrates to the satisfaction of the Commissioner that, despite the permittee's best efforts, as determined by the Commissioner, the permittee was unable to obtain the necessary permission to undertake such actions. The permittee is not relieved of

all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for completion of such off-site corrective action will be required.

B. NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED SWMUs AND AOCs

1. The permittee shall notify the Commissioner in writing, within 15 calendar days of discovery of any suspected new AOC as discovered under Paragraph VI.A.8. The notification shall include, at a minimum, the location of the AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous constituents released, magnitude of release, etc.). The Commissioner may conduct, or require the permittee to conduct, further assessment (i.e., confirmatory sampling) in order to determine the status of the suspected AOC. The Commissioner will notify the permittee in writing of the final determination as to the status of the suspected AOC. If the Commissioner determines that further investigation or other corrective action of an AOC is required, the permittee shall modify the permit in accordance with Rule 0400-12-01-.07(9).
2. The permittee shall notify the Commissioner in writing, within 15 calendar days of discovery of any additional SWMU as discovered under Paragraph VI.A.8.
3. The permittee shall prepare and submit to the Commissioner, within 90 calendar days of notification, a SWMU Assessment Report (SAR) for each SWMU identified under Paragraph VI.B.2. At a minimum, the SAR shall provide the following information:
 - (a) Location of unit(s) on a topographic map of appropriate scale such as required under Rule 0400-12-01-.07(5)(a)1(xix);
 - (b) Designation of type and function of unit(s);
 - (c) General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings);
 - (d) Dates that the unit(s) was operated;
 - (e) Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on hazardous constituents in the wastes; and
 - (f) All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s). Include any available information and analytical results for air, soil, sediment, surface water and groundwater.

4. Based on the results of the SAR, the Commissioner shall determine the need for further investigations at the SWMUs covered in the SAR. If the Commissioner determines that such investigations are needed, the permittee shall be required to prepare a plan for such investigations as outlined in Subparagraph VI.E.1(a) or Paragraph VI.D.1.

C. NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES FROM SWMUs OR AOCs

1. The permittee shall notify the Commissioner, in writing, of any newly discovered release(s) of hazardous waste or hazardous constituents discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, within 15 calendar days of discovery. Such newly discovered releases may be from SWMUs or AOCs identified in Paragraph VI.A.1, or SWMUs or AOCs identified in Paragraph VI.A.8 for which further investigation under Paragraph VI.B.4 was not required.
2. If the Commissioner determines that further investigation of the SWMUs or AOCs is needed, the permittee shall be required to prepare a plan for such investigations as outlined in Subparagraph VI.E.1(a).

D. CONFIRMATORY SAMPLING (CS)

1. Upon notification by the Commissioner, the permittee shall prepare and submit a Confirmatory Sampling Work Plan for suspected AOCs per Paragraph VI.B.1 or newly identified SWMUs per Paragraph VI.B.4. The work plan shall be submitted within 45 calendar days of notification by the Commissioner that a CS Work Plan is required. The CS Work Plan shall include schedules of implementation and completion of specific actions necessary to determine whether a release has occurred. It should also address applicable requirements and affected media. In order to partly or wholly satisfy the CS requirement, previously existing data may be submitted with the work plan for the Commissioner's consideration.
2. The CS Work Plan must be approved by the Commissioner, in writing, prior to implementation. The Commissioner shall specify the start date of the CS Work Plan schedule in the letter approving the CS Work Plan. If the Commissioner disapproves the CS Work Plan, the Commissioner shall (1) notify the permittee in writing of the CS Work Plan's deficiencies and specify a due date for submission of a revised CS Work Plan, (2) revise the CS Work Plan and notify the permittee of the revisions, or (3) conditionally approve the CS Work Plan and notify the permittee of the conditions.
3. The permittee shall implement the confirmatory sampling in accordance with the approved CS Work Plan.

4. The permittee shall prepare and submit to the Commissioner in accordance with the schedule in the approved CS Work Plan, a CS Report identifying all SWMUs or AOCs that have released hazardous waste or hazardous constituents into the environment. The CS Report shall include all data, including raw data and a summary and analysis of the data, which supports the above determination. If submission of the CS Report coincides with submission of the RFI Report, then the CS Report and the RFI Report may be combined into one submission.
5. Based on the results of the Confirmatory Sampling Report, the Commissioner shall determine the need for further investigations at the SWMUs or AOCs covered in the CS Report. If the Commissioner determines that such investigations are needed, the permittee shall be required to prepare a plan for such investigations as outlined in Subparagraph VI.E.1(a). The Commissioner will notify the permittee of any no further action decision.

E. RCRA FACILITY INVESTIGATION (RFI)

1. RFI Work Plan(s)
 - (a) The permittee shall prepare and submit to the Commissioner, within 90 calendar days of notification by the Commissioner, an RFI Work Plan for those units identified under Paragraph VI.B.4, Paragraph VI.C.2, or Paragraph VI.D.5. The RFI Work Plan(s) shall be developed to meet the requirements of Subparagraph VI.E.1(b).
 - (b) The RFI Work Plan(s) shall meet the requirements specified in Attachment 11.2, unless otherwise directed by the Commissioner. The RFI Work Plan(s) shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of contamination and the potential pathways of contaminant releases to the air, soil, surface water, and groundwater. The permittee must provide sufficient justification and associated documentation that a release is not probable or has already been characterized if a unit or a media/pathway associated with a unit (groundwater, surface water, soil, subsurface gas, or air) is not included in the RFI Work Plan(s). Such deletions of a unit, media or pathway from the RFI(s) are subject to the approval of the Commissioner. The permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Attachment 11.2. Such omissions or deviations are subject to the approval of the Commissioner. In addition, the scope of the RFI Work Plan(s) shall include all investigations necessary to ensure compliance with Rule 0400-12-01-.06(6)(l)3.
 - (c) The RFI Work Plan(s) must be approved by the Commissioner, in writing, prior to implementation. The Commissioner shall specify the start date of the RFI Work Plan schedule in the letter approving the RFI Work Plan(s). If the Commissioner disapproves the RFI Work Plan(s), the Commissioner

shall either (1) notify the permittee in writing of the RFI Work Plan's deficiencies and specify a due date for submission of a revised RFI Work Plan, (2) revise the RFI Work Plan and notify the permittee of the revisions and the start date of the schedule within the approved RFI Work Plan, or (3) conditionally approve the RFI Work Plan and notify the permittee of the conditions.

2. RFI Implementation

The permittee shall implement the RFI(s), as outlined in Attachment 11.2, in accordance with the approved RFI Work Plan(s). The permittee shall notify the Commissioner at least 20 days prior to any sampling activity.

3. RFI Reports

- (a) The permittee shall prepare and submit to the Commissioner Draft and Final RCRA Facility Investigation Report(s) for the investigations conducted pursuant to the RFI Work Plan(s) submitted under Paragraph VI.E.1. The Draft RFI Report(s) shall be submitted to the Commissioner for review in accordance with the schedule in the approved RFI Work Plan(s). The Final RFI Report(s) shall be submitted to the Commissioner within 30 calendar days of receipt of the Commissioner's final comments on the Draft RFI Report. The RFI Report(s) shall include an analysis and summary of all required investigations of SWMUs and AOCs and their results. The summary shall describe the type and extent of contamination at the facility, including sources and migration pathways, identify all hazardous constituents present in all media, and describe actual or potential receptors. The RFI Report(s) shall also describe the extent of contamination (qualitative/quantitative) in relation to background levels indicative of the area. If the RFI Report is a summary of only the initial phase investigatory work or based on current investigations and further investigation is necessary, then an Interim RFI Report summarizing the initial phase investigation shall be submitted incorporating a work plan for the final phase investigatory actions required based on the initial findings. The report shall include a work plan for the final phase investigatory actions required based on the initial findings. Approval of the final phase work plan shall be carried out in accordance with Subparagraph VI.E.1(c). The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and the environment, and to support a Corrective Measures Study, if necessary.
- (b) The permittee shall submit to the Commissioner, along with the Interim and Final RFI Report(s), Screening Levels based on the latest EPA guidance or

as otherwise directed by the Commissioner for each of the Hazardous Constituents reported in Condition VI.E.3(a).

- (c) The Commissioner will review the RFI Report(s), including the screening levels described in Subparagraph VI.E.3(b). The Commissioner shall notify the permittee of the need for further investigative action if necessary and, if appropriate at this moment of the investigation, inform the permittee, if not already notified, of the need for a Corrective Measures Study to meet the requirements of Subparagraph VI.G and Rule 0400-12-01-.06(6)(l). The Commissioner will notify the permittee of any no further action decision. Any further investigative action required by the Commissioner shall be prepared and submitted in accordance with a schedule specified by the Commissioner and approved in accordance with Subparagraph VI.E.1(c).
- (d) If the time required to conduct the RFI(s) is greater than 180 calendar days, the permittee shall provide the Commissioner with quarterly RFI Progress Reports (90-day intervals) beginning 90 calendar days from the start date specified by the Commissioner in the RFI Work Plan approval letter. The RFI Progress Reports shall contain the following information at a minimum:
 - (i) A description of the portion of the RFI completed;
 - (ii) Summaries of findings;
 - (iii) Summaries of any deviations from the approved RFI Work Plan during the reporting period;
 - (iv) Summaries of any significant contacts with local community public interest groups or State government;
 - (v) Summaries of any problems or potential problems encountered during the reporting period;
 - (vi) Actions taken to rectify problems;
 - (vii) Changes in relevant personnel;
 - (viii) Projected work for the next reporting period; and
 - (ix) Copies of daily reports, inspection reports, data, etc.

F. INTERIM MEASURES (IM)

1. IM Work Plan

- a) The Commissioner may require Interim Measures (IM) if they are necessary to protect human health and the environment (considering specific site conditions and Tennessee Regulations).

Upon notification by the Commissioner, the permittee shall prepare and submit an IM Work Plan for any SWMU or AOC for which the Commissioner determines IM are necessary. IM are necessary in order to minimize or prevent the further migration of contaminants and to limit actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented. The IM Work Plan shall be submitted within 30 calendar days of such notification and shall include the elements listed in Subparagraph VI.F.1(c). Such interim measures may be conducted concurrently with investigations required under the terms of this permit. Units having an approved IM Work Plan shall comply with Paragraph VI.F.2 and beyond to govern implementation of the IM requirements for the unit(s).

- (b) The permittee may initiate IM at a SWMU or AOC by submitting the appropriate notification pursuant to Subparagraph I.D.11(a). The Commissioner will process permittee-initiated IM by either conditionally approving the IM or imposing an IM Work Plan per Subparagraph VI.F.1(a). Permittee-initiated IM shall be considered conditionally approved unless the Commissioner specifically imposes an IM Work Plan within 30 calendar days of receipt of notification of the permittee-initiated IM. The scope and success of permittee-initiated IM, conditionally approved per Subparagraph VI.F.1(b), shall be subject to subsequent in-depth review by the Commissioner. The Commissioner will either comment on or approve the permittee-initiated IM. Permittee-initiated IM must follow the progress and final reporting requirements in Paragraph VI.F.3.
- (c) The IM Work Plan shall ensure that the interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and are consistent with and integrated into any long-term solution at the facility. The IM Work Plan shall include: the interim measures objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.
- (d) The IM Work Plan imposed under Subparagraph VI.F.1(a) must be approved by the Commissioner, in writing, prior to implementation. The Commissioner shall specify the start date of the IM Work Plan schedule in the letter approving the IM Work Plan. If the Commissioner disapproves the IM Work Plan, the Commissioner shall either (1) notify the permittee in writing of the IM Work Plan's deficiencies and specify a due date for submission of a revised IM Work Plan, (2) revise the IM Work Plan and notify the permittee of the revisions and the start date of the schedule within

the approved IM Work Plan, or (3) conditionally approve the IM Work Plan and notify the permittee of the conditions.

2. IM Implementation

- (a) The permittee shall implement interim measures imposed under Subparagraph VI.F.1(a) in accordance with the approved IM Work Plan.
- (b) The permittee shall give notice to the Commissioner as soon as possible of any planned changes, reductions or additions to the IM Work Plan imposed under Subparagraph VI.F.1(a) or initiated by the permittee under Subparagraph VI.F.1(b).
- (c) Final approval of corrective action required under Rule 0400-12-01-.06(6)(l), which is achieved through IMs, shall be in accordance with Rule 0400-12-01-.07(9)(c)5(iii) and Subsection VI.H as a permit modification.

3. IM Reports

- (a) If the time required for completion of interim measures imposed under Subparagraph VI.F.1(a) or implemented under Subparagraph VI.F.1(b) is greater than one year, the permittee shall provide the Commissioner with progress reports at intervals specified in the approved Work Plan or semi-annually for permittee-initiated interim measures. The IM Progress Reports shall contain the following information at a minimum:
 - (i) A description of the portion of the interim measures completed;
 - (ii) Summaries of findings;
 - (iii) Summaries of any deviations from the IM Work Plan during the reporting period;
 - (iv) Summaries of any problems or potential problems encountered during the reporting period; and
 - (v) Projected work for the next reporting period.
- (b) The permittee shall prepare and submit an Interim Measures (IM) Report to the Commissioner, within 90 calendar days of completion of interim measures conducted under Subsection VI.F. The IM Report shall contain the following information at a minimum:
 - (i) A description of interim measures implemented;
 - (ii) Summaries of results;

- (iii) Summaries of all problems encountered;
- (iv) Summaries of accomplishments or effectiveness of interim measures; and
- (v) Copies of all relevant laboratory/monitoring data, etc. in accordance with Paragraph I.D.9.

G. CORRECTIVE MEASURES STUDY (CMS)

1. The permittee shall prepare and submit to the Commissioner a CMS for those SWMUs and AOCs where hazardous constituents have come to be located at concentrations exceeding those appropriate for the protection of human health and the environment. The CMS shall be developed to meet the requirements of Paragraph VI.G.2. The permittee may seek approval from the Commissioner for concurrent RFI/CMS. The CMS may be performed concurrent with the RFI process if the Commissioner determines that sufficient investigative details are available to allow concurrent action.
2. The CMS shall meet the requirements of Attachment 11.3 of this permit at a minimum. The CMS shall include schedules of implementation and completion of specific actions necessary to complete a CMS. The permittee must provide sufficient justification or documentation for any unit deleted from the CMS. Such deletion of a unit is subject to the approval of the Commissioner. The scope of the CMS shall include all investigations necessary to ensure compliance with the Act and Rules 0400-12-01-.06(6)(l), .06(22)(c), and .07(8)(b)2(ii). The permittee shall implement corrective actions beyond the facility boundary, as set forth in Condition VI.A.8.
3. The permittee shall submit the draft CMS no later than 90 calendar days of notification by the Commissioner that a CMS is required.
4. The Commissioner shall either approve or disapprove, in writing, the CMS. If the Commissioner disapproves the CMS, the Commissioner shall (1) notify the permittee in writing of the CMS's deficiencies and specify a due date for submission of a revised CMS, or (2) revise the CMS and notify the permittee of the revisions, or (3) conditionally approve the CMS and notify the permittee of the conditions. This modified CMS becomes the approved CMS.

H. REMEDY APPROVAL AND PERMIT MODIFICATION

1. A remedy decision (CA400) shall be selected from the remedial alternatives evaluated in the CMS. It will be based at a minimum on protection of human health and the environment, as per specific site conditions and existing regulations and reflected in a statement of basis. The selected remedy may include any IM implemented to date.

2. Pursuant to 0400-12-01-.07(9)(c), a permit modification will be initiated by the Commissioner after recommendation of a remedy under Paragraph VI.H.1. As part of the public notification during the modification process, all supporting documentation for the proposed remedy, including the statement of basis, will be made available for public review and comment. The statement of basis will be prepared utilizing EPA's "Guidance on RCRA Corrective Action Decision Documents" (EPA/540/G-91/011) as a reference. This modification will serve to incorporate a final remedy, including a CAMU if necessary, and CMS remedy implementation schedules into this permit. The permit modification shall include a schedule and date for remedy construction (CA550).
3. Following the public comment period, the Commissioner may approve the CMS and select a final corrective measure(s) or require the permittee to revise the CMS or perform an additional CMS.
4. The Commissioner will notify the permittee of the final corrective measure(s) selected by the Department in the Final Decision and Response to Comments. The notification will include the Commissioner's reasons for selecting the corrective measure(s).
5. Upon the effective date of the permit modification approving the selected remedy, the permittee shall implement the approved remedy per the CMS remedy implementation schedule. The permittee shall submit Corrective Measures Implementation and Effectiveness Reports to the Commissioner annually.

I. REMEDY IMPLEMENTATION

1. The permittee shall implement a corrective action remedy for the SWMUs and AOCs identified in Attachment 11.1, Table 10.1-6, in accordance with the requirements in Attachment 11.5, Corrective Action Remedies.
2. Within 60 calendar days of the effective date of this permit or permit modification for remedy approval in accordance with Subsection VI.H., the permittee shall demonstrate financial assurance for completing the corrective action remedies as described in Attachment 11.5. The permittee shall provide the assurance in accordance with Paragraph VI.J.

J. FINANCIAL ASSURANCE REQUIREMENTS FOR CORRECTIVE ACTION

If the permittee is required to implement a corrective action remedy in accordance with Paragraph VI.I.2, the permittee shall demonstrate continuous compliance with Rules 0400-12-01-.06(6)(a)1(ii) and .06(6)(l) as follows.

1. Cost Estimate for Corrective Action: Pursuant to the corrective measures study report required by Condition G, the permittee shall submit a cost estimate for corrective action following the guidelines provided in Attachment 11.3, Paragraph

V.E.5. The permittee shall adjust the cost estimate as part of any modification request for changes to the approved remedy or as required by the Commissioner.

2. Financial Assurance for Corrective Action

- (a) The permittee shall file and maintain corrective action financial assurance with the Division Director in an amount at least equal to the current cost estimate for completion of the final remedy for the facility. As specified in Paragraph VI.I.2, the permittee shall provide financial assurance after remedy selection and permit modification. However, the Commissioner may notify and require the permittee to provide financial assurance for corrective action at any time during the term of this permit.
- (b) The mechanisms and procedures for complying with the corrective action financial assurance requirements shall be in a manner consistent with Rules 0400-12-01-.06(8)(g) through (p). References to regulatory requirements for “closure and/or post-closure care” shall be replaced with the phrase “closure, post-closure care, and/or corrective action” or other language as approved by the Commissioner.
- (c) Unless the Director approves an alternative amount that is based on a revised cost estimate, financial assurance shall be maintained as an annually inflation-adjusted, twenty-year balance.
- (d) The requirements in Paragraph II.L.10, which details the procedures to follow concerning the financial incapacity of the permittee, guarantors, or financial institutions, shall also apply to the corrective action financial assurance.

3. Procedures for Forfeiture of Financial Assurance: Upon his or her determination that the permittee has failed to perform corrective action in accordance with Attachment 11.5, the approved Corrective Action Remedies, when required to do so, the Division Director will initiate the procedures for forfeiture of financial assurance in accordance with Paragraph II.L.8.

K. INSTITUTIONAL CONTROLS (ICs)

- 1. The permittee must consider institutional or other appropriate non-engineering controls for protection of human health and the environment from contamination left in place at any SWMU or AOC. Among the institutional controls (ICs) to be considered is a “Notice of Land Use Restriction” pursuant to T.C.A. §68-212-225.
- 2. ICs may be used to protect the corrective measures implemented at the facility if this permit is terminated at the completion of corrective action. ICs should be implemented prior to termination of this permit.

3. ICs that are approved as part of the final remedy shall survive the termination of this permit.
4. ICs may be placed upon the facility or on any specifically identified area of a SWMU or AOC. ICs may restrict the use of the property covered by such ICs to commercial or industrial land use, as those terms are currently defined, or may be defined in the future, by zoning ordinance(s) of the city, county or any other local governmental entity with jurisdiction and authority to regulate the land use at the property.

L. COMPLETION OF CORRECTIVE ACTION

1. The corrective action shall be considered complete when the Commissioner determines that compliance with the media cleanup standards and the cleanup objectives has been achieved, and that all actions required to control the source(s) of contamination have been satisfied.
2. Corrective action shall be considered complete with or without controls in place where the permittee has satisfied all obligations under Rules 0400-12-01-.06(6)(a)1(ii) and .06(6)(l).
3. Upon completion of the corrective action for the entire facility, or for a portion of the facility, or for any off-site contamination, the permittee shall submit to the Commissioner, by registered mail, a request for termination of the corrective action schedule of compliance according to the procedures for Class 3 modifications in Rule 0400-12-01-.07(9)(c). The request shall include a certification that the corrective measures have been completed in accordance with the requirements of this permit.
4. When, upon receipt of the certification, and in consideration of public comments and any other relevant information, the Commissioner determines that the corrective measures have been completed in accordance with the terms and conditions of this permit and the requirements for completion, the Commissioner shall terminate this permit or modify the permit to terminate the Corrective Action Schedule of Compliance for SWMUs and AOCs that require no further action at this time. Upon termination of the permit or modification of the permit for completion of corrective action at the entire facility, the Commissioner shall release the permittee from the financial assurance requirements of this permit.

M. MODIFICATION OF THE CORRECTIVE ACTION COMPLIANCE SCHEDULE

1. If at any time the Commissioner determines that modification of the Corrective Action Compliance Schedule is necessary, the Commissioner may initiate a modification to the Corrective Action Compliance Schedule in Attachment 11.4. All corrective action schedules are summarized in Attachment 11.4.

2. Modifications that are initiated and finalized by the Commissioner will be in accordance with the applicable provisions of Rule 0400-12-01-.07(9). The permittee may also request a permit modification in accordance with Rule 0400-12-01-.07(9) to change the Corrective Action Compliance Schedule.

N. WORK PLAN AND REPORT REQUIREMENTS

1. All work plans and schedules shall be subject to approval by the Commissioner prior to implementation to assure that such work plans and schedules are consistent with the requirements of this permit and with applicable regulations.
2. All work plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submissions may be granted by the Commissioner based on the permittee's demonstration that sufficient justification for the extension exists.
3. The permittee shall revise all submissions and schedules as specified by the Commissioner. Upon approval the permittee shall implement all work plans and schedules as written.
4. If the permittee at any time determines that the SAR information required under Condition VI.B, the CS Work Plan under Condition VI.D RFI Work Plan(s) required under Condition VI.E no longer satisfy the requirements of Tennessee Hazardous Waste Management Regulations, Rule 0400-12-01-.06(6)(I) or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units or areas of concern, the permittee shall submit an amended Work Plan(s) to the Commissioner within 90 calendar days of such determination.
5. Unless notified by separate letter that additional hard copies are necessary, only two (2) hard copies and one (1) electronic copy of all reports and plans shall be provided by the permittee to the Commissioner. Submittals shall be addressed in care of the Division Director, as follows:

**Division Director
Division of Solid Waste Management
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243**

6. The permittee may deviate from Corrective Action processes detailed in Subsections VI.D, VI.E, VI.F, and VI.G by participating in the Facility Action Plan (FAP) process, with the permission of the Director. The permittee shall meet with the Division personnel once a year to develop a FAP. During the FAP meeting the permittee must be prepared to discuss work accomplished since the previous FAP meeting or if this is the first FAP meeting all work that has been

accomplished prior to the FAP meeting and discuss, at a minimum, future work to be completed in the following work year. The FAP shall include reporting requirements and an implementation schedule. The permittee must notify the Division prior to any deviation from their FAP. The Permittee must notify the Division and provide the plans for fieldwork at least 30 days prior to the commencement of any field activities. The permittee must provide for a mid-year meeting, if deemed necessary by the Director. If the permittee fails to abide by the negotiated conditions and schedules in the FAP plan and as outlined in this condition, or the permittee no longer wishes to remain in the FAP process, then upon notification, the permittee shall be required to revert back to the Corrective Action processes detailed in Subsections VI.D, VI.E, VI.F and VI.G.

O. APPROVAL/DISAPPROVAL OF SUBMISSIONS

The Commissioner will review the work plans, reports, schedules, and other documents (submissions) that require the Commissioner's approval in accordance with the conditions of this permit. The Commissioner will notify the permittee in writing of any submission that is disapproved and the basis, therefore. Condition VI.P shall apply only to submissions that have been disapproved and revised by the Commissioner, or that have been disapproved by the Commissioner, then revised and resubmitted by the permittee, and again disapproved by the Commissioner.

P. DISPUTE RESOLUTION

The Commissioner and the permittee shall use their best effort to resolve any disputes concerning submissions hereunder and the proper application of statutory or regulatory provisions informally and in good faith. If a disagreement cannot be resolved informally, the parties jointly or individually may pursue the matter formally by requesting a Declaratory Order by the Tennessee Underground Storage Tanks and Solid Waste Disposal Control Board in a contested case hearing under T.C.A. §4-5-223.

EPA ID Number: TND000614321

Permit Number: TNHW-DRAFT

ATTACHMENT 1. HAZARDOUS WASTES TO BE MANAGED

EPA Hazardous Waste Code	Contaminant	Hazard	Basis
D001		Ignitability	Characteristic Waste
D002		Corrosivity	Characteristic Waste
D004	Arsenic	Toxicity	Characteristic Waste
D005	Barium	Toxicity	Characteristic Waste
D006	Cadmium	Toxicity	Characteristic Waste
D007	Chromium	Toxicity	Characteristic Waste
D008	Lead	Toxicity	Characteristic Waste
D009	Mercury	Toxicity	Characteristic Waste
D010	Selenium	Toxicity	Characteristic Waste
D011	Silver	Toxicity	Characteristic Waste
D018	Benzene	Toxicity	Characteristic Waste
D019	Carbon tetrachloride	Toxicity	Characteristic Waste
D021	Chlorobenzene	Toxicity	Characteristic Waste
D022	Chloroform	Toxicity	Characteristic Waste
D023	o-Cresol	Toxicity	Characteristic Waste
D024	m-Cresol	Toxicity	Characteristic Waste
D025	p-Cresol	Toxicity	Characteristic Waste
D026	Cresol	Toxicity	Characteristic Waste
D027	1,4-Dichlorobenzene	Toxicity	Characteristic Waste
D028	1,2-Dichloroethane	Toxicity	Characteristic Waste
D029	1,1-Dichloroethylene	Toxicity	Characteristic Waste
D030	2,4-Dinitrotoluene	Toxicity	Characteristic Waste
D032	Hexachlorobenzene	Toxicity	Characteristic Waste
D033	Hexachlorobutadiene	Toxicity	Characteristic Waste
D034	Hexachloroethane	Toxicity	Characteristic Waste
D035	Methyl ethyl ketone	Toxicity	Characteristic Waste
D036	Nitrobenzene	Toxicity	Characteristic Waste
D037	Pentachlorophenol	Toxicity	Characteristic Waste
D038	Pyridine	Toxicity	Characteristic Waste
D039	Tetrachloroethylene	Toxicity	Characteristic Waste
D040	Trichloroethylene	Toxicity	Characteristic Waste
D041	2,4,5-Trichlorophenol	Toxicity	Characteristic Waste
D042	2,4,6-Trichlorophenol	Toxicity	Characteristic Waste
D043	Vinyl chloride	Toxicity	Characteristic Waste

HAZARDOUS WASTES TO BE MANAGED (cont'd)

EPA Hazardous Waste Code	Contaminant	Hazard	Basis
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. Dry Cleaner (Perc) Bottoms and Dry Cleaner (Perc): The waste stream contains a halogenated solvent.	Toxic	Listed Waste
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	Toxic	Listed Waste
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	Ignitable	Listed Waste

HAZARDOUS WASTES TO BE MANAGED (cont'd)

F004	The following spent nonhalogenated solvents: cresols, cresylic acid, and nitrobenzene; and the still bottoms from the recovery of these solvents; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above nonhalogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures. Containerized waste service wastes may include parts cleaner solvents, halogenated solvents.	Toxic	Listed Waste
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001 or F002; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	Ignitable, Toxic	Listed Waste

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ATTACHMENT 2. WASTE ANALYSIS PLAN

Attachment 2 consists of three sections as follows:

- Attachment 2.1 Waste Analysis Plan
- Attachment 2.2 Waste Material Profile Form and Waste Stream Codes
- Attachment 2.3 Statistical Analysis of Annual Waste Characterization Plan and Data

ATTACHMENT 2.1 WASTE ANALYSIS PLAN

DESCRIPTION OF WASTES

Several types of waste result from the servicing of the permittee (Safety-Kleen) customers and the maintenance of the facility. Descriptions of waste analyses and management are presented below.

PARTS CLEANER SERVICE

The primary business activity offered by Safety-Kleen today includes several types of parts cleaning services. The original service offered by the Company in 1968 involves the leasing of small parts degreasing units which consist of a sink affixed to containers containing Safety-Kleen parts cleaner solvents that are non-halogenated aliphatic hydrocarbons. On a regularly scheduled basis, a Safety-Kleen sales representative cleans and inspects the parts cleaner machine and replaces the container of spent solvent with one of clean product.

In 1994, the Company introduced a cyclonic parts cleaner machine that removes dirt particles from the solvent during use. Instead of replacing the container of solvent on each visit, the service interval is extended, and the sales representative replenishes the solvent that has been depleted on interim visits. With this service, customers will generate less waste on an annual basis. The solvent used in the cyclonic parts cleaner is a premium formulation with a lower vapor pressure, thus reducing emissions.

The spent solvent is transferred from the containers to the 10,000 gallons aboveground storage tank at the Millington Service Center, and containers are washed and filled with product in preparation for the next day's delivery to customers. Periodically, a tanker truck is dispatched from one of the recycle centers to deliver a load of clean solvent and collect the spent solvent at the service center. Most of the solvent used by the facility customers is reclaimed.

An alternative type of parts cleaner service which is available from Safety-Kleen utilizes an aqueous cleaner. The aqueous parts cleaning system is used mainly by automotive maintenance facilities or car dealerships for cleaning of small automotive parts and brake systems. On a regularly scheduled basis, a Safety-Kleen sales representative cleans and inspects the parts cleaner machine and replaces the container of used solution with one of clean product. The spent aqueous cleaner is typically characterized by the generator as non-hazardous. Spent non-hazardous cleaner may be bulked into a tote or vessel prior to being shipped off-site for disposal. If the container of consolidated aqueous solution is found to be non-conforming and determined to be hazardous waste, the waste will be managed as site generated hazardous waste.

Another type of parts cleaner service utilizes immersion cleaner to remove varnish and gum from such equipment as carburetors and transmissions. The immersion cleaner machine consists of an immersible basket with an agitator affixed to a container containing a non-halogenated hydrocarbon mixture. The spent solvent remains in the container after delivery to the service center, where it is stored in the container storage area (CSA). Periodically, a box trailer truck is

dispatched from a recycle center or an accumulation center to deliver containers of fresh solvent and collect the containers of spent solvent for reclamation.

Wastes Resulting from the Parts Cleaner Service

Spent parts washer solvent (spent petroleum naphtha solvent) is routed to the 10,000-gallons aboveground storage tank via the ancillary drum washer/wet dumpster unit at the return and fill station. Containers of spent parts cleaner solvent are emptied into the drum washer/wet dumpster unit and then pumped under positive pressure into the tank. This waste handling method results in the following types of parts cleaner solvent waste:

- a. Spent parts cleaner solvent: The spent parts cleaner solvent is removed from the tank by a tanker truck on a scheduled basis. Approximately 5,000-6,000 gallons of waste are removed every two to four weeks. This waste may exhibit the characteristic of ignitability (D001) and may exhibit toxicity characteristic(s) codes (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043).
- b. Bottom sediment in the tank: On occasion, it is necessary to remove sediment and other heavy material that has accumulated in the bottom of the tank. A vacuum truck is generally used for this purpose and can collect up to 4,000 gallons for reclamation. The sediment may exhibit the characteristic of ignitability (D001) and may exhibit toxicity characteristic(s) codes (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043).
- c. Drum washer/wet dumpster sediment: Sediment also accumulates in the bottom of the drum washer/wet dumpster units at the return and fill station. This sediment is removed manually, containerized, and the containers are stored in the CSA of the warehouse. The containers are properly marked to indicate their contents. The chemical composition of this waste is analogous to that of the bottom sediment from the tank, and therefore, carries the same hazardous waste numbers.

Aqueous Parts Washing (APW) solution is also brought back to the facility and bulked onsite into totes. APW solution is typically characterized as non-hazardous waste, but occasionally may exhibit the characteristics of ignitability (D001), corrosivity (D002), or toxicity characteristic(s) (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D036, D037, D038, D039, D040, D041, D042, D043).

The spent immersion cleaner waste remains in the container in which it was received and is stored in the CSA. The immersion cleaner formula is a non-halogenated hydrocarbon mixture and may exhibit toxicity characteristic(s) codes (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028,

D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043).

DRY CLEANER SERVICE

In 1984, Safety-Kleen began offering a service for the collection of filter cartridges, separator water, and still bottoms contaminated with dry cleaning solvents (usually perchloroethylene, however, some customers use a petroleum naphtha-based dry-cleaning solvent). These wastes are containerized on the customer's premises and are periodically collected by a sales representative. The containerized waste is accumulated in the CSA at the service center for transport to a Clean Harbors treatment facility.

Wastes Resulting from the Dry Cleaner Service

Dry cleaning wastes consist of spent filter cartridges, separator water, powder residue from diatomaceous or other powder filter systems and still bottoms. These wastes are packaged on the customer's premises in containers. These wastes remain in the containers in which they were received and are stored in the container storage area.

- a. Perchloroethylene (Perc) waste (this category includes Dry Cleaner (Perc) Bottoms and Dry Cleaner (Perc): The waste stream contains a halogenated solvent (F002) and may exhibit toxicity characteristic(s) codes (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043).
- b. Dry cleaning separator water: This waste stream is generated during the distilling of spent perchloroethylene. The recycled perchloroethylene and the water are separated during the distilling. Separator water is typically less than 10% perchloroethylene and is handled as an F002 waste. The waste stream may exhibit toxicity characteristic(s) codes (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043).
- c. Petroleum naphtha waste (this includes Dry Cleaning Naphtha Bottoms, Dry Cleaning Naphtha Filters, and Dry-Cleaning Naphtha Separator Water: The waste stream may exhibit the characteristic of ignitability (D001) and may exhibit toxicity characteristic(s) codes (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043).

PAINT WASTE COLLECTION SERVICE

In 1986, facility initiated a paint waste reclamation program to service automobile body repair businesses. Wastes containing various thinners and paints are collected in containers on the customer's premises. The facility sales representative collects these containers and stores them in the CSA at the facility. These wastes are transported to a facility recycle center, distribution

center or other reclaimer. The regenerated solvent is distributed to facility customers for use as product.

Paint Wastes

Paint waste (this category includes Paint Gun Cleaner (Safety-Kleen), Clear Choice Paint Gun Cleaner, and Paint Waste) is collected in pails, drums, or other approved containers at the customer's place of business. This waste remains in the container in which it was received and are then palletized and stored in the CSA of the facility. Paint wastes consist of various lacquer thinners such as acetone, isopropyl alcohol, methyl ethyl ketone, methyl isobutyl ketone, toluene, xylenes, and acetate compounds (D001, F003, and F005). Paint waste may exhibit toxicity characteristic(s) (D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043).

WASTE MANAGEMENT PRACTICES

The Millington service center was designed to facilitate the handling and storage of the wastes resulting from the services offered by the permittee.

It is Safety-Kleen's standard operating procedure to use containers constructed of or lined with materials compatible with the hazardous waste to be stored. Compatible materials are used such that the ability of the container to contain the waste is not impaired. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, personnel will transfer the hazardous waste from this container to a container that is in good condition. A container holding hazardous waste will be closed during storage, except when it is necessary to add or remove waste. The floor underlying containers in the CSA and the base of the containment system have been sealed creating a protective barrier. The protective barrier contains spills, leaks or accumulated precipitation until the material can be detected and removed. The coated secondary containment system will be maintained to prevent migration of spills, leaks or accumulated precipitation.

At the service center, spent parts cleaner solvent is accumulated in containers or a 10,000-gallons aboveground storage tank via the ancillary return and fill station. Containers of spent solvent are emptied into the drum washer unit at the return and fill station. The solvent is then pumped into the spent solvent storage tank located in the tank farm. The return and fill station has secondary containment in the form of interlocking, steel containment pans, sloped concrete floors and sumps with a total capacity of an estimated 1,284 gallons. The wet dumpster units, exterior measures 3 feet wide, 5 feet long, and 3 feet 4 inches in depth. A schematic of the wet dumpsters and the tank is presented in Attachment 10.3 Drum Washer/Wet Dumpster Drawings and Pictures. They are constructed of 14-gauge steel. The interior of these units has a volume capacity of 163 gallons each, consisting of a sump capacity of 46 gallons and an additional 117 gallons above the sump, for a total combine capacity of the two units being 326 gallons. Within the wet dumpster units are drum support rollers and a spray nozzle for washing drums. A float

switch is located near the top of the sump in the wet dumpster and when triggered will activate a pump that will transfer the spent solvent to the hazardous waste storage tank. The wet dumpster/drum washer unit is tight piped to the tank and all piping is aboveground. The wet dumpster units open like a clam shell and operate open to the atmosphere. These units are equipped with a recirculating pump that allows solvent held in the sump to be used for cleaning drums by being sprayed through a nozzle. The continued use vat is also piped to this nozzle allowing solvent product to be used in cleaning drums. When in operation, the wet dumpster unit holds two drums, one for washing and one for drying.

The aboveground tanks in the tank farm have been designed in accordance with NFPA standards. They are constructed of carbon steel, painted a light color to reflect sunlight, and minimize corrosion. The secondary containment for the tank farm is a concrete slab and dike 71' x 40' x 2' which holds 36,238 gallons. Five storage tanks are in the diked area; four are for product and non-hazardous waste and one is for spent parts cleaner solvent. Each tank is equipped with an audiovisual high-level alarm.

The permitted use of the CSA is for the storage of (1) sediment from cleaning the drum washer in the return and fill station; (2) spent immersion cleaner; (3) dry cleaning wastes; (4) branch hazardous aqueous parts cleaner waste; (5) paint wastes; and (6) branch contaminated debris. Other non-hazardous materials, wastes that are not regulated, Universal Wastes, and Safety-Kleen products may also be stored in this area provided the materials are compatible. These types of wastes are not mixed while on site and are segregated in properly labeled containers to indicate their contents.

The container storage area (CSA) has secondary containment in the form of a concrete floor which is sloped to collection trenches. There is a total containment volume of 17,690 gallons. Adequate aisle space (minimum of 24 inches) will be maintained in the CSA to allow for unobstructed movement of personnel and equipment, and the containers of hazardous waste will be stacked no more than two pallet layers of containers high.

The aboveground storage tanks, ancillary return and fill station, and CSA all have secondary containment. Additionally, the service center has support equipment necessary for employees to safely manage wastes on site. Attachment 8, the Maps and Facility Drawings contain drawings of the waste management facilities. A Detailed Facility Inspection Schedule and Example Inspection Forms are presented in Attachment 4.2 Facility Inspection Schedule and Example Inspection Forms.

It is the permittee's standard operating procedure to use containers constructed of or lined with materials compatible with the hazardous waste to be stored. Compatible materials are used such that the ability of the container to contain the waste is not impaired. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, personnel will transfer the hazardous waste from this container to a container that is in good condition. A container holding hazardous waste will be closed during storage, except when it is necessary to add or remove waste. The floor underlying containers in the container storage area and the base of the containment system is sealed. The sealed concrete contains spills, leaks or accumulated precipitation until the material can be detected and removed. The

sealed secondary containment system and concrete floor will be maintained to prevent migration of spills, leaks or accumulated precipitation.

Table 2A	Parameters and Rationale for Hazardous Waste Identification
Table 2B	Parameters and Test Methods and Frequency of Analysis
Table 2C	Methods Used to Sample Hazardous Wastes

Toxicity characteristic leaching procedure (TCLP) analyses for all compounds, except pesticides, will be conducted on an annual basis on all characteristic hazardous waste streams (example: used parts washer solvent and immersion cleaner). Any compounds which are positively detected in the waste stream will be added to the parameter list for that waste stream in Table 2A.

2A Parameters and Rationale for Hazardous Waste Selection

Table 2A depicts the parameters and rationale for hazardous waste identification.

**TABLE 2A
PARAMETERS AND RATIONALE
FOR HAZARDOUS WASTE IDENTIFICATION**

Hazardous Waste	Parameter (a)	Holding Times	Rationale
Spent Immersion Cleaner	TCLP (a)	Organics - 14 days Inorganics - 6 months	May contain TCLP compounds
Spent Parts Washer Solvent	Flash point, TCLP (a)	Organics - 14 days Inorganics - 6 months	May exhibit ignitable characteristics (D001); may contain TCLP compounds
Dry Cleaning Wastes	Tetrachloroethylene Flash point, TCLP (a) Trichloro-trifluoroethane	Organics - 14 days Inorganics - 6 months	Three formulas exist for cleaning product. Two formulas contain ingredients of F002 waste, all three may contain TCLP compounds and one may exhibit ignitable (D001) characteristics
Parts Washer Solvent Dumpster Sediment	TCLP (a) Flash point	Organics - 14 days Inorganics - 6 months	The sludge and free water may contain TCLP compounds, and the sludge may exhibit ignitable (D001) characteristics
Paint Wastes	Various ketones, xylenes, toluene, isopropyl alcohol, acetate compounds Flash point, TCLP (a)	Organics - 14 days Inorganics - 6 months	Contains ingredients of F003 and F005 wastes and may contain TCLP compounds. May exhibit ignitable (D001) characteristics

Note:

(a) TCLP Waste Codes: D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043, D043

2B Parameters and Test Methods

All permitted core waste streams managed by Millington are tested annually under Safety-Kleen's Annual Recharacterization Program. This includes confirming which underlying hazardous constituents are present in a given waste. For wastes received under the Containerized Waste Services (CWS) program, the generator is responsible for determining if underlying hazardous constituents are present. If necessary, customers may perform analysis in order to qualify their waste, including underlying hazardous constituents. Table 2B depicts the parameters, associated test methods, and frequency of analysis used in identification of hazardous wastes.

TABLE 2B
PARAMETERS, TEST METHODS, AND FREQUENCY OF ANALYSIS

Waste Stream	Parameter	Method	Frequency
Parts Washer Solvent, Immersion Cleaner, Parts Washer Solvent Dumpster Sediment, Paint Waste, Dry Cleaning Waste	TCLP Metals	6010	Annual
	TCLP Mercury	7470/7471	Annual
	TCLP Volatiles	8260	Annual
	TCLP Semi-Volatiles	8270	Annual
	Specific Gravity	ASTM D5057	Annual
	Ignitability	1010	Annual
	pH	9040/9045	Annual

*Method references are from EPA SW846

2C Sampling Methods

Table 2C shows the sampling method to be used for each hazardous waste.

**TABLE 2C
METHODS USED TO SAMPLE HAZARDOUS WASTES**

	Reference for Sampling	Sampler	Description of Sampling Method	Personal Protective Equipment
Spent Immersion Cleaner	Sampling a drum "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA/600/2-80/018	Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods, SW-846, USEPA	Representative composite sample using drum sampler	Respirator, gloves, apron, eye protection
Spent Parts Washer Solvent	Sampling a tank "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA/600/2-80/018	Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods, SW-846, USEPA	For tanks - bomb sampler	Respirator, gloves, apron, eye protection
Dry Cleaning Wastes	Sampling a tank "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA/600/2-80/018	Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods, SW-846, USEPA	Representative composite sample using drum sampler	Respirator, gloves, apron, eye protection
Parts Washer Solvent Dumpster Sediment	Sampling a tank "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA/600/2-80/018	Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods, SW-846, USEPA	Representative composite sample using drum sampler	Respirator, gloves, apron, eye protection
Paint Wastes	Sampling a tank "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA/600/2-80/018	Test Methods for the Evaluation of Solid Waste Physical/Chemical Methods, SW-846, USEPA	Representative composite sample using drum sampler	Respirator, loves, apron, eye protection

Note: The methods and PPE listed in this table are also applicable to any sampling conducted by service center personnel. It should be noted that sampling by service center personnel is limited to sampling suspected contaminated containers at the generator's facility and at the generator's request or if a sample is requested from the service center as part of the annual waste stream recharacterization.

2D Additional Requirements for Wastes Generated Offsite

As discussed earlier in this section, the materials collected at the Service Center are usually collected from a company with a single process. The composition and quality of these materials are known, and Safety-Kleen's operating experiences have shown that the collected materials rarely deviate from company specifications. As an additional safeguard, Safety-Kleen personnel are instructed to inspect all materials before returning them to the service centers. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.

The spent naphtha parts washer solvent is collected by Millington, from its customers and sent to the Safety-Kleen recycling facility in Denton, TX or Dalton, IL. Millington spent naphtha is recycled, then returned to Millington in its product form, and ultimately supplied to its customer. Prior to the Denton facility supplying Millington with product naphtha parts washer solvent, the product must meet the minimum quality control requirements identified on the SDS Safety-Kleen Premium Solvent (Virgin and Recycled) prior to being shipped to the Millington location. A copy of the SDS may be found on file at the facility.

All permitted core waste streams are analyzed annually as part of the Waste Analysis Plan-Annual Recharacterization. Customer samples are randomly pulled from Safety-Kleen customers at selected Safety-Kleen locations (approximately 30 locations) across the United States. Three years of analysis and a minimum of 35 samples per waste stream are evaluated annually utilizing Dr. Gibbon's statistical methodology to determine the applicable hazardous waste codes for each core permitted waste stream. For information on statistical analysis, refer to Annual Recharacterization and the Statistical Analysis of Annual Waste Characterization Data in Attachment 2.3. While samples are not taken from the Millington location, a large number of samples are taken across the entire country and are representative of the Millington's facility core waste streams. This approach is accepted by EPA per 40 CFR 264.13(a)(2), which allows for the use of existing published or documented data from hazardous waste generated from similar processes. All core permitted waste annual recharacterization samples are sent to an accredited laboratory with appropriate quality assurance and control procedures in accordance with EPA SW-846 methods. Analysis will be conducted in accordance with procedures identified above, in 2B, Table 2B, and Table 2C. Analytical records and results for all core wastes will be kept on file at the facility for a minimum of 3 years.

Several steps are taken to ensure the conformity of the hazardous waste processed at the Safety-Kleen facilities. A brief description of each step is provided below.

Blanket Pre-Qualifications

At the national level, Safety-Kleen conducts sampling and analysis of a waste stream from a single process or multiple similar processes. A minimum of thirty-five samples are taken from

generators throughout the nation and analyzed to determine the appropriate hazardous waste code(s) and acceptable ranges.

Potential customer's process(es) are evaluated to determine if it meets the description provided in the blanket prequalification. The generator is responsible for characterizing their waste and must complete a material and process review and sign a service document agreeing to the restrictions and conditions of the service documents and certifying the waste is accurately described. If the generator's process does not meet the blanket prequalification description, then an individual prequalification (profile), to include sampling and analysis and/or generator knowledge will be required.

Visual Inspections

Safety-Kleen visually inspects each container of waste when it is collected at the customer's location. This inspection includes an evaluation of the waste volume, appearance, and consistency. Safety-Kleen's personnel are familiar with the characteristics of all wastes managed at the facility. Safety-Kleen has established specific criteria for wastes managed at their facilities based on known characteristics. These criteria, further described in the Qualitative Waste Analysis, are used by Safety-Kleen personnel to aid in their visual inspections. These acceptance criteria enable Safety-Kleen to ensure that the wastes being picked-up are an acceptable waste and do not contain unacceptable contaminate.

If a particular container of waste does not meet the established acceptance criteria at the customer's request, a sample may be collected and analyzed by Safety-Kleen to determine whether it can be managed by Safety-Kleen. Depending on the source, the waste will be analyzed for parameters related to the suspected source of the waste. Alternately, the customer may choose to dispose of the material by using another (non-Safety-Kleen) facility.

If the waste must be sampled for further analysis, the Safety-Kleen sales representative will take a sample of the waste and then seal the container and label it as "analysis pending". The container is left with the customer pending the results of the analytical tests. The laboratory testing involves analyzing the suspect waste for compounds related to the suspected source of the waste (e.g., volatile organics, halogenated organics, PCB's, etc.).

If the laboratory analysis reveals that the sampled waste is not contaminated, Safety-Kleen will accept the waste from the customer. Safety-Kleen will only manage waste at Millington consistent with the requirements of this Permit.

If the laboratory confirms that the waste is contaminated, the generator will be responsible for securing an alternate means of disposal and Safety-Kleen will attempt to reconcile the discrepancy with the generator (e.g., telephone conversations).

At the service center, the sales representative or the warehouseman again observes the quantity, odor, and appearance of the solvent prior to emptying the solvent into the return and fill dumpster. Drums with questionable contents are set aside and the customer is questioned. Pending his response, the drum is accepted, returned to the customer, or properly disposed of at

the customer's expense. Other waste streams, such as drycleaning waste and those containers managed as the Containerized Waste Services (CWS) program are collected in containers and are not opened at the service center so additional verification is not possible until it reaches the designated recycle center.

Waste Analysis at Recycle Centers

Analyses performed at the recycle facilities are undertaken to safeguard the recycling process and to assure the product quality. In addition, each waste material is sampled and analyzed upon receipt of each waste load as required by the permit and associated Waste Analysis Plan for the receiving recycle center. In order, to properly and safely process waste generated by the branch, the recycle center samples and analyzes each waste load as it is received from the branch.

QUALITY CONTROL PROCEDURES

Spent materials are the primary feed stocks for the generation of the permittee's products. As a result, quality control of the spent materials is necessary to ensure that reclamation occurs in the safest and most efficient manner possible. The Millington facility collects spent materials from approximately 3,000 customers and thousands of containers containing recoverable solvents are returned to the facility each year for transport to a re-claimer. With such large numbers of waste generators and waste shipments, performing detailed analyses at the facility is economically and logistically infeasible.

Procedures to verify waste characteristics occur at several check points in the management of the solvent, as described below.

The permittee controls the use and management of its solvents by:

- a. Limiting the solvents stored to those compatible with one another and their containers;
- b. Limiting the uses of each type of solvent;
- c. Informing the customers how to use the machines properly;
- d. Training employees to inspect spent solvent and determine whether it is acceptable;
- e. Indicating on the service document, when waste is collected, whether the spent solvent meets the permittee's acceptance criteria;
- f. Marking each container with the customer's name, address, and EPA I.D. number (if required). This information remains on containerized waste until it is accepted at the reclamation facility; and
- g. Maintaining a record of each incoming and outgoing shipment in the operating log.

Most of the materials collected at the service center are managed in the closed loop system and are usually collected from a company with a single process. The composition and quality of these materials are known, and the permittee's operating experiences have shown that the collected materials rarely deviate from company specifications. As an additional safeguard, the facility personnel are instructed to inspect all materials before returning them to the service centers. This mode of operation has been proven to safeguard the recycling process and maintain a quality product.

If the permittee has been notified or has a reason to believe that the process or operation generating the waste has changed or when there is indication that the waste collected does not match that designated on the manifest or shipping document, an inquiry regarding the waste is required. It is permittee's practice to make an inquiry of a customer's operation and handling practices for suspected non-conforming material before it is returned to the service center. If the inquiry does not resolve the issue, an analysis is required to determine the material's acceptability. The waste container will be left at the generator's facility until the results of analysis are obtained.

Specifically, if a waste is rejected at the time of service, the customer will be given a choice as to whether they will dispose of the waste themselves or require the permittee's assistance. If they request the permittee's assistance, a representative sample will be collected, analyzed and a Waste Material Profile Sheet will be completed by the generator. (See sample Waste Material Profile Sheet, Attachment 2.2). If it is not acceptable for permitted storage at the facility, the permittee will make other arrangements, if requested by the client, for proper management of the waste.

QUALITATIVE WASTE ANALYSIS

Waste Specific Criteria

Each waste stream listed below will be visually inspected at the time of collection before acceptance by Safety-Kleen. The following is a description of the specific acceptance criteria for each waste stream.

Spent Parts Cleaner

The acceptance criteria for determining by inspection whether spent parts cleaner has been contaminated are volume, odor and color, the most significant of which is volume. If the volume of waste in a given drum exceeds the specified level, the Safety-Kleen service representative will investigate the situation and if no legitimate explanation can be provided, the waste will be rejected.

In addition to the volume criterion, the odor of the spent solvent will clearly indicate whether the waste has been contaminated. Spent parts cleaner has a very distinctive odor. The service representatives are expressly instructed not to deliberately sniff the waste. However, if the solvent has an unusual odor, the service representative will investigate the situation and if no legitimate explanation can be provided, the waste will be rejected.

The spent parts cleaner is also visually inspected for its color. Unused cleaner has a greenish tint. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. Therefore, if the spent solvent does not appear to be green, brown, or black, the service representative will investigate the situation and if no legitimate vided, the waste will be rejected.

Spent Immersion Cleaner

The criteria used to determine the acceptability of immersion parts cleaner include physical characteristics such as volume and color. Known volumes of immersion cleaner are delivered to the customer in containers with known sizes. Spent immersion cleaner is picked up from the customer in the same containers. If the volume of waste in a given drum exceeds the specified level and additional material appears to have been added, a sample will be collected and analyzed for contamination, or the waste will be rejected. The spent immersion cleaner is also visually inspected for color. The unused cleaner has an amber color. As the solvent is used, it turns brown in color. The more it is used, the darker brown it becomes, until it is almost black. Therefore, if the spent immersion cleaner does not appear to be amber, brown, or black the service representative will either sample the material for analysis, or the waste will be rejected. If the customer requests the permittee's assistance, a representative sample will be collected, and analyzed and a Waste Material Profile Sheet will be completed by the generator. (See sample Waste Material Profile Sheet, Attachment 2.2).

Dry Cleaner Wastes

Dry cleaner wastes consist of spent filter cartridges, powder residue and still bottoms.

Spent Filter Cartridges:

Spent Filter cartridges are placed in either a drum which holds three cartridges or a drum which holds either one jumbo filter cartridge or two smaller filter cartridges. It is obvious to the service representative whether the items in the drums are filter cartridges.

The drums may also contain approximately one inch of liquid which should be either clear or have a light brownish tint. If the amount is a color other than light brown, the service representative may sample the waste for contamination in accordance with the procedures described above or reject the waste. If the customer requests the permittee's assistance, a representative sample will be collected, and analyzed and a Waste Material Profile Sheet will be completed by the generator. (See sample Waste Material Profile Sheet Attachment 2.2).

Powder Residue:

The criteria for the acceptance of powder residue are consistency and color, the former being the more significant criterion of the two. A drum of powder residue should not contain any liquid.

As the name implies, it will be dry or "powdery" to the touch. If there is any liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

The powder residue is also inspected for color and should appear to be grayish black. If the residue is not grayish black in color, the service representative will sample the waste for contamination in accordance with the procedures described above or will reject the waste. If the customer requests the permittee's assistance, a representative sample will be collected, and analyzed and a Waste Material Profile Sheet will be completed by the generator. (See sample Waste Material Profile Sheet, Attachment 2.2).

Still Bottoms:

The criteria for the acceptance of dry cleaning still bottoms are consistency and color. The waste should have a highly viscous, tar-like consistency. If the consistency of the waste is too thin or if there is more than one inch of free liquid in the drum, the waste will be sampled for contamination in accordance with the procedures described above or will be rejected.

In addition to the consistency, the still bottom waste is inspected for color. The waste should appear dark brown or black in color. If the waste is a different color, a service representative will sample the waste for contamination in accordance with the procedure described above or will reject the waste. If the customer requests the permittee's assistance, a representative sample will be collected, and analyzed and a Waste Material Profile Sheet will be completed by the generator. (See sample Waste Material Profile Sheet, Attachment 2.2).

Paint Wastes

Safety-Kleen handles two types of paint wastes. These include a lacquer thinner waste generated from the paint gun cleaning process and paint waste.

Lacquer Thinner Waste:

The significant criterion for determining if lacquer thinner waste will be accepted is volume. The solvent is provided to customers in containers with a known capacity, for example five-gallon pails. If a (5) gallon pail is used, the paint gun cleaning machine operates as a closed system whereby there should never be a combined volume of more than 7.5 gallons of solvent in the two collection pails. The solvent is pumped from a tube in a left-hand pail (facing the machine) through the machine into a right-hand pail. The tube in the left-hand pail extends exactly halfway into the pail (i.e., to the 2.5 gallons mark). The left-hand pail starts with 5 gallons of clean solvent which will be pumped out as the machine is used to clean the spray guns. This process will continue until the left-hand pail contains 2.5 gallons of solvent. Any solvent above 2.5 gallons remaining in the left-hand pail at the time of servicing will be pumped through the machine into the right-hand pail by the facility service representative. Therefore, when the machine is serviced, the right-hand pail will always contain 5 gallons of solvent. If a service representative discovers more than a total of 7.5 gallons of solvent in the two pails or

there is an overfill from the right-hand pail, the waste will be sampled for contamination in accordance with the procedures described above, or the waste will be rejected.

Paint Waste:

The significant criteria for the inspection of paint waste are appearance and odor. The waste should have the general appearance (i.e., consistency, thickness) of paint and be free of any odors not consistent with paint (such as solvents). If the paint waste does not visually appear to be paint or has an odor not associated with paint waste, then the service representative will reject the waste. If the customer requests the permittee's assistance, a representative sample will be collected, and analyzed and a Waste Material Profile Sheet will be completed by the generator. (See sample Waste Material Profile Sheet, Attachment 2.2).

RECHARACTERIZATION OF WASTE STREAMS

Each waste stream is recharacterized on an annual basis. A portion of the 2022 Annual Recharacterization analytical data along with the "Statistical Analysis of Annual Waste Characterization Data" prepared by Robert D. Gibbons Ph.D. on July 23, 1998, will be maintained on file at the facility. The full analytical data set for 2022 is available upon request.

WASTE ANALYSIS PLAN UPDATE

This waste analysis plan will be modified when a new type of waste stream is collected or when sampling and material management methods change. Revision of the plan is the responsibility of the Environmental Compliance Department. Revisions to the waste analysis plan will be provided to the branch and training will be conducted for all appropriate personnel and the permit will be modified.

LAND BAN NOTIFICATION/CERTIFICATION FORMS

In accordance with Rule 0400-12-01-.10(l)(g), Safety-Kleen will require its regulated customers complete notifications/certification for wastes banned from landfill disposal and provide notifications to the designated disposal facilities by the as following:

Printing the notice language on the manifests (e.g., core-business customers to branch shipments); or

Submitting specific forms for each regularly handled waste type; or

The notice is required for all the permittee hazardous waste types. Shipments lacking the proper notice will not be accepted by the facility. When a shipment with the proper notice is received, the notice is kept on file or electronically at the receiving facility.

GENERATOR RESPONSIBILITIES AND CERTIFICATION

To ensure that generator waste streams are accurately characterized and fully compliant with our acceptance requirements and consistent with our annual re-characterization program, generators are required to review and certify a document at the time of each service. This document is referred to as a handheld (HIH) receipt. This HIH receipt contains language that restricts the material that can be introduced into our equipment. The HIH receipt states that "Customer agrees that it will not introduce any non-conforming substance including any hazardous waste or hazardous waste constituent." The generator/customer is responsible for identifying any substance they introduce into a waste stream that is not explicitly identified on a profile or through our annual re-characterization program and for notifying Safety-Kleen of any discrepancies.

**ATTACHMENT 2.2 WASTE MATERIAL PROFILE FORM
AND WASTE STREAM CODE**



Profile No. 40455595

46703

IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER? **No**

SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. **W603**

W603



A Clean Harbors Company

WASTE MATERIAL PROFILE SHEET

Profile No. 40455595

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # **IND057534620** GENERATOR NAME: **Tenneco**
 GENERATOR CODE (Assigned by Clean Harbors) **CL16716** CITY **Angola** STATE/PROVINCE **IN** ZIP/POSTAL CODE **46703**
 ADDRESS **503 Weatherhead St** PHONE: **(260) 667-2204**
 CUSTOMER CODE (Assigned by Clean Harbors) **CL16716** CUSTOMER NAME: **Tenneco**
 ADDRESS **503 Weatherhead St** CITY **Angola** STATE/PROVINCE **IN** ZIP/POSTAL CODE **46703**

B. WASTE DESCRIPTION

WASTE DESCRIPTION: **Oily Sludge**PROCESS GENERATING WASTE: **Removing sludge from tank bottom**IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER? **No**

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE SOLID WITHOUT FREE LIQUID POWDER MONOLITHIC SOLID ☒ LIQUID WITH NO SOLIDS LIQUID/SOLID MIXTURE % FREE LIQUID 20.00 - 50.00 % SETTLED SOLID 20.00 - 50.00 % TOTAL SUSPENDED SOLID 20.00 - 50.00 SLUDGE GAS/AEROSOL	NUMBER OF PHASES/LAYERS 1 2 ☒ 3 TOP 0.00 % BY VOLUME (Approx.) MIDDLE 0.00 BOTTOM 0.00		VISCOSITY (if liquid present) 1 - 100 (e.g. Water) 101 - 500 (e.g. Motor Oil) ☒ 501 - 10,000 (e.g. Molasses) > 10,000	COLOR varies	
	ODOR NONE ☒ MILD STRONG Describe:	BOILING POINT °F (°C) <= 95 (<=35) 95 - 100 (35-38) 101 - 129 (38-54) ☒ >= 130 (>54)	MELTING POINT °F (°C) < 140 (<60) 140-200 (60-93) ☒ > 200 (>93)	TOTAL ORGANIC CARBON <= 1% ☒ 1-9% >= 10%	
	FLASH POINT °F (°C) < 73 (<23) 73 - 100 (23-38) 101 - 140 (38-60) 141 - 200 (60-93) ☒ > 200 (>93)	pH <= 2 2.1 - 6.9 ☒ 7 (Neutral) 7.1 - 12.4 >= 12.5	SPECIFIC GRAVITY < 0.8 (e.g. Gasoline) 0.8-1.0 (e.g. Ethanol) 1.0 (e.g. Water) ☒ 1.0-1.2 (e.g. Antifreeze) > 1.2 (e.g. Methylene Chloride)	ASH < 0.1 0.1 - 1.0 ☒ Unknown 1.1 - 5.0 5.1 - 20.0	BTU/LB (MJ/kg) < 2,000 (<4.6) ☒ 2,000-5,000 (4.6-11.6) 5,000-10,000 (11.6-23.2) > 10,000 (>23.2) Actual:

D. COMPOSITION (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	--	MAX	UOM
DIRT	20.0000000	--	50.0000000	%
OIL	20.0000000	--	50.0000000	%
WATER	20.0000000	--	50.0000000	%

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES ☒ NO

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES ☒ NO

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING; ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES ☒ NO

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES ☒ NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE.

G14

SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. W603

REGULATORY STATUS

YES ☒ NO USEPA HAZARDOUS WASTE?

YES ☒ NO DO ANY STATE WASTE CODES APPLY?

Texas Waste Code

YES ☒ NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

YES ☒ NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?

LDR CATEGORY: **Not subject to LDR**
VARIANCE INFO:

YES ☒ NO IS THIS A UNIVERSAL WASTE?

YES ☒ NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS VERY SMALL QUANTITY GENERATOR (VSQG) OR A STATE EQUIVALENT DESIGNATION?

YES ☒ NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES ☒ NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES ☒ NO IS THIS WASTE STREAM SUBJECT TO THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES ☒ NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS ≥ 500 PPM?

YES ☒ NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE $\geq .3$ KPA (.044 PSIA)?

YES ☒ NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)?

YES ☒ NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE?

YES ☒ NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?

Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GGG)

YES ☒ NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?

YES ☒ NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?

YES ☒ NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) > 10 Mg/year?

What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs)

The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Testing

Describe the knowledge:

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:

NON DOT REGULATED

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ONE TIME WEEKLY MONTHLY QUARTERLY ☒ YEARLY OTHER

CONTAINERIZED		☒ BULK LIQUID	BULK SOLID	
0-0 CONTAINERS/SHIPMENT		GALLONS/SHIPMENT: 500.00 Min -5000.00 GAL.	SHIPMENT UOM:	TON YARD
STORAGE CAPACITY:		Max	TONS/YARDS/SHIPMENT: 0 Min - 0 Max	
CONTAINER TYPE:				
PORTABLE TOTE TANK	BOX/CARTON/CASE			
CUBIC YARD BOX	DRUM			
OTHER:	DRUM SIZE:			

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:

GENERATOR'S CERTIFICATION

I certify that I am authorized to execute this document as an authorized agent. I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge. I also certify that any samples submitted are representative of the actual waste. If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE

NAME (PRINT)

TITLE

DATE

2022 AR Codes and SKDOTS.xlsx - National

Waste Stream	Description Subcategory	2020 National Waste Codes	2020 NATIONAL Profile	Changes from 2020 to 2021	2021 National Waste Codes	2021 NATIONAL Profile
Branch Contaminated Debris (Solid would not carry D001)		F002, F003, F005, D001, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043	Refer to CH Outbound	No Change	F002, F003, F005, D001, D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043	Refer to CH Outbound
Immersion Cleaner	N/A	D006, D018, D027, D039, D040	157627	No Change	D006, D018, D027, D039, D040	157627
Parts Washer Solvent 105 Virgin	under 100 lbs over 100 lbs (RQ)	D001, D018, D039, D040	150045	No Change	D001, D018, D039, D040	150045
	Non-RQ DF container (no DOT SP)		150085			150085
			157045			157045
Bulk MS Solvent	N/A	D001, D018, D039, D040	Refer to CH Outbound	No Change	D001, D018, D039, D040	Refer to CH Outbound
Parts Washer Solvent Sludge/Dumpster Mud	N/A	D001, D018, D039, D040	Refer to CH Outbound	No Change	D001, D018, D039, D040	Refer to CH Outbound
Parts Washer Solvent Tank Bottoms (bulk)	N/A	D001, D018, D039, D040	Refer to CH Outbound	No Change	D001, D018, D039, D040	Refer to CH Outbound
Premium (150) / PRF / PDF Mill Spec Solvent	N/A	D039	150055	No Change	D039	150055
	DF container (no DOT SP)		157055			157055
	under 100 lbs over 100 lbs (RQ)	F003, F005, D001, D018, D035, D039, D040	150380	No Change	F003, F005, D001, D018, D035, D039, D040	150380
	under 100 lbs over 100 lbs (RQ)		150425			150425
Paint Gun Cleaner (Premium Thinner)	under 100 lbs over 100 lbs (RQ)	F003, F005, D001, D018, D035, D039, D040	158380	No Change	F003, F005, D001, D018, D035, D039, D040	158380
	under 100 lbs over 100 lbs (RQ)		158381			158381
	under 100 lbs over 100 lbs (RQ)		150426			150426
Clear Choice Paint Gun Cleaner	under 100 lbs over 100 lbs (RQ)	F003, D001, D018, D035, D039, D040	150427	No Change	F003, D001, D018, D035, D039, D040	150427
Paint Waste Other	Any size container	F003, F005, D001, D018, D035, D039, D040	150375	No Change	F003, F005, D001, D018, D035, D039, D040	150375
Universal Paint Gun Cleaner	N/A	D001, D018, D035, D039, D040	403901294	Add D029	D001, D018, D035, D039	403901294
Dry Cleaner (Perc) Bottoms	N/A	F002, D007, D039, D040	150589	Add D029	F002, D007, D029, D039, D040	154589
Dry Cleaner (Perc) Filters	N/A	F002, D007, D039, D040	150621	Add D029	F002, D007, D029, D039, D040	154621
Dry Cleaner (Perc) Separator Water	N/A	F002, D039, D040	150520	Add D029	F002, D029, D039, D040	154520
Dry Cleaning Naphtha Bottoms	N/A	D001, D007, D039, D040	150422	No Change	D001, D007, D039, D040	150422
Dry Cleaning Naphtha Filters	N/A	D001, D007, D039, D040	150424	No Change	D001, D007, D039, D040	150424
Dry Cleaning Naphtha Separator Water	N/A	D001, D039, D040	150423	No Change	D001, D039, D040	150423

Original
File Copy

**ATTACHMENT 2.3 STATISTICAL ANALYSIS OF ANNUAL
WASTE CHARACTERIZATION DATA**

Robert D. Gibbons, PhD

Blum-Riese Professor of Biostatistics
Committee on Quantitative Methods in Social, Behavioral and Health Sciences
Director, Center for Health Statistics
rdg@uchicago.edu

August 7, 2018

A Review of the Safety Kleen Statistical Waste Characterization Plan

In 1998, I prepared an annual statistical waste characterization plan for Safety Kleen based on a fully nonparametric approach to computing the 90% upper confidence limit for the 50th percentile of the distribution of analytic measurements. The motivation for the nonparametric approach was based on the non-normality of the distribution of analytic measurements observed at that time and even more importantly, the large proportion of measurements that did not detect the analyte in the sample; so called "non-detects." Motivation for this methodology was laid out in U.S. EPA SW846 (1986) and more recently in the U.S. EPA Unified Statistical Guidance Document (2009) see section 21.2. As noted in the Unified Guidance, "The advantage of a nonparametric interval around the median is its greater flexibility to define confidence intervals on non-normal data sets."

Recently, IL EPA has suggested that based on the OSWER 2002 Guidance, the nonparametric UCL that has been in use over the past 20 years should be replaced by the Chebyshev Inequality Method, which is a distribution free method. Using this method, the computed UCL for tetrachloroethylene (PCE) exceeded the regulatory standard whereas the nonparametric UCL did not. In the following, I try to shed light on this discrepancy.

To begin, nonparametric UCLs and distribution-free UCLs are in fact quite different. While neither method assumes a specific parametric form for the analyte distribution, the distribution free methods (e.g., Chebyshev Inequality Method) rely upon having a known population variance or standard deviation. Of course we never know the true standard deviation for the population, so practitioners typically substitute the observed standard deviation. As such, they are incorrect from the start. As noted in this guidance document, these distribution free methods break down when the detection frequency is low as is the case here. For PCE, only 8 of 31 measurements were detected (25.8%), and the largest measurement is an order of magnitude larger than the second largest measurement (51.72 vs. 5.8) suggesting the possibility that it is an outlier. As noted in the OSWER guidance, "If the proportion of non-detects is high (75%) or the number of samples is small ($n < 5$), no method will work well." This is true for the parametric or distribution free methods described in the document, but this is not true for the nonparametric methods (with $n > 20$) that have been used by Safety Kleen for the past 20 years. In fact, the nonparametric methods are based only on the rank ordering of the data and do not require either known or estimated values of the mean and variance as the distribution-free methods do and which break down in the presence of large numbers of non-detects and/or extreme skewness "As skewness increases further, the Chebyshev method is not recommended". The skewness of the PCE data produced by the large number of non-detects for which IEPA imputed DL/2 and the presence of a single extreme value is an example of extreme skewness. Non-detects and skewness have no effect on the nonparametric UCL used by Safety Kleen for the past 20 years and there are no distributional assumptions or summary statistics required to compute the UCL.

Sincerely yours,



Robert D. Gibbons Ph.D.

Statistical Analysis of Annual Waste Characterization Data

Prepared by
Robert D. Gibbons Ph.D.

for

Safety Kleen
July 23, 1998

1 Introduction

Since 1990, Safety-Kleen has undertaken a major analytical study each year to document the contaminants in some of its most common waste streams to determine which TCLP waste codes should appear on the manifest for that waste. This Annual Waste Recharacterization Program is both expensive and extensive. Upon review, it appeared that regulatory agency instructions for how to interpret the data might not have been in line with current policy, as reflected in SW846. The general approach is based on development of an upper 90% confidence limit¹ for the true concentration of each constituent, which can in turn be directly compared to regulatory standards to determine if the waste code should or should not be added to a particular waste stream (e.g., Premium Gold Parts Washer Solvent 150). The regulatory basis for this type of comparison stems from U.S. EPA SW846 Chapter 9 (September 1986) guidance on determining if a waste stream is hazardous.² The primary complicating feature is the presence of large numbers of nondetects which raises serious question regarding the use of the parametric approach. In light of this concern, nonparametric methods are used throughout.³ Specifically, following U.S. EPA SW846, we construct a nonparametric 90% upper confidence limit (UCL) for the 50th percentile of the distribution (i.e., median), which is equivalent to the 90% UCL for the mean in the case of a symmetric distribution such as the normal distribution.

¹"Consequently, the CI employed to evaluate solid wastes is, for all practical purposes, a 90% interval." U.S. EPA SW846 (1986) chapter 9 page 6.

²"The upper limit of the CI for μ is compared with the applicable regulatory threshold (RT) to determine if a solid waste contains the variable (chemical contaminant) of concern at a hazardous level. The contaminant of concern is not considered to be present in the waste at a hazardous level if the upper limit of the CI is less than the applicable RT. Otherwise the opposite conclusion is reached. "U.S. EPA SW846 (1986) chapter 9 page 3

³"If the data do not adequately follow the normal distribution even after logarithm transformation, a nonparametric confidence interval can be constructed. This interval is for the median concentration (which equals the mean if the distribution is symmetric)." U.S. EPA Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, April 1989, page 6-8

2 Method

Following Chapter 9 of SW846, the 90% UCL for the mean concentration obtained from a series of n representative samples is to be compared to the appropriate regulatory standard to determine if the waste stream is hazardous. If the UCL exceeds the standard, the waste stream is considered hazardous. The applicant must compute the UCL that is appropriate for the specific distributional form of the data. Given the large number of nondetects for many of the constituents, it is difficult if not impossible to clearly identify the underlying distributional form of the data. In this case, the U.S. EPA guidance indicates that a nonparametric alternative should be used.⁴

Nonparametric confidence limits are derived as follows. Given an unknown $P \times 100$ th percentile of interest (e.g. the 50th percentile or median),⁵ where P is between 0 and 1, and n concentration measurements, the probability that any randomly selected concentration measurements being less than the $P \times 100$ th percentile is simply P and the probability of exceeding the $P \times 100$ th percentile is $1 - P$. In light of this, the number of sample values falling below the $P \times 100$ th percentile out of a set of n measurements follows a Binomial distribution with parameters n and P .

The connection with the Binomial distribution can be used to determine an interval formed by a given pair of order statistics (i.e. ranked values) that will contain the percentile of interest, in this case the 50th percentile. Similarly, the Binomial distribution can also be used in constructing an upper limit (i.e. one-sided) for the percentile (e.g. a 90% upper confidence limit for the 50th percentile of the distribution). The computational formula for the cumulative binomial distribution $B(x;n,p)$, representing the probability of getting x or fewer successes in n trials with success probability p is given by

$$Bin(x;n,p) \equiv \sum_{i=0}^x \binom{n}{i} p^i (1-p)^{n-i}$$

To draw inference regarding the $P = 50$ th percentile, we set $p = .5$ in the previous equation. For a one-sided UCL we compute

$$1 - \alpha = 1 - Bin(U - 1; n, .5)$$

beginning from the sample median. We then increase U by one until in this case $1 - \alpha$ is equal to at least .90. The smallest value of U that provides $1 - \alpha \geq .9$ is then the order statistic (i.e., ranked value) that is the nonparametric 90% UCL for the 50th percentile of the distribution.

⁴ “If the data do not adequately follow the normal distribution even after logarithm transformation, a nonparametric confidence interval can be constructed.” U.S. EPA, 1989

⁵ “This interval is for the median concentration (which equals the mean if the distribution is symmetric).” U.S. EPA (1989), page 6-8

3 Illustration

Consider the following most recent 50 data values for PCE (D039) obtained from Premium Gold Parts Washer Solvent-150.

Table 1
Premium Gold Parts Washer Solvent - 150
50 most recent samples in order of increasing concentration
in ppm

<50.000	<1.000	<0.100	<0.100	<0.100
<0.100	<0.100	<0.100	<0.100	<0.100
<0.100	0.110	0.200	0.200	0.220
0.230	0.260	0.510	0.870	0.880
1.000	1.300	1.500	1.800	2.000
2.700	2.700	3.300	5.400	7.000
7.100	12.000	12.300	17.200	19.700
20.000	20.000	21.200	23.600	32.300
51.100	52.500	136.000	211.000	286.000
508.000	635.000	771.000	940.000	2810.000

For $n = 50$, $p = .5$ and $1 - \alpha = .9$, we find that $U = 31$ is the smallest order statistic that provides 90% confidence or more ($1 - \alpha = .941$). As such, we select the 31st largest value in Table 1 which is 7.1 ppm as our UCL. Since 7.1 ppm is larger than the standard of 0.7 ppm, then the D039 waste code is required for this waste stream.

4 Conclusion

The data in the following package have been interpreted using the methodology described. The waste codes for each stream were determined as those parameters for which the 90% UCL for the median concentration was above the regulatory limit, based on review of the last two years of samples or the most recent 50 samples, whichever yielded the larger number of samples to consider.

EPA ID Number: TND000614321

Permit Number: TNHW-DRAFT

ATTACHMENT 3. SECURITY

SECURITY MEASURES

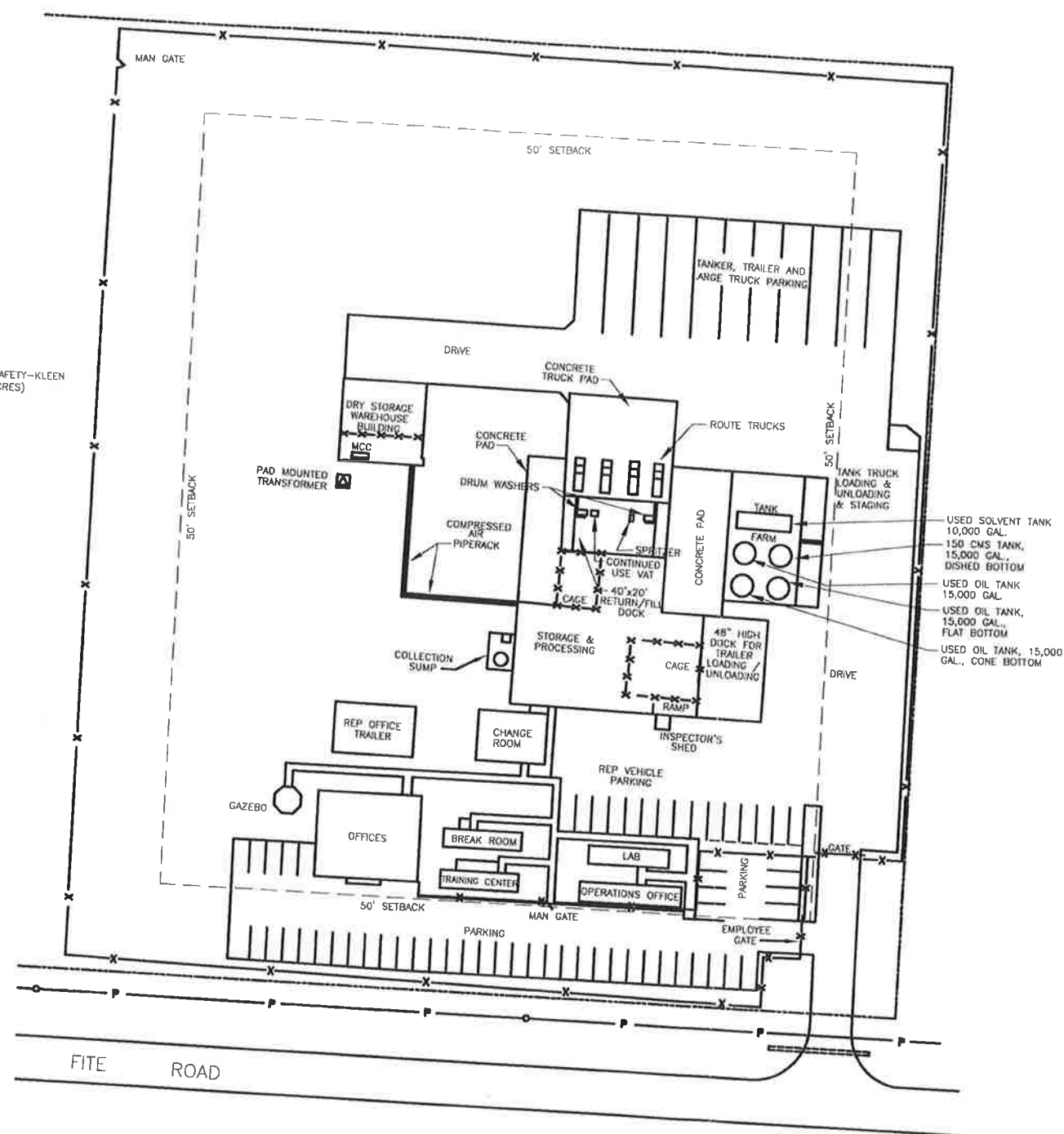
Assurances to prevent the unknowing entry of persons or livestock onto the active portion of the facility have been provided. The Millington site is bounded to the south by Fite Road, to the east by a green field, to the north by a line of trees separating SK from Tradebe, and to the west a green field. The facility is secured with a six-foot high chain link fence topped by three strands of barbed wire. All access gates are locked at all times and unlocked for authorized personnel only.

All visitors to Safety-Kleen Millington are required to sign the Visitors Log book, located at the front door of the main office, in order to gain entrance to the facility. Visitors are given a brief introduction to emergency evacuation routes, aural sounds and where the rally point is located in case of an environmental emergency. Further, the visitor must sign out upon leaving. The facility has warning signs stating "Danger - Unauthorized Personnel Keep Out," which are visible from twenty-five feet, posted at the entrances and at fifty-foot centers along the maintained security fence. In addition, outdoor lights are on at night.

The office buildings are secured with locks on all doors and warning signs are posted at all entrances to work and waste storage areas. The warehouse includes the container storage area that cannot be locked when not occupied by Safety-Kleen personnel, since it has no walls, only a roof to keep out the elements. The tanks are inaccessible in that materials cannot be added to or removed from them without activating the pumps, the controls for which are locked when not in use. Tank pump controls are located at the control panel near the tank farm. The pumps are not activated unless parts cleaner solvent product or waste is being added to or removed from the tanks by Safety-Kleen personnel. As a result, the tank storage area is functionally inaccessible except by Safety-Kleen personnel. In addition, warning signs are posted on entrances into the return and fill station.

ATTACHMENT 3.1 SITE DRAWING AND PICTURES

UNDEVELOPED SAFETY-KLEEN
PROPERTY (5 ACRES)



FACILITY SITE PLAN

SCALE: 1"=40'-0"

0 20' 40' 60' 120'



GENERAL NOTES

1. DRAWING REFLECTS AS-BUILT CONDITIONS AS OF 7/10/20.
2. FUTURE TANKS SHOWN WITH DOTTED LINES.

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

SITE MAP

NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	ISSUED FOR PERMIT	JEK	CV	CV	07/27/20
B	ISSUED FOR PERMIT	JEK	CV	CV	03/20/19
A	UPDATE TANK INFO	JEK	EX	EX	10/14/08
0	NEW RELEASE	KBH	KJN	JP	01/30/95
REVISIONS					

SAFETY-KLEEN SYSTEMS, INC. 2800 N. CENT. EXPRESSWAY STE. 400 RICHARDSON, TX 75080 PHONE 800-859-5740					
SCALE 1" = 40'	BY JEK	CHD BC	APPROVED BC	OPERATIONS BC	DATE 2/06/05
SERVICE CENTER LOCATION MILLINGTON, TN.			SC-DWG NUMBER 7160-SPDD-001		REV. NO. C



safety-kleen
All Visitors Must Register
At Administration Office
All Truck Drivers Must
Register

STOP
SPEED
LIMIT
5



EPA ID Number: TND000614321
Permit Number: TNHW-DRAFT

ATTACHMENT 4. INSPECTION

Attachment 4 consists of two sections as follows:

- Attachment 4.1 Inspection Schedule
- Attachment 4.2 Facility Equipment Information and Example Forms

ATTACHMENT 4.1 INSPECTION PROCEDURES

The service center manager (i.e., branch general manager) is responsible for carrying out and documenting the facility inspection on a daily basis. The branch general manager may train and designate multiple additional individuals to complete the inspections as needed including but not limited to material handlers, service delivery manager, sales and service representatives, or branch administrators. The inspector will make a record of the inspection in an inspection log or summary, note any repairs that are needed, and assure that they are completed. The daily facility inspection is conducted 365 days per year and designed to identify all areas of noncompliance. The inspector will observe all areas identified on the Daily Facility Inspection for malfunction, deterioration, operator errors, and discharges. If any issue is found during the daily inspection, the inspector will note the issue on the inspection form, and resolve the issue, noting the resolution within the inspection record. If he cannot carry out the repairs, he will notify the facility Environmental Compliance Manager (ECM) and request assistance. Records of inspections will be kept at the facility or electronically for three years from the date of inspection. See Attachment 4.2, for the Facility Inspection Schedule and Example Forms that contain, at a minimum, the required inspection items and frequencies. A copy of the Facility Inspection Example Forms can be found in Attachment 4.2.

The facility inspection includes the following:

- a. Tank System – The 10,000-gallon horizontal tank holding the hazardous waste solvent is inspected each operating day. The inspections include checking the tank and all associated pipes, supports, valves, fittings, connections, and openings for failure including deterioration, cracks, leaks, distortion, corrosion, poor condition, improper placement, required labeling, and proper operation. The liquid level gauge is inspected for proper operation and the volume held in each tank is evaluated for sudden deviations and permitted volume. Sudden deviations in the waste volume will be investigated. If a leak is determined to be the cause of a volume deviation, repairs must be immediately initiated. The high-level alarm is tested for proper operations (i.e., audible alarm). When the tank used to store spent solvent is approximately 85% full, a pickup will be scheduled with the Corporate Dispatch Department at Safety-Kleen's corporate headquarters. The solvent waste will not exceed 95% of the tank volume or 95% of permitted capacity, whichever is less, at any time. The high-level alarm will activate when the tank's volume is at a maximum of 95% of the capacity of the tank (9,500 gallons). Any damage to tanks (such as rust, leaks, or loose fixtures), associated equipment, and secondary containment will be noted and repairs initiated.

Emergency equipment is inspected for availability, cleanliness, location, type, and sufficient quantity. The secondary containment for the tanks will be checked for cracks or other deterioration or damage and accumulated liquid or debris. Any accumulated material in the tank secondary containment will be removed each operating day to prevent leakage of waste outside the containment areas. Any precipitation in the secondary containment system will be removed within twenty-four hours of discovery, at the end of the rainfall/snow event, or in as timely a manner as possible.

- b. Return and Fill (Solvent dispensing equipment, drum washer, and wet dumpsters) – The solvent dispensing equipment, drum washer unit and wet dumpsters will be inspected each operating day, typically Monday through Friday. The solvent dispensing hose, connections and valves will be inspected for damage, loose fittings, leaks, (such as cracks or leaks) and proper function. The pumps, pipes and fittings will also be checked for damage, loose fittings, leaks, and proper function. drum washers and wet dumpster are inspected for proper closure, damage, distortion, leaks, and sediment build up. Secondary containment will be checked for cracks and gaps and accumulated liquid and debris. Any damage to the equipment or leaks or accumulated liquids, debris, or sediment will be noted and addressed.
- c. Container Storage Area (CSA) – The container storage area is inspected daily, and the number and condition of the containers present is observed. The total volume of the waste held in the CSA will not exceed the permitted capacity. The secondary containment system will be inspected for integrity (cracks, deterioration, leaks) and accumulated liquid and debris. If cracks or leaks are detected, repairs will be initiated. Spilled or leaked waste will be removed in as timely a manner as necessary to prevent the overflow of the collection system. The contents of any leaking or suspect containers will be placed in a container of adequate integrity. Containers in the storage area will be inspected for proper closure, integrity (leaks, condition, distortion, and corrosion), labeling and proper placement (aisle space, stable stacking, pallet condition). Emergency equipment is inspected for availability, cleanliness, location, type, and sufficient quantity.

Material handling equipment such as a forklift or powerized pallet jack (non-motorized forklift) will be inspected per OSHA requirements.

- d. Safety & Security– The safety and security equipment will be inspected weekly to ensure proper placement, operation, and effectiveness. Fire extinguishers are inspected to ensure that the units are charged, in the proper location, and accessible. The operation of the telephone intercom/paging system will be inspected for proper operation. The eyewash units and showers will be inspected for proper operation, leaks, and correct location, and the first aid kit and sorbent materials will be inspected for adequate content, correct location, and accessibility. Safety-equipment and protective gear (i.e., wheel chocks, PPE, etc.) is inspected for adequate inventory, cleanliness, location, damage, and wear. Decontamination and spill equipment (i.e., drums, portable pumps, absorbents, shovels, etc.) is inspected for adequate inventory, accessibility correct location, correct type. A list of Emergency Equipment is provided in Attachment 6.6. Exit signs and lighting are inspected for proper operation and effectiveness. Evacuation routes are inspected to ensure all routes remain clear and unobstructed. Perimeter fence is inspected for damage, evidence of tampering, and corrosion. The operation of each gate and lock will be checked for proper operation. Warning signs are inspected for proper placement and condition.
- e. Tank System BB Equipment - Each valve, flange, connection, union, and pump which is associated with the hazardous waste tank and its ancillary equipment will be marked and listed on an air monitoring equipment inventory form. The equipment is inspected for potential leaks, actual leaks, wear, and proper operation. A typical inspection form is

located, in Attachment 4.2. A site drawing, also located in Attachment 6.6, shows the location and the number assigned to each piece of equipment. Compliance with the standard will be achieved each operating day, and if required, leak detection monitoring and repair. Records of equipment monitoring, and repair are maintained on an inspection form in the operating record. If a potential leak is discovered (by visual inspection, audible indication or excessive odor) it will be noted on the inspection form. The spent parts cleaner solvent managed in the equipment is a heavy liquid (vapor pressure less than 0.3 kilopascals at 20°C) and has a maximum concentration in the vapor phase of 2,000 ppm. Therefore, a photoionizer-type instrument will not detect leaks at 10,000 ppm, and a leak will be detected based on visual inspection rather than by monitoring with a photoionizer. After detection of a potential or actual leak, the valve or flange must be repaired within fifteen days with the first attempt at repair made no later than five days after the leak is detected. A leak detection and repair record will be kept in a file at the service center or electronically.

- f. Subpart CC – The hazardous waste tank fixed roof and all tank closure devices must be inspected annually to satisfy the requirements under Subpart CC. The tanks is designed so that all cover openings can be closed with no visible gaps, holes, cracks, or other open spaces. Cover openings must be maintained in the closed position except when material is being added or removed from the tank or when necessary, sampling or maintenance is performed on the tank.

ATTACHMENT 4.2 FACILITY INSPECTION SCHEDULE AND EXAMPLE FORMS

EXHIBIT E-1 FACILITY INSPECTION SCHEDULE

Area/Equipment	Specific Item(s)	Types of Problems/Observations	Frequency of Inspection
Safety Equipment	Fire Extinguishers	charge, accessible, location, function	Weekly
	Eyewash/Safety Showers	proper function, damage, accessible	Weekly
	First Aid Kit	adequate inventory, location	Weekly
	Spill Clean-Up Equipment	adequate inventory, location, accessibility	Weekly
	Personal Protection Equipment	adequate inventory, location	Weekly
	Exit Signs/Lighting	proper function, effectiveness	Weekly
Security Equipment	Gates and Locks	proper operation, damage	Weekly
	Fence	damage, tampering, corrosion	Weekly
	Warning Signs	placement, condition	Weekly
Storage Tank System	Volume in Tank	sudden deviation, capacity	Each Operating Day
	Tank Exterior	distortion, damage, corrosion, leaks	Each Operating Day
	High Level Alarm	proper function	Each Operating Day
	Volume Gauge	proper operation, damage	Each Operating Day
	Secondary Containment	accumulated material, cracks, condition	Each Operating Day
	Sumps	accumulated material, cracks, condition	Each Operating Day
	Loading/Unloading Area	accumulated material, cracks, condition	Each Operating Day
	Fittings	damage, leaks, proper function	Each Operating Day
	Valves	damage, leaks, proper function	Each Operating Day
	Connections	damage, leaks, proper function	Each Operating Day
	Piping	damage, leaks, proper function	Each Operating Day
	Spill Clean-Up Equipment	adequate inventory, location, accessibility	Each Operating Day
	Drum Washer	closure, damage, leaks, accumulated material	Each Operating Day
Return and Fill	Wet Dumpster	closure, damage, leaks, accumulated material	Each Operating Day
	Secondary Containment	accumulated material, cracks, condition	Each Operating Day
	Loading/Unloading Area	accumulated material, cracks, condition	Each Operating Day

	Pumps	damage, leaks, proper function	Each Operating Day
	Connections/Fittings	damage, leaks, proper function	Each Operating Day
	Valves	damage, leaks, proper function	Each Operating Day
	Hoses/Piping	damage, leaks, proper function	Each Operating Day
Container Storage Area	Total Volume	permitted capacity	Each Operating Day
	Condition of Containers	damage, leaks, distortion	Each Operating Day
	Container Labels and Markings	proper labels and markings	Each Operating Day
	Container Closure	proper closure	Each Operating Day
	Stacking/Aisle Space	Pallets of waste maximum 2 high	Each Operating Day
	Secondary Containment	accumulated material, cracks, condition	Each Operating Day
	Spill Clean-Up Equipment	adequate inventory, location, accessibility	Each Operating Day
	Loading/Unloading Area	accumulated material, cracks, condition	Each Operating Day
	Forklift/Pallet Jack	proper operation, damage	Each Day Used
Subpart BB	Pumps	wetness, seeping, leaking	Each Operating Day
	Valves	wetness, seeping, leaking	Each Operating Day
	Connections/Unions	wetness, seeping, leaking	Each Operating Day
	Flanges	wetness, seeping, leaking	Each Operating Day
	Difficult to Monitor Equipment	wetness, seeping, leaking	Annually
Subpart CC	Roof and Closure Devices	gaps, holes, cracks, open spaces	Annually



CO Tank Systems Inspection

Form Code: 27

Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO Tank Systems Inspection Instructions	
Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.	
CO Tank Systems Inspection Items	
Tanks - Check for evidence of failure (e.g., leaks, rusty or loose anchoring, distortion, cleanliness, paint failure, other). Insulation - check for any damage or deterioration that may allow moisture intrusion.	
Pipes/Piping Supports - Check for evidence of failure (e.g., leaks, distortion, corrosion, paint failure, other).	
Valves - Check for evidence of failure (e.g., disconnected, corrosion, sticking, leaks, other).	
Fittings/Hose Connections - Check for evidence of failure (e.g., leaks, loose, disconnected, corrosion, other).	
Liquid Level - Check for acceptable level and level guages working correctly. (e.g., high level max, permitted volume, level guage legible, other).	
Secondary Containment - Check for interior and exterior for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, corrosion, erosion, other and excess liquid or debris, fire hazards, or other issues).	
Dike drain valves - Are valves closed and in	

good working condition?	
For double-wall tanks is interstitial monitoring equipment in good working condition and is the interstitial space free of liquid?	
Sumps - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).	
Bonding and Grounding - Check for evidence of failure (e.g., loose, broken, corrosion or deterioration, other).	
Transfer Equipment/Pump and Pump Motors - Check for availability and condition (e.g., pumps, filters, strainers, hoses, leaks, overheating, other).	
Communication and Alarm System - Check for evidence of failure (e.g., test function, siren, strobe, other).	
Satellite Accumulation Containers - Check for evidence of failure (e.g., container open, >55 gallons, label, other).	
Manways, Hatches, Nipples, Other Openings, Ladders - Check for evidence of failure (e.g., leaks, condition, corrosion, closure, other).	
Pressure Relief Valves (PRV)/ Flame Arrestors - Check for evidence of failure (e.g., condition, corrosion, other).	
Tanks marked with the words "Hazardous Waste" or "Used Oil" - Check for appropriate markings.	
Tanks not used marked as "Out of Service" - Check for appropriate markings.	
Tanks marked as to the contents - Check for appropriate markings (e.g., "Used Oil", "Non-Haz Only").	
Monitoring Equipment/Level Indicators/Overfill Prevention Equipment - Check that equipment is in good working condition or for evidence of failure (e.g., actuate equipment/alarms to	

confirm operation, pressure and temperature gauges, level indicators, sticking, condensation, disconnected, other).	
Loading/ Unloading Areas - Check condition of area (e.g., no free liquid, ponding or wet spots, available spill equipment, spill equipment location, spill kit supply and inventory is adequate, containment deterioration, leaks, pad condition, valve access box, housekeeping, other).	
Tank System Safety - Is the system free of any conditions that need to be addressed for continued safe operation?	
Connection Box/Drip Trays and Buckets - Are the connection box and all drip trays and buckets free of liquids or saturated absorbents, and all material properly collected and disposed?	
Site Generated Waste - debris, used absorbents, used PPE, aerosols, etc. - Check for evidence of failure (waste not containerized, proper storage location, container type, container label, other).	
Spill Equipment - Check that spill equipment is available, at the correct location, equipment supply and inventory is adequate, equipment is in good condition clean and ready for use.	
Ladders/platforms/walkways/egress pathways on or within tank or containment - Check for evidence of damage, corrossions, proper opration, pathways clear, doors/gates operable.	
Compliance Footer	
Inspector Signature	
Attach Photo	
Inspection Overall Assessment	



CO Return and Fill Area

Form Code: 36

Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO Return and Fill Area Instructions	
Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained. Include any repairs changes or corrective actions.	
CO Return and Fill Area Inspection Items	
Pump Seals - Check for evidence of failure (e.g., leaks, other).	
Pump Motors - Check for evidence of failure (e.g., overheating, other).	
Fittings - Check for evidence of failure (e.g., leaks, other).	
Valves - Check for evidence of failure (e.g., leaks, sticking, other).	
Hose Connections and Fittings - Check for evidence of failure (e.g., cracked, loose, leaks, sticking, other).	
Hose Body - Check for evidence of failure (e.g., crushed, cracked, thin spots, leaks, other).	
Clam Shell Unit Type - Lid Fusible Link - Check for evidence of failure (e.g., broken, spring missing, other).	
Clam Shell Unit Type - Lid Hinge Assembly - Check for evidence of failure (e.g., broken pivot arm, damaged lid arm, missing pins, other).	
Sliding Lid Unit Type - Gaskets - Check for evidence of failure (e.g., broken, cracked distorted, other).	
Sliding Lid Unit Type - Lid/ Slide Assembly -	

Check for evidence of failure (e.g., damaged lid, rollers, slide rail, temperature gauge, limit switches, other).	
Roll-up Door Unit Type - Seals - Check for evidence of failure (e.g., broken cracked, distorted, other).	
Roll-up Door Unit Type - Door/ Roll-up Assembly - Check for evidence of failure (e.g., damaged lid, rollers, slide rail, temperature gauge, limit switch, other).	
Wet Dumpster/Drum Washer - Check for evidence of failure (e.g., leaks, rust, split seems, distortion, deterioration, excess debris, sediment accumulation, other).	
Secondary Containment - Check for evidence of failure (e.g., excess sediment, leaks, distortion, deterioration, excess debris, other).	
Loading/Unloading Area - Check for evidence of failure (e.g., cracks, ponding or wet spots, deterioration, other).	
Satellite Accumulation Containers - Check for evidence of failure (e.g., container open, > 55 gallons, label, other).	
Ventilation Fan - Check for evidence of failure (e.g., inoperative, shutters jammed, other).	
Site Generated Waste - debris, used absorbent, used PPE, aerosols, etc. - Check for evidence of failure. (e.g. waste not containerized, proper storage location, container type, container label, other)	
Compliance Footer	
Inspector Signature	
Attach Photo	
Inspection Overall Assessment	



CO CSA Inspection

Form Code: 28

Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO CSA Inspection Instructions	
Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.	
CO CSA Inspection Items	
Container Placement and Stacking - Check for evidence of failure (e.g., containers on pallets, pallets too high, unstable, other).	
Sealing of Containers - Check for evidence of failure (e.g., containers not closed or sealed, open).	
Labeling of Containers - Check for evidence of failure (e.g., no label, improper label, content, other).	
Container Integrity - Check for evidence of failure (e.g., condition, bulging, leaks, rust, corrosion, other). Containers do not have waste/staining on the outside which would require cleaning or overpacking.	
Pallets - Check for evidence of failure (e.g., broken, loose, condition).	
Doors - Check for evidence of failure (e.g., indoor area, broken or not working as intended).	
Base/ Foundation/ Roof - Check for evidence of failure (e.g., cracked, gaps, other).	
Berms/ Racks - Check for evidence of failure (e.g., cracks, gaps, broken, other).	

Site Generated Waste - debris, used absorbents, used PPE, aerosols, etc. - Check for evidence of failure (e.g., waste not containerized, proper storage location, container type, container label, other).	
Exit Signs - Check for evidence of failure (e.g. missing, lamps, battery backup, other).	
Aisle Space - Check for evidence of failure (e.g., minimum 2 ft required, other).	
Containment Area - Check for evidence of failure (e.g., secondary containment, curbing, floor, cracks, deterioration, ponding or wet spots, other).	
Sumps - Check for evidence of failure (e.g., cracks, ponding or wet spots, pitting or deterioration, other).	
Loading/ Unloading Areas - Check condition of area (e.g., no free liquid, ponding or wet spots, available spill equipment, spill equipment location, spill kit supply and inventory is adequate, containment deterioration, leaks, pad condition, valve access box, housekeeping, other).	
Communication and Alarm System - Check for evidence of failure (e.g., test function, siren, strobe, other).	
Storage Capacity - Check for acceptable limit (e.g., area or permit restrictions, type restriction, volume limit, other).	
Bonding and Grounding - Check for evidence of failure (e.g., loose, broken, corrosion or deterioration, other).	
Pumps - Check for evidence of failure (e.g., deterioration or broken, leaks, other).	
Inventory Age - Check for acceptable limit (e.g., within area limits, permit restrictions, other).	
Satellite Accumulation Containers - Check for evidence of failure (e.g., container open, >55	

gallons, label, other).	
Spill Equipment - Check that spill equipment is available, clean, and ready for use. Spill equipment is placed in the correct location. Spill equipment includes the correct types of equipment in sufficient quantities.	
Additional Comments or Notes	
Comments	
Compliance Footer	
Inspector Signature	
Attach Photo	
Inspection Overall Assessment	



CO Safety Security Inspection

Form Code: 29

Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO Safety Security Inspection Instructions	
Note condition of inspection items. If item does not apply to an area, mark N/A. All unsatisfactory findings must be explained below. Include any repairs, changes or other remedial actions required or performed.	
CO Safety Security Inspection Items	
Perimeter fences - check for evidence of failure (e.g., broken ties, corrosion, holes, distortion, other)	
Gates/External Warehouse Doors - Check for evidence of failure (e.g., locking mechanism, broken ties, corrosion, holes, distortion, direct access doors working properly, other).	
Warning signs - check for evidence of failure (e.g. missing, faded, other).	
Exit Signs - Check for evidence of failure (e.g., missing sign, illumination, lamp bulbs, battery backup, other).	
Exits/Firelanes/Evacuation Routes - Check that all routes are clear or unobstructed.	
Lighting System - Check for evidence of failure (e.g. expired lamps, effectiveness, location, other).	
Emergency Lighting System - Check for evidence of failure (e.g., expired lamps, battery backup, effectiveness, other).	
Accessibility of Safety Equipment/Protective Gear - Check for evidence of availability (e.g.,	

hardhats, faceshields, goggles, safety glasses, boots, gloves, aprons, uniforms, duct tape, absorbents, other).	
Adequate Supply of Safety Equipment/Protective Gear - Check for evidence of availability (e.g., cleanliness, inventory available is adequate, in the correct location, correct type of equipment, other).	
Condition of Safety Equipment - Check for evidence of failure (e.g., review PPE for damage or excessive wear, other).	
Breathing Apparatus Accessibility - Check for evidence of availability (e.g. SCBA respirators, equipment, other).	
Breathing Apparatus Adequate Supply/Full Charge - Check for evidence of availability (e.g., SCBA tanks, charged, other).	
Breathing Apparatus Condition - Check for evidence of failure (e.g., SCBA damage, other).	
First Aid Kits - Check for evidence of availability (e.g., adequate inventory, correct location, other).	
Bloodborne Pathogen Kits - Check for evidence of availability (e.g., adequate inventory, correct location, correct type, other).	
Emergency Eyewashes - Check for evidence of failure (e.g., disconnected or malfunctioning valves, inadequate pressure, inaccessible, malfunctioning drain, leaking, correct location, adequate type and inventory, other).	
Emergency Showers - Check for evidence of failure (e.g., disconnected or malfunctioning valves, inadequate pressure, inaccessible, leaking, correct location, adequate type, adequate inventory, other).	
Internal/External Communication - Check for evidence of failure (e.g., inadequate supply of phones or radios, malfunctioning intercom,	

telephones not working properly, emergency alarm does not work, phone moved from proper location, other).	
Fire Extinguishers - Check for evidence of failure (e.g., overdue inspection, correct location, correct type, not charged, inaccessible, adequate inventory, other).	
Absorbent Supply - Check for evidence of availability (e.g., adequate inventory, correct location, correct type, other).	
Recovery Drum Supply - Check for evidence of availability (e.g., adequate inventory, correct location, correct type, other).	
Respirators and Cartridges - Check for evidence of availability (e.g., adequate APR inventory, correct location, correct type, other).	
Fire Suppression System Accessibility - Check for evidence of failure (e.g., monitors, pull stations, alarms, other).	
Fire Suppression System Operable - Check for evidence of failure (e.g., test, other).	
Water Lines/Hydrants - Check for evidence of failure (e.g., blocked, broken, other).	
Alarm Systems - Check for evidence of failure (e.g., test, other).	
Fire Blankets - Check for evidence of availability (e.g., adequate inventory, correct location, other).	
Strainer on Fire Suppression System - Check for evidence of failure (e.g., functioning as intended, other).	
Surveillance System/Guard Service - Check for evidence of failure (e.g., equipment or service provided and functioning properly, other).	
Supplied Air Delivery System and Reserve - Check for evidence of failure (e.g., system operational, equipment functioning, other).	

Decontamination Equipment/Spill Clean-up Equipment - Check for evidence of availability (e.g., adequate supply of shovels, mops, cleaning solvents, available inventory, correct location, correct type, other).	
Portable Sump Pumps - Check for evidence of availability (e.g., adequate inventory, functioning properly, correct location, correct type, other).	
Gasoline Pumps - Check for evidence of failure (e.g., broken parts, leaks, other).	
Loud Speakers - Check for evidence of failure (e.g., test, other).	
Chocked Wheels on Parked Vehicles - Check for evidence of failure (e.g., chocks not used, missing, deteriorated, other).	
Cylinders Secure - Check for evidence of failure (e.g., properly stored, secured, chained, other).	
Ventilation Operable - Check for evidence of failure (e.g., system working as intended, other).	
Fall Protection - Check for evidence of availability (e.g., adequate inventory, integrity of equipment, other).	
Electrical Boxes - Check for evidence of failure (e.g., closed, not blocked, marked properly, other).	
Emergency Contact Info Posted - Check for evidence of availability (e.g., up-to-date postings, location requirement, other).	
Hearing Protection Available - Check for evidence of availability (e.g., type appropriate per location, other).	
Housekeeping - Check for evidence of failure (e.g., blocked egress, proper storage, procedure followed, other).	
Portable Compressor - Check for evidence of availability (e.g., adequate inventory,	

functioning properly, other).	
Lime Supply - Check for evidence of availability (e.g., adequate inventory, other).	
QC Lab Hood - Check for evidence of failure (e.g., functioning properly, other).	
Rolloff Parking Area - Check for evidence of failure (e.g., housekeeping, staging, other).	
Dumpster/Outside Containers - Check for evidence of failure (e.g., housekeeping, condition, appropriate use and storage, other)	
Stormwater Collection System - Check for evidence of failure (e.g., functioning properly, damaged equipment, integrity, other).	
Rally Point - Check for evidence of failure (e.g., location identified, communication, other).	
Visitor Log - Check for evidence of failure (e.g., available, communication, proper use, other).	
Contingency Plan - Check for evidence of failure (e.g., available, up-to-date, communication, other).	
Wind Instrument/Wind Sock - Check for evidence of failure (e.g., operational, functioning properly, not broken, other).	
Compliance Footer	
Inspector Signature	
Attach Photo	
Inspection Overall Assessment	



CO Tank Sys BB Equipment

Form Code: 42

Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO Tank System BB Equipment Instruction	
Note condition of inspection items. Inspect all tagged and non-tagged points per area plan or system drawing specification. All unsatisfactory findings must be explained. Include any repairs, changes or corrective actions.	
CO Tank System BB Equipment Inspection Items	
Inspect all tagged and non-tagged tank system identified BB equipment points per area plan - Check for evidence of failure. (e.g., all inclusive review of all equipment pumps, valves, flanges, connections, unions, couplings or caps for potential leaks, active leaks, sticking, wear, does not operate smoothly, other).	
Each open-ended valve or line is equipped with a cap, blind flange, plug, or a second valve, which seals the open end at all times except when hazardous waste flows through the open ended valve or line. [264.1056/ 265.1056]	
Pieces of equipment found to be leaking, usually by visual means, are repaired within 15 calendar days and the first attempt to repair is made within 5 calendar days. [264.1058(c)/ 265.1058(c)]	
When a leak is detected, a weatherproof identification tag is attached to the leaking equipment with ID # and the date leak was detected. The identification may be removed after repair. [264.1064(c)/ 265.1064(c)]	
The liquids in use are heavy liquids. It should be assumed that all hazardous liquids managed in storage tanks contain between 80% and 100% organics.	
Subpart BB equipment tags that are "Difficult to Monitor" will be inspected on an annual basis (i.e. those that are located on top of tanks)	
Compliance Footer	
Inspector Signature	

Attach Photo	
Inspection Overall Assessment	



CO Subpart CC Visual Tank Inspection

Form Code: 68

Compliance Header	
Inspector Name	
Area of Inspection	
Inspection Date and Time	
CO - Subpart CC Visual Tank Inspection Instruction	
Complete the visual tank inspection to satisfy the annual inspection required under Subpart CC. The inspector shall check for defects in the waste tank that could result in air pollutant emissions.	
CO - Subpart CC Visual Tank Inspection Items	
Condition of tank (fixed roof and closure devices): (Check "Pass" if the condition of the tank and closure device is acceptable; Check "Fail" if the condition of the tank and closure device is not acceptable including but not limited to visible cracks, holes or gaps in roof sections or between the roof and tank wall, cracked or damaged seals or gaskets on closure device, broken, warped, or missing hatches, access covers, caps, or other closure devices, gaps present between closure device and tank, vents obstructed, other defects) If "Fail", select appropriate reason: not closed under normal operation, other.	
These tanks are designed so that all cover openings can be closed with no visible gaps, holes, cracks, or other open spaces into the interior of the tank. The cover and all cover openings operate with no detectable emissions when in a closed position. Cover openings are maintained in a closed position at all times except when waste is being added to or removed from the tank, or when necessary sampling or repair/maintenance is performed on the tanks.	
Compliance Footer	
Inspector Signature	
Attach Photo	
Inspection Overall Assessment	

EPA ID Number: TND000614321
Permit Number: TNHW-DRAFT

ATTACHMENT 5. TRAINING INFORMATION

Attachment 5 consists of five sections as follows:

- Attachment 5.1 Personnel Training
- Attachment 5.2 Training Plan Outline
- Attachment 5.3 Job Descriptions
- Attachment 5.4 Training Record Forms
- Attachment 5.5 Training Attendance/Certification

ATTACHMENT 5.1 PERSONNEL TRAINING

OUTLINE OF TRAINING PROGRAM

Each employee has received adequate training to operate and maintain the facility safely, and to understand hazards unique to his or her job assignment. New managers will complete an introductory training program before starting their jobs, with an annual review and update thereafter. Information on service center personnel, job descriptions, training outlines and training record forms are maintained at the facility or electronically. This training has been designed to comply with the requirements of Rule 0400-01-11-.06(g).

ORGANIZATION STRUCTURE AND JOB DESCRIPTIONS

Environmental compliance and training of branch employees is the responsibility of the branch manager. The Environmental, Compliance Department, in turn, provides a training program to be executed annually. The training program is directed by personnel trained in hazardous waste management procedures and includes instruction on hazardous waste management for facility personnel in accordance with 0400-01-11-.06(g). New employees will receive training based off their job duties. The training is designed for the employee to become familiar with the following, as required:

- a. Hazard Communication;
- b. Waste Analysis Plan;
- c. Inspections
- d. Preparedness and Prevention Plan/Contingency Plan;
- e. Preventing Injuries and Illness;
- f. Hazards Associated with Handling Hazardous Materials;
- g. Chemistry of Safety-Kleen Products;
- h. Hazardous Materials Regulations;
- i. Manifesting; and
- j. Spill Simulations and Reports.

The employee will receive classroom, video and/or on-the-job instruction and have to demonstrate competency. Refer to Attachment 5.2 for an outline of Introductory Training Topics for Service Center Personnel.

Branch General Managers receive further environmental training. This additional training includes:

- a. Review of Part B - Part A, Waste Analysis Plan, Contingency Plan (related to emergency response coordinators), Financial Requirements, Transportation Licensing;
- b. Labels, Shipping Documents, Spill Reporting, Land Disposal Notifications, Preparing for Agency Inspections;
- c. Facility inspections (deficiencies, identify Technical Service needs), Review of actual and permitted waste storage capacities;
- d. File Review of all Environmental documents;
- e. Notifications;
- f. OSHA 300 Reporting;
- g. Site Compliance History; and
- h. Site Training of Personnel.

Administrative personnel receive training at the Millington branch consists of:

- a. Hazard Communication;
- b. Waste Analysis Plan;
- c. Preparedness and Prevention Plan/Contingency Plan;
- d. Preventing Injuries and Illness; and
- e. Manifesting.

All employees must show competency prior to beginning work with Safety-Kleen and records are archived on the Clean Harbors database.

Note: Employees, may not work in unsupervised positions until they have received the training necessary to perform their job. Employees must be completely trained, in all the items listed above within six months of starting and annually thereafter.

Annually, all employees at Millington receive the Annual RCRA Training Class, either in person, or via Webex, or through a computer course. An outline of this training is provided in Attachment 5.2.

Job descriptions for branch personnel are in Attachment 5.3, Training Information. In accordance with Rule 0400-12-01-.06(2)(g), a list of employees, their job titles, and job functions will be maintained at the facility or electronically.

The qualification for each position is identified in Attachment 5.3. There isn't a 3-year minimum of experience to become a team member at Safety-Kleen Millington.

BRANCH MANAGER

The branch manager is responsible for the business and environmental operations at the service center. The branch sales manager, sales representatives, and material handler report to the branch manager. The branch manager or his/her designee provides the training and materials necessary for the branch employees to execute their duties. With respect to environmental compliance, the branch manager will:

- a. Keep the facility clean and orderly;
- b. Execute or designate an employee to execute the daily inspection, keep a written log and remediate any problems;
- c. Know the potential hazards of the material and wastes handled on site;
- d. Identify potential spill and fire sources and be able to execute the contingency plan;
- e. Inform all employees of their environmental responsibilities;
- f. Act in accordance with the Contingency Plan in Attachment 6, and notify the proper authorities during an emergency, remediate the situation to the best of his or her abilities, and submit necessary reports to the corporate office; and
- g. Maintain all environmental records (such as manifests, training records and spill reports) on file.

ENVIRONMENTAL COMPLIANCE DEPARTMENT

Safety-Kleen's Environmental Compliance Department operates out of regional offices, branches and the corporate office in Norwell, MA. The Environmental Compliance Department has personnel on staff who are responsible for training, permits, and compliance issues for the service centers in a given geographic area of the country. The Environmental Compliance Department will:

- a. Execute training of personnel in accordance with environmental regulations and corporate policy;
- b. Notify the proper authorities, oversee corrective actions and submit a written report to the state after an emergency situation has occurred;
- c. Assure that environmental permits are submitted and updated as required; and
- d. Manage any environmental compliance issues which exceed the resources available at the service center level.

DESCRIPTION OF THE TRAINING PROGRAM

Employee training may be accomplished using classroom, videotape/DVD, computer courses, written or on-the-job methods. The Environmental Compliance Department prepares a training program for employees and the service center personnel provide documentation that the program has been executed.

An employee is trained prior to starting or as soon as he or she begins working, (depending on his or her position), and annually thereafter. The Environmental Compliance Department ensures that the branch manager or his/her designee has received adequate training to train all branch personnel. Attachment 5.2 contains an outline of the training program, which demonstrates that facility personnel are trained in hazardous waste management procedures.

TRAINING OF NEW BRANCH MANAGERS

New branch managers are trained before they begin their new positions. This training may occur on-site, on the job, in off-site classroom training or through Webex or computer courses. While being trained, a new branch manager reviews all environmental records and learns the recordkeeping requirements. These records include, manifests, personnel records, training records, facility inspection records, and spill reports.

The training culminates in additional training at the direction of an environmental professional. The training consists of an introduction to environmental law and a review of the permit including all aspects of the Waste Analysis Plan (as it is stated in the permit), Preparedness and Prevention Plan, Contingency Plan, Training Plan and Closure Plan. Additional time is spent reviewing past environmental compliance at the branch manager's facility, and regulations unique to the state are discussed as well.

TRAINING OF NEW BRANCH ADMINISTRATORS

Branch administrators are trained in the proper recordkeeping procedures. will check records for accuracy and completeness and then process or file it as required. A branch secretary may also be trained as the designate for performing the facility inspection. The training is overseen by the branch manager or his/her designee and is done within six months of starting. The training includes some of the items listed in the Training Plan that may be applicable to the branch

secretaries' job. In addition, the Contingency Plan will be reviewed with the branch manager or his/her designee.

TRAINING OF NEW CUSTOMER SERVICE MANAGER/SERVICE DELIVERY MANAGER

New customer service managers are trained on site during which they are introduced to manifests, facility inspection records and training records. A customer service manager may also be trained as the designate for performing the facility inspection. Additional training may be in the form of electronic presentations, and a review of the contingency plan. The Contingency Plan will be reviewed with the branch manager before the customer service manager formally begins his/her new position and annually thereafter. Items such as those listed in the Training Plan must be explained within six months of starting. All customer service managers will be trained to perform pertinent analyses required by the Waste Analysis Plan, as it is described in the permit. The customer service manager will also be trained for miscellaneous administrative tasks.

TRAINING OF NEW SERVICE REPRESENTATIVES

New service representatives are trained on site for approximately two weeks during which they are introduced to manifests, facility inspection records and training records. A service representative may also be trained as the designate for performing the facility inspection.

Additional training is in the form of videotape presentations, and a review of the contingency plan. The Contingency Plan and items such as those listed in the Example Training Plan will be reviewed with the branch manager or his/her designee within six months of starting and annually thereafter. All service representatives will be trained to perform pertinent analyses required by the Waste Analysis Plan, as it is described in the permit.

TRAINING OF NEW MATERIAL HANDLERS

A material handler is trained to maintain the service center and assist the other branch employees in their tasks. The material handler may be a designate for the facility inspection and must be trained by the branch manager as such. Within six months of the material handler's starting work, the branch manager or his/her designee will review the contingency plan and the applicable items listed in the Example Training Plan with him or her.

ANNUAL TRAINING

On an annual basis, employees are trained using a program prepared and updated by the Environmental Compliance Department. It includes updates on environmental regulations, a review of the contingency plan and a review of RCRA inspection criteria.

All service center employees will review annually training items such as those listed in the Training Plan Outline for branch employees. The annual training may vary slightly from the topics listed in the Training Plan Outline. This review may be in the form of a review and

discussion of the storage facility permit. The Environmental Compliance Department issues periodic memoranda on changes in environmental regulations, which all service center personnel must read and discuss.

TRAINING RECORDS

All employees training will be documented. The records will be kept electronically at the facility until closure. The documentation will include, at a minimum, the required information listed on the example record forms listed in Attachment 5.4 Example Training Record Form.

ATTACHMENT 5.2 EXAMPLE TRAINING PLAN OUTLINE

BRANCH GENERAL MANAGER

Review of Environmental Notebooks/Feasibility Study and Plan of Operation

Part A Application
Waste Analysis Plan
Contingency Plan

Financial Requirements
Training Plan
Transportation Licensing

Review of Environmental Compliance Guidance and Corporate Policy Manual

Labels and Shipping Documents
Spill Reporting

Land Ban Notifications
Preparation for Agency Inspections

Conduct Detailed Facility Inspection with Regional Manager

Identify deficiencies requiring branch attention
Identify problems requiring Technical Services assistance
Review actual vs. permitted waste storage capacities

File Review

Manifests and Land Ban Notices
Spill Report File
Inspection Records

Training Files
Community Right-to-Know Files

Contingency Plan Training Session with Branch General Manager and All Alternate Emergency Coordinators

Including Spill Simulation and Response
Updating the Emergency Information and Local Authority Notifications

Notifications

Health and Safety

OSHA 300 Reporting

Hazardous Communication Program

Review of Past Agency Inspections and Other Past Branch Compliance related issues

Environmental Training for Branch Personnel

Recordkeeping
Conducting Training Sessions

ATTACHMENT 5.2 EXAMPLE TRAINING PLAN OUTLINE (Continued)

INTRODUCTORY AND ANNUAL TRAINING TOPICS

SERVICE CENTER PERSONNEL

A. Hazard Communication - Safety Training

B. Hazard Communication - Understanding MSDSs

C. Waste Analysis Plan

Includes a review of the Part A Permit Application; sampling and analysis procedures, and recordkeeping.

D. Preparedness and Prevention Plan and Contingency Plan

1. Procedure for using, inspection, repairing and replacing facility emergency response equipment must be reviewed
2. Communications or alarm systems
3. Response to fires or explosions
4. Response to ground water contamination incidents
5. Shutdown of facility operations
6. Automatic waste feed cut-off systems

E. Preventing Injuries and Illness

F. Hazards Associated with Handling Hazardous Materials

Employees requiring the use of a respirator will be respirator fit tested

G. Chemistry of Safety-Kleen Products

H. Hazardous Materials Regulations

I. Manifesting

J. Spill Simulation and Spill Reports

NOTE: EMPLOYEES MAY NOT WORK IN UNSUPERVISED POSITIONS UNTIL THEY HAVE RECEIVED EMERGENCY RESPONSE TRAINING. EMPLOYEES MUST BE COMPLETELY TRAINED, IN ALL THE ITEMS LISTED ABOVE, WITHIN SIX MONTHS OF STARTING AND ANNUALLY THEREAFTER.

ATTACHMENT 5.2 EXAMPLE TRAINING PLAN OUTLINE (Continued)

PERSONNEL TRAINING COURSE REQUIREMENTS

PERSONNEL REQUIRED TO ATTEND INTRODUCTORY TRAINING COURSES

1. Branch General Manager
2. Branch
3. Customer Service Manager
4. Service Representative
5. Material Handler

PERSONNEL REQUIRED TO ATTEND ANNUAL TRAINING COURSES

1. Branch General Manager
2. Branch
3. Customer Service Manager
4. Service Representative
5. Material Handler

PERSONNEL REQUIRED TO RECEIVE ON THE JOB TRAINING

1. Branch General Manager
2. Branch Administrator
3. Customer Service Manager
4. Service-Representative
5. Material Handler

PERSONNEL RECEIVING TRAINING WHEN REGULATIONS AND/OR PROCEDURES CHANGE

1. Branch General Manager
2. Branch Administrator
3. Customer Service Manager
4. Service-Representative
5. Material Handler

ATTACHMENT 5.3 JOB DESCRIPTIONS

BRANCH GENERAL MANAGER

JOB DESCRIPTION

The Branch General Manager (BGM) has overall responsibility for the facility operations and maintenance and directs sales activities within a certain geographic area defined by the Corporate Marketing Department. He or she is responsible for the proper operations and profitability of the service center.

REPORTS TO:

District Manager

QUALIFICATIONS:

Minimum high school graduate with Safety-Kleen sales experience.

PRINCIPAL RESPONSIBILITIES:

1. Plan, direct, and monitor activities of sales representatives.
2. Training of branch sales managers, sales representatives, and other branch personnel.
3. Assist or accompany sales representatives during their sales activities when necessary.
4. Tabulate daily sales and inventory figures and report them to the corporate offices.
5. Maintain adequate inventory of solvents, allied products, and equipment.
6. Carry out corporate policies and standards regarding facilities, equipment operation and maintenance.
7. Insure the regular inspection of the facility and equipment, and the implementation of any necessary repairs or remedial actions.
8. Represent Safety-Kleen Systems, Inc. in local community affairs and public relations activities.
9. Coordinate with corporate Transportation Compliance, Environmental Compliance, and Health and Safety Departments and implement necessary actions or plans for regulatory compliance.
10. Be able to act as the primary emergency response coordinator.

ATTACHMENT 5.3 JOB DESCRIPTIONS (Continued)

CUSTOMER SERVICE MANAGER/SERVICE & DELIVERY MANAGER

JOB DESCRIPTION

The Customer Service Manager (CSM) is charged with the responsibility of generating new business and servicing established accounts within a certain defined geographic area. In addition, the Customer Service Manager may be the designate for some of the responsibilities of the Branch General Manager.

REPORTS TO:

Branch General Manager

QUALIFICATIONS:

Minimum high school graduate.

PRINCIPAL RESPONSIBILITIES:

1. Plan, direct, and monitor activities of sales representatives.
2. Contact potential customers for the purpose of selling Safety-Kleen services and allied products.
3. Manage sales and service staff in achieving customer retention and on-time performance by implementing corporate operating guidelines, training, and reinforcing critical service skills, and working to prevent and resolve customer service issues.
4. Make minor repairs of Safety-Kleen's parts cleaner equipment or lease new equipment to the customers.
5. Prepare the necessary paperwork for each service, and bill or credit the customer, as necessary.
6. Ensure sales and service staff compliance with all environmental, health, and safety requirements.
7. Be able to act as the alternate emergency response coordinator.
8. Perform other related duties as assigned by the Branch General Manager.

ATTACHMENT 5.3 JOB DESCRIPTIONS (Continued)

SALES AND SERVICE REPRESENTATIVE

JOB DESCRIPTION

The Sales and Service Representative is charged with the responsibility of generating new business and servicing established accounts within a certain defined geographic area.

REPORTS TO:

Branch General Manager

QUALIFICATIONS:

Minimum high school graduate.

PRINCIPAL RESPONSIBILITIES:

1. Maintain his/her route truck and replenish products on the truck before beginning his/her route sales.
2. Contact potential customers for the purpose of selling Safety-Kleen services and allied products.
3. Exchange spent solvents with fresh solvent and replenish inventory of Safety-Kleen's products for existing customers.
4. Make minor repairs of Safety-Kleen's parts cleaner equipment or lease new equipment to the customers.
5. Prepare the necessary paperwork for each service, and bill or credit the customer, as necessary.
6. At the end of each day or route, return the truck to the branch for cleaning and maintenance, and summarize the day's activities so the branch manager can tabulate the daily figures and forward them to the corporate office.

ATTACHMENT 5.3 JOB DESCRIPTIONS (Continued)

BRANCH ADMINISTRATOR

JOB DESCRIPTION

The Branch Administrator performs duties to assist the branch manager, sales representatives and customers with billing, scheduling and recordkeeping. Performs secretarial duties at the branch.

REPORTS TO:

Branch General Manager

QUALIFICATIONS:

Minimum high school graduate.

PRINCIPAL RESPONSIBILITIES:

1. Maintains records in an orderly manner.
2. Assist sales representatives in scheduling services.
3. Ensure that all hazardous waste manifests and shipping documents are complete and manage distribution and filing of copies.
4. Maintain Personnel Training Record files.
5. Maintain Facility Inspection Records.
6. Answer customer inquiries.
7. Manage customer billing.
8. Perform other related duties as assigned.

ATTACHMENT 5.3 JOB DESCRIPTIONS (Continued)

MATERIAL HANDLER

JOB DESCRIPTION

The Material Handler performs duties to assist the sales representatives in loading and unloading trucks prepare waste for shipment, maintains warehouse, and performs janitorial duties at the facility.

REPORTS TO:

Branch General Manager

QUALIFICATIONS:

Attended high school.

PRINCIPAL RESPONSIBILITIES:

1. Maintain warehouse in clean and orderly manner.
2. Assist sales representatives in loading trucks and replacing solvent.
3. Park or move trucks as needed.
4. Stock inventory.
5. Replenish trucks with inventory.
6. May conduct facility inspections.
7. Prepare waste for shipment off-site.
8. Perform other related duties as assigned.

ATTACHMENT 5.4 EXAMPLE TRAINING RECORD FORM

INTRODUCTION AND OVERVIEW

Regulations require initial and annual training for all employees involved in handling hazardous waste. The purpose of this manual is to provide basic necessary initial training to you as a branch general manager, which will assist you to properly manage the waste handling activities at your facility.

Please be aware that both Federal and State specific regulations will need to be reviewed; also please be aware that the vast majority of regulations used by individual states are mainly derived from the federal regulations. There are, however, some significant differences thus requiring knowledge of both. Federal regulations will need to be adhered to if they are more stringent than the state. Information regarding the individual state's regulations will be reviewed separately with you by your EHS Professional.

This training manual is divided into sections, with each major topic covered as it's own unit. The topics reviewed in these sections include: Environmental Regulations Overview, Health and Safety Overview, and last we will circle back and discuss other permits commonly found at the typical Safety-Kleen Facility. We ask that you use this document in conjunction with the training provided to you with your EHS Professional. You should set aside a minimum of 8 hours for this training. Once you and your EHS Professional feel you have mastered a specific section of your training, you should "Initial and Date" this section before moving to the next. Finally, a copy of this documented initial overview should be placed in your Training File.

ENVIRONMENTAL REGULATIONS OVERVIEW

Initial/Date

Environmental Health and Safety rules and regulations are published in chapters of the Code of Federal Regulations (CFR). You should have copies of the pertinent regulations available for your reference at the facility.

40 CFR 260-280, Environmental Protection Act (EPA/RCRA Rules)
29 CFR 1910 Occupational Safety and Health Standards (OSHA)
49 CFR 100-185, Department of Transportation (DOT)

Environmental Laws

Resource Conservation and Recovery Act (RCRA Laws)
Emergency Planning and Community Right-to-Know Act (EPCRA or SARA, Title III)
Hazardous Materials Transportation Act (HMTA), which regulates transportation).
National Environmental Policy Act (NEPA, which requires impact statements for federally-funded projects)
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, which established the "Superfund" for uncontrolled hazardous waste site remediation)

Toxic Substances Control Act (TSCA, which regulates certain toxic materials such as PCBs), the Clean Water Act, and the Clean Air Act.

RCRA

The environmental law that most affects our facilities is RCRA, which was passed in 1976. This law required EPA to develop rules and regulations governing the generation, transportation, treatment, storage, and disposal of solid and hazardous wastes. RCRA was amended by Congress in 1984. The amendments were known as the Hazardous and Solid Waste Amendments (HSWA), and required EPA to develop new rules for the management of wastes. Some of the requirements of HSWA include land disposal restrictions, corrective action for solid waste management units (SWMUs), and re-defining hazardous waste.

Waste Classification

Definition of Hazardous Waste:

defined as a solid waste solid, liquid, or gaseous materials which is abandoned, accumulated, treated before recycling, stored or inherently waste-like

Characteristic Wastes (D-Codes)

Listed Wastes (F, P, K, U-Codes)

Characteristic Wastes

D-Codes

Ignitability

Corrosivity

Reactivity

Toxicity

Listed Wastes

F-Codes: From Non-Specific Sources

P-Codes and U Codes: Discarded commercial chemical products, off-spec species, container residues, and spill residues thereof

K-Codes: From Specific Sources

GENERATOR REQUIREMENTS

The federal government's generator categories are:

Conditionally exempt small quantity generator (CESQG);

Small Quantity Generator (SQG); and

Large Quantity Generator (LQG)

Conditionally Exempt Small Quantity Generator (VSQG)

This is a business that generates less than 100 kg/month (or 220 pounds per month). VSQGs must:

- Identify all hazardous waste they generate;
- Send their waste to a licensed or permitted facility; and
- Never accumulate more than 1,000 kg (2,200 pounds) of hazardous waste at any one time.

Small Quantity Generators (SQG):

Small quantity generators generate between 100 and 1,000 kg/month (220 - 2,200 pounds) of hazardous waste. Under federal law, SQGs must:

- Identify all hazardous waste they generate;
- Obtain a U.S. EPA Identification number;
- Never accumulate more than 6,000 kg (13,200 pounds) of hazardous waste at any one time

Large Quantity Generator (LQG):

Large quantity generators generate 1,000 kg/month (2,200 pounds) or more of hazardous waste. RCRA regulations are most stringent if you are a LQG. LQGs follow the same requirements as SQGs except for specific changes and additional requirements. Under federal and state rules, LQGs must:

- Identify all hazardous waste generated;
- Certify on the manifest form that they have a program in place to minimize the volume and toxicity of their hazardous waste;
- Accumulate waste on site for no more than 90 days, unless a hazardous waste storage permit is obtained;
- File a biennial report with the U.S. EPA and an annual report with the state environmental agency, if applicable; and
- Comply with initial and annual RCRA training requirements; and
- Produce and maintain a contingency plan, including the naming of emergency coordinators.

EPA PERMITTING SYSTEM

Part A: summarizes the facility operations

Part B: provides a detailed discussion of every aspect of waste management at the facility. *This is not always applicable. Discuss with your EHS Professional*

The Part A application is a brief summary of the regulated units at the facility, the owner and operator information, and the waste codes the facility will accept.

The Part B application is much more detailed. The Part B application details every aspect of waste management at the facility, and generally provides information on how the facility will maintain compliance with TSD rules found in 40 CFR 264 (and PA 264). The Part B is presented in sections, with each section describing different aspects of the facility's operations. The various sections of a typical Part B follows:

Facility Description

Buildings, permitted storage areas, property size etc.

Waste Analysis Plan

Presents the waste analysis procedures as described in the waste analysis plan section of this manual. Describes the procedures used to control and manage the materials accepted by the facility.

Preparedness and Prevention Plan

Describes in detail the regulated units and process information. Provides the specifications for the tanks and container storage areas, and describes tank and container management practices. Provides information on the procedures implemented to prevent hazards, including inspections, maintenance, emergency equipment, security, aisle space for containers, and special requirements for handling the wastes accepted at the facility.

Contingency Plan

Describes the actions implemented by facility employees in the event of a spill, fire, or other emergency in order to minimize the threat to human health and the environment. The Contingency Plan must be provided to local authorities and response agencies (e.g., the police and fire departments, area hospital, and emergency response contractor). Some of the major requirements of the Contingency Plan include identification of chemical hazards, handling a material spill or release, fire/explosion response, and reporting/record keeping requirements.

Training Plan

Personnel training outlines the types of training facility personnel will receive. The section typically includes job descriptions, training content, frequency of training, and training techniques. The major points in the training section include frequency of training and purpose of training

Closure Plan

Planned closure activities and schedules are provided, as well as a closure cost estimate and financial assurance to guarantee closure. The closure plan (in whole or in part) must be implemented when waste management ceases at any or all of the regulated units on site.

HEALTH AND SAFETY OVERVIEW

With the Occupational Safety and Health Act of 1970, Congress created the **Occupational Safety and Health Administration (OSHA)** to ensure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance. OSHA is part of the United States Department of Labor. The administrator for OSHA is the Assistant Secretary of Labor for Occupational Safety and Health. OSHA's administrator answers to the Secretary of Labor, who is a member of the cabinet of the President of the United States. The following procedures must be followed to ensure the branch is compliant with the Occupational Safety and Health Administration regulations.

Branch Health and Safety Requirements

Injuries or illness

Nurse Triage (866) 869-6541

OSHA Recordable/OSHA 300 Log (EHS file 1950)

Recordable injuries must be documented within 7 business days

Post Accident drug testing required for work related injuries requiring visit to medical clinic

EHS Reporting Database via Lotus Notes

Incident reports

Injury reports

Near Miss reports

Spill Reports

Vehicle Accident Reports

Period Reports

Facility Inspections

Incident Alerts (Time Sensitive)

For all spills in excess of 8 ounces

For all government inspections (fire/police/OSHA/Ecology/etc)

Safety Meetings via SafetyNet

Weekly meetings Topics found on SafetyNet

Monthly Safety Committee meetings (branches larger than 15 employees)

Health and Safety Policy and Procedures; Refer to H&S Manual (File #1900)

PPE Hazard Assessments

Respiratory Protection

Forklift Operator training

Eyewear/foot wear program

Hazard Communication

Hearing Conservation Program

Ordering PPE

Confined Space

Contractor Safety
Lockout – Tagout

OTHER PERMITS AND PROGRAMS

NPDES National Pollution Discharge Elimination System (Stormwater)
Required for Permitted TSD's and other facilities who discharge to waters of the state. Most plans have requirements to include:

Analytical requirements
Inspection requirements
Stormwater Pollution Prevention Plan

SPCC (Spill Prevention Control and Countermeasures Plan).
Applicable to facilities that store petroleum materials in excess of 1,320 gallons or have a single tank used to store greater than 660 gallons of petroleum materials. This plan must be reviewed every three years and updated as appropriate.

Waste Minimization Program
Must be on file – reviewed annually (Large toxic users)
Waste minimization certification – signed annually.

Form R – SARA Title III Report (File 1481)
Antifreeze

Tier II – Community Right to Know Report (File 1480)
Report due by March 1 of each year

Annual or Periodic Hazardous Waste Generation Report (File 2000)
Annual Report (due by March 1 of each year)

Financial Assurance (File 1620)
Normally updated during January and September of each year by Corporate.

Hazardous Waste Certificate of Liability Insurance (File 1630)
Updated/Revised annually – by January of each year

Other State or Local Permits as required.

ATTACHMENT 5.5 TRAINING ATTENDANCE/CERTIFICATION SHEET

SAFETY-KLEEN CORP.
TRAINING ATTENDANCE /CERTIFICATION SHEET

Course Code:

Class Number:

Course Name:

Location:

Date:

thru

City, State:

Time:

to

Duration:

(total hours)

	PRINTED NAME	SIGNATURE	EMPLOYEE ID #	JOB TITLE
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
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14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				

The above listed employees have demonstrated satisfactory performance and comprehension of the course named above.
Please note the specific verbiage required for the certificates in the space below:

Trainers:

(Please Print)

Trainers Signature:

Trainer(s) Facility:

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INTRODUCTION

PREWORK EXERCISE

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PERSONAL PROTECTIVE EQUIPMENT AND RESPIRATORY PROTECTION

TOXICOLOGY AND DECONTAMINATION

***BLOODBORNE PATHOGENS**

***ERGONOMICS**

***FIRE SAFETY**

ADDITIONAL HAZWOPER TOPICS

*Indicates modules taken by Administrative Personnel

Safety-Kleen Systems, Inc.
RCRA Update Quiz

Employee Name: _____ **Date:** _____

1. Containers of hazardous waste must be labeled only if they are completely full.

True False
2. The words "Hazardous Waste" are required to be included on the labels on all containers of hazardous wastes.

True False
3. RCRA stands for:

- A. Resource Conservation and Recovery Act
 - B. Resource Conservation and Recycling Act
 - C. Remediation Conservation and Recovery Act
 - D. Recycling Conservation and Reuse Act
4. Site-generated hazardous waste (generated by a large quantity generator) may be stored in non-permitted areas of the facility for up to one year.

True False
5. Hazardous waste labels must be placed on containers of hazardous waste immediately when waste is first added to the container.

True False
6. Which of the following items does NOT need to be included on a hazardous waste manifest?

- A. Generator Name/Address/Phone Number/EPA ID Number
 - B. Transporter name and signature of truck driver
 - C. Weight or Volume of the waste being shipped
 - D. State Inspector's certification
 - E. Location where the waste is being shipped
7. Container Management areas must be inspected no less than once per week when in use.

True False
8. Disposable personal protective equipment (PPE) (such as gloves and tyveks) is considered hazardous waste once used in a hazardous waste management area and must be placed in a properly marked hazardous waste container.

True False

9. All waste spills must be reported to branch management whether hazardous or not and whether inside containment or not.

True

False

10. Which of the following describe the purpose(s) of RCRA?

- A. To protect human health and the environment
- B. To reduce/eliminate the generation of hazardous wastes
- C. To conserve energy and natural resources
- D. All of the above

11. Who is the Primary Emergency Coordinator for this branch?

12. The date and time of inspections must be included on all daily or weekly inspection reports for the facility.

True

False

13. Failure to adequately document corrective actions on all inspection reports may result in a citation from the regulatory agency and disciplinary action.

True

False

14. List two sources of site generated materials that may be managed as hazardous waste at this branch:

1. _____ 2. _____

15. Safety-Kleen must provide a written manifest exception report to the appropriate regulatory agency if it has not received a signed copy of an outgoing hazardous waste manifest from the designated TSDF within how many days of the waste shipment's initial acceptance by the first transporter?

- A. 7
- B. 15
- C. 30
- D. 45
- E. 180

16. Documentation of the movement, treatment, storage, and disposal of hazardous waste is known as:

- A. Cradle-to-grave tracking system
- B. Top-to-bottom tracking system
- C. Start-to-finish tracking system
- D. Chemical Waste Tracking System

17. Which of the following are characteristics of a waste that could make it hazardous?

- A. Ignitability
- B. Corrosivity
- C. Reactivity
- D. Toxicity
- E. All of the above

18. If a hazardous waste includes only EPA waste code D001, by definition, which of the following is true?

- A. The waste is corrosive
- B. The waste is reactive
- C. The waste is ignitable/flammable
- D. The waste is a liquid
- E. None of the above

19. According to RCRA, the correct identification of hazardous waste is solely the responsibility of the generator.

True False

20. CESQG's are exempt from the accumulation dates required of other hazardous waste generators.

True False

21. A generator may be classified based on how much waste it generates in a calendar month. List the three generator classifications.

- 1. _____
- 2. _____
- 3. _____

22. A container holding hazardous waste must remain closed during storage, except when it is necessary to add or remove waste.

True False

23. List two examples of situations that may cause spills of hazardous waste.

- 1. _____
- 2. _____

24. Who must sign a hazardous waste manifest prior to its arrival at the branch?

1. _____

2. _____

25. A branch that can receive waste and keep it for a ten-day period only is called a _____ facility.

- A. TSDF
- B. transfer
- C. solid waste
- D. RCRA
- E. Closed

26. This branch is considered a large quantity generator of hazardous waste.

True False

27. According to RCRA, liquids with a flash point below what temperature are considered ignitable?

28. Which of the following is true regarding a hazardous waste with a waste code of D002?

- A. The waste can be solid or liquid.
- B. The pH of the waste will be between 2.0 and 12.5.
- C. Containers of D002 waste do not need to be labeled.
- D. None of the above.

29. What state agency is responsible for administering the RCRA requirements in this state?

30. What external organization must be notified concerning all spills of 8 ounces or greater?

EPA ID Number: TND000614321

Permit Number: TNHW-DRAFT

ATTACHMENT 6. CONTINGENCY PLAN

Attachment 6 consists of six sections as follows:

- Attachment 6.1 Contingency Plan
- Attachment 6.2 Emergency Information
- Attachment 6.3 Employee Emergency Functions
- Attachment 6.4 Preparedness and Prevention Plan
- Attachment 6.5 Correspondence and Agreements
- Attachment 6.6 Emergency Equipment Location and Emergency Evacuation Plan

ATTACHMENT 6.1 CONTINGENCY PLAN

PURPOSE

The contingency plan describes the actions to be taken by facility personnel in the event of a spill, fire or release of hazardous waste. It includes the information necessary to address emergency situations efficiently and in such a manner as to prevent or minimize hazards to human health or the environment due to fire, explosion, or release of hazardous waste to the air, soil, surface water, or ground water. The contingency plan is to be carried out immediately whenever there is a fire, explosion, or release of hazardous material which could threaten human health or the environment.

There are 2 evacuation routes in case of an emergency. Each employee is aware of these routes. The evacuation route drawing is posted in the office area on the bulletin board and discussed during the Annual RCRA training class, which all employees attend. If the Contingency Plan is implemented, all employees gather at the primary rally point, refer to Attachment 6.6, Figure 2. Also, noted on this section is another rally point. Depending on the direction of the prevailing wind, employees may opt to gather at this alternate location - west of the main office and along Fite Road. Additionally, the branch manager will collect the Visitors Sign-In Book at the front door, in order to determine if any contractor or non-Safety-Kleen employee is inside the property line, and account for them.

The Millington location has adequate emergency equipment in case of need. Fire extinguishers, and spill kits are located throughout the site and placed in strategic locations. Refer to Attachment 6.6, Figures 1. Brooms, shovels, dust pans, and any other clean-up implement not previously identified, are kept in the warehouse. It is typical of Millington site to have excess absorbent material onsite - this is a product it sells to customers. If releases to the environment occurred, decontamination procedures would be implemented to best protect human health or the environment. Decontamination procedures to be followed in event of a release are located in Minor Spills and Major Spills. A list of decontamination equipment is listed in Table-1 Emergency Equipment List. In the unlikely event a major spill or environmental event occurred, remediation and decontamination would be subcontracted to a licensed environmental contractor. Operations would then cease during the event. Operations will only resume when all emergency equipment is properly stocked, decontaminated, in good working condition and approved by Emergency Coordinator and Senior Management. Safety-Kleen employees will not respond to or remediate any uncontrolled release where-SCBAs are required. Third party emergency contractor will be utilized if SCBAs are required. Human health is the main objective and alerting first responders is paramount - this will occur immediately, if necessary.

TABLE 1- EMERGENCY EQUIPMENT

Description	Type	Capability	Location	Quantity
Fire Extinguisher	ABC (10 lb.)	Used on paper, wood, and electrical and flammable liquid fire	Loading Areas Warehouse/ Return Fill Area/ Offices	11
Eyewash/Emergency Shower	Fountain emergency eyewash/shower combination	Flush eyes, body, or clothing if exposed to hazardous material	Return/Fill Warehouse/Tanker Loading Area	3
First-Aid	Cabinet	Minor first aid needs and health problems	Office/ Locker Room	2
Telephones	Landline/Cellular	Alert personnel of emergency; contact emergency responders	Landlines in office areas Cellular assigned to employee	Cellular/employee 6 landlines
Gloves	Neoprene	Protect employee from chemical exposure	Warehouse	2

TABLE 1- EMERGENCY EQUIPMENT LIST CONT'D

Description	Type	Capability	Location	Quantity
Boots	Rubber	Protect employee from chemical exposure	Warehouse	2
Protective Clothing	Apron/Tyvek	Protect employee from chemical exposure	Warehouse	1
Eye Protection	Goggles/safety glasses	Protect employee from chemical exposure	Warehouse	2
Sorbent Material	Granular, pads, and/or socks	Absorb liquids, contain spills	Return/Fill Warehouse Tank Farm	3
Shovel	Standard	Collect spill residue	Warehouse	2
Mop and Bucket	Standard	Clean spill residues	Warehouse	1
Pump	Hand-held, Electric	Transfer liquid during spills	Warehouse	1
Wet/Dry Vacuum	Portable, Electric	Transfer liquid during spills	Warehouse	1
Ventilation	Fan	Remove vapors	Warehouse	1
Locker Shower	Plumbed	Wash body after working and/or hazardous exposure	Warehouse	1

EMERGENCY COORDINATOR RESPONSIBILITIES

The emergency coordinator, or alternate emergency coordinator, is responsible for implementing the contingency plan during an emergency. However, all employees must be familiar with the procedures in this plan and are responsible for proper implementation of the plan should the emergency coordinator or the alternate emergency coordinator be unavailable.

The emergency coordinator and the alternate emergency coordinator at this facility will be adequately trained to respond in the event of an emergency. The emergency coordinator and the alternate emergency coordinator will be familiar with all aspects of this contingency plan, the operations and activities at the facility, the location and characteristics of materials handled, and the location of all records within the facility and the facility layout. In addition, these coordinators have the authority to commit the resources necessary to carry out the contingency plan. The emergency coordinator and alternate emergency coordinator's home addresses and telephone numbers, as well as the office telephone number, are listed in Attachment 6.2. Also listed in Attachment 6.3 are typical functions of each employee during an emergency. At least one employee will be at the facility or on call to respond to an emergency situation at all times.

Responsibilities During an Emergency

Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his/her alternate when the emergency coordinator is not available) will:

- a. Activate the internal facility communication system to notify all facility personnel;
- b. Immediately notify Safety-Kleen's site Emergency Response Coordinator and Emergency Response Team using the 24-hour telephone number 800-468-1760;
- c. Immediately notify appropriate agencies (police, fire, hospital), if necessary; and
- d. Notify State Spill Response Agency (TEMA), if necessary.

Whenever there is a release, fire, or explosion, the emergency coordinator or alternate will immediately try to identify the character, exact source, amount, and extent of any contamination. Because of the limited number of materials being handled at the facility, he or she may do this by observation or by review of facility records. If necessary, outside laboratories may be contacted to perform chemical analysis.

Concurrently, the emergency coordinator or alternate will assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment will consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous run off).

During an emergency, where applicable, the emergency coordinator or alternate should stop operational processes, collect and contain released waste, and remove or isolate containers.

Safety-Kleen will coordinate and complete the proper treatment, storage and/or disposal of the recovered waste, contaminated soil, or surface water as expeditiously as possible.

The emergency coordinator or alternate emergency coordinator will ensure that:

- a. No substance that may be incompatible with the released material is brought into the affected area until cleanup procedures are completed; and
- b. All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

Reporting

If the emergency coordinator or alternate determines that the facility has had a fire, explosion, or release that could threaten human health or the environment, the coordinator or alternate should:

- a. Immediately notify appropriate local authorities, in case evacuation is advisable.
- b. Immediately notify the Safety-Kleen Emergency Response Contractor (Clean Harbors)-and notify the Tennessee Emergency Management Agency. This notification will include the following:
 - (1) Name and telephone number of notifier;
 - (2) Name and address of facility;
 - (3) Time and type of incident (e.g., release, fire);
 - (4) Name and quantity of material(s) involved, to the extent known;
 - (5) The extent of injuries, if any; and
 - (6) The possible hazards to human health, or the environment outside the facility.

The emergency coordinator or alternate emergency coordinator will document the time, date, and details of any incident that requires the implementation of the contingency plan. Within 15 days of the incident, Safety-Kleen will submit a written report on the incident to TDEC. The report should include the following:

- a. Name, address, and telephone number of the owner or operator;
- b. Name, address, and telephone number of the facility;
- c. Date, time, and type of incident (e.g., fire, explosion);
- d. Name and quantity of material(s) involved;

- e. The extent of injuries, if any;
- f. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- g. Estimated quantity and disposition of recovered material that results from the incident.

If there appears to be a threat to human health or the environment, the Millington emergency coordinator will immediately notify local authorities identified in this Plan.

Chain of Command

Based on the emergency response procedures described above, the chain of command during an emergency is as follows:

- a. The person who discovers/causes the spill reports to the emergency coordinator or alternate emergency coordinator.
- b. The emergency coordinator or alternate emergency coordinator has the authority to make proper notifications and to commit resources. The emergency coordinator or alternate emergency coordinator contacts the Safety-Kleen Emergency Operations Center (EOC) and TDEC.
- c. Safety-Kleen's Emergency Response Coordinators, (via EOC), will contact the emergency response contractor, if required.

GOVERNMENT AGENCIES AND LOCAL AUTHORITIES TO BE NOTIFIED

During an emergency, the following government agencies and local authorities will be contacted, based on the severity of the emergency:

<u>Agency or Authority</u>	<u>Rationale</u>
Shelby County Sheriff's Department	If there is imminent danger to human health or need for evacuation.
Shelby County Fire Department	If there is a fire, or other imminent danger.
Methodist Hospital North	If there are serious injuries.
TN Emergency Management Agency	If there is a release, fire, or explosion.
Tennessee Department of Environment and Conservation	If there is a release, fire, or explosion.
Shelby County Emergency Management Agency	If there is a release, fire, or explosion.
Clean Harbors Environmental (or equivalently qualified emergency responder)	If an emergency response contractor or corrective action contractor is needed.
National Response Center	If there is a release.

EMERGENCY RESPONSE PROCEDURES

Recommended response actions to be taken in specific emergency situations are described in the sections which follow.

Minor Spills

Minor spills may be responded to by on-site employees. If a spill should occur while pouring spent solvent into the drum washer/wet dumpster unit or filling containers with solvent product at the return and fill station, and it is contained in the secondary containment at the base of the return and fill station, it will be cleaned using the wet/dry vacuum cleaner or portable pump and/or sorbent materials. Material collected from such cleanups will be treated as hazardous waste and properly managed. Corrective actions will not be necessary. Should the spill occur outside the containment involving material associated with the return and fill station, different actions should be taken as follows:

- a. If the solvent spills on a paved area, it should be collected using sorbent material. The sorbent material will be collected, containerized and transported to the Safety-Kleen recycle center for proper processing. Should water be present when a spill occurs, all of the liquid will be treated as hazardous waste, unless determined to be nonhazardous, and pumped into the spent solvent storage tank. Detergent can be used as needed. All material collected from spill cleanups will be treated as hazardous waste unless determined to be nonhazardous.
- b. If the solvent spills on an unpaved area, the free solvent should be collected with sorbent material. All contaminated soil will be removed, and a visual inspection will be made to ensure that no residual material or stained soil remains. The sorbent material and any contaminated soil will be collected, containerized and managed as hazardous waste unless determined to be non-hazardous.

If a spill occurs while moving containers outside of the Container Storage Area (CSA), and involves materials associated with the CSA, the response actions described above in subsections a. and b. should be followed. Spills inside the CSA will be prevented from contaminating the environment by the concrete floor and the secondary containment. In the event of a spill indoors, the doors should be opened to improve the ventilation in the confined area. If solvent is released in a non-explosion rated area, the worker shall ensure that all sources of ignition (e.g., thermostats or light switches) are left in the same position (either on or off) as at the time of the spill. Then the worker will enter the area wearing the required protection equipment, collect the liquid, containerize it and return it to storage. Cleanups are completed only when the workers have cleaned themselves and the emergency equipment with soap and water, and all emergency equipment that was used during cleanup has been restocked. Should a de minimis release occur, it will be captured and immediately cleaned up according to Rule 0400-12-01-.06(10)(g)4(ii). All spills will be reported to the Safety-Kleen Facility Emergency Coordinators and any spill released to the environment that meets or exceeds the Superfund Reportable Quantities (RQ), or to will be reported to TDEC.

Major Spills

Third party contractors are used to manage any spills that cannot be managed by Safety-Kleen personnel with onsite equipment and spills that pose an imminent risk to human health or the environment. Any spill that cannot be completely remediated using the methods described in Minor Spills is a major spill. A major spill is usually the result of a vehicular accident, tank overfilling, equipment failure, or a fire. Spilled material which escapes collection can contaminate soil, surface water, ground water, sanitary sewer systems and storm sewer systems. Emergency response to this type of spill should be as follows:

- a. Assist any injured people.
- b. Stop the flow of materials, if possible and safe.
- c. Contain or slow the flow of the solvent if it cannot be stopped at the source.
- d. If solvent escapes containment efforts, immediately report to the emergency coordinator or alternate emergency coordinator and Safety-Kleen's Emergency Response Coordinators.
- e. Immediately recover, to the extent possible, the spilled materials to reduce property and environmental damage. Start recovery operations immediately.

The emergency coordinator or alternate emergency coordinator shall report any incident as soon as possible to Safety-Kleen's Emergency Response Team. The emergency response coordinator is responsible for reporting the incident to the National Response Center (telephone: 800/424-8802) and the Tennessee Emergency Management Agency (TEMA) (telephone: 800/262-3300, 24-hour emergency number), if necessary. An emergency cleanup response contractor will also be called, if it is deemed necessary.

The person reporting a spill should be prepared to give his/her name, position, company name, address and telephone number. The person reporting also should describe the material spilled and, if possible, some estimate of the amount and the containment status and specify any equipment needed.

Fire Control Procedures

The container storage area return & fill, and the waste parts washer solvent tank is the only tank system that manages ignitable waste. These areas are each located at least 50 feet from the property line. The tank is constructed in accordance with Underwriters Laboratories Standard 142 and NFPA Code 30 which requires tank systems to be located at least 20 feet from the property line per National Fire Protection buffer zone requirements.

The aboveground storage tank is separated from the warehouse building areas to minimize the potential for a fire to spread or injury to personnel to occur. Ignitable wastes are handled so that they do not:

1. Become subject to extreme heat or pressure, fire or explosion, or a violent reaction--The container storage area, return & fill area, and the parts washer solvent tank are separate from sources of extreme heat, fire or potential explosion sources and are not subject to violent reactions. The tank is vented and kept at atmospheric temperature to minimize the potential for pressure build up. Smoking and open flames are prohibited in these areas.
2. Produce uncontrolled toxic mists, fumes, dusts or gases in quantities sufficient to threaten human health--The vapor pressure of parts washer solvent is low (2 mm Hg), and it is only reactive with strong oxidizers which are not present on site. Toxic mists, fumes, dusts or gases will not form in quantities sufficient to threaten human health since strong oxidizers are not handled at this facility and the solvent vaporization will be minimal under normal working conditions.
3. Produce uncontrolled fires or gases in quantities sufficient to pose a risk of fire or explosion. "No Smoking" signs are posted in areas where ignitable wastes are handled or stored. Fire extinguishers must be checked once per week and are tested by the fire extinguisher company once per year. These are kept in the warehouses and the return and fill station.
4. Damage the structural integrity of Safety-Kleen Facility--The parts washer solvent will not cause deterioration of the tank, return & fill area containers, or other structural components of the facility. Additionally, ignitable waste stored in the container storage area is containerized and will not cause structural damage to the concrete.

A written assessment of the tank systems by an independent, qualified, professional engineer required under 0400-12-01-.07(5)(b)2 appears in Attachment 9.6. The entire tank system is aboveground and the piping outside of secondary containment has welded joints.

The aboveground, vertical 10,000-gallon spent parts washer solvent hazardous waste tank is constructed of 3/16" (1/4" thick in the lower third of the tank) carbon steel painted a light color to reflect sunlight and minimize corrosion. The tanks are located at least 50 feet from the property line and have been designed in accordance with Underwriters Laboratories Standard 142 and table 206 of the National Fire Protection buffer zone requirements located more than 20 feet from the property line. The entire facility, including the tank farm, is secured by a six-foot high chain link fence topped by three strands of barbed wire.

If a small fire occurs, Safety-Kleen personnel should act quickly to put out the fire before it spreads, where possible, without undue threat to personal safety. If it cannot be extinguished immediately, evacuate the facility and call the fire department.

It is Safety-Kleen's policy that personnel only respond to incipient fires; that is, those which can immediately be extinguished using a fire extinguisher. For this type of fire, the only personal protective equipment would be safety goggles. Any fire which cannot be brought under control immediately or which has the potential to become uncontrollable warrants implementation of the evacuation plan.

Vapors of parts cleaner solvent exposed to a spark or open flame can flash at temperatures over 150°F. A parts cleaner solvent fire in the tank farm or return & fill area can best be extinguished with foam if the fire department assistance is required. If foam is not available, sweeping the fire with water fog can cool it, directing the water spray to push the flames into a confined area, if possible.

Dry cleaning wastes in the container storage area are not flammable, but they can produce phosgene gas and hydrochloric acid at very high temperatures (approximately 1200°F). The potential for the materials reaching a decomposition state is minimal; however, Safety-Kleen personnel and local authorities must be aware of the proper response, should a fire affect the container storage area (CSA). Emergency response should be as follows:

- a. Isolate the hazard area and deny entry to unauthorized personnel.
- b. Stay upwind; keep out of low areas.
- c. Ventilate closed spaces before entering them.
- d. Wear positive pressure breathing apparatus and protective clothing.
- e. Evacuate a 600-foot radius area endangered by the gas.

If fire department assistance is required a fire in the CSA can best be extinguished by foam, water fog, or water spray.

Parts cleaner solvent, immersion cleaner, and paint waste can generate carbon monoxide and other poisonous gases when exposed to heat. Therefore, it is important to not enter areas where such gases may have accumulated. If a fire occurs in or near the areas where these wastes are stored:

- a. Isolate the area and deny entry to unauthorized personnel.
- b. Stay upwind; keep away from low areas.
- c. Wear personal protective equipment, if warranted.

A dry chemical, carbon dioxide or foam will best extinguish the fire. Cool the containers with water until well after the fire has been extinguished.

EVACUATION PLAN

Clearly marked exits are located in the warehouse and office areas. Employees are informed of all potential escape routes. The site evacuation plan is shown in Attachment 6.6. When an uncontrolled fire or release has occurred, all personnel are to be evacuated from the area and assembled across Fite Road to assure that all personnel are accounted for and out of the hazardous area. The signal for evacuation will be a verbal announcement, indicating the need for evacuation. The loudspeaker system may be used to broadcast the signal. In case of an uncontrolled fire, the fire department must be notified at the time of evacuation either from a safe building or from a neighboring facility.

Should a life-threatening release occur, employees should evacuate the affected areas. If vapor migration is possible, employees should avoid areas of potential vapor accumulation and remain upwind of the source, if possible.

ARRANGEMENT WITH EMERGENCY RESPONSE ORGANIZATIONS

The list of government agencies and local authorities to be notified are identified on the Emergency Information presented in Table 1, Attachments 6.2, and 6.5. Copies of the Contingency Plan were hand delivered by the Millington General Manager to each entity identified as emergency responders with this Plan. No one was interested in signing document attesting they were, "willing to respond", or "not willing to respond" to an environmental emergency. Safety-Kleen's first attempt was by mail - no one responded.

Copies of the current contingency plan are made available to the applicable emergency response organizations. Safety-Kleen requests that each organization keep the contingency plan on file and notify Safety-Kleen if they refuse to enter in an agreement or cannot comply with the procedures outlined within the plan. Copies of such refusal are kept on file. Arrangements have been offered to familiarize the sheriff department, fire department and local emergency response teams with the layout of the facility, the properties of hazardous materials handled and associated hazards, locations where facility personnel normally work, entrances to and roads inside the facility, and possible evacuation routes. Arrangements also have been made to familiarize the local hospital with the types of injuries or illnesses which could result from fires, explosions, or releases at the facility. Copies of the letters to the sheriff department, fire department, hospital, Safety-Kleen emergency contractor, and TEMA are included in Attachment 6.5.

AVAILABILITY AND REVISION OF THE CONTINGENCY PLAN

This plan and all revisions to the plan are kept at the facility and regularly updated throughout the operating life of the facility. Copies of this document are provided to local authorities and organizations listed on the Government Agencies and Local Authorities. In addition, this plan and all revisions to the plan are made readily available to employees working at the facility.

The plan will be reviewed, modified, and updated in compliance with Rule 0400-12-01-.06(4)(e) and 0400-12-01-.07(5) if necessary, whenever:

- a. The facility permit is revised to allow new process wastes to be stored or treated, or applicable regulations are revised;
- b. The list or location of emergency equipment changes;
- c. The facility changes in its design, construction, operation and maintenance, or other circumstances in a way that:
 - (1) Increases the potential for fires, explosions, or releases of hazardous constituents; or
 - (2) Changes the response necessary in an emergency;
- d. The names, addresses, or phone numbers of emergency coordinators change;
- b. The employee assigned to each emergency task changes; or
- f. The plan fails when implemented in an emergency.

ATTACHMENT 6.2 EMERGENCY COORDINATORS

Safety-Kleen Systems, Inc.
Millington, Tennessee 38053
(901) 357-3600

Emergency Coordinators

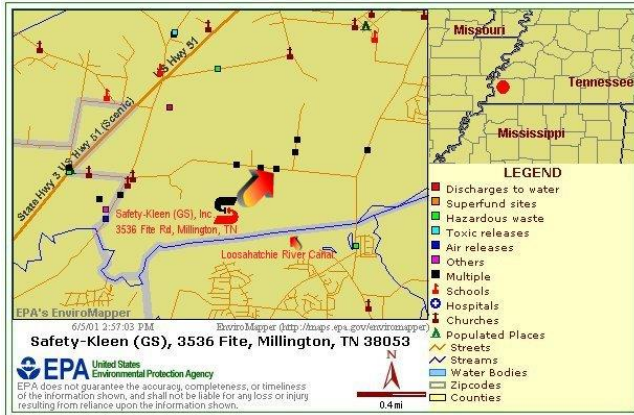
Title	Name	Address	Home Phone/Cell	Pager/Cell
Primary	Johnathan Busby	447 Rachel Shankle Drive Munford, TN 38058	(901) 489-2889	(901) 201-8005
Alternate	Scott Shaw	4140 Pinehurst Blvd. Southhaven, MS 38672	(901) 606-8779	(901) 258-0040

Emergency Notification Phone Numbers

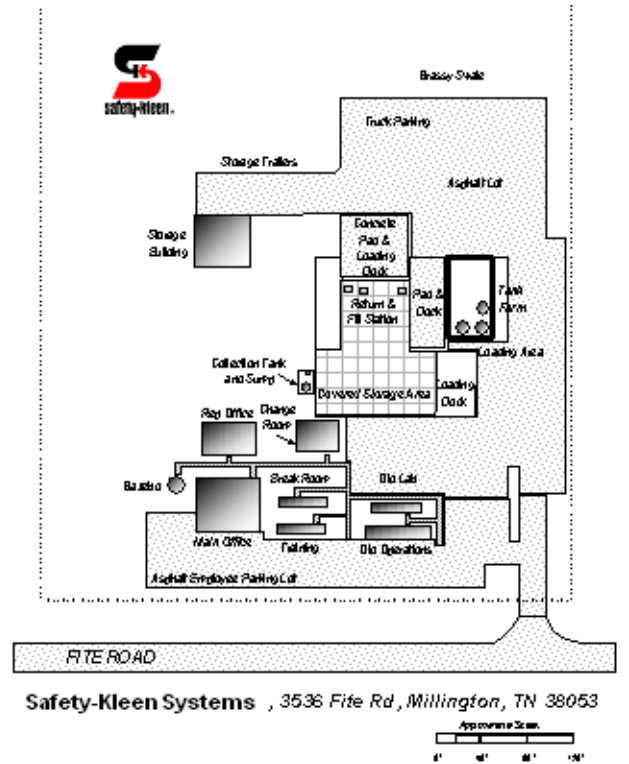
Safety-Kleen Emergency Notification (Internal)	(800) 468-1760 (24 hour)
US National Response Center	(800) 424-8802 (24 hour)
Shelby County Fire Department	(901) 386-1728 (or 911)
Shelby County Sheriff's Department	(901) 379-7625 (or 911)
Methodist Hospital North	(901) 516-5211
US Environmental Services	(888) 279-9930
Shelby County Emergency Management	(901) 458-4101 (or 911)
TN Department of Environment and Conservation	(800) 237-7018
Memphis/Shelby County Hazardous Waste Material Unit	(901) 320-5368

Note

Fire extinguishers are located in designated area exits and storage areas. Refer to the branch RCRA Permit, Attachment 6 for location and list of emergency equipment. Refer to the branch RCRA Permit, for other phone numbers.



Last Revised: June 20, 2022



ATTACHMENT 6.3 EMPLOYEE EMERGENCY FUNCTIONS

Employee's Functions During an Emergency

EMPLOYEE EMERGENCY FUNCTIONS

TITLE	EMERGENCY FUNCTION
Emergency Coordinator	- Notify EHS Department - Apply first aid - Notify emergency agencies - Shut off electricity
Alternate Emergency Coordinator	- Function as Emergency Coordinator -
	OR
	- Supervise evacuation
Branch Secretary	- Supervise evacuation
Customer Service Manager	- Retain, contain or slow the flow of solvent
Sales Representative	- Retain, contain or slow the flow of solvent
Material Handler	- Retain, contain or slow the flow of solvent

ATTACHMENT 6.4 PREPAREDNESS AND PREVENTION PLAN

FACILITY OPERATIONS POTENTIAL SPILL AND FIRE SOURCES AND CONTROL PROCEDURES

The container storage area, return & fill area, and the waste parts washer solvent tank all manage ignitable wastes. These areas are each located at least 50 feet from the property line. The tank is constructed in accordance with Underwriters Laboratories Standard 142 and NFPA Code 30 which require tank systems to be located at least 20 feet from the property line, in accordance with National Fire Protection buffer zone requirements.

The aboveground storage tank is separated from the warehouse building areas to minimize the potential for a fire to spread or injury to personnel to occur. Ignitable wastes are handled so that they do not:

1. Become subject to extreme heat or pressure, fire or explosion, or a violent reaction--The container storage area, return & fill area, and the parts washer solvent tank are separated from sources of extreme heat, fire or potential explosion sources and are not subject to violent reactions. The tank is vented and kept at atmospheric temperature to minimize the potential for pressure build up. Smoking and open flames are prohibited in these areas.
2. Produce uncontrolled toxic mists, fumes, dusts or gases in quantities sufficient to threaten human health--The vapor pressure of parts washer solvent is low (2 mm Hg) and it is only reactive with strong oxidizers which are not present on site. Toxic mists, fumes, dusts or gases will not form in quantities sufficient to threaten human health since strong oxidizers are not handled at this facility and the solvent vaporization will be minimal under normal working conditions.
3. Produce uncontrolled fires or gases in quantities sufficient to pose a risk of fire or explosion. "No Smoking" signs are posted in areas where ignitable wastes are handled or stored. Fire extinguishers must be checked once per week and are tested by the fire extinguisher company once per year. These are kept in the warehouses and the return and fill station.
4. Damage the structural integrity of Safety-Kleen Facility--The parts washer solvent will not cause deterioration of the tank, return and fill area, containers or other structural components of the facility. Additionally, ignitable waste stored in the container storage area is containerized and will not cause structural damage to the concrete.

A written assessment of the tank systems by an independent, qualified, professional engineer required under Rule 0400-12-01-.06(10)(c) appears at the end of this part as Attachments 9.6 and 9.7. The entire tank system is aboveground and the piping outside of secondary containment has welded joints.

The aboveground vertical 10,000-gallon spent parts washer solvent hazardous waste tank constructed of 3/16" (1/4" thick in the lower third of the tank) carbon steel painted a light color to reflect sunlight and minimize corrosion. The tank is located at least 50 feet from the property line and have been designed in accordance with Underwriters Laboratories Standard 142 and table 206 of the National Fire Protection buffer zone requirements, which requires tank systems be located more than 20 feet from the property line. The entire facility, including the tank farm, is secured by a six-foot high chain link fence topped by three strands of barbed wire.

Containment and Detection of Releases

The secondary containment for the tanks consists of a monolithically poured slab and dike wall which are free of cracks and gaps. The slab is a 6" and the wall is an 8" thick steel reinforced concrete. The tank is equipped with a high-level alarm. The secondary containment is visually inspected on a daily basis for standing water and any standing water will be removed through the use of pumps or absorbent materials; after the daily tank inspection has verified no leaks or solvent are present. If solvent is present, the solvent-impacted water may be pumped into the waste tank or pumped out and containerized and managed as hazardous waste. Any absorbent material used to absorb solvent-impacted water will be containerized and managed as hazardous waste.

The facility will be inspected daily (7-days/week) and record the findings in the Facility Inspection Forms. A Facility Inspection Forms is located in Attachment 4.2.

Daily inspections of the tank system will detect any leaks within 24 hours of their occurrence. Any liquids in the secondary containment system will, to the extent reasonably possible, be removed within 24 hours of discovery.

Secondary containment and leak detection requirements for ancillary equipment are covered in the independent assessment report in Attachment 9.6.

Controls and Practices to Prevent Spills and Overflows

The tank and its secondary containment must be inspected daily. Detailed instructions for this inspection are in Attachment 4.2. The storage areas have adequate secondary containment necessary to protect the environment from a release or spill. Refer to Attachment 4.2. Volume gauges must be checked to ensure, the tank's not being overfilled. Any leaks or signs of deterioration must be noted and remediated immediately. The procedures to remove spilled or leaked material from the secondary containment dike are described in Attachment 6 Contingency Plan. Spilled or leaked wastes will be removed immediately upon detection.

If, during the daily inspection, corrosion is noted, it will be removed, and the tank repaired. If corrosion is significant and localized, the tank will be immediately taken out of service and repaired, (i.e., a patch welded over the corroded area). Should the corrosion of the vessel be

extensive or if the tank or its secondary containment is found to be leaking (as a result of visual inspection of the tank, its ancillary equipment and its secondary containment), the vessel will be immediately taken out of service and replaced. In the case of a tank which leaks outside of the dike, the facility's contingency plan will be initiated to insure the removal of any contaminated soil.

Whenever there is any indication of an imminent or possible failure of a tank, it must be remediated in accordance with the following provisions. Employees responding to any release or potential emergency, are required to wear the necessary personal protective equipment, PPE. A copy of the PPE matrix is included in Table 1 Emergency Equipment List. If a tank is removed from service because an imminent or possible failure is expected: 1) wastes must not be added to the tank after the tank is removed from service; 2) leakage must be contained to the extent possible; 3) measures to stop the leak must be taken, and 4) if the leak cannot be stopped by any other means, the waste must be removed from the tank. If the integrity of the tank is questionable, it must be taken out of service and the waste must be removed.

Employees will perform their duties in the safest, most efficient manner possible and the facility has been equipped to facilitate these activities. Training of personnel will help to ensure proper waste management practices. Facility procedures will be conducted in accordance with applicable regulations.

Most containers will be moved using a handcart or forklift, and pallets are typically moved using a forklift or pallet jack. Containers of spent solvent are added to the storage tank via the return and fill station or placed in the CSA. Open containers of solvent will not be left unattended. Spills and spill reporting will be managed in accordance with the requirements of TDEC. Below are descriptions of situations that can result in accidents and the precautions taken to prevent their occurrence.

Potential Minor Spill Sources

The following is a list of activities that have the potential for a minor pollution incident (one that can be remediated without assistance from a clean-up contractor):

- a. Emptying of drummed solvent into the drum washer/dumpster at the return and fill station
-- As the containers are emptied into the drum washer, solvent can splash out of the washer. Employee training emphasizes the importance of taking care in emptying the drums. The fill and return station is underlain by a concrete containment area that drains into sumps. This design will effectively contain this type of spill.
- b. Filling of drums with solvent product -- A low pressure hose with an automatic shut off valve, similar to those used at automotive service stations, is used to fill the containers with solvent. Leaking fittings, a damaged hose, or carelessness could lead to the discharge of solvent outside of the container. Manual emergency shut off valves are installed on each hose, should the equipment not function properly. In addition, employee training emphasizes the importance of inspection, maintenance and reporting of conditions with pollution incident potential.

- c. Moving of containers -- When a container is moved, a potential exists for it to tip over. To minimize the potential for spillage of waste, all containers will be maintained in an upright position and remain tightly covered while in storage or in transit.
- d. Delivery truck transfers -- The cargo should be secured in the route vehicle with straps before transport. Individual containers of waste can tip over or be dropped when being moved on or off a delivery truck. Transfers will be made using a handcart and a hoist, if necessary. If a spill does occur, the amount of material in the containers is a quantity that can be collected with sorbents. Any contaminated soil that results will be removed and transported to an appropriate facility for proper processing.

Potential Major Spill Sources

The following activities have the potential for a major pollution incident (one for which the clean-up will require assistance):

- a. Overfilling of storage tanks -- Storage tanks can be overfilled resulting in a discharge of materials. The high-level alarm is inspected each operating day for proper functioning of electrical and mechanical components. Further, the tank volume is checked before pumping materials into the tank. This will prevent overfilling the storage tank.
- b. Leaking pipelines -- The pipelines and other equipment present a potential for leaks and resultant pollution. Regular inspection of this equipment and the solvent inventory will detect any leaks. Materials flow through the pipes only during times when Safety-Kleen personnel are present at the facility. If a pipe failure occurs during this period, the failure would be noticed, and appropriate steps (provided in the Attachment 6 Contingency Plan) could be quickly taken to minimize the release.

Potential Fire Sources

The following is a list of fire prevention and minimization measures:

- a. All wastes and products are kept away from ignitable sources -- Personnel must confine smoking and open flames to remote areas, separate from any flammable materials. The return and fill station is separated from the CSA and the office area by a four-hour rated fire wall to minimize the potential for a fire to spread or injury to personnel to occur. All electrical wiring, switches, and fixtures, etc., for the pumps and lighting systems meet the applicable fire safety and electrical construction codes.
- b. Ignitable wastes are handled so that they do not:
 - 1. Become subject to extreme heat or pressure, fire or explosion, or a violent reaction -- The spent parts cleaner solvent is stored in a tank or in containers, none of which are near sources of extreme heat, fire, potential explosion sources, or sources that are subject to violent reactions. The tanks are vented, and the containers are kept at room temperature to minimize the potential for pressure build up.

2. Produce uncontrolled toxic mists, fumes, dusts or gases in quantities sufficient to threaten human health -- The vapor pressure of parts cleaner solvent is low, 2 mm Hg at 68°F and it is reactive with strong oxidizers only. Toxic mists, fumes, dusts or gases will not form in quantities sufficient to threaten human health since strong oxidizers are not handled at this facility, and the solvent vaporization will be minimal under normal working conditions.
 3. Produce uncontrolled fires or gases in quantities sufficient to pose a risk of fire or explosion -- Tank Evaluation and Repair Plan below.
 4. Damage the structural integrity of the Safety-Kleen facility -- The parts cleaner solvent will not cause deterioration of the tank, drums or other structural components of the facility.
- c. Adequate aisle space (24 inches) is maintained to allow the unobstructed movement of personnel, fire protection equipment, and decontamination equipment to any area of the facility operation in an emergency.
 - d. "No Smoking" signs are posted in areas where solvents are handled or stored.
 - e. Fire extinguishers will be checked once per week.

Tank Evaluation and Repair Plan

The waste material stored in the tank at this facility is parts cleaner solvent which is compatible with the carbon steel structure. Tank assessment reports for the tank are provided in Attachment 9.7 Design and Installation Assessment. Inspections will be performed each operational day to check the tank for corrosion, leaks, or any other damage that might affect the integrity of the storage tank. If significant corrosion is noted, the tank will be removed or repaired. If the corrosion is significant and localized, the tank will be taken out of service immediately and repaired (e.g., a patch welded over the corroded area). All repairs to a tank will be certified as required by TDEC. Should the corrosion of the tank be extensive, or if the tank is leaking, it will be taken out of service immediately, repaired in accordance with 0400-12-01-.06(10)(g) or replaced. If a tank is taken out of service permanently, Safety-Kleen will remove the tank in accordance with the Attachment 7 Closure Plan.

Each valve, flange and pump that is associated with the hazardous waste tank and their ancillary equipment will be marked and listed on the respective air monitoring equipment inventory form presented in Attachments 9.2, 9.3 and 9.4. A site drawing, also presented in Attachment 9.3 and Figure 9.3, shows the locations and the numbers of all the equipment. Compliance with Rule 0400-12-01-.06(31)(i) will be achieved through facility inspections each operating day and if required, leak detection monitoring and repair will be conducted. Records of equipment monitoring, and repair are maintained on the inspection form which is in the facility operating record. If a potential leak is discovered, by visual inspection or excessive odor, it will be noted on the inspection form, repaired as soon as possible, and not used again until all requirements of Rule 0400-12-01-.06(10)(g) are satisfied. The leak detection and repair record will be kept in a file at the branch.

External Factors

The design of the installation is such that a harmful spill is highly unlikely to occur from most external factors. The storage tanks are inaccessible to non-Safety-Kleen personnel, and the pump switches are locked out when not in use. Also, the CSA is in a building that is inaccessible to unauthorized personnel.

- a. Vandalism -- Only extreme vandalism would result in a solvent spill or fire. Responses to spills and fires are described in the contingency plan.
- b. Strikes -- An employee strike would not result in a solvent spill or fire. Operations will cease if a strike occurs.
- c. Power failure -- A power failure would not result in a spill or fire. Should a power failure occur, all activities requiring electricity will cease.
- d. Flooding -- The site elevation is above the projected 100-year flood plain; therefore, a 100-year flood will not affect the facility.
- e. Storms or Cold Weather -- The solvent return and fill station is roofed to eliminate the possibility of rain or snow entering the drum washer. No opportunity is foreseen with snow, cold weather or storm water that will affect the facility.

INTERNAL AND EXTERNAL COMMUNICATIONS AND ALARM SYSTEMS

Internal communication within the buildings and the solvent return and fill area is accomplished by voice, or telephone. Telephones will be used to report a spill or a fire and to summon assistance from local and state emergency response agencies. A telephone is located in all active office buildings as well as most employees are issued cell phones. Emergency phone numbers are posted by each phone located in the facility. Included in these phone numbers is the 24-hour telephone number that can be used to contact Safety-Kleen's Emergency Response Coordinators.

**ATTACHMENT 6.5 CORRESPONDENCE REGARDING CONTINGENCY PLAN
SUBMISSION TO LOCAL ORGANIZATIONS**

In accordance with Tennessee regulation 0400-12-01-.06, a copy of the contingency plan and all revisions will be:

- (a) Maintained at the facility; and
- (b) Submitted to the local police department, fire department, hospitals, and other organizations, that may be called upon to provide emergency services.

Examples of the correspondence are presented on the following pages.

REFUSAL LETTER

Emilly DeVore
Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed by the Shelby County Fire Department. This letter serves as documentation that the Shelby County Fire Department declines to enter into an agreement to assist in an emergency at the subject facility.

(Name – Please Print) _____ (Signature)

(Title) _____
(Date)

Shelby County Fire Department
1075 Mullins Station Road
Memphis, TN 38134

Telephone Number: _____

AGREEMENT LETTER

Emilly DeVore
Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed and the Methodist North Hospital will act in accordance with it, should an emergency situation occur.

Yes____ No____ We would like to set up a site visit to familiarize ourselves with your facility. (Please check yes or no)

(Name – Please Print)

(Signature)

(Title)

(Date)

Methodist North Hospital
3960 New Covington Pike
Memphis, TN 38128

Telephone Number: _____

REFUSAL LETTER

Emilly DeVore Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed by the Methodist North Hospital. This letter serves as documentation that Millington Regional Hospital declines to enter into an agreement to assist in an emergency at the subject facility.

(Name – Please Print)

(Signature)

(Title)

(Date)

Methodist North Hospital
3960 New Covington Pike
Memphis, TN 38128

Telephone Number: _____

AGREEMENT LETTER

Emilly DeVore Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed and the Shelby County Emergency Management Agency will act in accordance with it, should an emergency situation occur.

Yes____ No____ We would like to set up a site visit to familiarize ourselves with your facility.
(Please check yes or no)

(Name – Please Print)

(Signature)

(Title)

(Date)

Shelby County EMA
2668 Avery Avenue
Memphis, TN 38112

Telephone Number: _____

REFUSAL LETTER

Emilly DeVore Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed by the Shelby County Emergency Management Agency. This letter serves as documentation that the Shelby County Emergency Management Agency declines to enter into an agreement to assist in an emergency at the subject facility.

(Name – Please Print)

(Signature)

(Title)

(Date)

Shelby County EMA
2668 Avery Avenue
Memphis, TN 38112

Telephone Number: _____

AGREEMENT LETTER

Emilly DeVore Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed and the Shelby County Fire Department will act in accordance with it, should an emergency situation occur.

Yes____ No____ We would like to set up a site visit to familiarize ourselves with your facility.
(Please check yes or no)

(Name – Please Print)

(Signature)

(Title)

(Date)

Shelby County Fire Department
1075 Mullins Station Road
Memphis, TN 38134

Telephone Number: _____

AGREEMENT LETTER

Emilly DeVore Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed and the Shelby County Sheriff Department will act in accordance with it, should an emergency situation occur.

Yes_____ No_____ We would like to set up a site visit to familiarize ourselves with your facility.
(Please check yes or no)

(Name – Please Print)

(Signature)

(Title)

(Date)

Shelby County Sheriff Department
201 Poplar Avenue
Memphis, TN 38103

Telephone Number: _____

REFUSAL LETTER

Emilly DeVore Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed by the Shelby County Sheriff's Department. This letter serves as documentation that the Shelby County Sheriff's Department declines to enter into an agreement to assist in an emergency at the subject facility.

(Name – Please Print)

(Signature)

(Title)

(Date)

Shelby County Sheriff Department
201 Poplar Avenue
Memphis, TN 38103

Telephone Number: _____

AGREEMENT LETTER

Emilly DeVore Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed and the Tennessee Emergency Management Agency will act in accordance with it, should an emergency situation occur.

Yes____ No____ We would like to set up a site visit to familiarize ourselves with your facility. (Please check yes or no)

(Name – Please Print)

(Signature)

(Title)

(Date)

Tennessee Emergency Management Agency
3041 Sidco Drive
Nashville, TN 37204

Telephone Number: _____

REFUSAL LETTER

Emilly DeVore Safety-Kleen Systems, Inc.
734 West Bypass 66
Springfield, MO 65802

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3536 Fite Road
Millington, TN 38053

Dear Emilly DeVore:

This is to acknowledge that the contingency plan for the subject facility has been received by this office. The plan has been reviewed by the Tennessee Emergency Management Agency. This letter serves as documentation that the Tennessee Emergency Management Agency declines to enter into an agreement to assist in an emergency at the subject facility.

(Name – Please Print)

(Signature)

(Title)

(Date)

Tennessee Emergency Management Agency
3041 Sidco Drive
Nashville, TN 37204

Telephone Number: _____

Date: TBD

Shelby County Fire Department
1075 Mullins Station Road
Memphis, TN 38134

Certified Mail Number: TBD

Return Receipt Requested

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3636 Fite Road
Millington, TN 38053

Dear Fire Marshall:

Under Tennessee Department of Environmental Conservation regulations, a hazardous waste management facility must provide a copy of its contingency plan and subsequent revisions to your office. Enclosed is a revised Contingency Plan for the subject site. Please replace your existing copy with this new plan.

An Agreement Letter, a Refusal Letter, and a Self-Addressed Envelope are also enclosed. Please select one of the letters as your response and mail it back to us at your earliest convenience.

If you have any questions or require additional information, please contact me via email at devore.emilly@safety-kleen.com or via phone at (417) 324-8838.

Sincerely,

Emilly DeVore

Sr. Environmental Compliance Manager
Safety-Kleen Systems, Inc.

Date: TBD

Methodist North Hospital
3960 New Covington Pike
Memphis, TN 38128

Certified Mail Number: TBD

Return Receipt Requested

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3636 Fite Road
Millington, TN 38053

Dear Hospital Administrator:

Under Tennessee Department of Environmental Conservation regulations, a hazardous waste management facility must provide a copy of its contingency plan and subsequent revisions to your office. Enclosed is a revised Contingency Plan for the subject site. Please replace your existing copy with this new plan.

An Agreement Letter, a Refusal Letter, and a Self-Addressed Envelope are also enclosed. Please select one of the letters as your response and mail it back to us at your earliest convenience.

If you have any questions or require additional information, please contact me via email at devore.emilly@safety-kleen.com or via phone at (417) 324-8838.

Sincerely,

Emilly DeVore

Sr. Environmental Compliance Manager
Safety-Kleen Systems, Inc.

Date: TBD

Shelby County EMA
2668 Avery Avenue
Memphis, TN 38112

Certified Mail Number: TBD

Return Receipt Requested

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3636 Fite Road
Millington, TN 38053

Dear Administrator:

Under Tennessee Department of Environmental Conservation regulations, a hazardous waste management facility must provide a copy of its contingency plan and subsequent revisions to your office. Enclosed is a revised Contingency Plan for the subject site. Please replace your existing copy with this new plan.

An Agreement Letter, a Refusal Letter, and a Self-Addressed Envelope are also enclosed. Please select one of the letters as your response and mail it back to us at your earliest convenience.

If you have any questions or require additional information, please contact me at via email at devore.emilly@safety-kleen.com or via phone at (417) 324-8838.

Sincerely,

Emilly DeVore

Sr. Environmental Compliance Manager
Safety-Kleen Systems, Inc.

Date: TBD

Shelby County Sheriff Department
201 Poplar Avenue
Memphis, TN 38103

Certified Mail Number: TBD

Return Receipt Requested

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3636 Fite Road
Millington, TN 38053

Dear Sheriff's Department:

Under Tennessee Department of Environmental Conservation regulations, a hazardous waste management facility must provide a copy of its contingency plan and subsequent revisions to your office. Enclosed is a revised Contingency Plan for the subject site. Please replace your existing copy with this new plan.

An Agreement Letter, a Refusal Letter, and a Self-Addressed Envelope are also enclosed. Please select one of the letters as your response and mail it back to us at your earliest convenience.

If you have any questions or require additional information, please contact me via email at devore.emilly@safety-kleen.com or via phone at (417) 324-8838.

Sincerely,

Emilly DeVore

Sr. Environmental Compliance Manager
Safety-Kleen Systems, Inc.

Date: TBD

Tennessee Emergency Management Agency
3041 Sidco Drive
Nashville, TN 37204

Certified Mail Number: TBD

Return Receipt Requested

Subject: Contingency Plan
Safety-Kleen Systems, Inc.
3636 Fite Road
Millington, TN 38053

Dear TEMA Administrator:

Under Tennessee Department of Environmental Conservation regulations, a hazardous waste management facility must provide a copy of its contingency plan and subsequent revisions to your office. Enclosed is a revised Contingency Plan for the subject site. Please replace your existing copy with this new plan.

An Agreement Letter, a Refusal Letter, and a Self-Addressed Envelope are also enclosed. Please select one of the letters as your response and mail it back to us at your earliest convenience.

If you have any questions or require additional information, please contact me via email at devore.emilly@safety-kleen.com or via phone at (417) 324-8838.

Sincerely,

Emilly DeVore

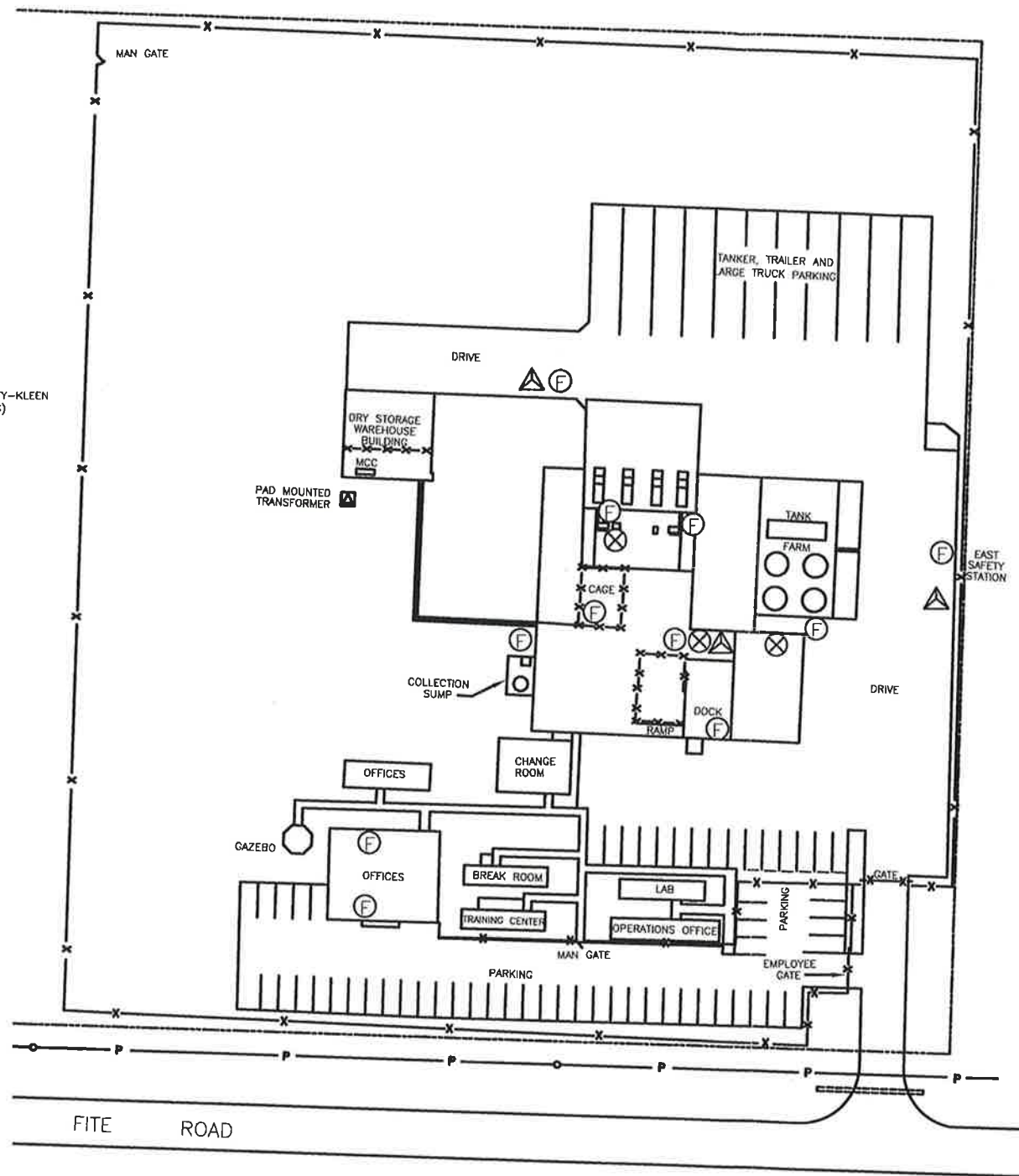
Sr. Environmental Compliance Manager
Safety-Kleen Systems, Inc.

**ATTACHMENT 6.6 EMERGENCY EQUIPMENT LOCATION
AND EMERGENCY EVACUATION PLAN**

Figure 1 Office/Warehouse Emergency Equipment Locations

Figure 2 Site Emergency Evacuation Routes

UNDEVELOPED SAFETY-KLEEN
PROPERTY (5 ACRES)



FITE ROAD



FACILITY SITE PLAN

SCALE: 1"=40'-0"
0 20' 40' 80' 120'

LEGEND

- SAFETY STATION
- SHOWER/EYEWASH
- SPILL RESPONSE
- FIRE EXTINGUISHER
- AUDIO/COMMUNICATIONS

GENERAL NOTES

1. DRAWING REFLECTS AS-BUILT CONDITIONS AS OF 7/10/20.

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DISCLOSED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

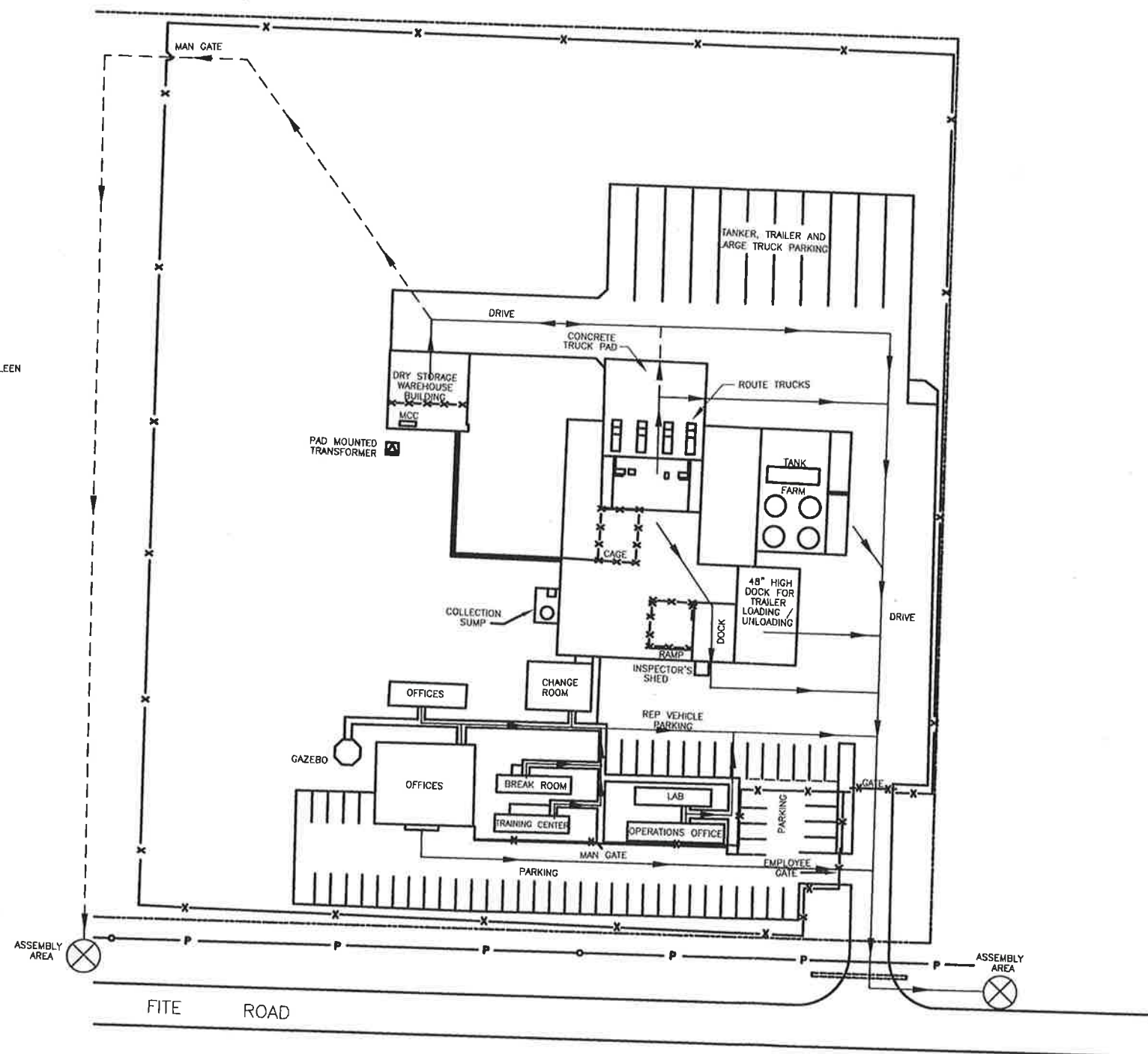
TITLE
EMERGENCY EQUIPMENT LOCATIONS



NO.	DESCRIPTION	BY	CHK	APPR	DATE
C	ISSUED FOR PERMIT	JEK	CV	CV	07/27/20
B	ISSUED FOR PERMIT	JEK	CV	CV	03/20/19
A	NEW RELEASE	NGH	K.M	DP	03/09/19

SAFETY-KLEEN SYSTEMS, INC. 2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080 PHONE 800-869-5740		SCALE 1" = 40'	BY JEK	CHKD JC	APPROVED JC	OPERATIONS JC	DATE 8/06/20	REV. NO. C
REVISIONS		SERVICE CENTER LOCATION MILLINGTON, TN.		SC-DWG NUMBER 7160-SP00-005				

UNDEVELOPED SAFETY-KLEEN
PROPERTY (5 ACRES)



FACILITY SITE PLAN

SCALE: 1"=40'-0"
0 20' 40' 80' 120'



LEGEND

— PRIMARY EVAC ROUTE
- - - SECONDARY EVAC ROUTE

GENERAL NOTES

1. DRAWING REFLECTS AS-BUILT CONDITIONS AS OF 7/10/20.
2. FUTURE TANKS SHOWN WITH DOTTED LINES.

PROPRIETARY STATEMENT

THIS DRAWING IS THE EXCLUSIVE PROPERTY OF SAFETY-KLEEN SYSTEMS, INC. AND IS PROPRIETARY AND CONFIDENTIAL INFORMATION. THIS DRAWING AND THE INFORMATION CONTAINED THEREIN MUST NOT BE DUPLICATED, USED, DIVULGED, REPRODUCED, COPIED, DISCLOSED OR APPROPRIATED IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN AS EXPRESSLY AUTHORIZED BY SAFETY-KLEEN SYSTEMS, INC. THIS DRAWING MUST BE RETURNED PROMPTLY UPON REQUEST.

TITLE
EMERGENCY EVACUATION PLAN

						TITLE EMERGENCY EVACUATION PLAN						
C	ISSUED FOR PERMIT				JEK	CV	CV	072720				
B	ISSUED FOR PERMIT				JEK	CV	CV	032019				
A	NEW RELEASE				MBH	KJN	JP	03095				
NO.	DESCRIPTION				BY	CHK	APPR	DATE	SERVICE CENTER LOCATION		SC-DWG NUMBER	REV. NO.
					REVISIONS				MILLINGTON, TN.		7160-SP00-004	C
 SAFETY-KLEEN SYSTEMS, INC. 2800 H. CENT. EXPRESSWAY STE 400 RICHARDSON, TX 75080 PHONE 800-569-5740 SCALE 1" = 40' BY JEK CHD JC APPROVED JC OPERATIONS JC DATE 8/06/06												

EPA ID Number: TND000614321

Permit Number: TNHW-DRAFT

ATTACHMENT 7. CLOSURE PLAN

GENERAL INFORMATION

This closure plan provides for the clean closure of the hazardous waste management units, at the Millington, TN Branch Service Center.

LOCATION ADDRESS: Safety-Kleen Systems, Inc.

3536 Fite Road

Millington, TN 38053

EPA I.D. NO:

TND000614321

The hazardous waste units which require closure include:

- a. Tank Storage – 10,000 -gallon aboveground storage tank and concrete dike area for secondary containment and associated ancillary equipment.
- b. Return and Fill Station - one return and fill dock structure with secondary containment and two drum washers with a capacity of 163-gallons each, 326 gallons total.
- c. Container Storage – one container storage area with a total storage capacity of 17,690 gallons.

FACILITY DESCRIPTION

The Safety-Kleen Systems, Inc., Millington, Tennessee service center began operation September 15, 1982. The property consists of a ten-acre parcel located at 3536 Fite Road and is owned by Safety-Kleen Systems, Inc. The facility consists of the following structures:

- a. A 9,553 square-foot covered warehouse, which houses a container storage area (CSA), product/equipment storage, dock space and a return/fill station.
- b. Six (6) trailers that are used for office space and a break room (only three trailers are actively used). There is also a block building used as a uniform change area and shower facilities.
- c. An exterior parking lot used for employee cars and an interior parking area for facility vehicles.
- d. Five single-walled aboveground storage tanks (ASTs) located in an enclosed tank farm. These tanks are as follows:

One 15,000-gallon vertical tank used to store clean 150 mineral spirits.
Three 15,000-gallon vertical tanks used to store used oil.
One 10,000-gallon horizontal tank used to store spent mineral spirits (permitted unit).

Maps and drawings of the facility, as well as surrounding areas, are provided in Attachment 6.6.

PURPOSE

The Millington service center operates as a storage facility for hazardous wastes. The hazardous waste management units (HWMUs) must be closed in accordance with the closure requirements of Rule 0400-12-01-.06(7). Closure of the facility will be carried out in accordance with the steps outlined in this plan and applicable Federal and State regulations. An estimated, closure schedule Attachment Table 7.1. The closure plan and closure cost estimate, as part of the permit, will be kept on site. Hazardous waste and hazardous waste constituents will be remediated from the facility to a level that is protective of human health and the environment, thereby achieving clean closure and eliminating the need for further maintenance and care. Upon completion of closure activities, the need for post-closure maintenance will be minimized or eliminated. The facility is expected to close in the year 2035.

This closure plan has been developed for decontamination of the HWMUs at the site. The closure plan includes the following:

- The estimated expected year of closure and a closure schedule.
- An estimate of the maximum inventory of waste in storage at any time during the active life of the facility for development of the closure cost estimate.
- Notification procedures.
- A description of how and when the facility will be partially and/or finally closed.
- A description of decontamination procedures to be implemented during closure.
- Procedures for certification of closure activities by both the owner/operator and an independent professional engineer.

MAXIMUM INVENTORY OF WASTES

The maximum hazardous waste inventory at the Millington facility waste management units which require closure include is:

- a. Tank Storage - 10,000-gallon aboveground storage tank and concrete dike area for secondary containment and associated ancillary equipment.
- b. Return and Fill Station – return and fill dock structure with secondary containment and two drum washers with a capacity of 163-gallons each, 326 gallons total.

- c. Container Storage - one container storage area with a total storage capacity of 17,690 gallons.

NOTIFICATION AND SCHEDULE FOR CLOSURE

Hazardous wastes and residuals from the facility will be removed to levels protective of human health and the environment and will therefore, eliminate the need for further maintenance and care. The estimated date of facility closure is 2035.

The Agency will be notified in writing of any intent to close the facility at least 45 days before closure is initiated. The following general requirements apply to facility closure:

- As required by Rule 0400-12-01-.06(7)(d), the closure will be completed within 180 days of the receipt of the final volume of hazardous waste, and/or receipt of Agency approval, or unless an extended closure period is requested and approved by the Agency.
- Upon completion of final closure, Certification of Closure, prepared and certified by both an independent Tennessee registered professional engineer and owner/operator will be submitted to the Agency.
- If the facility permit is modified, this plan will also be amended to reflect those modifications, as appropriate. The request for modification and subsequent modified closure plan will be submitted to the Agency for acknowledgment and approval.

SECURITY

During the performance of the closure activities, site and hazardous waste management security measures will be maintained. These measures will include site security, fencing and warning signs. Security measures will be maintained until decontamination activities are completed.

RCRA UNIT CLOSURE ACTIVITIES

Facility closure or partial closure (i.e., closure of a unit) will be implemented in accordance with this plan and any subsequent modifications. Any modifications to the approved plan must be submitted and approved by TDEC. The contractor selected to implement closure will also be required to prepare a health and safety plan in accordance with applicable regulations for their personnel.

ABOVEGROUND TANK AND ASSOCIATED PIPING

The aboveground storage tank is situated within a concrete secondary containment area. At closure the following will be necessary to remove hazardous waste and waste residues: 1) opening of the tank and removal of wastes, 2) decontamination of the tank interior and piping, and 3) decontamination of the containment area, unless other permitted tanks remain within the containment (i.e., partial closure of a tank). These procedures are briefly described below.

OPENING OF THE TANK AND REMOVAL OF WASTE

To safely open the tank and remove the waste material the following activities will be conducted:

- a. Waste material from the tank will be removed using a tanker truck pump (for used solvent), vacuum truck (for heavy sludge) or similar equipment and transported to a permitted hazardous waste TSDF for reclamation and/or disposal.
- b. Following removal of free-liquid wastes to the extent practicable, the aboveground waste tank will be entered to remove residual waste and sludge from the bottom of the tank. Depending on the quantity and consistency of residual wastes, it may be removed using shovels, squeegees etc., and transferred to drums, or may be removed with a pump during tank decontamination (described below).

TANK DECONTAMINATION PROCEDURES

Once residual wastes are removed, the tank and piping will be decontaminated. Decontamination procedures will be consistent with the following:

- a. The tank interior will be washed with a detergent-water solution and high-pressure spray. The interior may also be scraped and/or squeegeed to remove residual waste material. Pressure washing will continue until the tank interior is visually clean, and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. It is anticipated that approximately 1.0 gallons of decontamination wash water will be generated per square foot of tank interior.
- b. Decontamination water and residual wastes that accumulate at the bottom of the tank will be removed using a vacuum hose, remote pump, buckets, or similar, and transferred to either a vacuum truck, tanker truck or into containers.
- c. The decontamination wash water and residual waste from the tank will be managed as a hazardous waste and transported for treatment/disposal at an appropriately permitted TSDF or characterized as non-hazardous waste in accordance with applicable regulations.
- d. Piping and appurtenant equipment may be flushed prior to or during residual waste removal for the tank and/or return/fill station. Piping and appurtenant equipment will be decontaminated with a detergent-water solution and high-pressure spray (wash water volume included in tank interior estimate).
- e. A rinsate sample will be collected from the final rinse of the tank interior to determine if the tank was successfully decontaminated. If collected, the rinsate sample will be analyzed for constituent representatives of the waste managed under the facility permit for storage (total VOCs, SVOCs and RCRA Metals), using an appropriately certified laboratory and applicable EPA SW-846 test methods.

- f. Rinsate analytical results will be compared to appropriate screening levels for evaluation. The screening levels used will use the following hierarchy plus representative background level in the rinse water: 1) Use of maximum contaminant levels for drinking water (MCLs) found in the National Primary Drinking Water Standard; Tap water level (TR=1E-06 THQ=1.0) in the EPA Screening Levels found at Regional Screening Levels (RSLs); 3) Universal Treatment Standard for wastewater found in Rule 0400-11-01-.10. If results meet MCLs for example, decontamination activities shall be considered adequate. Should constituents in the rinsate samples exceed MCLs or are detected at similar concentrations to background conditions, those constituents will be evaluated by the certifying engineer with appropriate recommendations. Note, background conditions may include constituents detected in a blank tap water sample. One sample of the tap water to be used as rinseate will be pulled and analyzed to determine background conditions. The tap water sample will be representative of the source water used for decontamination (i.e., the facility tap-water supply used to decontaminate the tanks) in Table 7.1 Closure Plan Constituents of Concern and Corresponding Treatment Standards.

DECONTAMINATION OF THE TANK CONTAINMENT AREA

At the time of facility closure the tank containment area will be inspected and decontaminated in accordance with the following general procedures. Unless otherwise specified, the decontaminated containment structure will be left in place at the time of closure.

- a. The tank containment area dike and slab area will be inspected by an independent Professional Engineer for the presence of cracks, fissures, missing seals, etc. If found, visible crack(s) or gaps in the containment shall be sealed prior to commencement of cleaning to prevent migration of rinsate outside of the containment area. In addition, if unsealed cracks are fully penetrating, the underlying soil will be sampled during closure as described below. If fully penetrating cracks are present, the underlying soil will be sampled during closure as described below.
- b. If during the inspection, the independent Professional Engineer determines presence of crack(s), the crack(s) will be core drilled at varying depths, approximately three inches, or approximately one-half of the slab depth, and inspected. If the core sample is cracked all the way through, then the slab will be core drilled the rest of the way through, and a soil sample will be collected, and the cored hole will be filled with concrete. The cored hole that was filled with concrete will be coated with ChemTec or an epoxy to prevent migration through the concrete to the environment.
- c. The containment dike will be swept to remove loose debris, then washed with a detergent-water solution and high-pressure spray and then triple rinsed. The quantity of wash water will be kept to a minimum to reduce the amount required for treatment/disposal. Decontamination of the concrete will be repeated as necessary, until the clean levels have been met. It is anticipated that no more than 1.0 gallons of wash/rinse water per square foot of containment surface area will be generated during decontamination of the tank containment area.

- d. A sample of the final rinsate will be collected and analyzed for similar constituents as for the tank system, described above. The results of the rinsate analysis will be used to verify effective decontamination of the containment area as discussed above.
- e. The decontamination wash water will either be managed as a hazardous waste and transported for treatment/disposal at an appropriately permitted TSDF or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.
- f. Soil samples will be collected, if necessary, based on the engineer's inspection. If collected, soil samples will be analyzed in accordance with applicable requirements, and as described below in the sampling plan.
- g. As an alternative to leaving the containment in place for reuse, the decontaminated concrete containment structure may also be demolished and transported offsite for recycling or disposal.

RETURN AND FILL STATION

The return and fill station is used to collect and return the used parts washer solvents to the waste storage tank via the drum washer unit(s). At the time of final facility closure or partial closure the following steps will be conducted:

- a. The sediment in the drum washers will be removed and containerized, labeled, and manifested as a hazardous waste and transported to a permitted hazardous waste TSDF in accordance with applicable regulations.
- b. The drum washers and the dock area will be decontaminated using a detergent-water solution, high-pressure spray and triple rinsed. It is anticipated that approximately 1.0 gallons of decontamination wash water will be generated per square foot of return/fill area (estimate based on typical 1,000 square feet of surface area, including drum washers, dock area and containment).
- c. Following decontamination, a sample of the final rinsate will be collected from the containment, and from the drum washer(s) if saved for potential reuse. Results will be compared to appropriate screening levels as discussed above to evaluate the decontamination activities. (Note that the closure cost estimate includes costs for leaving the return and fill station structure in place following decontamination).
- d. The decontamination wash/rinsate water may be discharged through the appurtenant piping system into the storage tank, which will be subjected to a separate closure procedure as described above or containerized in an appropriate storage device. The wash/rinse water will be managed as a hazardous waste and treated or disposed of at a permitted TSDF or characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

- e. The secondary containment at the return and fill will be decontaminated using procedures consistent with those described for the tank containment area.
- f. Following decontamination, the containment will be inspected by an independent Professional Engineer for the presence of cracks, fissures, missing seals, etc. If a breach in the steel containment pan(s) is observed that may have allowed a release, the Professional Engineer will inspect the underlying concrete pad for the presence of cracks, fissures, missing seals, staining, etc. If fully-penetrating, cracks are present, the underlying soil will be sampled during closure as described above.

CONTAINER STORAGE AREA

The container storage area is used to store/accumulate containers of used materials (e.g., used parts washer solvent, used immersion cleaner, dry cleaning waste, waste antifreeze, tank or drum washer sediment, paint waste, industrial solvents, or other non-regulated wastes or products). At the time of facility closure or partial closure of the container storage area, waste inventory will be removed and transported under manifest to a permitted hazardous waste TSDF for treatment and/or disposal in accordance with applicable regulations.

At the time of facility closure or partial closure, the following steps will be conducted:

- a. The secondary containment structure will be inspected and decontaminated using procedures consistent with those described above for the tank secondary containment area. It is anticipated that no more than 1.0 gallons of wash/rinse water per square foot of containment surface area will be generated during decontamination of the container storage area. The wash/rinse water will be managed as a hazardous waste and treated or disposed of at a permitted TSDF or characterized as non-hazardous and appropriately managed in accordance with applicable regulations.
- b. A sample of the final rinsate will be collected and analyzed for constituents, of the waste managed under the facility permit for storage (total VOCs, SVOCs and RCRA Metals). Rinsate samples will be analyzed by an appropriately certified laboratory using applicable EPA SW-846 test methods. Rinsate results will be evaluated as discussed above to determine the effectiveness of decontamination.
- c. If the independent Professional Engineer determines that the unsealed cracks are fully penetrating, the underlying soil will be sampled during closure as described below.

DECONTAMINATION OF CLEANUP EQUIPMENT

Equipment used during decontamination activities will be cleaned along with and within the respective secondary containment structure. Therefore, the anticipated amount of wash water to decontaminate equipment is included in the estimated quantity generated for each unit. Small consumable equipment (e.g., mops, rags, disposable PPE, etc.), which cannot be cleaned will be containerized, managed as a hazardous waste and disposed of at a permitted TSDF, or

characterized as non-hazardous waste and treated or disposed in accordance with applicable regulations.

SOIL SAMPLING DURING CLOSURE

Following closure/decontamination, if the independent Professional Engineer determines based on the inspection procedures described previously that the containment structure was breached in a manner to allow a potential release to the subsurface, soil samples will be collected from beneath containment area(s) in question. The number of soil samples will be determined at closure following the engineer's inspection of the respective containment areas.

In general, if required, soil samples will be collected from immediately beneath cracks or gaps noted by the engineer during inspection of each containment area, which are determined to have the potential for wastes to migrate to underlying soils. The soil samples will be analyzed for VOCs, SVOCs, and RCRA metals. (Note that the closure cost estimate includes costs for collecting and analyzing soil samples at each permitted unit as a conservative measure, even though soil samples may not be required based on the containment integrity documented by the engineer's inspection). If applicable, samples may also be collected from additional areas of the site for background comparison.

Soil samples (if collected) will be collected and analyzed in accordance with applicable USEPA/Tennessee procedures and guidelines. Results will be compared to applicable soil screening levels. Appropriate recommendations will be presented in the closure report based on this comparison.

FACILITY CLOSURE SCHEDULE

Prior to the beginning closure activities, the facility will hire a qualified Registered Professional Engineer to oversee and participate in the closure. Within 90 days of receiving the final volume of hazardous wastes, hazardous wastes will be removed from the site in accordance with the approved closure plan. Closure activities will be completed in accordance with the approved closure plan and within 180 days after receiving the final volume of waste or upon Agency approval of the closure plan and procedures, whichever is later. The Agency may approve a longer period if it can be demonstrated that:

- a. The activities necessary to remove waste or close the facility, will of necessity, take longer than 90 days or 180 days, respectively, to complete or the following requirements are met;
- b. The facility has the capacity to receive additional wastes;
- c. There is a likelihood that a person other than the current owner/operator will recommence operation at the site within one year;
- d. Closure of the facility is incompatible with future use of the site. In this case, necessary steps will be taken to prevent threats to human health and the environment; and

- e. Closure activities will be completed in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes. The Agency may be requested for an extension to the closure period to ensure that the facility has achieved clean closure levels that are protective of human health and the environment.

A closure schedule is in Attachment 7.1.

CLOSURE CERTIFICATION

When closure is completed, closure certification by both the operator and a qualified independent professional engineer registered in Tennessee will be submitted to the agency. The certification will document that the facility has been closed in accordance with the approved closure plan. The certification will be presented in a closure report, which will be prepared in accordance with applicable portions of Rule 0400-12-01-.06(7)(f). Information contained in the closure report may include as appropriate a brief site history, site plan, closure field notes, documentation of decontamination procedures, photo-documentation, soil sampling locations (if required), laboratory analytical reports, tabular summaries of analytical results, volumes of wastes removed, copies of waste manifests, etc. Any deviations from the approved closure plan will also be documented in the report. The closure report will be submitted within 60 days of completion of the closure activities.

CLOSURE COST ESTIMATE

The closure cost estimate for the facility is on file. Unit costs are based on third-party costs to perform closure operations. The closure cost estimate is adjusted annually to reflect inflation, in accordance with and as required by and detailed in Rule 0400-12-01-.06(8)(e) and (d). The Financial Assurance/Liability documentation including the Certificate of Insurance for Closure/Post-Closure and the Hazardous Waste Facility Certificate of Liability Insurance shall be maintained and filed with the State as required by Rule 0400-12-.01-.06(8).

PARTIAL CLOSURE

Partial closure of any unit will be performed using the procedures described above.

POST CLOSURE

As discussed in the Purpose, it is intended that all hazardous wastes and residuals will be removed from the facility during closure. There are no hazardous waste treatment or disposal units at the Facility. Therefore, a post-closure plan is not required at this time.

Table 7.1

Closure Plan Constituents of Concern and Corresponding Treatment Standards

Hazardous Constituent	CAS No.	MCL⁵ Drinking Water mg/l	RSL⁶ Tap Water mg/l	UTS⁷ WW mg/l	UTS NWW mg/kg
Acenaphthene	83-32-9	-	-	0.059	3.4
Acenaphthylene	208-96-8	-	-	0.059	3.4
Acetone	67-64-1	-	-	0.28	160
Acetonitrile	75-05-8	-	-	5.6	381
Acetophenone	96-86-2	-	-	0.010	9.7
2-Acetylaminofluorene	53-96-3	-	0.000021	-	140
Acrolein	107-02-8	-	-	0.29	NA
Acrylamide	79-06-1	-	0.00005	-	23
Acrylonitrile	107-13-1	-	0.00014	-	84
Aldrin	309-00-2	-	0.0000046	-	0.066
4-Aminobiphenyl	92-67-1	-	0.0000037	-	NA
Aniline	62-53-3	-	0.014	-	14
o-Anisidine (2-methoxyaniline)	90-04-0	-	-	0.010	0.66
Anthracene	120-12-7	-	-	0.059	3.4
Aramite	140-57-8	-	0.0031	-	NA
alpha-BHC	319-84-6	-	0.000012	-	0.066
beta-BHC	319-85-7	-	0.000043	-	0.066
delta-BHC	319-86-8	-	-	0.023	0.066
gamma-BHC (Lindane)	58-89-9	0.0002	-	-	0.066
Benzene	71-43-2	0.005	-	-	10
Benz(a)anthracene	56-55-3	-	0.000034	-	3.4
Benzal chloride	98-87-3	-	-	0.055	6.0
Benzo(b)fluoranthene	205-99-2	-	0.000034	-	6.8
Benzo(k)fluoranthene	207-08-9	-	0.00034	-	6.8
Benzo(g,h,i)perylene	191-24-2	-	-	0.0055	1.8
Benzo(a)pyrene	50-32-8	0.0002	-	-	3.4
Bromodichloromethane	75-27-4	-	0.0013	-	15
Bromomethane (Methyl bromide)	74-83-9	-	-	0.11	15
4-Bromophenyl phenyl ether	101-55-3	-	-	0.055	15
n-Butyl alcohol	71-36-3	-	-	5.6	2.6
Butyl benzyl phthalate	85-68-7	-	0.041	-	28
2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.007	-	-	2.5
Carbon disulfide	75-15-0	-	-	3.8	4.8 ^{1,2}
Carbon tetrachloride	56-23-5	0.005	-	-	6.0
Chlordane (alpha and gamma) isomers)	57-74-9	0.002	-	-	0.26
p-Chloroaniline	106-47-8	-	0.00039	-	16
Chlorobenzene	108-90-7	0.1	-	0.057	6.0
Chlorobenzilate	510-15-6	-	0.00071	-	NA
2-Chloro-1,3-butadiene (Chloroprene)	126-99-8	-	-	0.057	0.28 ¹
Chlorodibromomethane	124-48-1	-	0.00093	-	15
Chloroethane	75-00-3	-	-	0.27	6.0

Table 7.1

**Closure Plan Constituents of Concern and Corresponding Treatment Standards
(continued)**

Hazardous Constituent	CAS No.	MCL⁵ Drinking Water mg/l	RSL⁶ Tap Water mg/l	UTS⁷ WW mg/l	UTS NWW mg/kg
bis(2-Chloroethoxy)methane	111-91-1	-	-	0.036	7.2
bis(2-Chloroethyl)ether	111-44-4	-	0.000071	-	6.0
Chloroform	67-66-3	-	0.0025	-	6.0
bis(2-Chloroisopropyl)ether	39638-32-9	-	-	0.055	7.2
p-Chloro-m-cresol	59-50-7	-	-	0.018	14
2-Chloroethyl vinyl ether	110-75-8	-	-	0.062	NA
Chloromethane (Methyl chloride)	74-87-3	-	-	0.19	30
2-Chloronaphthalene	91-58-7	-	-	0.055	5.6
2-Chlorophenol	95-57-8	-	-	0.044	5.7
3-Chloropropylene (Allyl Chloride)	107-05-1	-	0.0037	-	30
Chrysene	218-01-9	-	0.0034	-	3.4
p-Cresidine	120-71-8	-	-	0.010	0.66
o-Cresol (2-Methyl phenol)	95-48-7	-	-	0.11	5.6
m-Cresol (3-Methyl phenol)	108-39-4	-	-	0.77	5.6
p-Cresol (4-Methyl phenol)	106-44-5	-	-	0.77	5.6
Cyclohexanone	108-94-1	-	-	0.36	0.75 ^{1,2}
o,p`-DDD	53-19-0	-	-	0.023	0.087
p,p`-DDD	72-54-8	-	0.00032	-	0.087
o,p`-DDE	3424-82-6	-	-	0.031	0.087
p,p`-DDE	72-55-9	-	0.00023	-	0.087
o,p`-DDT	789-02-6	-	-	0.0039	0.087
p,p`-DDT	50-29-3	-	0.00023	-	0.087
Dibenz(a,h)anthracene	53-70-3	-	0.0000034	-	8.2
Dibenz(a,e)pyrene	192-65-4	-	0.0000065	-	NA
1,2-Dibromo-3-chloropropane	96-12-8	0.0002	-	-	15
1,2-Dibromoethane (Ethylene dibromide)	106-93-4	0.00005	-	-	15
Dibromomethane	74-95-3	-	-	0.11	15
m-Dichlorobenzene (1,3-Dichlorobenzene)	541-73-1	-	-	0.036	6.0
o-Dichlorobenzene (1,2-Dichlorobenzene)	95-50-1	0.6	-	0.088	6.0
p-Dichlorobenzene (1,4-Dichlorobenzene)	106-46-7	0.075	-	-	6.0
Dichlorodifluoromethane	75-71-8	-	-	0.23	7.2
1,1-Dichloroethane	75-34-3	-	0.014	-	6.0
1,2-Dichloroethane	107-06-2	0.005	-	-	6.0
1,1-Dichloroethylene	75-35-4	0.007	-	-	6.0
trans-1,2-Dichloroethylene	156-60-5	0.1	-	-	30
2,4-Dichlorophenol	120-83-2	-	-	0.044	14
2,6-Dichlorophenol	87-65-0	-	-	0.044	14

Table 7.1

**Closure Plan Constituents of Concern and Corresponding Treatment Standards
(continued)**

Hazardous Constituent	CAS No.	MCL⁵ Drinking Water mg/l	RSL⁶ Tap Water mg/l	UTS⁷ WW mg/l	MCL⁵ Drinking Water mg/l
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	0.07	-	-	10
1,2-Dichloropropane	78-87-5	0.005	-	-	18
cis-1,3-Dichloropropylene	10061-01-5	-	-	0.036	18
trans-1,3-Dichloropropylene	10061-02-6	-	-	0.036	18
Dieldrin	60-57-1	-	0.0000049	-	0.13
Diethyl phthalate	84-66-2	-	-	0.20	28
p-Dimethylaminoazobenzene	60-11-7	-	0.000017	-	NA
2,4-Dimethylaniline (2,4-xylydine)	95-68-1	-	0.00039	-	0.66
2,4-Dimethyl phenol	105-67-9	-	-	0.036	14
Dimethyl phthalate	131-11-3	-	-	0.047	28
Di-n-butyl phthalate	84-74-2	-	-	0.057	28
1,4-Dinitrobenzene	100-25-4	-	-	0.32	2.3
4,6-Dinitro-o-cresol	534-52-1	-	-	0.28	160
2,4-Dinitrophenol	51-28-5	-	-	0.12	160
2,4-Dinitrotoluene	121-14-2	-	0.00025	-	140
2,6-Dinitrotoluene	606-20-2	-	0.000052	-	28
Di-n-octyl phthalate	117-84-0	-	-	0.017	28
Di-n-propylnitrosamine	621-64-7	-	0.000011	-	14
1,4-Dioxane	123-91-1	-	0.00078	-	170
Diphenylamine	122-39-4	-	-	0.92	13 ¹
Diphenylnitrosamine	86-30-6	-	0.016	-	13 ¹
1,2-Diphenylhydrazine	122-66-7	-	0.000097	-	NA
Disulfoton	298-04-3	-	-	0.017	6.2
Endosulfan I	959-98-8	-	-	0.023	0.066
Endosulfan II	33213-65-9	-	-	0.029	0.13
Endosulfan sulfate	1031-07-8	-	-	0.029	0.13
Endrin	72-20-8	0.002	-	-	0.13
Endrin aldehyde	7421-93-4	-	-	0.025	0.13
Ethyl acetate	141-78-6	-	-	0.34	33
Ethyl benzene	100-41-4	0.7	-	-	10
Ethyl cyanide/Propanenitrile	107-12-0	-	-	0.24	360
Ethyl ether	60-29-7	-	-	0.12	160
bis(2-Ethylhexyl)phthalate	117-81-7	0.006	-	-	28
Ethyl methacrylate	97-63-2	-	-	0.14	160
Ethylene oxide	75-21-8	-	0.00025	-	NA
Famphur	52-85-7	-	-	0.017	15
Fluoranthene	206-44-0	-	-	0.068	3.4
Fluorene	86-73-7	-	-	0.059	3.4
Heptachlor	76-44-8	0.0004	-	-	0.066
Heptachlor epoxide	1024-57-3	0.0002	-	-	0.066
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	-	-	0.000035	0.0025

Table 7.1
Closure Plan Constituents of Concern and Corresponding Treatment Standards
(continued)

Hazardous Constituent	CAS No.	MCL⁵ Drinking Water mg/l	RSL⁶ Tap Water mg/l	UTS⁷ WW mg/l	MCL⁵ Drinking Water mg/l
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	-	-	0.000035	0.0025
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	-	-	0.000035	0.0025
Hexachlorobenzene	118-74-1	0.001	-	-	10
Hexachlorobutadiene	87-68-3	-	0.001	-	5.6
Hexachlorocyclopentadiene	77-47-4	0.05	-	-	2.4
HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	-	1.3E-8	-	0.001
HxCDFs (All Hexachlorodibenzofurans)	NA	-	-	0.000063	0.001
Hexachloroethane	67-72-1	-	0.0019	-	30
Hexachloropropylene	1888-71-7	-	-	0.035	30
Indeno (1,2,3-c,d) pyrene	193-39-5	-	0.000034	-	3.4
Iodomethane	74-88-4	-	-	0.19	65
Isobutyl alcohol (Isobutanol)	78-83-1	-	-	5.6	170
Isodrin	465-73-6	-	-	0.021	0.066
Isosafrole	120-58-1	-	-	0.081	2.6
Kepone	143-50-0	-	0.0000078	-	0.13
Methacrylonitrile	126-98-7	-	-	0.24	84
Methanol	67-56-1	-	-	5.6	0.75 ^{1,2}
Methapyrilene	91-80-5	-	-	0.081	1.5
Methoxychlor	72-43-5	0.04	-	-	0.18
3-Methylcholanthrene	56-49-5	-	0.0000011	-	15
4,4-Methylene bis (2-chloroaniline)	101-14-4	-	0.00025	-	30
Methylene chloride	75-09-2	0.005	-	-	30
Methyl ethyl ketone	78-93-3	-	-	0.28	36
Methyl isobutyl ketone	108-10-1	-	-	0.14	33
Methyl methacrylate	80-62-6	-	-	0.14	160
Methyl methanesulfonate	66-27-3	-	0.00079	-	NA
Methyl parathion	298-00-0	-	-	0.014	4.6
Naphthalene	91-20-3	-	-	0.059	5.6
2-Naphthylamine	91-59-8	-	0.000043	-	NA
o-Nitroaniline	88-74-4	-	-	0.27	14
p-Nitroaniline	100-01-6	-	0.0039	-	28
Nitrobenzene	98-95-3	-	-	0.068	14
5-Nitro-o-toluidine	99-55-8	-	0.0087	-	28
o-Nitrophenol	88-75-5	-	-	0.028	13
p-Nitrophenol	100-02-7	-	-	0.12	29
N-Nitrosodiethylamine	55-18-5	-	0.00000017	-	28
N-Nitrosodimethylamine	62-75-9	-	0.00000049	-	2.3 ¹
N-Nitroso-di-n-butylamine	924-16-3	-	0.000014	-	17
N-Nitrosomethylethylamine	10595-95-6	-	0.0000035	-	2.3

Table 7.1
Closure Plan Constituents of Concern and Corresponding Treatment Standards
(continued)

Hazardous Constituent	CAS No.	MCL⁵ Drinking Water mg/l	RSL⁶ Tap Water mg/l	UTS⁷ WW mg/l	MCL⁵ Drinking Water mg/l
N-Nitrosomorpholine	59-89-2	-	0.000012	-	2.3
N-Nitrosopiperidine	100-75-4	-	0.0000083	-	35
N-Nitrosopyrrolidine	930-55-2	-	0.000037	-	35
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	-	-	0.000063	0.005
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0	-	-	0.000063	0.005
Parathion	56-38-2	-	-	0.014	4.6
Total PCBs	1336-36-3	0.0005	-	-	10
Pentachlorobenzene	608-93-5	-	-	0.055	10
PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	-	-	0.000063	0.001
PeCDFs (All Pentachlorodibenzofurans)	NA	-	-	0.000035	0.001
Pentachloroethane	76-01-7	-	0.00087	-	6.0
Pentachloronitrobenzene	82-68-8	-	0.0003	-	4.8
Pentachlorophenol	87-86-5	0.001	-	-	7.4
Phenacetin	62-44-2	-	0.035	-	16
Phenanthrene	85-01-8	-	-	0.059	5.6
Phenol	108-95-2	-	-	0.039	6.2
1,3-Phenylenediamine	108-45-2	-	-	0.010	0.66
Phorate	298-02-2	-	-	0.021	4.6
Phthalic acid	100-21-0	-	-	0.055	28
Phthalic anhydride	85-44-9	-	-	0.055	28 ¹
Pronamide	23950-58-5	-	-	0.093	1.5
Pyrene	129-00-0	-	-	0.067	8.2
Pyridine	110-86-1	-	-	0.014	16
Safrole	94-59-7	-	0.00011	-	22
Silvex (2,4,5-TP)	93-72-1	0.05	-	-	7.9
1,2,4,5-Tetrachlorobenzene	95-94-3	-	-	0.055	14
TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.0000000 3	-	-	0.001
TCDFs (All Tetrachlorodibenzofurans)	NA	-	-	0.000063	0.001
1,1,1,2-Tetrachloroethane	630-20-6	-	0.003	-	6.0
1,1,2,2-Tetrachloroethane	79-34-5	-	0.00039	-	6.0
Tetrachloroethylene	127-18-4	0.005	-	-	6.0
2,3,4,6-Tetrachlorophenol	58-90-2	-	-	0.030	7.4
Toluene	108-88-3	1	-	-	10
Toxaphene	8001-35-2	0.003	-	-	2.6
Tribromomethane (Bromoform)	75-25-2	-	0.0099	-	15
1,2,4-Trichlorobenzene	120-82-1	0.07	-	-	19
1,1,1-Trichloroethane	71-55-6	0.2	-	-	6.0
1,1,2-Trichloroethane	79-00-5	0.005	-	-	6.0

Table 7.1

**Closure Plan Constituents of Concern and Corresponding Treatment Standards
(continued)**

Hazardous Constituent	CAS No.	MCL⁵ Drinking Water mg/l	RSL⁶ Tap Water mg/l	UTS⁷ WW mg/l	MCL⁵ Drinking Water mg/l
Trichloroethylene	79-01-6	0.005	-	-	6.0
Trichlorofluoromethane	75-69-4	-	-	0.020	30
2,4,5-Trichlorophenol	95-95-4	-	-	0.18	7.4
2,4,6-Trichlorophenol	88-06-2	-	0.0071	-	7.4
2,4,5-Trichlorophenoxyacetic acid/2,4,5-T	93-76-5	-	-	0.72	7.9
1,2,3-Trichloropropane	96-18-4	-	0.00000084	-	30
1,1,2-Trichloro- 1,2,2-trifluoroethane	76-13-1	-	-	0.057	30
tris-(2,3-Dibromopropyl)phosphate	126-72-7	-	-	0.11	0.101
Vinyl chloride	75-01-4	0.002	-	-	6.0
Xylenes – mixed isomers	1330-20-7	10	-	-	30
Antimony	7440-36-0	0.006	-	-	1.152
Arsenic	7440-38-2	0.010	-	-	5.0 ²
Barium	7440-39-3	2.0	-	-	21 ²
Beryllium	7440-41-7	0.004	-	-	1.22 ^{1,2}
Cadmium	7440-43-9	0.005	-	-	0.11 ²
Chromium (Total)	7440-47-3	0.1	-	-	0.60 ²
Cyanides (Total)	57-12-5	-	-	1.2	590
Cyanides (Amenable)	57-12-5	0.2	-	-	30 ¹
Fluoride	16984-48-8	4.0	-	-	NA ³
Lead	7439-92-1	0.015	-	-	0.75 ²
Mercury	7439-97-6	0.002	-	-	0.025 ²
Nickel	7440-02-0	-	-	3.98	11 ²
Selenium	7782-49-2	0.05	-	-	5.7 ^{2,4}
Silver	7440-22-4	-	-	0.43	0.14 ²
Sulfide	18496-25-8	-	-	14	NA ³
Thallium	7440-28-0	0.002	-	-	0.20 ^{1,2}
Vanadium	7440-62-2	-	-	4.3	1.6 ^{1,2,3}
Zinc	7440-66-6	-	-	2.61	4.3 ^{2,3}
Alpha particles	-	15 pCi/L	-	-	-
Beta particles and photon emitters	-	4 mR/year	-	-	-
Radium 226 & Radium 228 (combined)	-	5 pCi/L	-	-	-
Uranium	-	30 ug/L	-	-	-

1 Not applicable for F039

2 Concentration in mg/l TCLP

3 Not an underlying hazardous constituents in characteristic wastes

4 Not an underlying hazardous constituent as defined in 40 CFR 268.2(i) because its UTS level is greater than its TC level, thus a treated selenium waste would always be characteristically hazardous, unless it is treated to below its characteristic level

5. Maximum Contaminant Level for Drinking Water - EPA 816-F-09-0004, May 2009

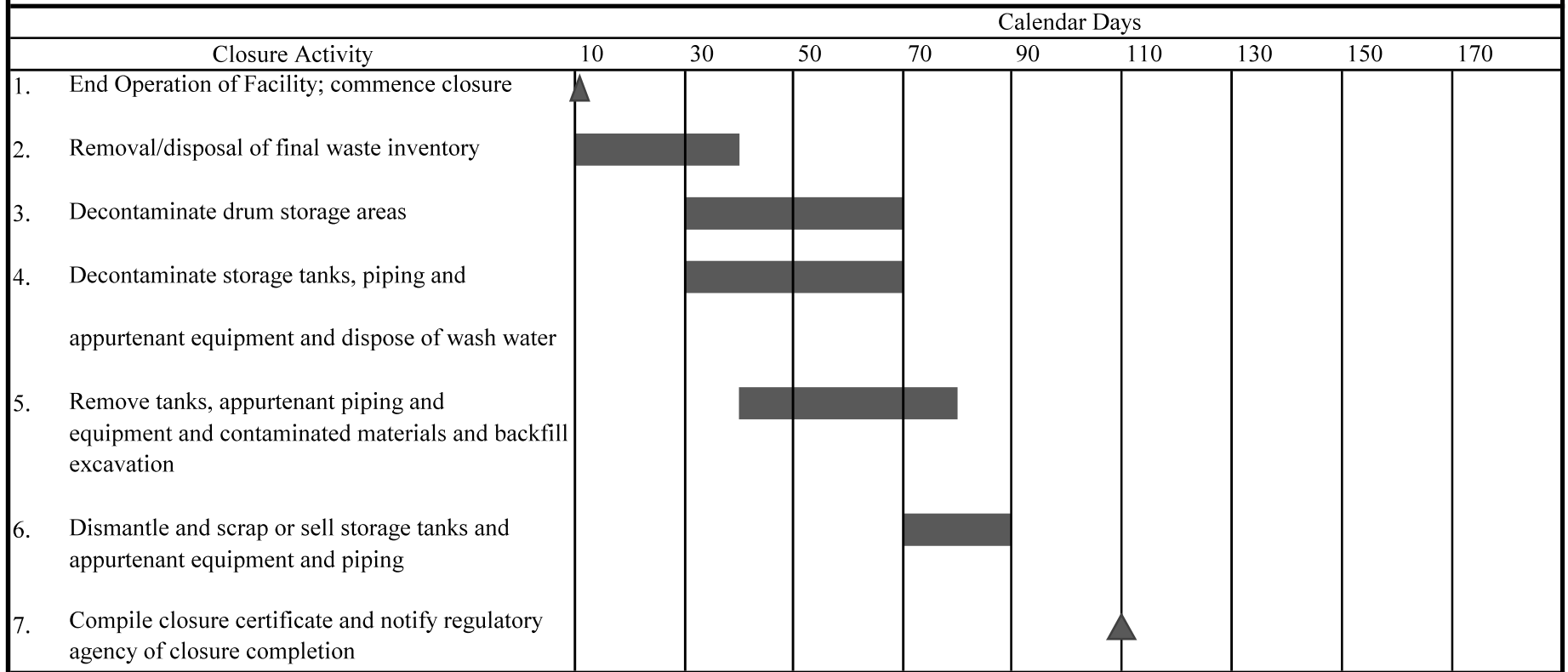
6. EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites – Residential Tap Water

7. Universal Treatment Standards – 40 CFR 268

Note: the MCL is the primary value to use, if there is not a MCL for the constituent of concern the RSL value will be used, if a MCL or RSL does not have a value, the UTS value for wastewater will be used for the constituent of concern.

ATTACHMENT 7.1 CLOSURE SCHEDULE

**Exhibit H-1
CLOSURE SCHEDULE**



EPA ID Number: TND000614321
Permit Number: TNHW-DRAFT

ATTACHMENT 8. CONTAINER MANAGEMENT

Attachment 8 consists of three sections as follows:

- Attachment 8.1 Container Storage Management
- Attachment 8.2 Subpart CC - Air Emissions Standards
- Attachment 8.3 Container Storage Area Drawings and Pictures

ATTACHMENT 8.1 CONTAINER MANAGEMENT

The permitted use of the container storage area (CSA) is for the storage of (1) sediment from cleaning the drum washer in the return and fill station; (2) spent immersion cleaner; (3) dry cleaning wastes; (4) branch hazardous aqueous cleaner waste; (5) paint wastes; and (6) branch contaminated debris. Other non-hazardous materials, waste that are not regulated, and Safety-Kleen products may also be stored in this area provided the materials are compatible. While the wastes are not incompatible with one another, they are typically segregated for inventory and quality control purposes. Paint wastes are typically stored in either pails or drums. In addition, proper hazardous waste labels are affixed to containers at all times. Hazardous waste labels include the following wording as well as the generator's name and address and the manifest document number; "Hazardous Waste-Federal Law Prohibits Improper Disposal." If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency."

The petroleum naphtha waste, immersion cleaner waste, dry cleaning waste, paint wastes, and hazardous aqueous wastes are compatible with the containers in which they are stored. In fact, petroleum naphtha (mineral spirits) is sometimes used as a rust-preventive coating for steel. Dry cleaning wastes are stored in steel and polyethylene drums, both of which are Department of Transportation (DOT) approved containers. The polyethylene drums have been treated with fluorine gas to be resistant to dry cleaning solvents. The containers may be palletized whenever possible to facilitate shipping and storage, as well as to allow adequate aisle space (Minimum of 24 inches) for management of containers and equipment movement.

The slab and curbing for the container storage area in the warehouse are made of steel-reinforced concrete that has been poured such that no cracks or gaps exist. The curbing is approximately 4 inches high and 6 inches wide and encompasses the storage area. The concrete floor is sealed and is compatible with the waste being stored, to render it impervious so as to contain leaks and spills until the collected material is detected and removed.

The maximum amounts of hazardous wastes stored in the CSA in the service center warehouse at a given time will not exceed 17,690 gallons. Hazardous wastes will be segregated from all other materials so that no commingling occurs. Secondary containment calculations are provided in this section.

Containerized wastes are stored in containers that meet DOT specifications and are compatible with the containers in which they are stored. Containers of waste are marked in accordance with Rule 0400-12-01-.03(4)(c). Containerized ignitable wastes may be stored in the CSA, where the 50-foot buffer requirements for ignitable wastes are satisfied.

The container storage area CSA has secondary containment in the form of a concrete floor which is sloped to collection trenches. There is a total containment volume of 17,690 gallons. Adequate aisle space (minimum of 24 inches) will be maintained in the CSA to allow the unobstructed movement of personnel, fire protection equipment, or spill control equipment to any area of the facility during an emergency, and the containers of hazardous waste will be stacked no more than two pallet layers of containers high. The containers will be kept closed during storage except when wastes are being added to or removed from them. The containers will be handled and stored such

that ruptures and leaks do not occur. Wastes are stored in containers which meet compatibility requirements in accordance with Rule 0400-12-01-.06(9)(c).

Training of personnel (Attachment 5 and Attachment 5.2) and routine inspections will ensure proper container handling procedures take place.

CONTAINER STANDARDS

Containers with a capacity of greater than 26 gallons that are used to manage hazardous waste with 500 ppm or greater VO concentration are subject to Rule 0400-12-01-.06(32) (Subpart CC air emission controls). The Rule 0400-12-01-.06(32) (Subpart CC) rule divides regulated containers into three different categories, Level 1, 2, and 3.

The Millington, TN Safety-Kleen Service Center manages Level 1 containers.

Level	Volume	Usage	Requirements
Level	>26 gals but < 119 gals	Any hazardous waste	*meet DOT specifications or is a lab pack
			*keep closed except when adding or removing waste
	or		* safety relief devices ok
			*minimize exposure of waste when transferring
	>119 gallons	Not "in light material service"	*remediate defective containers within 5 days, initiate within 24 hours

A hazardous waste is a "light material" if it (1) contains at least one organic constituent with a vapor pressure above 0.3 (kPa) at 20°C and (2) has a total concentration of such constituents of 20% or greater by weight.

The capacities of Level 1 containers typically received and managed by the Millington, TN Service Center include, but not limited to, 30 gallons, 55 gallons, 110 gallons, 330 gallons etc.

These containers meet applicable DOT specifications and/or authorizations. Therefore, these types of containers are acceptable for use in accordance with Level 1 controls.

Level 2 Containers

The Millington, TN Safety-Kleen Service Center does not manage Level 2 containers.

Level 3 Containers

The Millington, TN Safety-Kleen Service Center does not manage Level 3 containers.

MANAGEMENT PROCEDURES FOR CONTAINERS

Inspections

Hazardous Waste Received from Off-Site - All hazardous waste received from off-site sources is received in containers. All Level 1 containers that are managing hazardous waste subject to Rule 0400-12-01-.06(32) (Subpart CC), received from off-site sources, and will not be completely emptied within 24 hours of receipt will be inspected to ensure that all applicable covers and closure devices are closed. The container storage area at Millington has adequate storage for 17,690 gallons, or the equivalent of 322 fifty-five (55) gallon drums.

Storage Unit	Capacity in Gallons	Secondary Containment in Gallons	Permitted Materials to be Stored
Container Storage Service Center Warehouse	17,690	17,690	Spent Immersion Cleaner (codes listed in note below). Dry Cleaning Wastes (F002 and codes listed in note below). Spent Parts Washers Solvent (D001 and codes listed in note below) Paint Booth Filters (D007 and codes listed below) Paint Gun Cleaner Waste (D001, F003, F005 and codes listed in note below) Dumpster Sediment (D001 and codes listed in note below) Hazardous Aqueous Cleaner - Site Generated (D039 and codes listed in note below) Tank Bottom Sediment (D001 and codes listed in note below) Dry Cleaning Wastes (D001 and codes listed in note below)

Note: D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043, F002, F003, F005

Approximately 4,500 containers are shipped off-site to a final TSDF with the remaining containers being managed at Millington - bulking of parts washer solvent, prior to shipment at a Safety-Kleen Recycling location. The volume of all hazardous waste present within the container storage area is reviewed every operating day to ensure volume of hazardous waste within the storage area does not exceed the permitted capacity. Containers prepared for shipment off-site, are identified with a bar code label, which allows the container to be tracked throughout the handling process. The barcode identifies, the customer, type of waste, shipping description, final TSDF, container size and where the container is located within the facility and is electronically uploaded to a central database used by all Safety-Kleen System/Clean Harbors TSDF's.

Containers are moved through the Millington location by hand cart or forklift and are placed on either wooden or containment pallets. Pallets of waste are stacked no more than 2 pallets high and are segregated by DOT Classification. Aisles of containers are identified in 2 ways. First, an aisle is designated by the next outbound TSDF which is to receive the container. Second, the aisle will only have containers of like wastes. Incompatible materials are segregated but identified by their location by the electronic barcode. Aisle space at Millington is adequate. If a release is observed in a container in an aisle, the forklift or hand cart will move the nonaffected pallet of containers in order to assess and manage the release. Refer to Attachment 6.4 Preparedness and Prevention Plan for further information. If an incipient fire is observed near a container in storage, the fire will immediately be extinguished with a 10 lb. ABC fire extinguisher. The extinguishers are strategically located in the container storage area and are light enough that an individual can grab it quickly, pull the pin and extinguish the fire along any aisle.

Containers received at Millington are unloaded in two (2) areas. First, spent parts washer solvent containers are unloaded at the Return and Fill dock. The truck carrying these containers will back up to the Return and Fill dock, lower the truck gate and move the containers onto the metal grate, floor, of the dock. Runoff is controlled with the secondary containment at the Return and Fill dock. Refer to Attachments 10.3 and 10.4 Tank/Wet Dumpster Schematic and Details, and Drawings. The secondary containment underneath the dock, consists of (8) metal pans with a total secondary containment of 1,248 gallons.

Secondary Containment Calculations

Available Surface Area	$9,192 \text{ ft}^2 - 884 \text{ ft}^2 - 150 \text{ ft}^2 = 8,188 \text{ ft}^2$	
Volume of Containment	$8,158 \text{ ft}^2 \times 0.29 \text{ ft} = 2,365 \text{ ft}^3$	
Capacity of Containment	$2,365 \text{ ft}^3 \times (7.48 \text{ gal/ft}^3) = 17,690 \text{ gallons}$	
Length - 10 ft	Width - 5 ft	Height - 6 in
$10 \text{ ft} \times 5 \text{ ft} \times 6" (7.48 \text{ gal/ft}^3) = 187 \text{ gallons}$		$187 \text{ gallons} \times 8 \text{ pans} = 1,496 \text{ gallons}$

Displacement

5ft x 3ft x 6" (7.48 gal/ft³) = 56 gallons

56 gallons x 3 units = 168 gallons

Misc. Displacement of Columns, Bumper Posts, Hardware, Equipment ~3% = 44 gallons

1496 gallons - 168 gallons - 44 gallons = 1,284 gallons

The Material Handler is required to wear personal protective equipment relative to Return and Fill operations. At a minimum, the Material Handler must wear: Safety-Kleen (S-K) uniform, safety goggles, neoprene gloves, hard hat and protective apron. Refer to PPE Matrix, Attachment 4.2 Facility Inspection Schedule and Logs. Any release, not immediately observed, will be identified during the Daily Facility Inspection, noted, and immediately cleaned up with absorbent material. The resultant absorbent material will be managed in the satellite collection container, at the Return and Fill dock and managed as a hazardous waste.

The second way containers are managed at the container storage is by unloading the containers on the east side of the loading dock. The Safety-Kleen truck will back to the unloading dock and lower the lift gate to the floor of the loading/unloading ramp, and unload containers. Refer to Attachment 8.3 Container Storage Area Drawings and Pictures Containers are unloaded from trucks using either a hand cart or a forklift. These containers will be segregated by waste compatibility and final destination. Any employee that is unloading containers, must have the proper personal protective equipment. At a minimum, the employee loading or unloading containers must wear: S-K uniform, safety goggles, neoprene gloves, and hard hat. Refer to PPE Matrix, Attachment 4.2 Facility Inspection Schedule. Any release observed during loading and unloading containers will be immediately cleaned using absorbent material. The resultant absorbent material will be managed in the satellite collection container, at the Return and Fill dock and managed as a hazardous waste.

All containers of hazardous materials managed at Safety-Kleen Millington, are in DOT approved containers. All Safety-Kleen Millington Sales and Service Representatives are trained on the drum closure requirements.

Occasionally, leaking containers are observed when in storage. These usually occur as a pin-hole leak at the bottom of the container, or along the seam. Millington sales and service representatives are trained to look for areas of containers that may cause an issue, such as dents, missing gaskets, wrong size bolt, incorrect DOT container for the type of material it contains, etc. If a leak is observed, immediate action will be taken. If possible, the container will be immediately overpacked and placed back into storage. Additionally, the leak will be immediately cleaned up using absorbent material and the spent absorbent material will be properly characterized, packaged, and labeled for shipment off-site. If assistance is needed, a third-party contractor may be utilized. The maximum time a permitted waste container of hazardous waste will be stored at the Millington location, will be 365 days.

The container storage building is an open enclosure, with a fixed metal roof that protects the floor space from any accumulating rain. The floor is concrete, with a slight slope toward the center of the storage area and is protected with a ChemTec One sealer. Refer to Attachments 8.3 Container Storage Area Drawings and Pictures, and 9.7 Sealant Information and Technical Data. The sealer provides an impervious seal to concrete, while providing a permanent barrier to potential chemical migration.

On-Site Generated Hazardous Waste - All site generated waste containers will be visually inspected upon their initial filling to ensure that all openings are properly closed and/or covered. Satellite accumulation containers managed in a way as to not be subject to Tennessee Rule 0400-12-01-.06(32) requirements.

MONITORING

Containers Managing Off-Site Hazardous Waste

Level 1 Containers managed at the Service Center are not subject to monitoring for no detectable emissions (NDE). Therefore, no monitoring for NDE will be conducted on such containers. However, they will be closed when not involved in transfer activities.

Containers Managing On-Site Generated Hazardous Waste

Level 1 containers managed at the Service Center are not subject to monitoring for NDE. Therefore, no monitoring for NDE will be conducted on such containers. However, they will be closed when not involved in transfer activities.

TRANSFERRING HAZARDOUS WASTE

Container to Container - This type of transfer will typically be performed at the Service Center when it is necessary to remove waste from a damaged container to a non-damaged container to provide containment for the waste, or to place the entire container into a larger container. An example would be placing a 55-gallon container into a 85-gallon overpack or salvage drum. This may occur for both liquid and solid wastes. Only container openings that are necessary to add or remove waste from each container will be open during the transfer.

Container to Tank - This type of transfer involving liquids will be performed regularly for Level 1 containers. Provided below is an explanation this activity.

Rule 0400-12-01-.06(32) (Subpart CC) exempt containers, less than 55-gallons, and Level 1 containers containing hazardous waste are transferred into Level 1 tanks using a closed transfer system. The waste is drained through a filter-housing unit (Return & Fill Dumpster) and piped into a Level 1 tank. The Return & Fill Dumpster will be closed if material will not be added to or removed from the container for 15 minutes or the person operating the unit leaves the immediate vicinity of the unit. This transfer operation is conducted in a manner that minimizes emissions.

ATTACHMENT 8.2 SUBPART CC - AIR EMISSIONS STANDARDS FOR CONTAINERS (RULE 0400-12-01-.06(32))

INTRODUCTION

The Safety-Kleen Service Center in Millington, TN controls air pollutant emissions for applicable hazardous waste management units pursuant to the requirements of RCRA Subpart CC (Rule 0400-12-01-.06(32)).

Following is the facility's waste determination procedures, tank and container design/management practices, organic emission controls, inspections and monitoring, and recordkeeping and reporting requirements.

WASTE DETERMINATION PROCEDURES (Rule 0400-12-01-.06(32)(d))

Waste Determination

For purposes of waste determination, the facilities utilize knowledge developed in the Waste Analysis Plan (WAP) of the sites' hazardous waste permits. In addition, the facility may use knowledge of the waste based upon information included in manifests, shipping papers, or waste certification notices prepared by generators to confirm waste acceptability on-site or for an off-site receiving facility.

Based upon this knowledge, it has been determined that all hazardous waste managed in tanks or applicable containers at this facility may contain an average volatile organic concentration of greater than 500 ppm at the point of waste origination. Therefore, all hazardous waste managed in tanks or applicable containers shall be managed in accordance with applicable Subpart CC (Rule 0400-12-01-.06(32)) standards. Under such a management scenario, no direct measurements will be conducted.

Point of Waste Origination

The point of waste origination for all hazardous wastes generated from off-site sources and transported to a Safety-Kleen Service Center in DOT authorized containers, which will subsequently be managed in tanks or containers on-site, is the facility boundary at the entrance gate. For hazardous waste generated on-site, the point of waste origination is the point of hazardous waste generation as defined under hazardous waste regulations.

CONTAINER STANDARDS (Rule 0400-12-01-.06(32)(g))

Containers with a capacity of greater than 26 gallons that are used to manage hazardous waste with 500 ppm or greater VO concentration are subject to Subpart CC (Rule 0400-12-01-.06(32)) air emission controls. The Subpart CC (Rule 0400-12-01-.06(32)) rule divides regulated containers into three different categories, Level 1, 2, and 3.

MANAGEMENT PROCEDURES FOR CONTAINERS

Hazardous Waste Received from Off-Site – All hazardous waste received from off-site sources is received in containers. All Level 1 containers that are managing hazardous waste subject to Subpart CC (Rule 0400-12-01-.06(32)), received from off-site sources, and will not be completely emptied within 24 hours of receipt will be inspected to ensure that all applicable covers and closure devices are closed.

Defective containers will be repaired within five days of observation (inspections conducted weekly), with the initial efforts at repair to be attempted within 24 hours of observation.

On-Site Generated Hazardous Waste – Containers greater than 26 gallons will be visually inspected upon their initial filling to ensure that all openings are properly closed and/or covered. Satellite accumulation containers managed in accordance Rule 0400-12-01-.03(1)(f) are not subject to Subpart CC (Rule 0400-12-01-.06(32)) requirements.

ATTACHMENT 8.3 CONTAINER STORAGE AREA DRAWINGS AND PICTURES







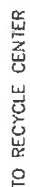
560 #
PACTEC
LIFTPAC® 800.272.2832
www.pactecinc.com

INSTRUCTIONS:
1. Stand unit upright
2. Fold out sides until square
3. Load until full, then zip closed

13H4/X/0317
IND/100854963/2600/1383

PATENTED: Visit www.pactecinc.com/patents

4478
PACTEC



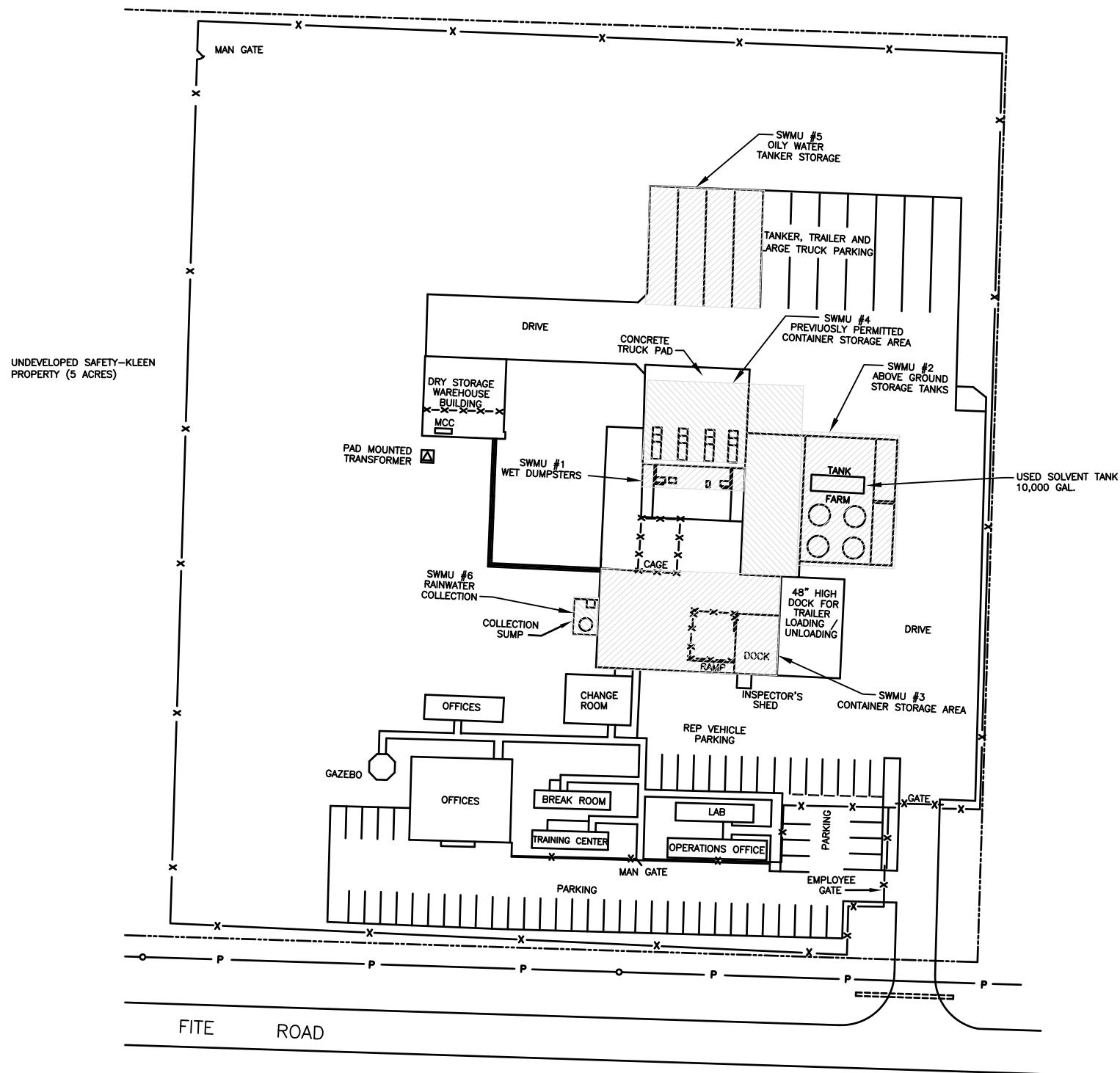
Project Solutions

1260 Queen Industrial Dr. • Suite 200 • Orem, UT 84058
Phone (801) 463-7100 • Fax (801) 463-7101 •

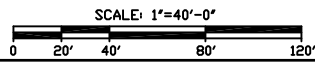
UNIT PROCESS FOR HANDLING
WASTE IN CONTAINERS

SAFETY-KLEEN SYSTEMS, INC.

DATE	BY	QNO	PE APP	CP APP	DATE
10-1-21	MOORE				3-1-21
SERVICE CENTER LOCATION				50-ENG-REV NO	
STANDARD				R57 D43	



FACILITY SITE PLAN



LEGEND



GENERAL NOTES

1. DRAWING REFLECTS AS-BUILT CONDITIONS AS OF 1/12/00.
2. FUTURE TANKS SHOWN WITH DOTTED LINES.

PROPRIETARY STATEMENT

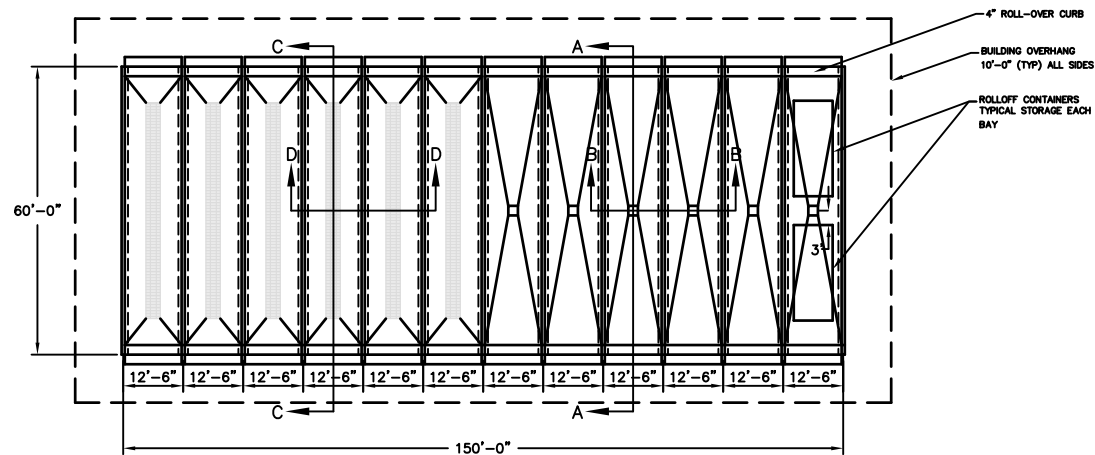
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TITLE
SOLID WASTE MANAGEMENT
UNIT LOCATIONS

SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
PHONE 800-669-5740

B	ISSUED FOR PERMIT	JEK	CW	CW	032019
A	NEW RELEASE	MBH	KJM	DP	03095
NO.	DESCRIPTION	BY	CHK	APPR	DATE
REVISIONS					

SCALE 1" = 40'	BY JEK	CHKD BC	APPROVED BC	OPERATIONS BC	DATE 2/06/06
SERVICE CENTER LOCATION MILLINGTON, TN.			SC-DWG NUMBER 7160-SP00-006		REV. NO. B



BULK CONTAINMENT STORAGE BUILDING
SCALE: 1"=20'-0"

SECONDARY CONTAINMENT VOLUME CALLCULATIONS (BAYS 1-6)

SUMP- 3 FT X 4 FT X 45 FT X 7.48 GAL/CF = 4039 GAL.

BAY- 11.83 FT X 57 FT X 0.33 FT X 7.48 GAL/CF = 1,664 GAL.

VOLUME FROM 1% SLOPE: ELEV. FROM FRONT TO SUMP = 0.06 FT
PLANE AREA AT BASE OF CURB = 11.83 FT X 57 FT = 674 FT²
PLANE AREA AT TOP OF SUMP = 3 FT X 45 FT = 135 FT²

$$\text{AVERAGE AREA} = \frac{674 \text{ FT}^2 + 135 \text{ FT}^2}{2} = 404 \text{ FT}^2$$

$$\text{AVERAGE AREA} = \frac{0 \text{ FT} + 0.06 \text{ FT}}{2} = 0.03 \text{ FT}$$

$$\text{VOLUME} = \text{AVERAGE AREA} \times \text{AVERAGE DEPTH} \times 7.48 \text{ GAL/CF} = 404 \text{ FT} \times 0.03 \text{ FT} \times 7.48 \text{ GAL/CF} = 90 \text{ GAL}$$

TOTAL CONTAINMENT = 4039 GAL + 1,664 GAL + 90 GAL = 5793 GAL PER BAY

SECONDARY CONTAINMENT VOLUME CALCULATIONS (BAYS 7-12)

SUMP- 2 FT X 2 FT X 7.48 GAL/CF = 59 GAL.

BAY- 11.83 FT X 57 FT X 0.33 FT X 7.48 GAL/CF = 1,664 GAL

VOLUME FROM 1% SLOPE: ELEV. FROM FRONT TO SUMP = 0.3 FT
PLANE AREA AT BASE OF CURB = 11.83 FT X 57 FT = 674 FT²
PLANE AREA AT TOP OF SUMP = 2 FT X 2 FT = 4 FT²

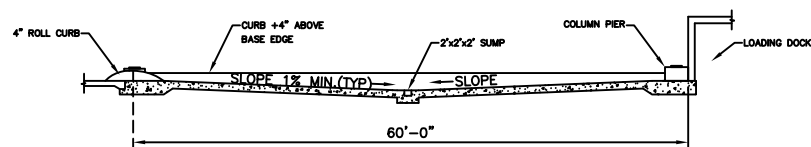
$$\text{AVERAGE AREA} = \frac{674 \text{ FT}^2 + 4 \text{ FT}^2}{2} = 339 \text{ FT}^2$$

$$\text{AVERAGE DEPTH} = \frac{0 \text{ FT} + 0.3 \text{ FT}}{2} = 0.15 \text{ FT}$$

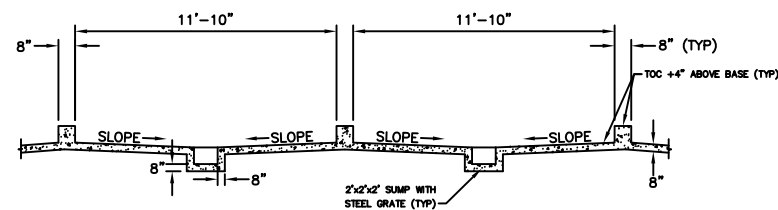
$$\text{VOLUME} = \text{AVERAGE AREA} \times \text{AVERAGE DEPTH} \times 7.48 \text{ GAL/CF} = 339 \text{ FT} \times 0.15 \text{ FT} \times 7.48 \text{ GAL/CF} = 380 \text{ GAL}$$

TOTAL CONTAINMENT = 59 GAL + 1,664 GAL + 380 GAL = 2,103 GAL PER DAY

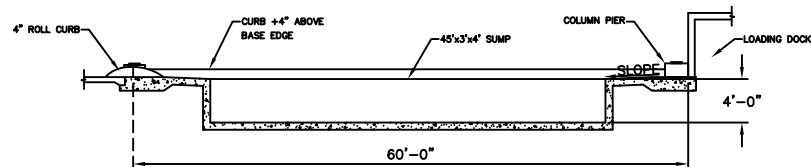
TYPICAL 2 BAY UNIT



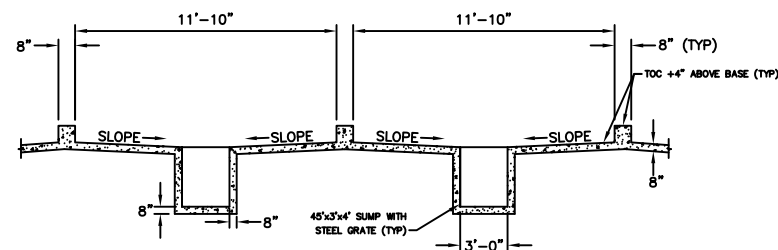
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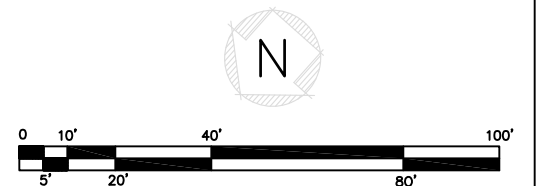
SECTION B-B
N.T.S.



SECTION C-C
N.T.S.



SECTION D-D
N.T.S.



GENERAL NOTES

- NON-PERMITTED AREAS MAY CHANGE

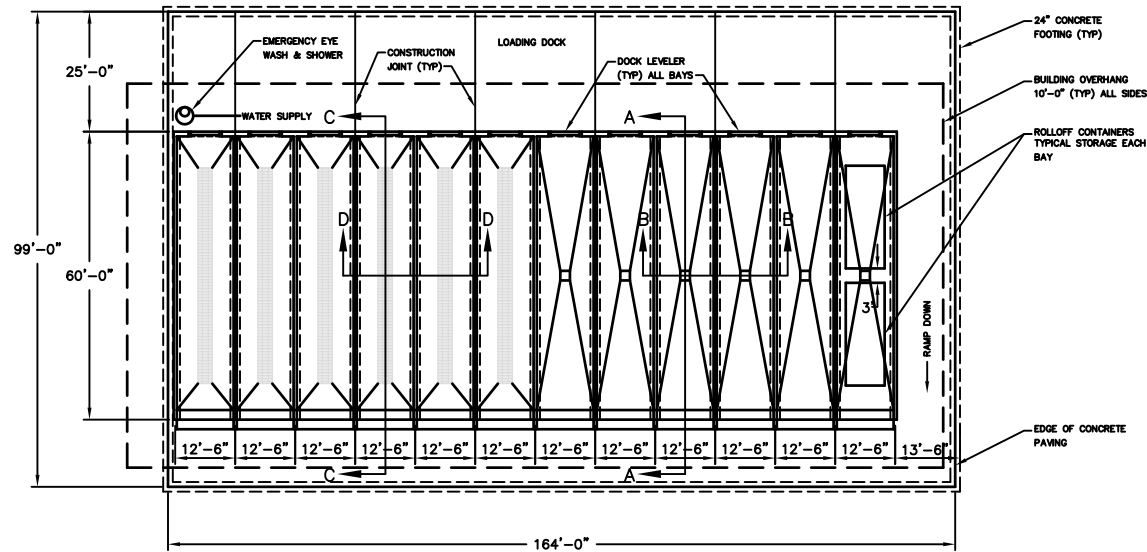
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TITLE
CONTAINER STORAGE BLDG.
CONCRETE PLAN & DETAILS

SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
PHONE 800-669-5740

						TITLE CONTAINER STORAGE BLDG. CONCRETE PLAN & DETAILS						
						 SAFETY-KLEEN SYSTEMS, INC. 2600 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080 PHONE 800-669-5740						
A	ISSUED FOR PERMIT		JEK	CW	CW	032019	SCALE 1"=20'-0"	BY JEK	CHKD CW	APPR CW	OP. APPR CW	DATE 2/2/06
D	NEW ISSUE		JEK	CB	CB	021506						
NO.	DESCRIPTION		BY	CHK	APPR	DATE	SERVICE CENTER LOCATION MILLINGTON, TN		SC-DWG NUMBER 7160-7100-500		REV. NO. A	
REVISIONS												



TRAILER CONTAINMENT BUILDING
SCALE: 1"=20'-0"

SECONDARY CONTAINMENT VOLUME CALLCULATIONS (BAYS 1-6)

SUMP- 3 FT X 4 FT X 45 FT X 7.48 GAL/CF = 4039 GAL.

BAY- 11.83 FT X 57 FT X 0.33 FT X 7.48 GAL/CF = 1,664 GAL.

VOLUME FROM 1% SLOPE: ELEV. FROM FRONT TO SUMP = 0.06 FT
PLANE AREA AT BASE OF CURB = 11.83 FT X 57 FT = 674 FT²
PLANE AREA AT TOP OF SUMP = 3 FT X 45 FT = 135 FT²
AVERAGE AREA = $\frac{674 \text{ FT}^2 + 135 \text{ FT}^2}{2} = 404 \text{ FT}^2$
AVERAGE AREA = $\frac{0 \text{ FT} + 0.06 \text{ FT}}{2} = 0.03 \text{ FT}$

VOLUME = AVERAGE AREA X AVERAGE DEPTH X 7.48 GAL/CF = 404 FT² X 0.03 FT X 7.48 GAL/CF = 90 GAL

TOTAL CONTAINMENT = 4039 GAL + 1,664 GAL + 90 GAL = 5793 GAL PER BAY

SECONDARY CONTAINMENT VOLUME CALCULATIONS (BAYS 7-12)

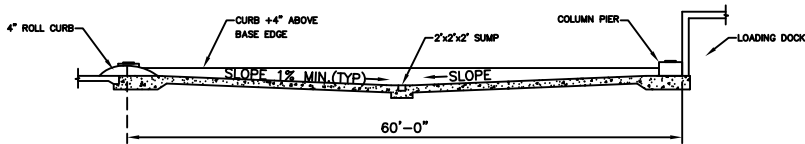
SUMP- 2 FT X 2 FT X 7.48 GAL/CF = 59 GAL.

BAY- 11.83 FT X 57 FT X 0.33 FT X 7.48 GAL/CF = 1,664 GAL

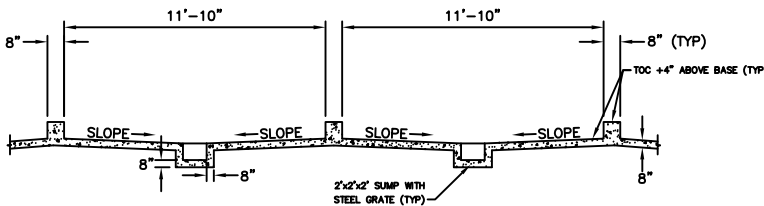
VOLUME FROM 1% SLOPE: ELEV. FROM FRONT TO SUMP = 0.3 FT
PLANE AREA AT BASE OF CURB = 11.83 FT X 57 FT = 674 FT²
PLANE AREA AT TOP OF SUMP = 2 FT X 2 FT = 4 FT²
AVERAGE AREA = $\frac{674 \text{ FT}^2 + 4 \text{ FT}^2}{2} = 339 \text{ FT}^2$
AVERAGE DEPTH = $\frac{0 \text{ FT} + 0.3 \text{ FT}}{2} = 0.15 \text{ FT}$

VOLUME = AVERAGE AREA X AVERAGE DEPTH X 7.48 GAL/CF = 339 FT² X 0.15 FT X 7.48 GAL/CF = 380 GAL

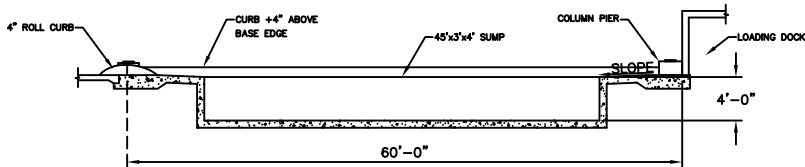
TOTAL CONTAINMENT = 59 GAL + 1,664 GAL + 380 GAL = 2,103 GAL PER DAY



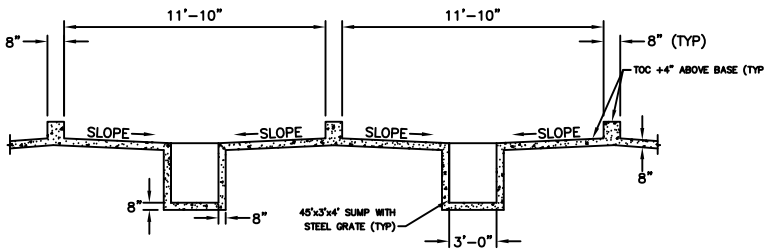
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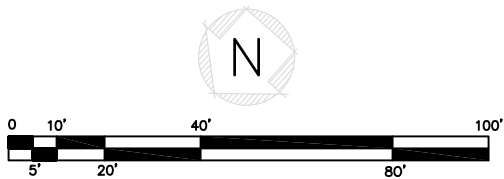
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N.T.S.



SECTION C-C
N.T.S.



SECTION D-D
N.T.S.



GENERAL NOTES

1. NON-PERMITTED AREAS MAY CHANGE

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TITLE
TRAILER CONTAINMENT BLDG.
CONCRETE PLAN & DETAILS

SAFETY-KLEEN SYSTEMS, INC.
2600 NH. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080
PHONE 800-669-5740

						TITLE TRAILER CONTAINMENT BLDG. CONCRETE PLAN & DETAILS					
						 SAFETY-KLEEN SYSTEMS, INC. 2600 NH. CENT. EXPRESSWAY STE 400 RICHARDSON, TX. 75080 PHONE: 800-669-5740					
A	ISSUED FOR PERMIT	JEK	CW	CW	032019	SCALE 1"=20'-0"	BY JEK	CHKD CW	APPR CW	OP. APPR CW	DATE 2/15/16
D	NEW ISSUE	JEK	CB	CB	021506	SERVICE CENTER LOCATION	MILLINGTON, TN			SC-DWG NUMBER 7160-7100-501	REV. NO. A
NO.	DESCRIPTION	BY	CHK	APPR	DATE						
REVISIONS											

EPA ID Number: TND000614321

Permit Number: TNHW-DRAFT

ATTACHMENT 9. TANK MANAGEMENT

Attachment 9 consists of eight separate sections as follows:

- Attachment 9.1 Tank Management
- Attachment 9.2 Subpart BB - Air Emissions Standards for Equipment Leaks
(Rule 0400-12-01-.06(31))
- Attachment 9.3 Subpart BB - Equipment List and Environmental Piping Schematic
(Rule 0400-12-01-.06(31))
- Attachment 9.4 Subpart CC - Air Emissions Standards for Tanks (Rule 0400-12-01-.06(32))
- Attachment 9.5 Tank Drawings and Pictures
- Attachment 9.6 Tank Design and Installation Assessment
- Attachment 9.7 Sealant Information and Technical Data
- Attachment 9.8 Safety Data Sheets

ATTACHMENT 9.1 TANK MANAGEMENT

TANK MANAGEMENT

The Millington service center was designed to facilitate the handling and storage of the wastes resulting from the services offered by the permittee. At the service center spent parts cleaner solvent is accumulated in a 10,000-gallon aboveground storage tank via the ancillary return and fill station. Containers of spent solvent are emptied into the drum washer unit at the return and fill station. The solvent is then pumped into the spent solvent storage tank located in the tank farm.

Five single-walled aboveground storage tanks are located in an enclosed tank farm. These tanks are as follows:

- One 15,000-gallon vertical tank used to store clean product 150 mineral spirits.
- Three 15,000-gallon vertical tanks used to store used oil.
- One 10,000-gallon horizontal tank used to store spent mineral spirits (permitted unit).

At the service center, spent parts cleaner solvent is accumulated in containers or a 10,000-gallon aboveground storage tank via the ancillary return and fill station. Containers of spent solvent are emptied into the drum washer unit at the return and fill station. The solvent is then pumped into the spent solvent storage tank located in the tank farm. The tanker trucks dispatched from the recycle center to deliver and pick up fresh and used solvents perform these activities at the aboveground tank storage area. A tanker truck typically services the facility once every ten to fourteen days.

The aboveground storage tanks have a secondary containment. Additionally, the service center has support equipment necessary for employees to safely manage wastes on site. Attachment 9.6, Tank Design and Installation Assessment contains drawings of the waste management facilities.

The aboveground tanks in the tank farm have been designed in accordance with NFPA standards. They are constructed of carbon steel, painted a light color to reflect sunlight, and minimize corrosion. The secondary containment for the tank farm is a concrete slab and dike approximately 71' x 40' x 2' which holds 36,238 gallons. Five storage tanks are in the diked area; four are for product and non-hazardous waste and one is for spent parts cleaner solvent. Each tank is equipped with an audiovisual high-level alarm.

TANK STORAGE

The 10,000-gallon horizontal, aboveground storage tank is 8' in diameter and 27'- 3" in length. It is constructed of carbon steel and painted a light color to reflect sunlight. The carbon steel is 1/4" in shell thickness. The tank interior is not coated. All tanks are constructed in accordance with Underwriters Laboratories Standard 142, and they are located more than 50 feet from the

property line, in accordance with National Fire Protection buffer zone requirements. The secondary containment for the tanks consists of a monolithically poured slab and dike wall. The slab is 6-inch thick, and the wall is 8-inch thick, steel-reinforced concrete. The secondary containment calculations are in Attachment 9.1.

The tank is equipped with an aural (buzzer) and visual (strobe light) high level alarm system which will alert employees when the tank volume is within a maximum of 95% of the tank capacity (9,500 gallons).

The return and fill station adjacent to the tank farm is a steel structure as are the drum washer/dumpsters; the secondary containment consists of sealed concrete containment. The drum washer is tight piped to the tank and all piping is aboveground. The drum washer will be closed except during the addition of wastes or the removal of drum washer sediment.

TANK STANDARDS

Provided below is a summary of the criteria that must be met for a hazardous waste tank to be subject to Level 1 controls. (Tanks operated outside of these parameters are subject to Level 2 tanks).

Tank Design Capacity	Maximum Vapor Pressure of Waste
<19,789 gallons	11.26 psi
19,789 2:al - <39,841 2 gallons	4.0 psi
> 39,841 2 gallons	0.75 psi

Service Center Management Procedures

The tank used to manage hazardous waste at the Service Centers is considered a Level 1 tank. It is equipped and operated with fixed roofs. The tank used to manage hazardous waste has a design capacity of 10,000 gallons and an operating capacity of less than 9,500-gallons. Hazardous waste stored in the tank exhibits a vapor pressure of less than 4.0 pounds per square inch.

The Service Center tank is designed and operated so that all cover openings can be closed with no visible gaps, holes, cracks, or other open spaces that will allow for the release of air emissions. The cover and all cover openings are maintained in a closed position at all times except when waste is being added to or removed from the tank, or when necessary, sampling, liquid level assurance, or repair/maintenance is performed on the tank.

Safety-Kleen Millington's primary operation is the management of parts washer solvent. As previously discussed above, spent parts washer solvent is managed at the Return and Fill dock. The Material Handler will pour the contents of the spent parts washer solvent drum into the Return and Fill box, also known as the drum washer box. This drum washer box collects the spent solvent and pumps it into the 10,000-gallon above ground storage tank in the tank farm.

The drum is then placed on a spool inside the drum washer box and cleaned prior to reuse. No residual solvent escapes during the drum cleaning process. Once the container is cleaned, it is refilled with product parts washer solvent and staged in the warehouse product equipment storage area, to be used by the next parts washer customer. Refer to Attachment 8.3 Container Storage Area Drawings and Pictures, Existing Container Storage Area. All other transfers of material into and out of the above ground storage tanks, occur at the tank farm loading/unloading pad. The tank farm floor is concrete, with a slight slope toward the center and is protected with a ChemTec One coating. Refer to Attachment 9.7 Sealant Information and Technical Data Sheets. The coating provides an impervious seal to concrete, while providing a permanent barrier to potential chemical migration.

The above ground storage tank farm consists of (1) horizontal 10,000-gallon spent parts washer storage tank, (1) vertical 15,000-gallon product parts washer tank, (3) vertical 15,000-gallon used oil tanks. Refer to Attachment 8.3 Container Storage Drawings, Site Plan (Map).

The secondary containment calculations for the tank farm:

Dimensions:

Tank Farm Volume	$70\text{ft } 6\text{in} \times 39\text{ft } 6\text{in} \times 1\text{ft } 6\text{in} = 4235 \text{ in}^3 \times 7.48$ $= 31,677 \text{ gallons}$
Volume of 2 halves sloped floor	$39\text{ft } 6\text{in} \times 35\text{ft } 3\text{in} \times 7.25\text{in} = 841\text{in}^3 \times 7.48 \text{ gallons}$ $= 6,290 \text{ gallons}$
Volume of sump	$1\text{ft} \times 1\text{ft} \times 1\text{ft } 2\text{in} = 1.1 \text{ ft}^3 \times 7.48 \text{ gallons} = 8 \text{ gallons}$
Total	$= 37,975 \text{ gallons}$
Dimensions of 16 piers	$1.33\text{ft} \times 1.33\text{ft} \times 1.66\text{ft} = 2.9 \text{ ft}^3 \times 7.48 \text{ gallons} = 21 \times 16$ $= -366 \text{ gallons}$
Displacement of Tanks	$3.14 \times 5\text{ft } 3\text{in}^2 \times 6\text{in} = 43\text{ft} \times 7.48 \text{ gallons} = 321 \times 2$ $= -642 \text{ gallons}$
Misc. Displacement (skids, pumps, supports, piping, etc.)	$= 2\% (37,975 \times 0.2) = -759 \text{ gallons}$
Total Containment	$= 36,238 \text{ gallons}$

Transfer Pad Containment Calculations

Dimensions of Transfer Pad:	$71.5 \text{ ft} \times 11.5 \text{ ft} \times 1.5 \text{ ft} = 408 \text{ ft}^3 \times 7.48 \text{ gallons}$ $= 3,052 \text{ gallons}$
Volume of Sump:	$11 \text{ ft} \times 1\text{ft} \times 1\text{ft } 2\text{in} = 12 \text{ ft}^3 \times 7.48 \text{ gallons} = 89 \text{ gallons}$
Total Containment	$= 3,140 \text{ gallons}$

The tank is equipped with a variety of closure and/or safety devices (i.e., emergency venting) that vent to the atmosphere in the event of an emergency. Opening of pressure-

Va9.cuum relief valves which vent to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications.

According to FEMA, the Nation Flood Hazard Layer Legend shows Safety-Kleen Millington's operations in Zone X, with the facility given a 0.2 - 1% chance of an annual flood occurring in the next 100 years. Refer to Attachment 9.5 Tank Drawings and Pictures.

Inspections

An initial visual tank inspection was conducted on all tanks. No defects that could result in air emissions were observed in the fixed roofs and closure devices. Visual inspections of the tanks will be conducted on an annual basis.

Monitoring

Monitoring for NDE is not required for Level 1 tanks, therefore no such monitoring will be conducted.

Transferring Hazardous Waste

Tank to Tanker - This transfer occurs when a tanker truck is removing waste solvent from the tank for transport to an off-site process facility. This type of transfer is conducted using a closed system that consists of continuous hard piping and/or flexible hoses that does not allow exposure of liquid hazardous waste to the atmosphere. The tank farm is equipped with a bulk tanker access box where truck drivers can connect their hose to load/unload tanker contents. Each connection within this bulk tanker access box, is designated to a specific aboveground storage tank and to minimize the risk of a de minimis release. Should a de minimis release occur, it will be captured in the secondary containment of the tank farm or the loading/unloading pad, and immediately cleaned up. Refer to Attachment 6 Contingency Plan for further information. All bulk transfers occur over secondary containment - No other bulk transfers occur at Millington.

AIR EMISSIONS STANDARDS

Each valve, flange and pump which is associated with the hazardous waste tank and its ancillary equipment will be marked and listed on an air monitoring equipment inventory form. A typical inspection form is located in Attachment 4. A site drawing also located in Attachment 3 shows the location and the number assigned to each piece of equipment. Compliance with the standard will be achieved each operating day, and if required, leak detection monitoring and repair. Records of equipment monitoring, and repair are maintained on an inspection form in the operating record. If a potential leak is discovered (by visual inspection, audible indication or excessive odor) it will be noted on the inspection form. The spent parts cleaner solvent managed in the equipment is a heavy liquid (vapor pressure less than 0.3 kilopascals at 20°C) and has a maximum concentration in the vapor phase of 2,000 ppm. Therefore, a photoionizer type instrument will not detect leaks at 10,000 ppm and a leak will be detected based on visual

inspection rather than by monitoring with a photoionizer. After detection of a potential or actual leak, the valve or flange must be repaired within fifteen days with the first attempt at repair made no later than five days after the leak is detected. A leak detection and repair record will be kept in a file at the service center.

SUBPART CC - AIR EMISSIONS STANDARDS (RULE-0400-12-01-.06(32))

Subpart CC (Rule-0400-12-01-.06(32)) exempt containers, less than 55 gallons, and Level 1 containers containing hazardous waste are transferred into Level 1 tanks using a closed transfer system. The waste is drained through a filter-housing unit (Return & Fill Dumpster) and piped into a Level 1 tank. The Return & Fill Dumpster will be closed if material will not be added to or removed from the container for 15 minutes or the person operating the unit leaves the immediate vicinity of the unit. This transfer operation is conducted in a manner that minimizes emissions.

TANK EVALUATION AND REPAIR PLAN

The waste material stored in the tank at this facility is parts cleaner solvent which is compatible with the carbon steel structure. Tank assessment reports and related information for the tank are provided in Attachments 9.7 and 9.8. Inspections will be performed each operational day to check the tank for corrosion, leaks, or any other damage that might affect the integrity of the storage tank. If significant corrosion is noted, the tank will be removed or repaired. If the corrosion is significant and localized, the tank will be taken out of service immediately and repaired (e.g., a patch welded over the corroded area). All repairs to a tank will be certified as required by Tennessee Department of Environment and Conservation (TDEC). Should the corrosion of the tank be extensive, or if the tank is leaking, it will be taken out of service immediately, repaired in accordance with Rule 0400-12-.01-.06(10)(g) or replace. If a tank is taken out of service permanently, the facility will remove the tank in accordance with the Attachment 7 Closure Plan.

Each valve, flange and pump that is associated with the hazardous waste tank and their ancillary equipment will be marked and listed on the respective air monitoring equipment inventory form presented in Attachment 9.3. A site drawing, also presented in Attachment 9.3, shows the locations and the numbers of all the equipment. Compliance with Rule 0400-12-.01-.06(31)(i) will be achieved through facility inspections each operating day and if required, leak detection monitoring and repair will be conducted. Records of equipment monitoring, and repair are maintained on the inspection form which is in the facility operating record. If a potential leak is discovered, by visual inspection or excessive odor, it will be noted on the inspection form, repaired as soon as possible, and not used again until all requirements of Rule 0400-12-01-.06(10)(g) are satisfied. The leak detection and repair record will be kept in a file at the branch.

ATTACHMENT 9.2 SUBPART BB - AIR EMISSIONS STANDARDS FOR EQUIPMENT LEAKS (RULE 0400-12-01-.06(31))

APPLICABILITY

Safety-Kleen Systems, Inc. Millington, TN facility is a hazardous waste storage facility where spent solvents are transferred from containers to a tank. Therefore, pursuant to the requirements of Rule 0400-12-.01-.06(31)(a), the air emissions standards for equipment leaks apply to the equipment that contain or contacts hazardous waste with organic concentrations of at least ten percent by weight.

Per Rule 0400-12-.01-.06(30)(b), the spent organic solvents that come in contact with equipment at this facility have been classified as Heavy Liquids, because the vapor pressures are well below 0.3 kP. Furthermore, the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kP that are present in the spent parts washer solution is in ppm level. This is considerably below the 20 percent limit provided in the regulation.

In accordance with Rule 0400-12-.01-.06(31)(a), the permittee has identified and marked each piece of equipment to which the equipment leak standards apply. Safety-Kleen developed an isometric figure to identify the location of equipment and the associated hazardous waste management units. This figure is provided in Attachment 9.6.

PUMPS IN LIGHT LIQUID SERVICE

Requirements of Rule 0400-12-.01-.06(31)(c) do not apply since the pumps are in heavy liquid service.

COMPRESSOR

This facility does not have any compressors that are in contact with spent solvents. Therefore, Rule 0400-12-.01-.06(31)(d) is not applicable.

PRESSURE RELIEF DEVICES IN GAS/VAPOR SERVICE

The facility does not have any pressure relief devices subject to the requirements of Rule 0400-12-.01-.06(31)(e).

SAMPLING CONNECTING SYSTEMS

This facility does not have any sampling connecting systems or in-situ sampling systems. Therefore, Rule 0400-12-.01-.06(31)(f) is not applicable.

OPEN-ENDED VALVES OR LINES

The open-ended lines subject to the requirements of Rule 0400-12-01-.06(31)(g) are equipped with caps that will seal the open end at all times except during operations requiring hazardous waste stream flow through the line.

VALVES IN GAS/VAPOR SERVICE OR IN LIGHT LIQUID SERVICE

Requirements of Rule 0400-12-01-.06(31)(h) do not apply since the pumps at the facility are in heavy liquid service.

PUMPS AND VALVES IN HEAVY LIQUID SERVICE, PRESSURE RELIEF DEVICES IN LIGHT OR HEAVY LIQUID SERVICE, AND FLANGES AND OTHER CONNECTORS RULE 0400-12-01-.06(31)(i)

At the present time the pumps, valves, flanges and other connectors are designated for heavy liquid service. Pumps, valves, pressure relief devices, flanges and other connectors will be monitored, or repairs attempted within five days of evidence of a potential leak being found.

RECORDKEEPING REQUIREMENTS

Pursuant to the requirements of Rule 0400-12-01-.06(31)(o), the permittee has identified each piece of affected equipment by number. Each piece of the affected equipment is designated as heavy liquid service at this time.

The following equipment records are provided in Attachment 9.3.

1. Type of equipment - valve, pump, flange, etc.
2. Percent-by-weight total organics in the hazardous waste stream.
3. Method of compliance.

The following equipment records will be maintained at the facility.

1. Equipment identification number and date when evidence of a potential leak is found.
2. Leak monitoring results and any repairs conducted at the facility.

REPORTING REQUIREMENTS

This facility will submit semi-annual reports requirements of Rule 0400-12-01-.06(31)(p), to the Agency by the dates specified by TDEC. The report will include:

1. The facility name and ID number;

2. The equipment identification number for which a leak was not repaired as per the regulatory requirements;
3. Any hazardous waste management unit shut downs;
4. Any other malfunction.

If the repairs are completed within the required time schedules, then no reports will be submitted to TDEC. Such records will be maintained at the facility and available for inspection.

**ATTACHMENT 9.2 SUBPART BB - AIR EMISSIONS STANDARDS FOR EQUIPMENT LEAKS
TENNESSEE RULE 1200-1-12-.06(31)**

ALL EQUIPMENT SUBJECT TO ORGANIC EMISSION STANDARDS

Equip ID. No.	Equip. Type	Hazardous Waste Management Unit and Equipment Location	EPA Hazardous Waste Number	Brief Waste Description	Physical State	Percent by Weight Total Organics	Method of Compliance
1	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
2	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
3	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
4	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
5	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
6	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
7	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
8	Pump	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	12
9	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
10	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
11	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
12	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
13	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
14	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
15	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
16	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
17	Strainer	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
18	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
19	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24

20	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
21	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
22	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
23	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
24	Pump	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	12
25	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
26	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
27	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
28	Pump	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	12
29	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
30	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
31	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
32	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
33	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
34	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
35	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
36	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
37	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
38	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
39	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
40	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
41	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
42	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24

43	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
44	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
45	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
46	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
47	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
48	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
49	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
50	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
51	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
52	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
53	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
54	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
55	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
56	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
57	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
58	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
59	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
60	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
61	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
62	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
63	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24

64	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
65	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
66	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24

*Methods of Compliance for Rule 1200-1-12-.06(31)

(7) These Valves shall be considered in heavy liquid service and shall be monitored visually, audibly, by olfactory methods, or other detection methods at least monthly and shall comply with the required repair program if evidence of a leak is found [Rule 1200-1-12-.06(31)(i)];

(12) This method applies if the pump is in heavy liquid service. These pumps shall be monitored visually, audibly, by olfactory methods, or other detection methods at least monthly and shall comply with the required repair program if evidence of a leak is found [Rule 1200-1-12-.06(31)(i)];

(24) These flanges and connectors shall be monitored visually, audibly, by olfactory methods, or other detection methods at least monthly and shall comply with the required repair program if evidence of a leak is found [Rule 1200-1-12-.06(31)(i)].

ATTACHMENT 9.3 SUBPART BB EQUIPMENT LIST (RULE 0400-12-01-.06(31))

ALL EQUIPMENT SUBJECT TO ORGANIC EMISSION STANDARDS

Equip. ID. No.	Equip. Type	Hazardous Waste Management Unit and Equipment Location	EPA Hazardous Waste Number	Brief Waste Description	Physical State	Percent by Weight Total Organics	Method of Compliance
1	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
2	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
3	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
4	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
5	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
6	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
7	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
8	Pump	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	12
9	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
10	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
11	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
12	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
13	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
14	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
15	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
16	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
17	Strainer	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24

ALL EQUIPMENT SUBJECT TO ORGANIC EMISSION STANDARDS

18	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
19	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
20	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
21	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
22	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
23	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
24	Pump	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	12
25	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
26	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
27	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
28	Pump	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	12
29	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
30	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
31	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
32	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
33	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
34	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
35	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
36	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
37	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24

ALL EQUIPMENT SUBJECT TO ORGANIC EMISSION STANDARDS

38	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
39	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
40	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
41	Valve	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	7
42	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
55	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
56	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
57	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
58	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
59	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
60	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
61	Not Used	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	NA
62	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
63	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
64	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
65	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24
66	Connection	See Attached Piping Schematic	D001, D018, D039, D040	Spent Petroleum Naphtha Solvent	Liquid	100 %	24

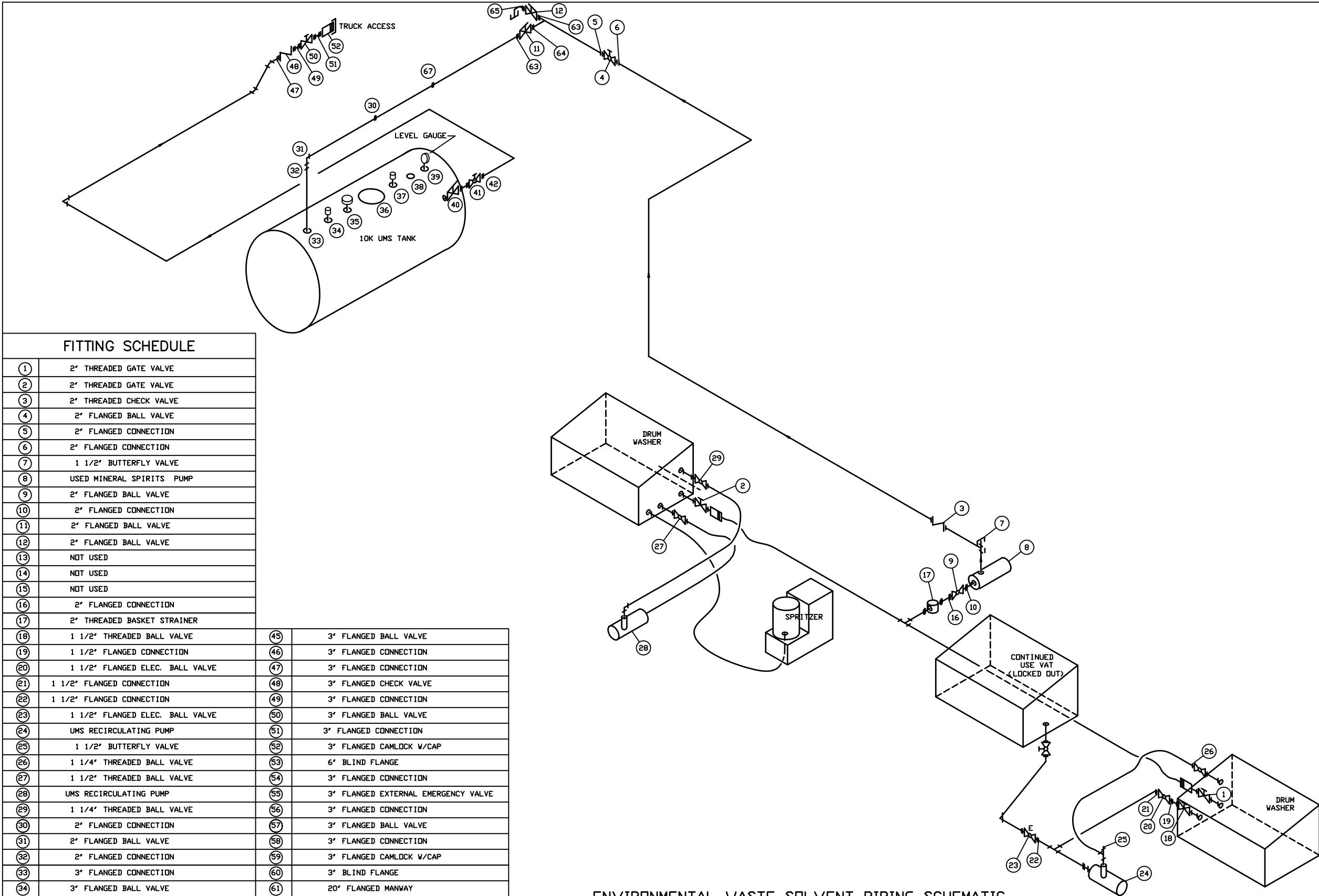
*Methods of Compliance for Rule 1200-1-11-.06(31)

(7) These Valves shall be considered in heavy liquid service and shall be monitored visually, audibly, by olfactory methods, or other detection methods at least monthly and shall comply with the required repair program if evidence of a leak is found [Rule 1200-1-11-.06(31)(i)];

(12) This method applies if the pump is in heavy liquid service. These pumps shall be monitored visually, audibly, by olfactory methods, or other detection methods at least monthly and shall comply with the required repair program if evidence of a leak is found [Rule 1200-1-11-.06(31)(i)];

(24) These flanges and connectors shall be monitored visually, audibly, by olfactory methods, or other detection methods at least monthly and shall comply with the required repair program if evidence of a leak is found [Rule 1200-1-11-.06(31)(i)].

FIGURE 9.3 PART BB ENVIRONMENTAL PIPING SCHEMATIC



FITTING SCHEDULE			
(1)	2" THREADED GATE VALVE		
(2)	2" THREADED GATE VALVE		
(3)	2" THREADED CHECK VALVE		
(4)	2" FLANGED BALL VALVE		
(5)	2" FLANGED CONNECTION		
(6)	2" FLANGED CONNECTION		
(7)	1 1/2" BUTTERFLY VALVE		
(8)	USED MINERAL SPIRITS PUMP		
(9)	2" FLANGED BALL VALVE		
(10)	2" FLANGED CONNECTION		
(11)	2" FLANGED BALL VALVE		
(12)	2" FLANGED BALL VALVE		
(13)	NOT USED		
(14)	NOT USED		
(15)	NOT USED		
(16)	2" FLANGED CONNECTION		
(17)	2" THREADED BASKET STRAINER		
(18)	1 1/2" THREADED BALL VALVE	(45)	3" FLANGED BALL VALVE
(19)	1 1/2" FLANGED CONNECTION	(46)	3" FLANGED CONNECTION
(20)	1 1/2" FLANGED ELEC. BALL VALVE	(47)	3" FLANGED CONNECTION
(21)	1 1/2" FLANGED CONNECTION	(48)	3" FLANGED CHECK VALVE
(22)	1 1/2" FLANGED CONNECTION	(49)	3" FLANGED CONNECTION
(23)	1 1/2" FLANGED ELEC. BALL VALVE	(50)	3" FLANGED BALL VALVE
(24)	UMS RECIRCULATING PUMP	(51)	3" FLANGED CONNECTION
(25)	1 1/2" BUTTERFLY VALVE	(52)	3" FLANGED CAMLOCK W/CAP
(26)	1 1/4" THREADED BALL VALVE	(53)	6" BLIND FLANGE
(27)	1 1/2" THREADED BALL VALVE	(54)	3" FLANGED CONNECTION
(28)	UMS RECIRCULATING PUMP	(55)	3" FLANGED EXTERNAL EMERGENCY VALVE
(29)	1 1/4" THREADED BALL VALVE	(56)	3" FLANGED CONNECTION
(30)	2" FLANGED CONNECTION	(57)	3" FLANGED BALL VALVE
(31)	2" FLANGED BALL VALVE	(58)	3" FLANGED CONNECTION
(32)	2" FLANGED CONNECTION	(59)	3" FLANGED CAMLOCK W/CAP
(33)	3" FLANGED CONNECTION	(60)	3" BLIND FLANGE
(34)	3" FLANGED BALL VALVE	(61)	20" FLANGED MANWAY
(35)	3" FLANGED CONNECTION	(62)	NOT USED
(36)	3" FLANGED CAMLOCK W/CAP	(63)	2" FLANGED CONNECTION
(37)	3" FLANGED CONNECTION	(64)	2" FLANGED CONNECTION
(38)	3" FLANGED BALL VALVE	(65)	2" FLANGED CONNECTION
(39)	3" FLANGED CONNECTION	(66)	2" FLANGED CONNECTION
(40)	3" FLANGED EXTERNAL EMERGENCY VALVE		
(41)	3" FLANGED CONNECTION		
(42)	3" FLANGED CONNECTION		
(43)	3" FLANGED EXTERNAL EMERGENCY VALVE		
(44)	3" FLANGED CONNECTION		

ENVIRONMENTAL WASTE SOLVENT PIPING SCHEMATIC
NO SCALE

SYMBOL LIST					
	CAMLOC COUPLING				
	90° CAMLOC COUPLING				
	GATE VALVE				
	EXTERNAL EMERGENCY VALVE				
	BALL VALVE				
	SCREWED COUPLING				
	CHECK VALVE				
	STRAINER				
	PUMP				
	REDUCER/INCREASER				
	SCREWED UNION				
	CAP				
	HOSE CLAMP				
	FLEXIBLE HOSE				
	PIPE PENETRATION/ATTACHMENT TO EQUIPMENT				
	DIRECTION OF FLOW				
CONNECTION TYPES					
	FLANGED				
	SCREWED				
	WELDED				
GENERAL NOTES					
1. PIPING CONFIGURATION AS INDICATED WAS FIELD VERIFIED ON XX-XX-XXX.					
2. NUMBERS IN CIRCLES INDICATE TAGS ATTACHED TO EQUIPMENT OR FITTINGS AS SHOWN.					
3. NON-PERMITTED TANKS AND EQUIPMENT MAY CHANGE.					
4. ACTUAL PIPING CONFIGURATION MAY VARY DUE TO MAINTENANCE AND/OR UPKEEP OF FACILITY.					
PROPRIETARY STATEMENT					
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TITLE					
PART BB ENIRONMENTAL PIPING SCHEMATIC					
SAFETY-KLEEN SYSTEMS, INC. 2600 N. CENT EXPRESSWAY STE 400 RICHARDSON, TX. 75080 PHONE 980-669-5740					
SCALE	BY	CHKD	P.E. APPR	OP. APPR	DATE
AS SHOWN	PSC	-	-	-	3-06-06
SERVICE CENTER LOCATION			SC-DWG-REV NO.		SHEET NO.
MILLINGTON, TN.			7160-4100-150		A

ATTACHMENT 9.4 SUBPART CC - AIR EMISSIONS STANDARDS FOR TANKS (RULE 0400-12-01-.06(32))

INTRODUCTION

The Safety-Kleen Service Center in Millington, TN controls air pollutant emissions for applicable hazardous waste management units pursuant to the requirements of RCRA Subpart CC (Rule 0400-12-01-.06(32)).

Following is the facility's waste determination procedures, tank and container design/management practices, organic emission controls, inspections and monitoring, and recordkeeping and reporting requirements.

Container to Tank – This type of transfer involving liquids will be performed regularly for Level 1 containers. Provided below is an explanation this activity.

Subpart CC (Rule-0400-12-01-.06(32)) exempt containers, less than 55 gallons, and Level 1 containers containing hazardous waste are transferred into Level 1 tanks using a closed transfer system. The waste is drained through a filter-housing unit (Return & Fill Dumpster) and piped into a Level 1 tank. The Return & Fill Dumpster will be closed if material will not be added to or removed from the container for 15 minutes or the person operating the unit leaves the immediate vicinity of the unit. This transfer operation is conducted in a manner that minimizes emissions.

WASTE DETERMINATION PROCEDURES

For purposes of waste determination, the facilities utilize knowledge developed in the Waste Analysis Plan (WAP) of the sites' hazardous waste permits. In addition, the facility may use knowledge of the waste based upon information included in manifests, shipping papers, or waste certification notices prepared by generators to confirm waste acceptability on-site or for an off-site receiving facility.

Based upon this knowledge, it has been determined that all hazardous waste managed in tanks or applicable containers at this facility may contain an average volatile organic concentration of greater than 500 ppm at the point of waste origination. Therefore, all hazardous waste managed in tanks or applicable containers shall be managed in accordance with applicable Subpart CC (Rule-0400-12-01-.06(32)) standards. Under such a management scenario, no direct measurements will be conducted.

POINT OF WASTE ORIGINATION

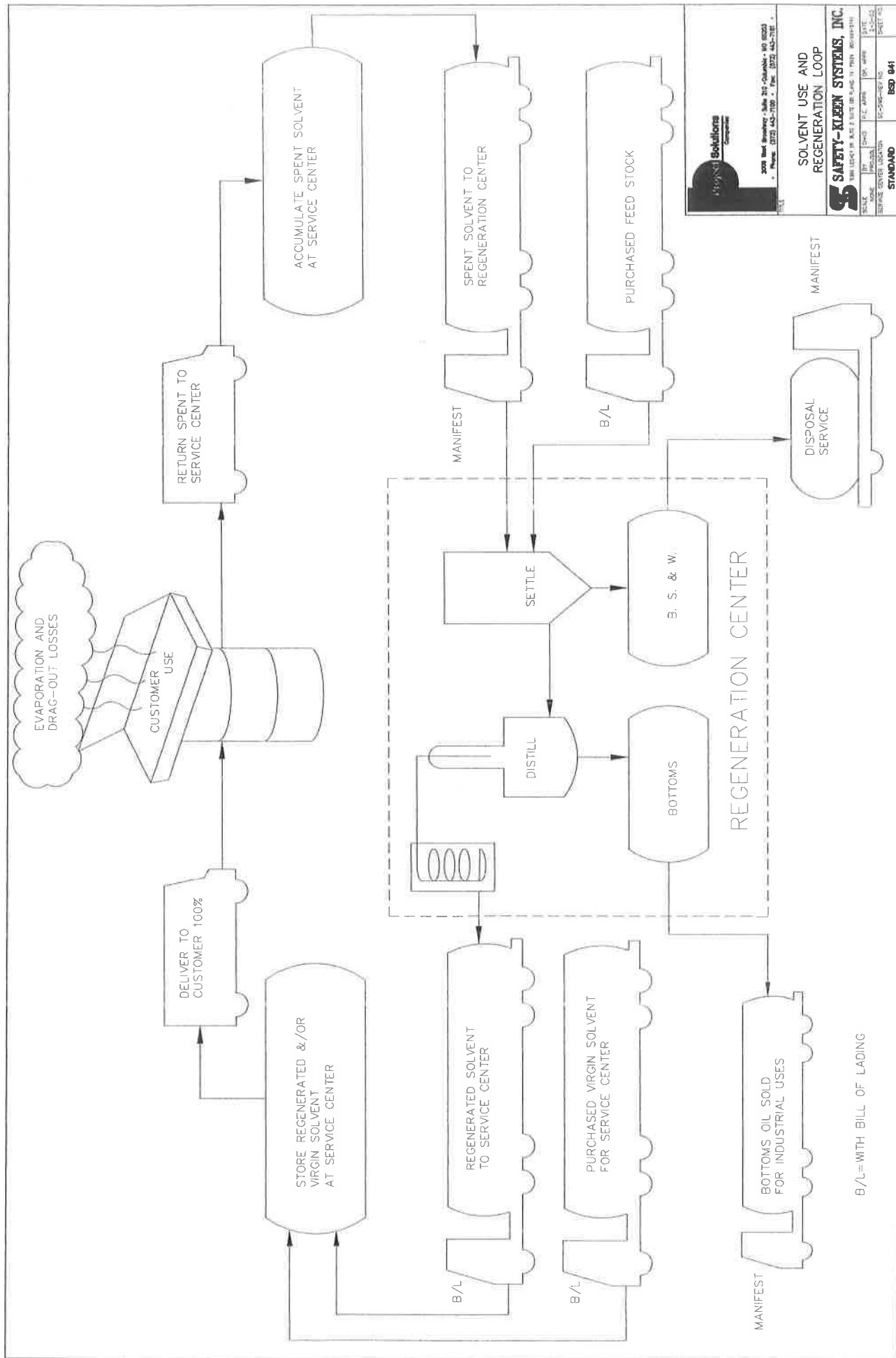
The point of waste origination for all hazardous wastes generated from off-site sources and transported to a Safety-Kleen Service Center in DOT authorized containers, which will subsequently be managed in tanks or containers on-site, is the facility boundary at the entrance

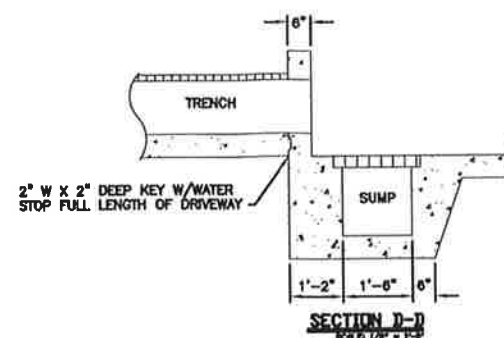
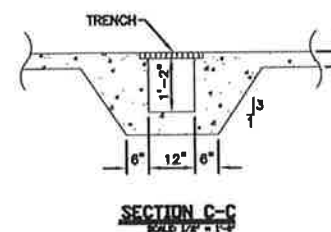
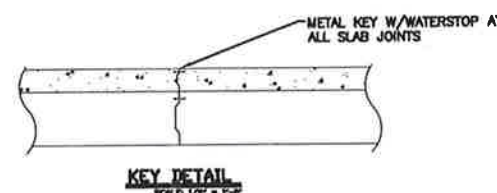
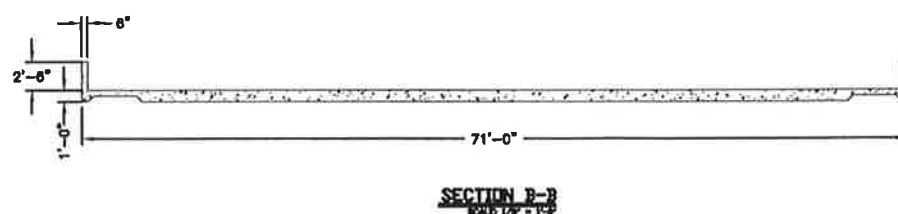
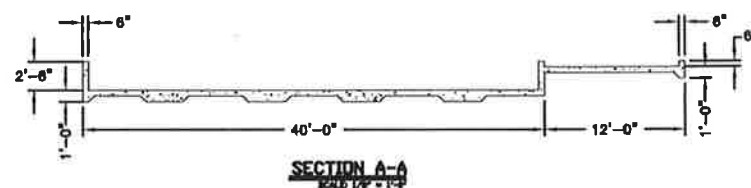
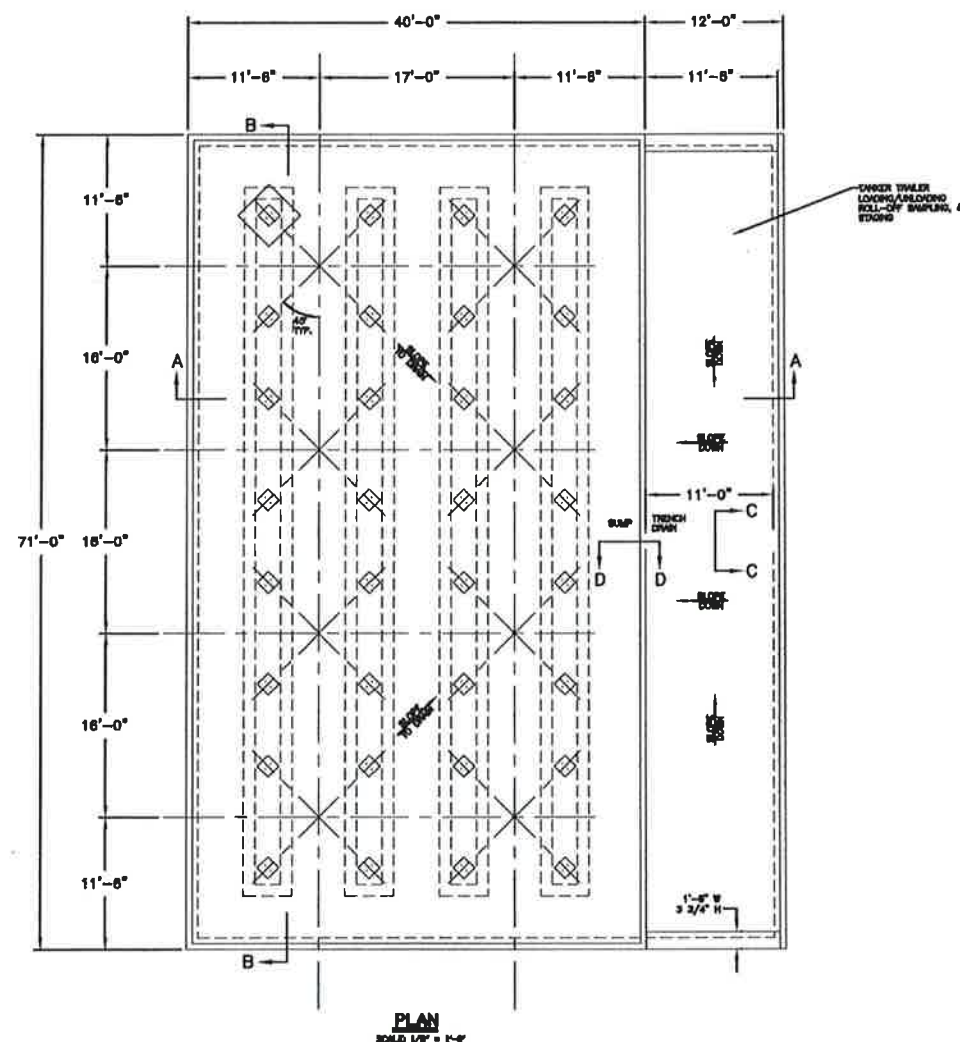
gate. For hazardous waste generated on-site, the point of waste origination is the point of hazardous waste generation as defined under hazardous waste regulations.

ATTACHMENT 9.5 TANK DRAWINGS AND PICTURES









TRANSFER PAD CONTAINMENT CALCULATIONS

DIMENSIONS:					
TRANSFER PAD	.5 X 71' X 11'-6" X 1'-6"	= 408 C.F. X 7.48	= 3,051 GAL.		
VOLUME OF SUMP	1' X 1' X 1'-2"	= 12 C.F. X 7.48	= 89 GAL.		
TOTAL CONTAINMENT			= 3,140 GAL.		

SECONDARY CONTAINMENT CALCULATIONS

DIMENSIONS:					
TANK FARM VOLUME	- 70'-6" X 39'-6" X 1'-6"	= 4235 cu.in X 7.48	= 31,677 gal.		
VOLUME OF 2 HALFS SLOPED FLOOR	- 39'-6" X 35'-3" X 7.25"	= 841 cu.ft. X 7.48	= 6,290 gal.		
VOLUME OF SUMP	1' X 1' X 1'-2"	= 1.1 cu. ft. X 7.48	= 8 gal.		
			= 37,975 gal.		
DISPLACEMENT OF 16 PIERS	1.33' X 1.33' X 1.66'	= 2.9 cu. ft. X 7.48	= 21 X 16	= -336 gal.	
DISPLACEMENT OF TANKS	11' X 5'-3" X 6"	= 43 cu. ft. X 7.48	= 321 gal. X 2	= -642 gal.	
MISC. DISPLACEMENT (SKIDS, PUMPS, SUPPORTS, PIPING, ETC.)	= 2% (37,975 X .02)			= -759 gal.	
TOTAL CONTAINMENT				= 36,238 gal.	

GENERAL NOTES

- THESE STRUCTURES ARE EXISTING AND HAVE BEEN DEPICTED HEREIN FOR CONTAINMENT VOLUME REFERENCE ONLY.

PROPRIETARY STATEMENT

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TITLE

TANKFARM CONCRETE PLAN DETAILS & CONTAINMENT

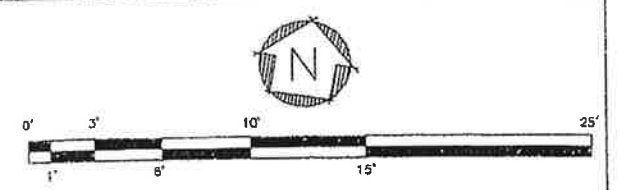
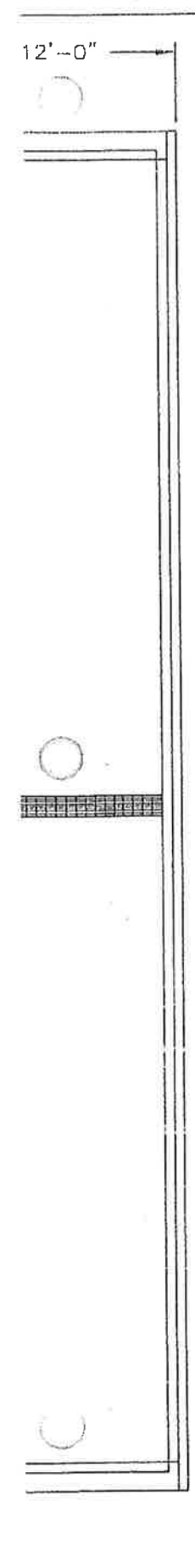
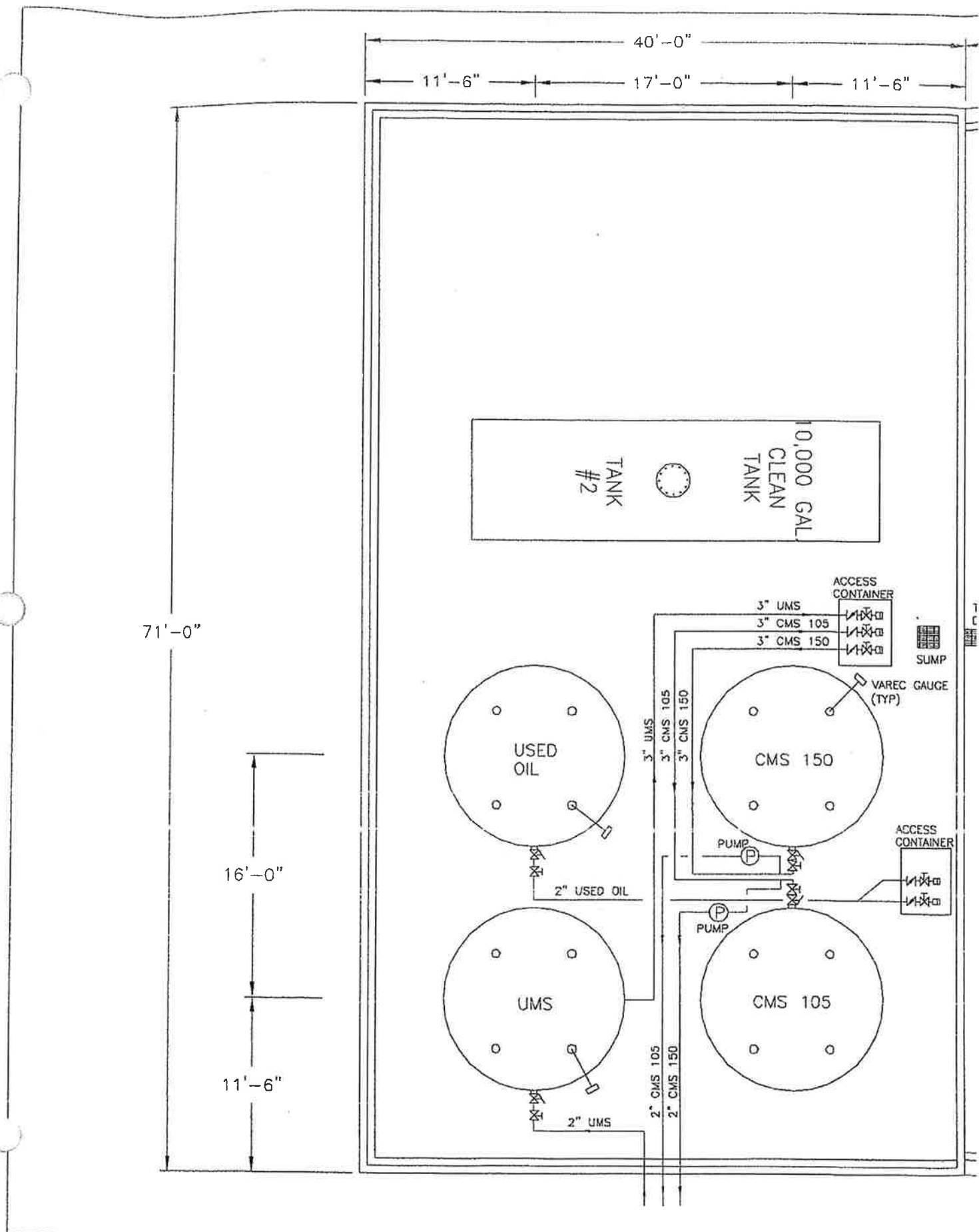
SAFETY-KLEEN SYSTEMS, INC.
2800 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX 75080
PHONE 800-888-5740

SCALE 1/8" = 1'-0" BY PSC CHKD CV P.E. APPR CV DP, APPR CV DATE 2/15/16

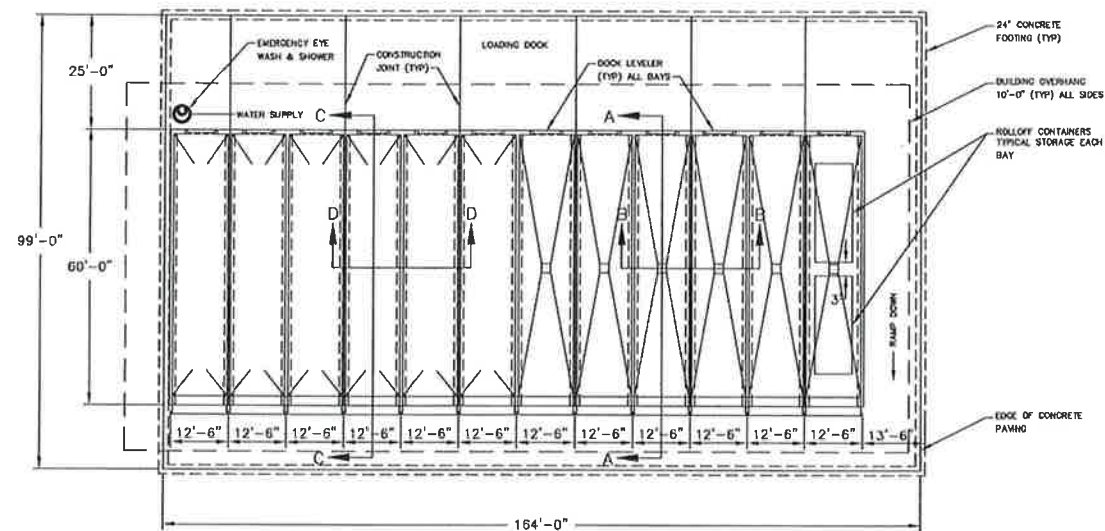
BRANCH LOCATION MILLINGTON, TN. STD-DWG-REV NO. 7160-5500-500



NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	ISSUED FOR PERMIT	JEX	CV	CV	07/27/20
A	ISSUED FOR PERMIT	JEX	CV	CV	03/20/19
D	NEW ISSUE	JEX	CB	CB	02/15/06
REV.	DESCRIPTION	BY	CHK	APPR	DATE



GENERAL NOTES																									
PROPRIETARY STATEMENT																									
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1390 Boone Industrial Drive, Suite 200 • Columbia • MO 65202 Phone: (573) 443-7100 • Fax: (573) 443-7181																									
TITLE																									
TANKFARM PIPING PLAN																									
SAFETY-KLEEN SYSTEMS, INC. 5400 LEGACY DR. CLUSTER II, BLDG. 3 PLANO, TX 75024 PHONE: 800-669-5740																									
<table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>CHK</th> <th>APPR</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DESCRIPTION	BY	CHK	APPR	DATE							<table border="1"> <tr> <th>SCALE</th> <th>BY</th> <th>CHKD</th> <th>APPROVED</th> <th>OPERATIONS</th> <th>DATE</th> </tr> <tr> <td>1/4" = 1'-0"</td> <td>JJK</td> <td>BC</td> <td>BC</td> <td>BC</td> <td>01/26/08</td> </tr> </table>	SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE	1/4" = 1'-0"	JJK	BC	BC	BC	01/26/08
NO.	DESCRIPTION	BY	CHK	APPR	DATE																				
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE																				
1/4" = 1'-0"	JJK	BC	BC	BC	01/26/08																				
<table border="1"> <tr> <th>SERVICE CENTER LOCATION</th> <th>SC-DWG NUMBER</th> <th>REV. NO.</th> </tr> <tr> <td>MILLINGTON, TN</td> <td>7160-4100-100</td> <td>0</td> </tr> </table>		SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.	MILLINGTON, TN	7160-4100-100	0																		
SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.																							
MILLINGTON, TN	7160-4100-100	0																							



TRAILER CONTAINMENT BUILDING

SCALE: 1"=20'-0"

SECONDARY CONTAINMENT VOLUME CALCULATIONS (BAYS 1-6)

SUMP- 3 FT X 4 FT X 45 FT X 7.48 GAL/CF = 4039 GAL.

BAY- 11.83 FT X 57 FT X 0.33 FT X 7.48 GAL/CF = 1,664 GAL.

VOLUME FROM 1% SLOPE: ELEV. FROM FRONT TO SUMP = 0.06 FT
PLANE AREA AT BASE OF CURB = 11.83 FT X 57 FT = 674 FT²
PLANE AREA AT TOP OF SUMP = 3 FT X 45 FT = 135 FT²

$$\text{AVERAGE AREA} = \frac{674 \text{ FT}^2 + 135 \text{ FT}^2}{2} = 404 \text{ FT}^2$$

$$\text{AVERAGE AREA} = \frac{0 \text{ FT} + 0.06 \text{ FT}}{2} = 0.03 \text{ FT}$$

$$\text{VOLUME} = \text{AVERAGE AREA} \times \text{AVERAGE DEPTH} \times 7.48 \text{ GAL/CF} = 404 \text{ FT}^2 \times 0.03 \text{ FT} \times 7.48 \text{ GAL/CF} = 90 \text{ GAL}$$

$$\text{TOTAL CONTAINMENT} = 4039 \text{ GAL} + 1,664 \text{ GAL} + 90 \text{ GAL} = 5793 \text{ GAL PER BAY}$$

SECONDARY CONTAINMENT VOLUME CALCULATIONS (BAYS 7-12)

SUMP- 2 FT X 2 FT X 7.48 GAL/CF = 59 GAL.

BAY- 11.83 FT X 57 FT X 0.33 FT X 7.48 GAL/CF = 1,664 GAL.

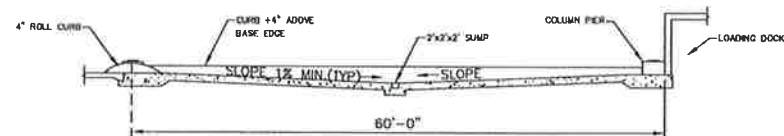
VOLUME FROM 1% SLOPE: ELEV. FROM FRONT TO SUMP = 0.3 FT
PLANE AREA AT BASE OF CURB = 11.83 FT X 57 FT = 674 FT²
PLANE AREA AT TOP OF SUMP = 2 FT X 2 FT = 4 FT²

$$\text{AVERAGE AREA} = \frac{674 \text{ FT}^2 + 4 \text{ FT}^2}{2} = 339 \text{ FT}^2$$

$$\text{AVERAGE DEPTH} = \frac{0 \text{ FT} + 0.3 \text{ FT}}{2} = 0.15 \text{ FT}$$

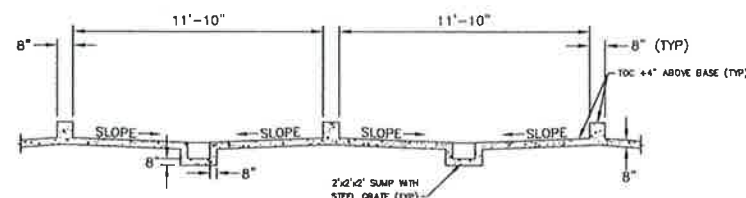
$$\text{VOLUME} = \text{AVERAGE AREA} \times \text{AVERAGE DEPTH} \times 7.48 \text{ GAL/CF} = 339 \text{ FT}^2 \times 0.15 \text{ FT} \times 7.48 \text{ GAL/CF} = 380 \text{ GAL}$$

$$\text{TOTAL CONTAINMENT} = 59 \text{ GAL} + 1,664 \text{ GAL} + 380 \text{ GAL} = 2,103 \text{ GAL PER DAY}$$



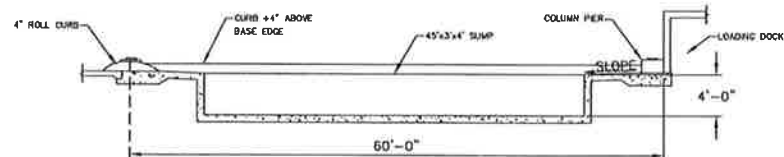
SECTION A-A

N.T.S.



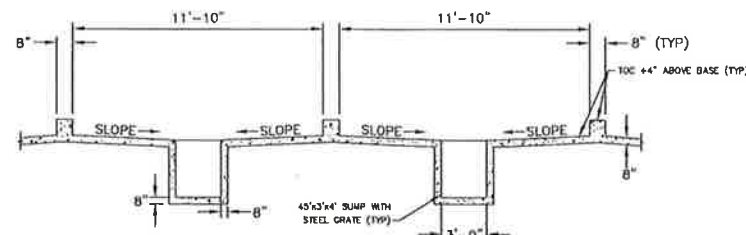
SECTION B-B

N.T.S.



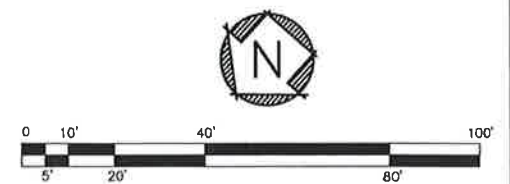
SECTION C-C

N.T.S.



SECTION D-D

N.T.S.



GENERAL NOTES

1. NON-PERMITTED AREAS MAY CHANGE
2. THESE STRUCTURES ARE EXISTING AND HAVE BEEN DEPICTED HEREIN FOR CONTAINMENT VOLUME REFERENCE ONLY.

PROPRIETARY STATEMENT

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TITLE
TRAILER CONTAINMENT BLDG. CONCRETE PLAN & DETAILS

SAFETY-KLEEN SYSTEMS, INC.
3000 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX 75080
PHONE: 972-669-5740



NO.	DESCRIPTION	BY	CHK	APPR	DATE
B	ISSUED FOR PERMIT	JEK	CW	CW	07/27/20
A	ISSUED FOR PERMIT	JEK	CW	CW	03/20/19
D	NEW ISSUE	JEK	CB	CB	02/15/06
NO.	DESCRIPTION	BY	CHK	APPR	DATE
REVISIONS					
SCALE: 1"=20'-0"					
SERVICE CENTER LOCATION: MILLINGTON, TN					
SC-DWG NUMBER: 7160-7100-501					
DATE: 2/15/16					
REV. NO. B					

**ATTACHMENT 9.6 TANK DESIGN, INSTALLATION
AND SYSTEM INTERGRITY ASSESSMENT**

**TANK SYSTEM INTEGRITY ASSESSMENT
10,000-GALLON HAZARDOUS WASTE STORAGE TANK
SAFETY-KLEEN MILLINGTON FACILITY
MILLINGTON, TENNESSEE**

Prepared for:



**Safety-Kleen
3536 Fite Road
Millington, Tennessee 38053**

Prepared by:



**EnSafe Inc.
5724 Summer Trees Drive
Memphis, Tennessee 38134
(901) 372-7962
(800) 588-7962
www.ensafe.com**

June 26, 2008

Table of Contents

1.0	INTRODUCTION.....	1
2.0	ABOVEGROUND TANK INTEGRITY ASSESSMENT	2
2.1	1200-1-11-.06(c)1(i) — Tank and Ancillary Equipment Design Standards	2
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2.3	1200-1-11-.06(c)1(iii)— Evaluation of Potential for Corrosion	3
2.4	1200-1-11-.06(c)1(iv) — Protection of Underground Components from Vehicular Traffic	3
2.5	1200-1-11-.06(c)1(v)— Design Considerations.....	3
2.6	1200-1-11-.06(c)2 — Proper Tank System Installation.....	4
2.7	1200-1-11-.06(c)3 — Proper Backfill Placement	4
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List of Attachments

Attachment A Tank Seismic Analysis Report

1.0 INTRODUCTION

The purpose of this report is to document the assessment by a registered professional engineer of the new 10,000-gallon hazardous waste aboveground storage tank (AST) system at the Safety-Kleen facility at 3536 Fite Road in Millington, Tennessee. Safety-Kleen operates a hazardous waste transfer facility at its Millington location. The applicable regulation for this assessment is Tennessee Rule 1200-1-11-.06(10) – Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Tank Systems, which corresponds to 40 Code of Federal Regulations (CFR) 264 Subpart J. The requirements of this subpart apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste, except:

- Tank systems that are used to store or treat hazardous waste which contains no free liquids and that are situated inside a building with an impermeable floor;
- Tank systems, including sumps, as defined in 1200-1-11-.01(2)(a) [40 CFR 260.10], that serve as part of a secondary containment system to collect or contain releases of hazardous wastes; or,
- Tanks, sumps, and other collection devices used in conjunction with drip pads, as defined in 1200-1-11-.01(2)(a) [40 CFR 260.10] and regulated under 1200-1-11-.01(26) [Part 264 Subpart W].

This document is organized to reflect the specific requirements promulgated in 1200-1-11-.06(10), Tank Systems.

2.0 ABOVEGROUND TANK INTEGRITY ASSESSMENT

The requirements for the assessment of the integrity of new tank systems are described in 1200-1-11-.06(10). This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the wastes to be stored or treated to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

- Tank design standards according to which the tank and ancillary equipment were constructed.
- A description of the waste stored in the tank, including the characteristics of the hazardous waste material.
- Corrosion protection measures, if any.
- Documented age of the tank system.
- Results of a leak test, internal inspection, or other tank integrity examination such that:
 - For non-enterable underground tanks, this assessment must consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects,
 - For other than non-enterable underground tanks and for ancillary equipment, this assessment must be either a leak test, as described above, or an internal inspection and/or other tank integrity examination certified by an independent, qualified, registered professional engineer in accordance with 1200-01-11-.07(2)(a)10 that addresses cracks, leaks, corrosion, and erosion.

2.1 1200-1-11-.06(c)1(i) — Tank and Ancillary Equipment Design Standards

The 10,000-gallon AST was designed in accordance with UL 142 standards. This standard covers steel atmospheric tanks intended for aboveground storage of noncorrosive, stable flammable and combustible liquids that have a specific gravity not exceeding that of water. These tanks are intended for installation and use in accordance with the Flammable and Combustible Liquids Code, National Fire Protection Association (NFPA) 30; the Standard for Installation of Oil Burning

Equipment, NFPA 31; and the Automotive and Marine Service Station Code, NFPA 30A. Tanks covered by these requirements are fabricated, inspected, and tested for leakage before shipment from the factory as completely assembled vessels.

The tank (serial number 87997) was constructed by Certified Tank & Equipment Company, Springfield, Illinois, and is certified by the manufacturer to be constructed and tested in accordance with UL 142.

Openings on the tank include one 4-inch diameter [national pipe thread (NPT)] for fill piping; two 3-inch diameter NPT – one for the drain line and one unused; three 2-inch diameter NPT – one each for gauging, high level alarm, and atmospheric venting; one 8-inch-diameter Schedule 40 nipple for the emergency relief venting device (explosion cap); and one 20-inch diameter manway with a bolted cover.

2.2 1200-1-11-.06(c)1(ii) — Hazardous Characteristics of Waste Stored

The tank will store hazardous waste solvent. Should the tank accidentally overflow, it is situated within a secondary containment structure, which will capture and store the hazardous waste solvent.

2.3 1200-1-11-.06(c)1(iii)— Evaluation of Potential for Corrosion

The hazardous waste storage tank is an outside AST contained within an existing concrete secondary containment structure. Therefore, this section of the regulation is not applicable

2.4 1200-1-11-.06(c)1(iv) — Protection of Underground Components from Vehicular Traffic

The hazardous waste storage tank and the ancillary piping are aboveground, inside the secondary structure, and not subject to impacts from vehicular traffic.

2.5 1200-1-11-.06(c)1(v)— Design Considerations

The skid-mounted hazardous waste storage tank rests on the concrete floor of the outdoor secondary containment. The reinforced concrete floor is 7 inches thick.

Considerations for flotation due to installation in a saturated zone or effects of frost heave are not applicable since the tank system is aboveground. A Tank Seismic Analysis Report, included in Attachment A, was prepared by N.D. Eryou, PhD, PE. The report certifies that the tank foundation

will maintain the load of the full tank and that the tank system meets the seismic requirements of the 2006 International Building Code.

2.6 1200-1-11-.06(c)2 — Proper Tank System Installation

A qualified, experienced installer installed the tank and ancillary equipment (piping, valves, and gauges) in June 2008. Before placing the tank system into use, a qualified professional engineer inspected the system and verified that there were no weld breaks, punctures, scrapes of protective coatings, cracks, corrosion, or other structural damage and no construction or installation discrepancies. Minor touchup painting was required before placing the tank system into service.

2.7 1200-1-11-.06(c)3 — Proper Backfill Placement

Since this hazardous waste tank system is aboveground, this section of the regulation is not applicable.

2.8 1200-1-11-.06(c)4 — Tank Tightness Testing

Certified Tank and Equipment Company performed tank tightness testing before shipping the tank to Safety-Kleen. The tank was air pressure tested at 5 pounds per square inch gauge and found to be tight. Routinely, the tank system is inspected visually to ensure tank integrity and proper operation.

2.9 1200-1-11-.06(c)5 — Ancillary Equipment Support and Protection

The aboveground hazardous waste storage tank is placed inside a concrete secondary containment structure, so the possibility of physical damage is minimized. The fill piping is 2-inch painted iron and the drain piping is 3-inch diameter iron. As appropriate, piping is mounted on pipe supports. All of the piping is positioned so it is protected from damage by vehicles or machinery.

2.10 1200-1-11-.06(c)6 — Corrosion Protection

The aboveground hazardous waste storage tank is coated with white enamel, which provides corrosion protection.

3.0 REGISTERED PROFESSIONAL ENGINEER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information contained in and attached to this document entitled *Tank System Integrity Assessment, Safety-Kleen Millington, Millington, Tennessee*, dated June 26, 2008, and that the referenced tank meets the requirements for new tanks holding liquid hazardous wastes. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

June 26, 2008

Date

Elizabeth Claire Barnett

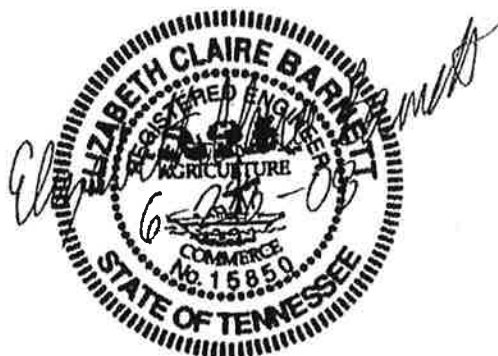
Signature

Elizabeth Claire Barnett, P.E.

Name

15,850

TN Professional Engineer License Number



Attachment A
Tank Seismic Analysis Report

SAFETY-KLEEN SYSTEMS, INC.

Storage Tank Facility
3536 Fite Road
Millington, TN 38053

Tank Seismic Analysis Report

Prepared for:

Safety Kleen Systems, Inc.
5400 Legacy Drive
Cluster II, Building 3
Plano, TX 75070

Prepared by:

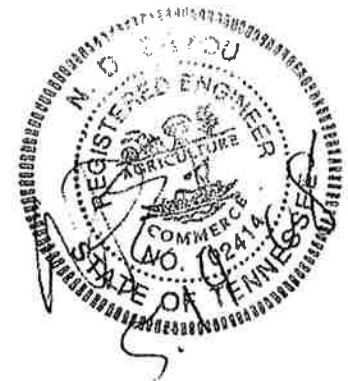
N. D. Eryou, PhD, P.E.
2500 Airport Road S, #210
Naples, FL 34112

May 14, 2008

1.	INTRODUCTION	2
2.	METHODOLOGY	
2.1	Description of Site & Proposed Tank	3
2.2	Soil Conditions	3
2.3	Analysis	3
3.	CONCLUSIONS	4

APPENDICES

A	Location Map
B	Partial Site Plan & Tank Drawing
C	Soil Boring Data
D	Structural Analysis



1. INTRODUCTION

Safety-Kleen Systems, Inc. ("SK") operates a hazardous waste transfer facility at 3536 Fite Road, Millington, TN 38053.

SK has a requirement to install an additional 10,000 gallon horizontal steel UL 142 tank on an existing concrete slab at the facility. This requires a TN PE stamped report indicating that the proposed tank installation meets the local building code seismic structural requirements.

N. D. Eryou, PhD, P.E. was retained by SK to conduct perform an analysis to confirm that the proposed tank installation meets the seismic requirements of the building code.

2. METHODOLOGY

2.1 Description of Site & Proposed Tank

The SK storage tank facility is located at 3536 Fite Road, Millington, TN 38053, as indicated in Figure 1 in Appendix A. SK drawing #7160-4100-100 in Appendix B depicts the location of the proposed 10,000 gallon horizontal storage tank at the existing bulk storage facility.

Drawing 9709CA by Certified Tank & Equipment Co in Appendix A depicts the proposed 10,000 gallon single wall steel UL 142 storage tank. The tank configuration is that of a typical low profile skid tank, with two continuous steel skids extending over the 27'-3" length of the tank rather than the usual two lateral saddles. This type of tank results in a lower bearing stress on the concrete due to the large contact area between the tank structure and the concrete mat. Data on the existing concrete mat was provided by Safety Kleen.

2.2 Soil Conditions

Based upon the three 1989 soil boring logs in Appendix C, the soil at the site is brown silty clay for the first 13 to 20 feet below grade. The next layer of soil is brown silty sand and the soil borings were terminated at 23 feet below grade.

2.3 Analysis

The computerized analysis follows the requirements of the IBC 2006, and the results are provided in Appendix D. The value of all of the required input parameters is also provided therein.

3. CONCLUSIONS

It was concluded that the proposed tank and existing concrete mat meet the structural requirements of IBC 2006.

It is recommended that the tank be bolted to the existing concrete mat with 5/8" ReadHead expansion bolts in each skid, 2' OC, with 6" of embedment in the concrete mat, in order to prevent floatation during a flood or shifting during a seismic event.

APPENDIX A
Location Map

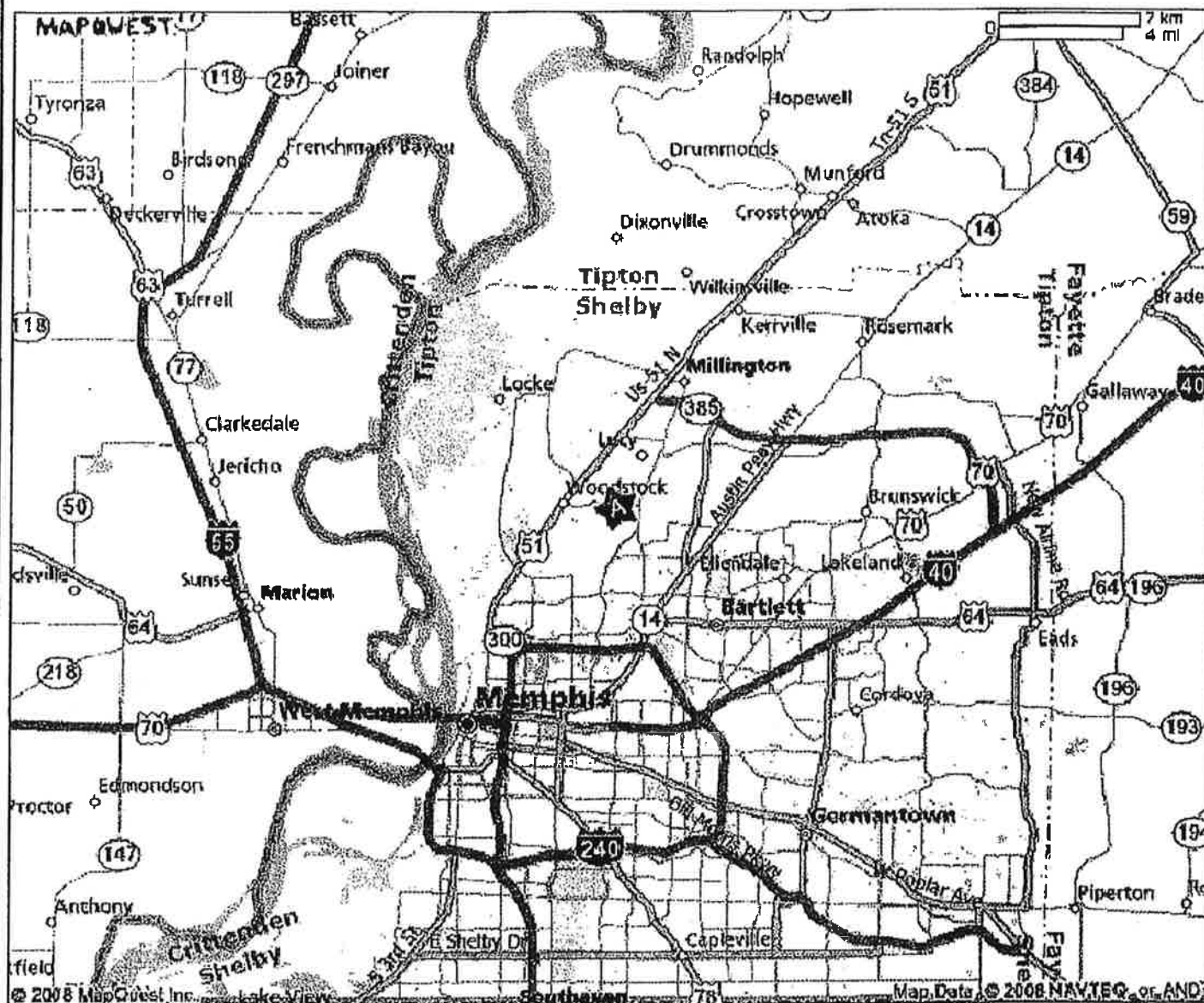
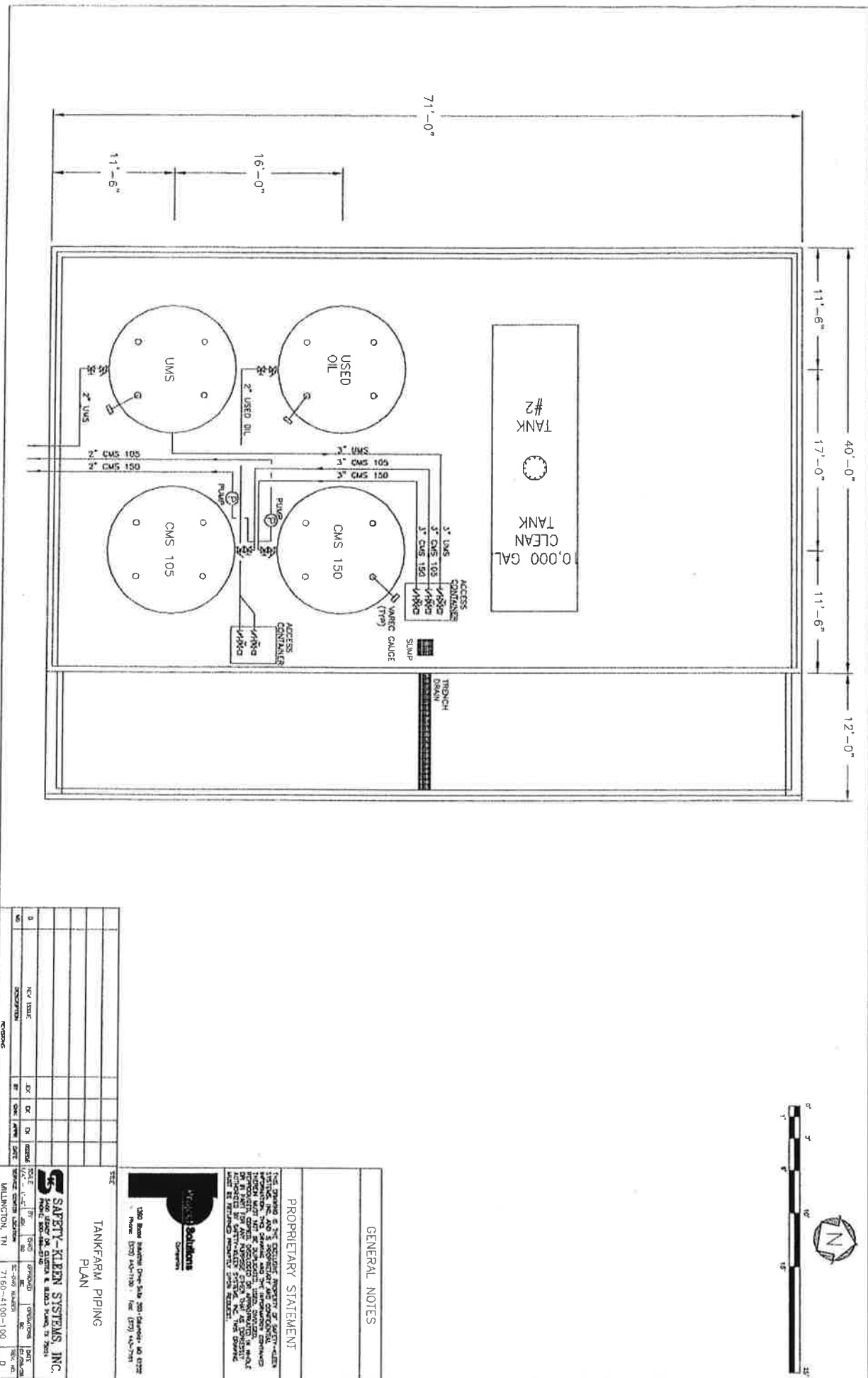


FIGURE 1

N. D. Eryou, PhD, PE
 Consulting Engineer
 2500 Airport Road South #210
 Naples, FL 34112

SAFETY KLEEN SYSTEMS, INC.
 MILLINGTON, TN FACILITY
 LOCATION MAP

APPENDIX B
Partial Site Plan & Tank Drawing



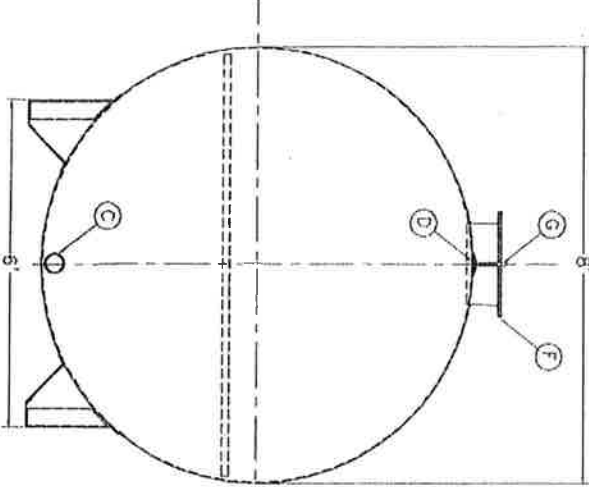
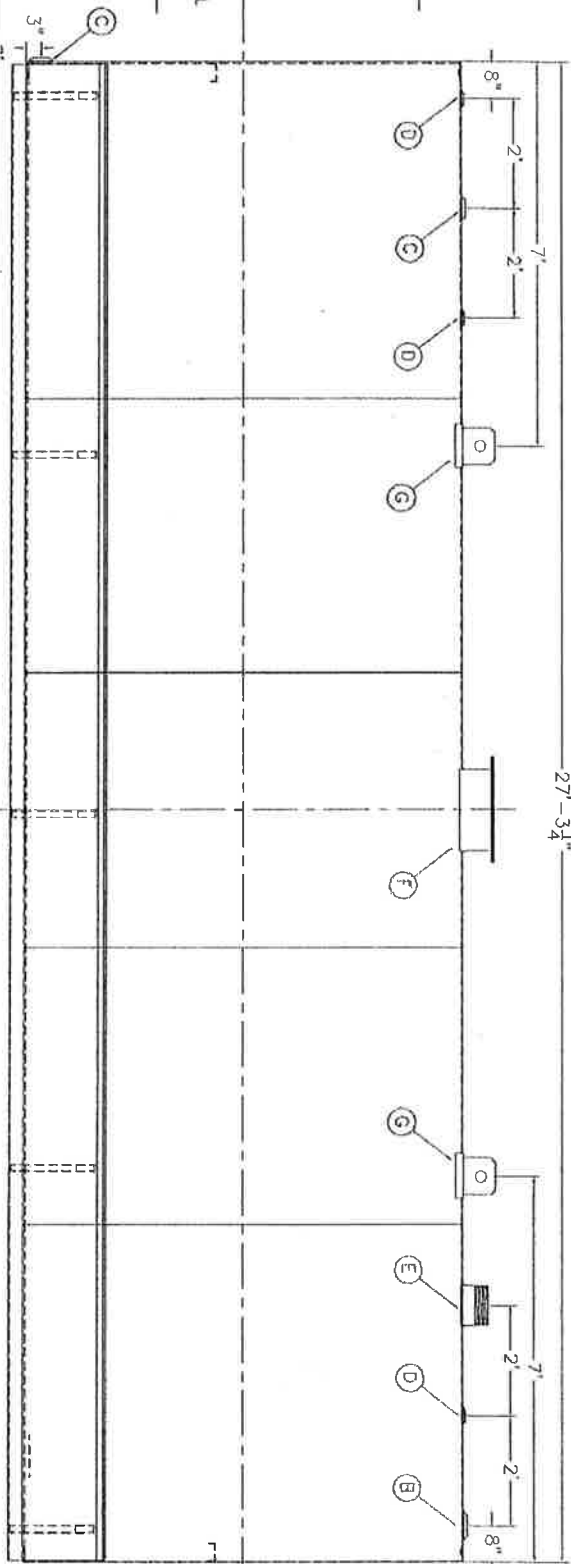
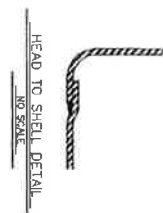
REV	DATE	BY	CHK	APP	DESCRIPTION
0					NEW ISSUE
1					REVISION
2					REVISION
3					REVISION
4					REVISION
5					REVISION
6					REVISION
7					REVISION
8					REVISION
9					REVISION
10					REVISION

SAFETY-KLEEN SYSTEMS, INC.
 1380 Shaw Mission Drive, Suite 200, Charlotte, NC 28211
 Phone: (770) 447-1111 Fax: (770) 447-1111
 MAILING: TN 7150-4100-100 0

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GENERAL NOTES

TANKFARM PIPING PLAN



NOTES:

1. FACE OF FLANGES TO BE SQUARE AND PLUMB.
2. SEE PLAN FOR TRUE ORIENTATION OF ALL OPENINGS ETC.
3. TANK BUILT & LABEL PER UL 142 CODE.

ELEVATION

MATERIAL DESCRIPTION

MODEL	KEY IDENTIFY	DESCRIPTION
DIAMETER	8'-0"	HORIZONTAL SW UL 142 SKID TANK
LENGTH	27'-2 1/4"	
CAPACITY	10,200 GAL	
TANK GAUGE	1/4"	
SUPPORTS	2	UL 142 ABOVEGROUND
OPENING	A	4" #150 WELD FLANGE (NPT)
OPENING	B	2" #150 WELD FLANGE (NPT)
OPENING	C	2" #150 WELD FLANGE (NPT)
OPENING	D	8" SCH 40 NIPPLE (E-VENT)
OPENING	E	20" S.P. MANWAY (BOLT TYPE)
LIFT LUG	F	5/8" x 6" x 8" w/ REIN. PAD
LABEL	H	ABOVEGROUND UL 142 & CEH LABEL

CUSTOMER APPROVAL NEEDED
BEFORE PRODUCTION

NAME: _____
DATE: _____

END VIEW

SCALE

NOTICE
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REVISIONS		8'-0" x 27'-0" 10,000 SW UL SKID TANK	
SAFETY-KLEEN		CERTIFIED	
DRAWN BY RCH		TANK & EQUIPMENT COMPANY	
DATE	DATE	SCALE	DRAWING NO.
			9709CA

APPENDIX C
Soil Boring Data



RICHARD C. HACKETT
Mayor of Memphis

MEMPHIS AND SHELBY COUNTY
HEALTH DEPARTMENT

RICHARD SWIGGART
Acting Director

SHERMAN KAHN, M. D.
Acting Health Officer



WILLIAM N. MORRIS, JR.
Mayor of Shelby County

April 7, 1989

Mr. Stephan McLaughlin Properties, Ltd.
3536 Fite Rd.
Millington, TN 38053

RE: CONSTRUCTION OF A MONITORING WELL(S): 3536 Fite Rd.
Permit # DW-412 (MW 1-4)

Dear Mr. McLaughlin:

This letter is to inform you that a construction permit has been issued to your selected well driller for construction of the above referenced monitoring well(s). We appreciate the cooperation you have given the Health Department during the application review process. Please be reminded of the following requirements:

1. The Health Department is to be notified when construction of the well(s) begins.
2. The Health Department is to be notified if the well driller violates any of the conditions for which the permit was issued.
3. The Health Department is to be notified for prior approval of any changes in plans for construction such as well site location, number of wells needed, well usage such as converting a monitoring well to a recovery well, or in the well driller initially selected to do the work.
4. Well logs on the well(s) are to be submitted to this office within thirty (30) days of work completion.

Once again, your cooperation in this matter will be appreciated. Should you have any questions or need additional information you can contact me or Mr. Barry Moore at 576-7741.

Sincerely,

Helyn L. Keith, Manager
POLLUTION CONTROL

BM:HK:blm

Enclosure

Moore

Vernor

Aug *B2R*

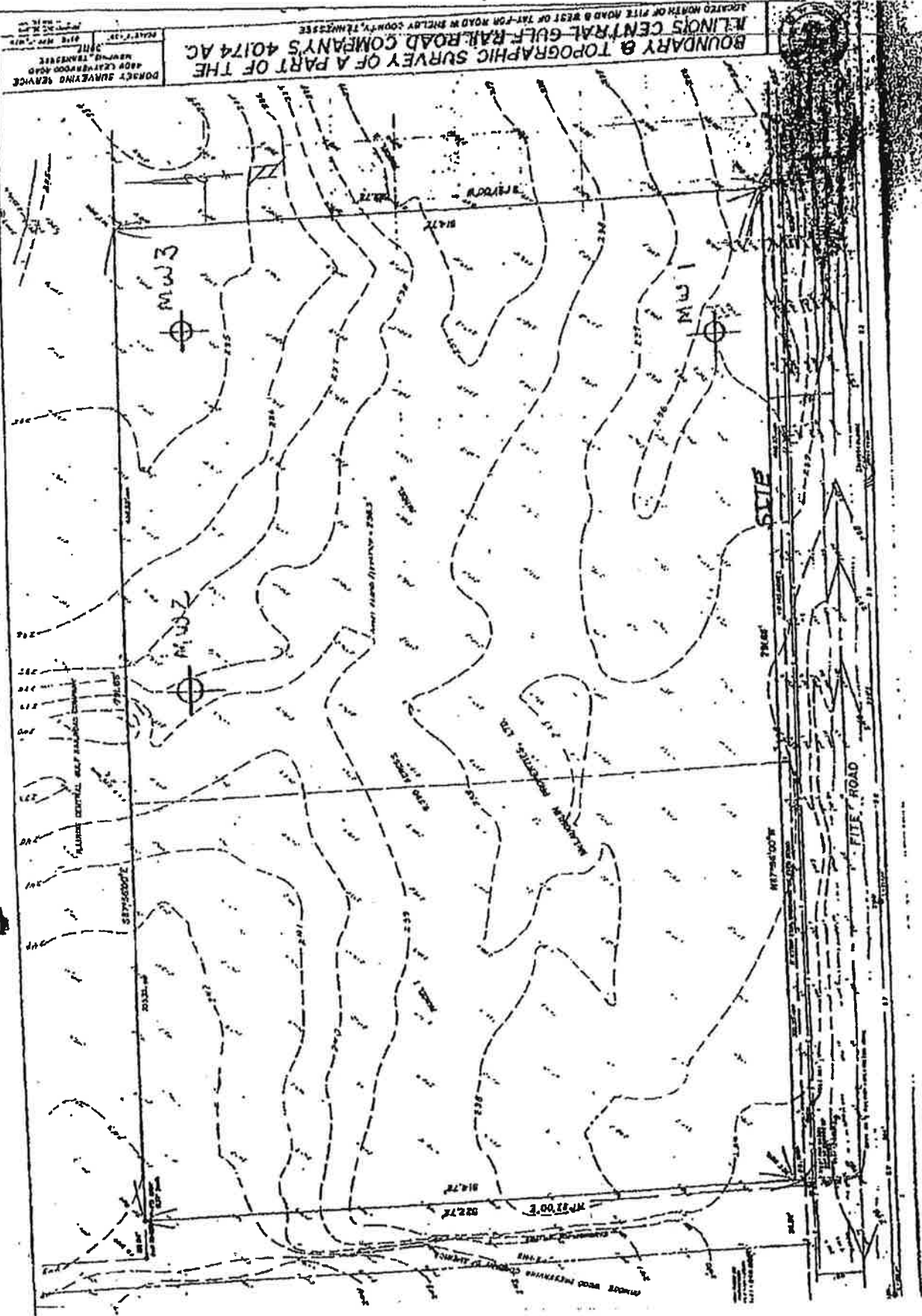
3536 Fire Road

MONITORING WELL

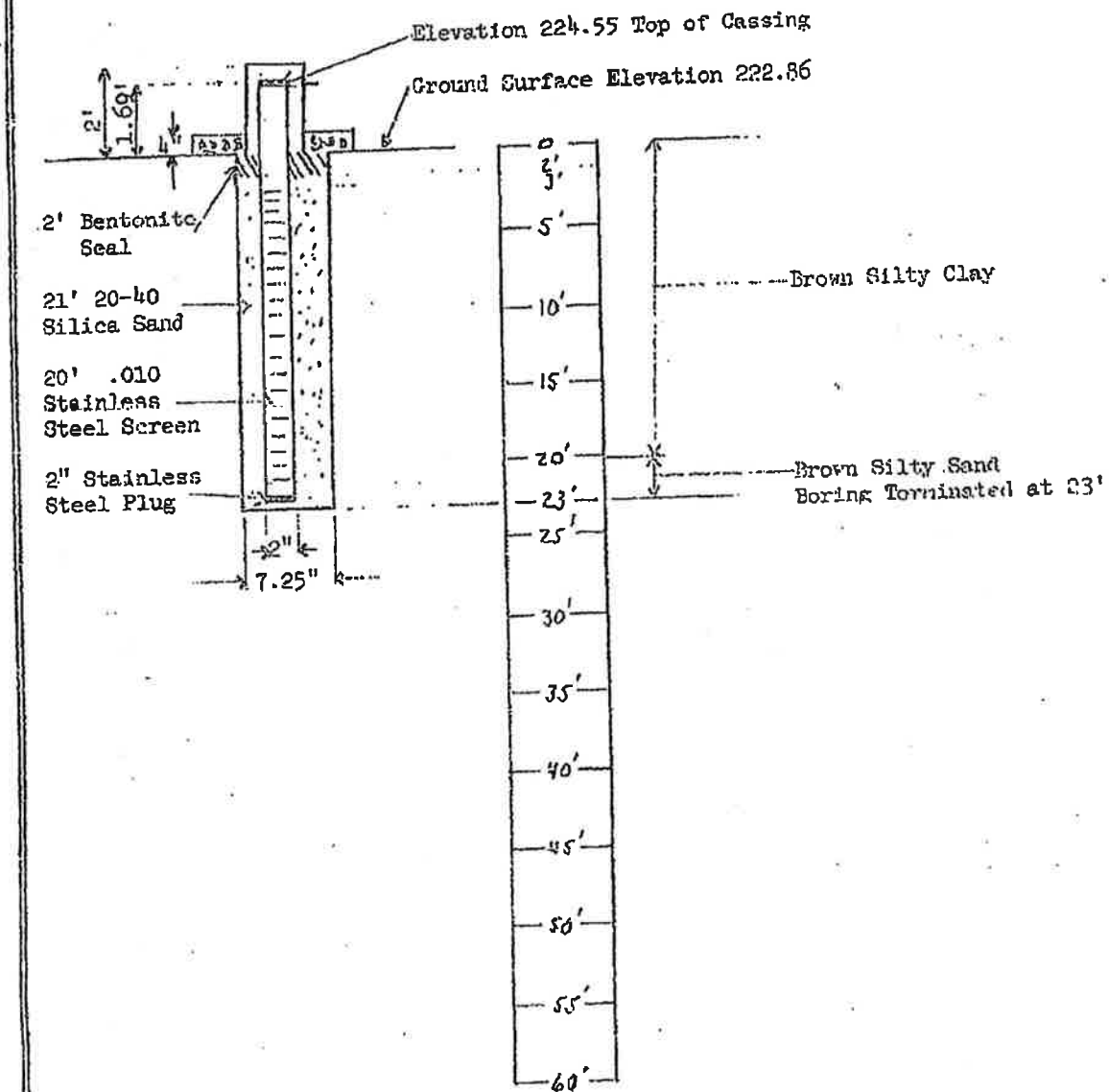
APR 19 1989

P. 9

May 25 07 11:12a



APR 19 1989



SCALE: Not to Scale

Tricil Corporation

Monitoring Well #1

Well Permit #12

JOB NO.

E-1-157

DRAWN BY

DEM

DATE

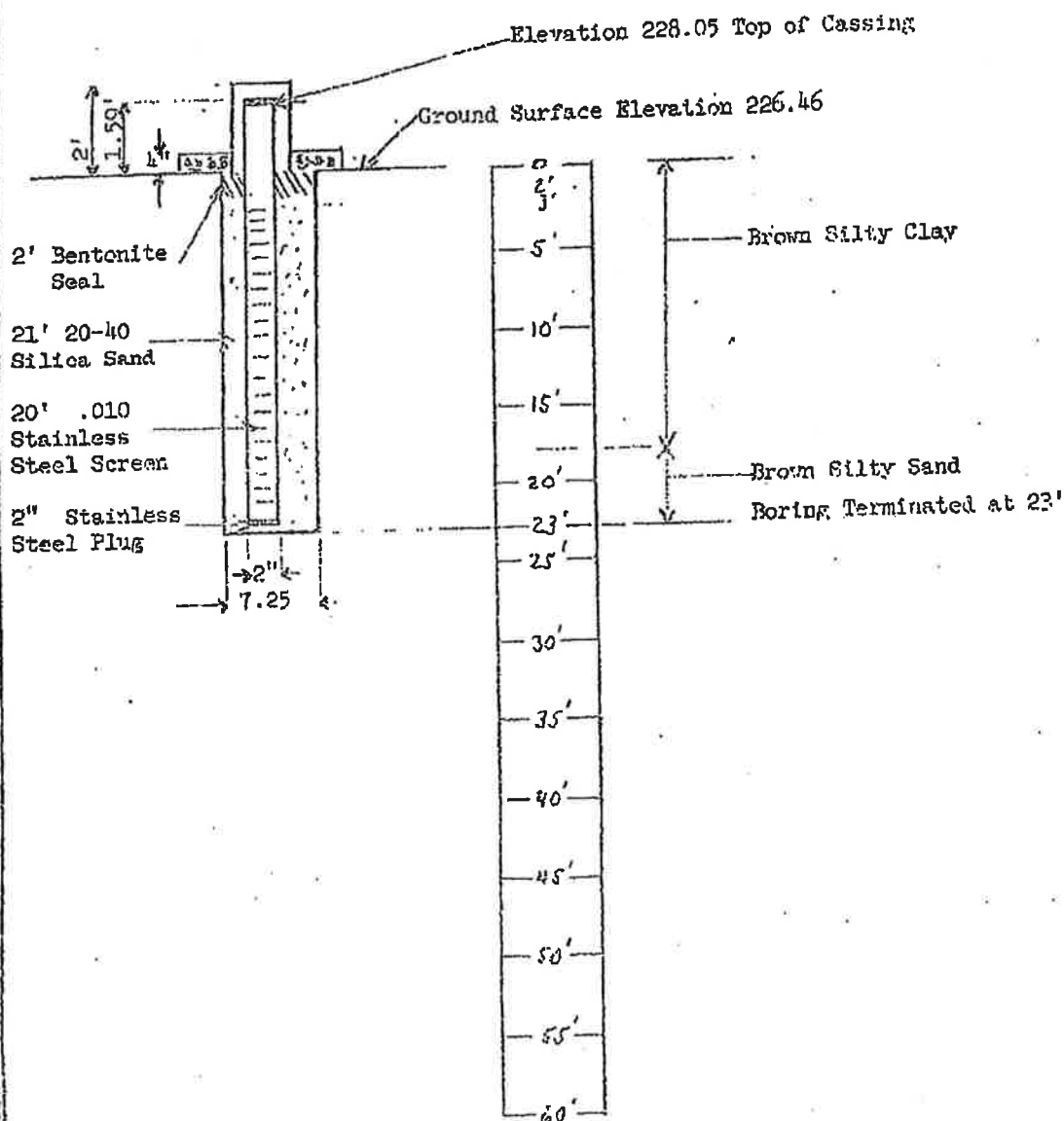
4-18-89

REVIEWED BY



Tri State Trading & Drilling

APR 19 1990



Tricil Corporation
Monitoring Well #2

Well Permit #MW 412

JOB NO.

E-1-157

DRAWN BY

DDM

DATE

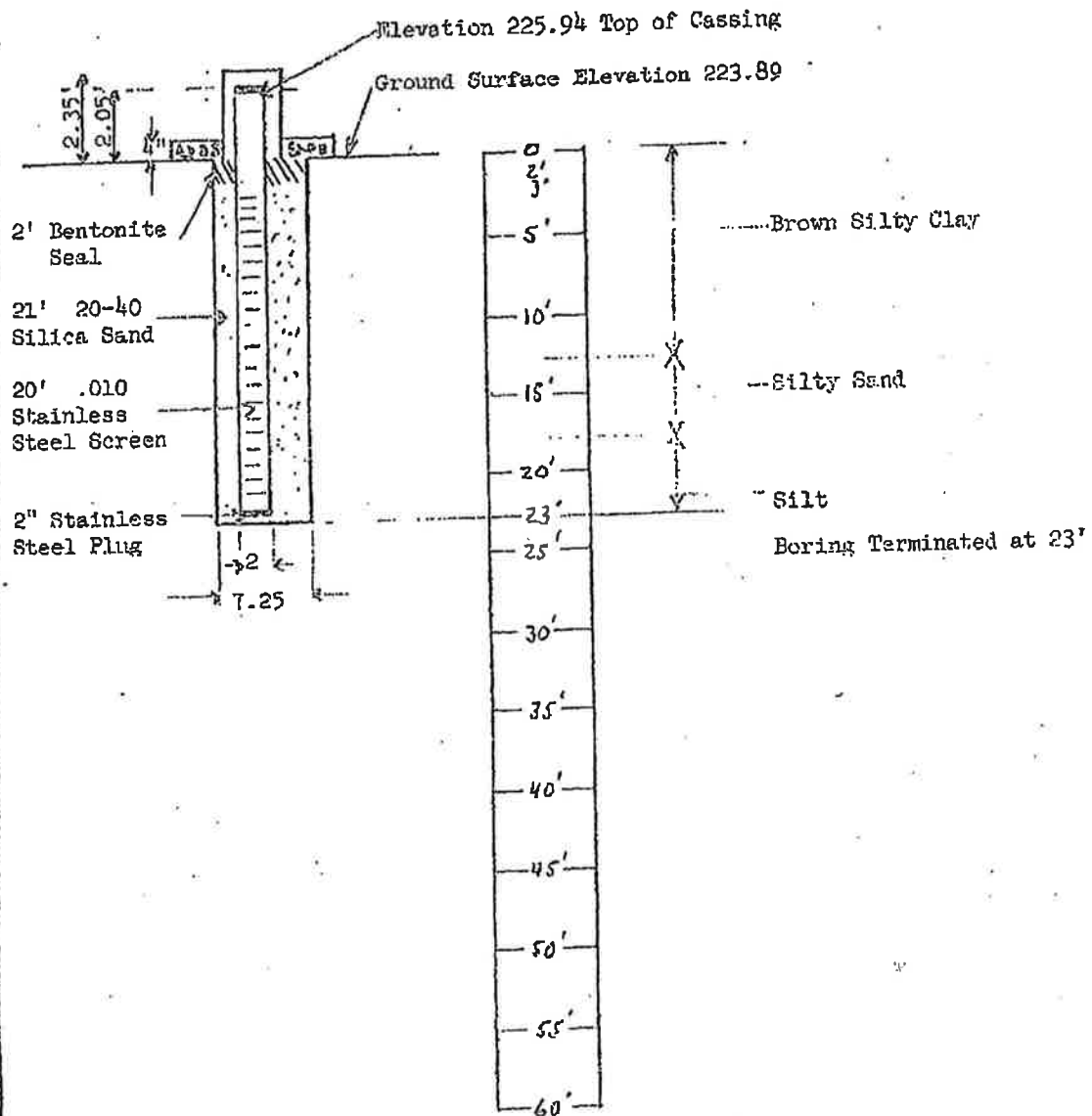
4-18-89

REVIEWED BY



Tel-State Testing & Drilling

SCALE: Not to Scale



SCALE: Not to Scale

Tricil Corporation

Monitoring Well #3

Well Permit #DM 418

JOB NO.

E-1-157

DRAWN BY

DDM

DATE

4-18-02

REVIEWED BY



TIC-Solo Testing & Drilling

APPENDIX D

Structural Analysis

Eryou Engineering

Design Calculations for a Tank Slab with Skid Supported Tank

Client: Safety Kleen Systems
Jobsite: Millington, TN
Designed by: BEL
Date: 5/12/08
Revision: 0

Section	Description	Page(s)
I	Loading Requirements	2
II	Material Properties	2
III	Support Footing Analysis and Design	3

Revision	Description	Date
0	Original Design	5/12/08
1		

Eryou Engineering

Design Calculations for a Tank Slab with Skid Supported Tank

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Section	Description	Page(s)
I	Loading Requirements	2
II	Material Properties	2
III	Support Footing Analysis and Design	3

Revision	Description	Date
0	Original Design	5/12/08
1		

I. Loading Requirements

$SG := 1.0$ Specific gravity of product

$D_t := 8\text{-ft}$ Tank diameter

$L_t := 27\text{-ft} + 3.25\text{-in}$ Length of tank

$$V_t := \frac{\pi}{4} \cdot D_t^2 \cdot L_t$$

$V_t = 10254\text{ gal}$ Tank volume

$t_t := .375\text{-in}$ Average tank thickness (assumed)

$DL_{\text{misc}} := 15\text{-psf}$

$$SA_t := \left(\pi \cdot D_t \cdot L_t + 2 \cdot \frac{\pi}{4} \cdot D_t^2 \right) \cdot 2$$

$SA_t = 1572\text{ ft}^2$ Surface area of tank

$$W_f := V_t \cdot SG \cdot \gamma_w$$

$W_f = 85564\text{-lbs}$ Weight of fluid in tank

$$W_t := SA_t \cdot \gamma_s \cdot t_t + SA_t \cdot DL_{\text{misc}}$$

$W_t = 47647\text{-lbs}$ Approximate weight of tank

$W_{ll} := 25\text{-psf} \cdot D_t \cdot L_t$ Tank live load

$$W_{ll} = 5454\text{-lbs}$$

I. Loading Requirements

$$S_{\text{supp}} := 6 \cdot \text{ft} \quad \text{Skid spacing}$$

$$F_D := \frac{(W_t + W_f)}{2} \quad \text{Dead weight}$$

$$F_D = 66605 \cdot \text{lbs}$$

$$F_L := \frac{W_{ll}}{2} \quad \text{Live load}$$

$$F_L = 2727 \cdot \text{lbs}$$

$$H_{\text{CG}} := 4 \cdot \text{ft} + 6 \cdot \text{in} \quad \text{Height to CG of tank}$$

$$S_S := .178 \quad \text{Short period seismic coefficient}$$

$$F_a := 1.0 \quad \text{Seismic coefficient for site class D}$$

$$S_{DS} := \frac{2}{3} \cdot F_a \cdot S_S$$

$$R := 3 \quad \text{Response modification coefficient}$$

$$I := 1.0 \quad \text{Importance factor}$$

$$C_i := S_{DS} \cdot \frac{I}{R} = 0.04 \quad \text{Lateral seismic force coefficient per IBC 2006}$$

$$a_v := .2 \cdot S_{DS} \cdot I = 0.02 \quad \text{Vertical seismic force coefficient per IBC 2006}$$

$$M_s := F_D \cdot C_i \cdot H_{\text{CG}}$$

$$M_s = 12 \cdot \text{ft} \cdot \text{kip} \quad \text{Seismic overturning moment at heaviest loaded support}$$

$$V_s := F_D \cdot C_i \quad \text{Seismic shear at heaviest loaded support}$$

II. Material Properties

$q_{cap} := 1500 \cdot \text{psf}$	Soil bearing capacity
$f_c := 3000 \cdot \text{psi}$	Concrete Strength
$f_y := 60000 \cdot \text{psi}$	Yield strength of reinforcing steel
$S_{inc} := .33$	Stress increase for seismic design
$W_{inc} := .33$	Stress increase for wind design
$K_a := 0.5$	Coefficient of at-rest soil pressure (Minimum = 0.4)
$\mu_s := .4$	Soil friction coefficient

III. Support Footing

A. Geometry

$B_{fF1} := 2\text{-ft}$	Width of footing
$L_{fF1} := 28\text{-ft}$	Length of footing
$t_{fF1} := 7\text{-in}$	Thickness of footing
$\text{cover}_{bfF1} := 3\text{-in}$	Reinforcing cover on bottom bars
$d_{bbF1} := .5\text{-in}$	Diameter of bottom bars
$s_{bbF1} := 15\text{-in}$	Spacing of bottom bars
$h_{fF1} := t_{fF1}$	Depth to bottom of footing
$A_{fF1} := L_{fF1} \cdot B_{fF1}$	Area of footing
$S_{fF1} := \frac{L_{fF1} \cdot B_{fF1}^2}{6}$	Section modulus of footing plan

B. Service Loads

$$P_{sBF1} := \begin{bmatrix} F_D \\ F_D + F_L \\ F_D \cdot \left(1 + \frac{a_v}{1.4}\right) + F_L + \frac{V_s}{1.4} \cdot \frac{H_{CG}}{S_{supp}} \end{bmatrix} \quad \text{Service load combinations}$$

$$M_{sBF1} := \begin{bmatrix} 0\text{-ft}\cdot\text{kip} \\ 0\text{-ft}\cdot\text{kip} \\ \frac{M_s}{1.4} \end{bmatrix} \quad \text{Service moment on footing}$$

III. Support Footing

A. Geometry

$$B_{fF1} := 2 \cdot \text{ft}$$

Width of footing

$$L_{fF1} := 28 \cdot \text{ft}$$

Length of footing

$$t_{fF1} := 7 \cdot \text{in}$$

Thickness of footing

$$\text{cover}_{bF1} := 3 \cdot \text{in}$$

Reinforcing cover on bottom bars

$$d_{bbF1} := .5 \cdot \text{in}$$

Diameter of bottom bars

$$s_{bbF1} := 15 \cdot \text{in}$$

Spacing of bottom bars

$$h_{fF1} := t_{fF1}$$

Depth to bottom of footing

$$A_{fF1} := L_{fF1} \cdot B_{fF1}$$

Area of footing

$$S_{fF1} := \frac{L_{fF1} \cdot B_{fF1}^2}{6}$$

Section modulus of footing plan

B. Service Loads

$$P_{sBF1} := \begin{bmatrix} F_D \\ F_D + F_L \\ F_D \cdot \left(1 + \frac{a_v}{1.4}\right) + F_L + \frac{V_s}{1.4} \cdot \frac{H_{CG}}{S_{supp}} \end{bmatrix}$$

Service load combinations

$$M_{sBF1} := \begin{bmatrix} 0 \cdot \text{ft} \cdot \text{kip} \\ 0 \cdot \text{ft} \cdot \text{kip} \\ \frac{M_s}{1.4} \end{bmatrix}$$

Service moment on footing

III. Support Footing

C. Ultimate Loads

$$P_{uBF1} := \begin{bmatrix} 1.4 \cdot F_D \\ 1.4 \cdot F_D + 1.6 \cdot F_L \\ F_D \cdot (1 + a_v) + F_L + V_s \cdot \frac{H_{CG}}{S_{supp}} \end{bmatrix}$$

Ultimate load combinations

$$M_{uBF1} := \begin{pmatrix} 0 \cdot \text{ft} \cdot \text{kip} \\ 0 \cdot \text{ft} \cdot \text{kip} \\ M_s \end{pmatrix}$$

Ultimate moment on footing

$$INC_{BF1} := \begin{pmatrix} 0 \\ 0 \\ .33 \end{pmatrix} \quad INC_{LF1} := \begin{pmatrix} 0 \\ 0 \\ .33 \end{pmatrix}$$

Increase in allowable bearing pressure for each load combination

D. Check Footing Size

$$q_{fnetF1} := \frac{(B_{fF1} \cdot L_{fF1} \cdot t_{fF1}) \cdot \gamma_c}{B_{fF1} \cdot L_{fF1}} - h_{fF1} \cdot \gamma_e$$

$$q_{fnetF1} = 23 \cdot \text{psf}$$

Net bearing pressure due to weight of concrete and soil

$$q_{fF1} := \frac{(B_{fF1} \cdot L_{fF1} \cdot t_{fF1}) \cdot \gamma_c}{B_{fF1} \cdot L_{fF1}}$$

$$q_{fF1} = 87 \cdot \text{psf}$$

Actual bearing pressure due to weight of concrete

$$n := 1 \dots \text{rows}(P_{sBF1})$$

$$q_{BF1_n} := q_{fnetF1} + \frac{P_{sBF1_n}}{A_{fF1}} + \frac{M_{sBF1_n}}{S_{fF1}}$$

$$q_{BF1} = \begin{pmatrix} 1213 \\ 1261 \\ 1760 \end{pmatrix} \cdot \text{psf}$$

$$\frac{q_{BF1}}{q_{cap} \cdot (1 + INC_{BF1})} = \begin{pmatrix} 80.8 \\ 84.1 \\ 88.2 \end{pmatrix} \cdot \%$$

Bearing check.
Values must not exceed 100%

III. Support Footing

E. Check Bottom Steel in Footing

$$n := 1.. \text{rows}(P_{uBF1})$$

$$q_{\max F1_n} := \frac{P_{uBF1_n}}{A_{fF1}} + \frac{M_{uBF1_n}}{S_{fF1}} \quad q_{\max F1} = \begin{pmatrix} 1665 \\ 1743 \\ 1937 \end{pmatrix} \cdot \text{psf} \quad \text{Ultimate pressure under footing}$$

$$M_{uBF1_n} := \frac{q_{\max F1_n} \cdot \left(\frac{B_{fF1}}{2} - 2 \cdot \text{in} \right)^2}{2}$$

$$M_{uBF1} = \begin{pmatrix} 578 \\ 605 \\ 672 \end{pmatrix} \cdot \frac{\text{ft} \cdot \text{lbs}}{\text{ft}} \quad \text{Ultimate moment in footing}$$



$$p_{\text{req}F1_n} := p_{f_n} \quad p_{\text{req}F1} = \begin{pmatrix} 0.00110 \\ 0.00110 \\ 0.00120 \end{pmatrix} \quad \text{Minimum reinforcing ratio required by design}$$

$$p_{\text{use}F1} := \frac{\frac{\pi}{4} \cdot d_{bbF1}^2}{s_{bbF1} \cdot d_{sbF1}} \quad p_{\text{use}F1} = 0.00403 \quad \text{Reinforcing ratio used}$$

$$\frac{p_{\text{req}F1}}{p_{\text{use}F1}} = \begin{pmatrix} 27.3 \\ 27.3 \\ 29.8 \end{pmatrix} \% \quad \text{Reinforcing ratio check. Values must not exceed 100\%}$$

$$\frac{p_{\text{use}F1}}{p_{\max}} = 25.1 \% \quad \text{Maximum reinforcing ratio check. Values must not exceed 100\%}$$

$$\frac{.0018}{\frac{\pi}{4} \cdot d_{bbF1}^2 / s_{bbF1} \cdot t_{fF1}} = 96.26 \% \quad \text{Check against minimum reinforcing ratio}$$

III. Support Footing

F. Beam Shear Check

$$V_{uBF1} := q_{\max F1} \cdot B_{fF1} \cdot \left(\frac{B_{fF1}}{2} - 2 \cdot \text{in} - d_{sbF1} \right)$$

Beam shear in footing

$$\phi_v := 0.85$$

Resistance factor for shear

$$V_{cBF1} := 2 \cdot \sqrt{\frac{f_c}{\text{psi}}} \cdot \text{psi} \cdot d_{sbF1} \cdot B_{fF1}$$

Nominal footing shear strength

$$\frac{V_{uBF1}}{\phi_v \cdot V_{cBF1}} = \left(\frac{25.8}{27.0} \right) \cdot \left(\frac{30.0}{30.0} \right) \cdot \%$$

Must be less than or equal to 100%

G. Punching Shear Check

$$A_{vF1} := \left[\pi \cdot (d_{sbF1} + L_{fF1} \cdot 2) \right] \cdot d_{sbF1}$$

$$A_{vF1} = 6894 \cdot \text{in}^2$$

Shear area resisting punching

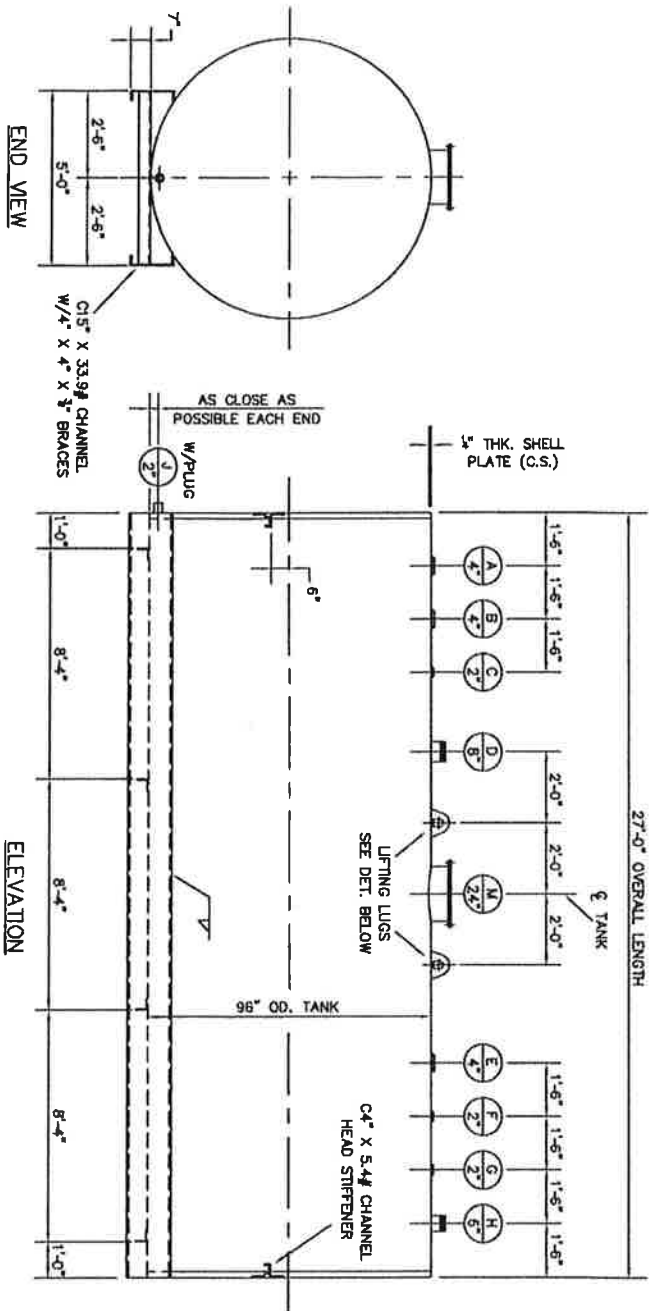
$$q_{uBF1n} := \frac{P_{uBF1n}}{B_{fF1}^2}$$

Ultimate uniform load under footing

$$f_{vBF1n} := \left(\frac{P_{uBF1n}}{A_{vF1}} \right)$$

$$\frac{f_{vBF1n}}{\left(0.85 \cdot 4 \cdot \sqrt{\frac{f_c}{\text{psi}}} \right) \cdot \text{psi}} = \left(\frac{7.3}{7.6} \right) \cdot \left(\frac{5.7}{5.7} \right) \cdot \%$$

Must be less than or equal to 100%



END VIEW

ELEVATION

DETAIL @ PIPE NIPPLE

DETAIL @ MANWAY

- GENERAL NOTES
- 1) THIS TANK REQUIRES EMERGENCY RELIEF VENTING. CAPACITY NOT LESS THAN 386,000 CUBIC FEET PER HOUR.
 - 2) THIS TANK IS INTENDED FOR STATIONARY INSTALLATION "ONLY".

BY	AP	NO.	REV'D	REVISION	TBA	NO.	DATE	NO.
CHK.	BY	W/X	JDB	NO.	DWG.	NO.	1	OF 1
APR.	BY	W/X	P.O.	NO.	SRT.	NO.	1	OF 1

ATTACHMENT 9.7 SEALANT INFORMATION AND TECHNICAL DATA

The existing surface coating in tank farm was re-coated with ChemTec One clear coat sealant on May 6, 2015. The Container Storage Area was re-coated with ChemTec One clear coat sealant on May 6, 2015. The SDS for the sealant and technical specifications are on the following pages.

An SDS for the Safety-Kleen Mineral Spirits Solvent is also included in this section.

For example, for cracks or gaps the daily inspections.....if there is a crack or gap a work order is automatically generated.....



TECHNICAL DATA

CHEMTEC INT'L INC.

Original
File Copy

1. PRODUCT NAME

CHEMTEC ONE™

High Performance Water Based Non-Toxic Chemical Treatment that hardens, strengthens, stabilizes, protects, increases the mass & density and extends the useful life of concrete structures.

2. MANUFACTURER

CHEMTEC INT'L INC.

7771 Woodstone Drive, Suite 100

Cincinnati Ohio 45244-2855

Phone (513) 474-2090

Fax (513) 474-2054

3. PRODUCT DESCRIPTION

A colorless non-toxic chemical that penetrates the concrete permeable zones producing an insoluble by-product that directly encapsulates the Cementos properties of concrete, thereby greatly reducing the porosity, increasing the surface hardness and compression strength. Protecting the concrete from attack by liquids acids, salts and other contaminants

PROTECTING CONCRETE

This process actually produces a reactive by-product that fills the gel pours, shrinkage cracks and alligator cracks of the concrete. The by-product can in some cases reach depths of over 3 inches into the concrete, making the concrete extremely resistant to water and contaminant penetration. The process allows the concrete to breathe while still giving excellent protection. This process keeps the alkaline content (pH) high, and in cases where deteriorated concrete is being treated, actually raises the pH of the concrete thereby stabilizing and in some cases reversing the deterioration. This process should be used prior to concrete repair, because of its ability to raise the pH of existing deteriorated concrete.

HARDENING

Because *CHEMTEC ONE* produces a reactive and solid by-product in the concrete, it increases the mass and density thereby making the surface harder and increasing the compression strength. Lab test have shown up to 45% increase in hardness of treated samples with *CHEMTEC ONE* vs

non-treated samples. Reactive products have been used for years as commercial floor protectors / hardeners. We now have the proper formula for deep penetrating protection for all fully cured concrete as well.

USES

CHEMTEC ONE'S primary use is for protecting new and existing dense concrete structures such as Commercial Floors, Parking Facilities, Bridges, Loading Ramps, Driveways, Walkways, Roads, Runways, Taxiways and any concrete structure. *CHEMTEC ONE* can increase the useful life of normal concrete up to 40%. This process is designed for normal, dense high strength concrete and should not be used on porous concrete blocks or similar type concrete.

4. TECHNICAL DATA

TEMPERATURE LIMITS:

CHEMTEC ONE can be applied in temperatures as low as 38° F and as high as 95° F. Do not allow the surface to freeze for at least 24 hours after the final application.

DRYING TIME: Normal drying time is about 2 to 4 hours depending on the temperature and humidity. The surface must be completely dry prior to applying *CHEMTEC ONE*,

PAINTING / COATINGS: The surface can be painted on 24 hours after the surface has completely dried. However, it is recommendation that you wash off the surface with fresh water and let thoroughly dry before painting lines or anything else on the surface.

INTERNAL MAKEUP: A proprietary blend of reactive silicates and surface active agents. Non-Toxic, Non-flammable, Non-Hazardous. NO special handling requirements under environmental regulations.

CAUTIONS: *CHEMTEC ONE* is high in alkaline content. Wear protective clothing, gloves, breathing apparatus as on. Make sure there is adequate ventilation. See MSDS, product label or installation instruction booklet for complete safety details.

DO NOT apply or splash on glass or painted surfaces, protect decorative door fronts as this product may stain them. If you do splash on these surfaces, clean with fresh water immediately. **DO NOT** store in aluminum, containers or use aluminum spraying equipment. **CLEAN UP** equipment with soap and water as soon as possible after use. **CAUTION**, leaving residue in spraying equipment may damage equipment.

COLOR: *CHEMTEC ONE* is a clear liquid and comes pre mixed. **DO NOT** dilute. A slight brown tint may appear on the surface of the concrete after the final application. This is a sign that iron is present in the concrete. This will wash / wear off in of time.

PACKAGING: 55-Gallon drums and 5-Gallon buckets / bulk shipments available.

COVERAGE: the average coverage for fully cured brushed finished concrete will range between 100 to 125 square feet per gallon per application. Two applications are necessary on these types of concrete surfaces. The coverage for commercial steel troweled concrete floors should be between 175 and 250 square feet per gallon. and generally only one application is necessary.

ANTICIPATED TREATMENT RESULTS: The *CHEMTEC ONE* treatment can produce the following results.

- Reduce the porosity of existing concrete by up to 90%.
- Increase the surface hardness in existing concrete by up to 45% as results of ASTM C-779
- Increase Compression strength in deteriorated concrete.

- Reduce chloride penetration.
- Inhibit chemical attack of treated concrete.
- Form a gelling to a solid by-product in the micro-cracks, gel pours and alligator cracks in the concrete to the depth of penetration.
- Retard scaling of high strength concrete. Meets ASTM C-672
- Raise the pH of deteriorated concrete
- Reduces water absorption by up to 98% as results of ASTM C-642

5. INSTALLATION

METHOD OF APPLICATION:

Simply pour, pump or spray the formula from the container or pumping system.

TOOLS NEEDED: Low pressure sprayers, brooms, safety equipment and protective gear. Mechanical Scrubbers

SURFACE PREPARATION: The surface of the concrete must be clean and free of foreign material, such as grease and coatings that would prevent the CHEMTEC formula from penetrating into the concrete. Thoroughly clean dirty areas. **DO NOT ACID WASH CONCRETE.** Concrete must be completely dry before application of the formula can begin on fully cured surfaces.

IMPLEMENTATION: Pre-determine the amount of formula (gallons) that will be needed to complete the project.

A) Application on steel troweled surfaces. *CHEMTEC ONE* is applied in **ONE** application (**except where specified differently**) at a rate of 175 to 250 square feet per gallon. On new floors the formula can be installed as soon as possible after the finish troweling operation. After the surface is hard enough to walk on without marking. Simply saturate the surface with the formula, keeping the entire surface wet. Keep moving the formula around the floor with bristle brooms or mechanical scrubbers until the formula starts to react and becomes slippery under foot, approximately 15 to 40 minutes after you apply the formula. If the material starts to gum up prior to removal then re-mist the floor with fresh water, do not flood the surface, just enough to make the formula easy to push around, then squeegee the formula off the surface or use a mechanical vacuum to remove the formula, and allow the floor to dry. **DO NOT** allow areas to prematurely dry while you are working the formula in. On existing floors, thoroughly clean the floor so they are water permeable.. The

existing floor must be completely dry before you apply the formula. Use the same application procedure as above. A sheen will normally develop over time. **CAUTION, DO NOT** allow areas to puddle and dry as they will leave hard white crystals on the surface. Dispose of waste properly, per federal, state or local environmental regulations if required. Please see the 3 page application installation instructions for complete and recommended application procedure for all surfaces.

B) Application on brushed finished fully cured surfaces, such as bridge decks, roads, loading ramps, parking facilities and so on. *CHEMTEC ONE* is applied in **TWO** applications at the same rate of 100 to 125 square feet per gallon per application. Simply saturate the surface and let it dry using the following method. Puddling areas should be brushed over to dryer areas. Areas that dry prematurely should have more formula brushed to it or be re-sprayed. Brush the formula around the surface until it is absorbed in, then just let it dry. The goal is to get the proper amount of formula to penetrate as uniformly as possible. The second application is a repeat of the first application. **WAIT** a minimum of 4 to 6 hours between the first and second applications. **CAUTION,** there must be a minimum of **12 hours** with **NO WATER** being allowed on the surface after the last application has dried. It is recommended that you flush Bridge Decks and Roadways with fresh water 24 hours after the last application has dried, to prevent any un reacted material that may be on the surface from becoming slick at the first rain.

6) AVAILABILITY:

CHEMTEC ONE is available in 5-gallon (20-liter) buckets and 55-gallon (205-liter) drums. The product is available only through CHEMTEC INT'L.

WARRANTY:

CHEMTEC INT'L warrants that *CHEMTEC ONE* in it's original sealed containers, will be free of defects and when used as instructed will retard deterioration of concrete surfaces.

MAINTENANCE:

Should you want to clean the concrete. Wash with mild detergent and flush with fresh water

TECHNICAL SERVICES:

Technical information and assistance may be obtained from CHEMTEC INT'L INC., Cincinnati Ohio 45244 (513) 474-2090 Toll Free 1-888-889-7779 www.concretesealer.net

Please see the complete Installation Instruction for each specific surface to be treated. Published on our web site www.concretesealer.net

CHEMTEC ONE

Installation instruction for CHEMTEC ONE concrete protector.

CHEMTEC ONE is a proprietary blend of water diluted and carried reactive silicates and surface active agents... concrete treatment that penetrates the concrete's permeable zones producing a solid, insoluble, irreversible reaction products residing in the gel pores.. dramatically reducing porosity of the concrete...increasing adhesion qualities...maintaining the concrete's ability to breathe...chemically protecting, stabilizing and strengthening concrete. CHEMTEC ONE WILL PROTECT, HARDEN, DENSIFY, STRENGTHEN, SEAL & INCREASE THE USEFUL LIFE OF YOUR CONCRETE

"THE ULTIMATE CONCRETE PROTECTION"

CHEMTEC INT'L INC. (513) 474-2090

7771 WOODSTONE DRIVE, SUITE 100, CINCINNATI OHIO 45244-2855

WARNING AND STATEMENT OF HAZARD: IRRITATING TO SKIN, EYES, MUCOUS MEMBRANES OF THE RESPIRATORY AND DIGESTIVE TRACTS.

MODERATE HEALTH HAZARD...1,

MINIMAL REACTIVITY HAZARD ...0,

MINIMAL FIRE HAZARD...0,

WEAR PERSONAL PROTECTION WHEN USING CHEMTEC ONE: PROTECT YOUR EYES AND SKIN BY WEARING RUBBER GLOVES, SAFETY GOGGLES, FACE SHIELDS, STURDY WORK BOOTS, LONG SLEEVE SHIRTS AND LONG PANTS. IF MISTING OR SPRAYING WEAR MIST RATED BREATHING PROTECTION.

WARNING AND STATEMENT OF HAZARD CONTINUED:

- ☛ DO NOT INGEST BUT IF SWALLOWED DO NOT INDUCE VOMITING - SEEK IMMEDIATE MEDICAL HELP.
- ☛ IF SKIN CONTACT OCCURS, PROMPTLY WASH WITH WATER. IF EYE CONTACT OCCURS, IMMEDIATELY FLUSH WITH A DIRECT STREAM OF WATER FOR 15 MINUETS.
- ☛ IF IRRITATION OR ILL EFFECTS DEVELOP OR PERSIST SEEK IMMEDIATE MEDICAL HELP.
- ☛ TREAT ACCORDING TO THE INDIVIDUAL'S CONDITION AND SPECIFICS OF THE EXPOSURE.
- ☛ THIS FORMULA IS NOT SUBJECT TO RESTRICTIVE OR SPECIAL HANDLING DEFINED UNDER ENVIRONMENTAL REGULATIONS.
- ☛ KEEP CONTAINER CLOSED WHEN NOT IN USE. WHEN CONTAINER IS EMPTY, CONTINUE TO OBSERVE ALL SAFETY PRECAUTIONS.
- ☛ DO NOT REUSE CONTAINER UNLESS COMMERCIALY CLEANED.
- ☛ REFER TO THE MSDS FOR ADDITIONAL HANDLING AND SAFETY INFORMATION.

WARNING: Wear personal protective clothing that will shield you from contact with this formulation. Avoid contact with skin.

Avoid contact with eyes. Do not ingest. Ventilate the work area well. If a runny nose begins and persist go to fresh air until symptoms stop. If asthmatic symptom begin go to fresh air until they stop. Vapor rated respirators are recommended in closed areas if good ventilation can not be achieved. There are however no special handling requirements defined in environmental regulations. Preparation prior to working with CHEMTEC ONE... an alkaline soluble formulation that is likely to irritate on contact with the body. Wear face shields and safety glasses. Wear tough standard work boots. Wear long pants. Wear long sleeve shirts. Wear long gloves. Wear other protective gear that is mandated by the environment.

HOW TO APPLY THE CHEMTEC ONE FORMULATIONS

PREPARATION: Prior to implementing the project. Remove debris from the concrete to be treated. **Be sure to clean the concrete to a state which is water permeable and porous, DO NOT ACID WASH CONCRETE.** Cover drains to prevent loss and waste of material. Install temporary fan or ventilation in enclosed areas. Bring opened container of the material or pumping system into the area to be treated. Bring tools for all members of the implementation team for the distribution of the material in the project area like squeegees, brooms, sprayers and so on. New floors do not need any preparation.

APPLICATION: Pre-determine the amount of formula (Gallons) that will be needed to complete the project.

A) Application on Steel troweled Surfaces: CHEMTEC ONE is applied in **ONE** application at a rate of 175 to 250 square feet per gallon. On new floors, you can install the formula as soon as possible after the finish troweling operation. After the surface is hard enough to walk on with out marking. It is recommended that you do not treat an area to large to manage, normally two to three people can control three section wide the length of the slab at a time. Simply saturate the surface with the formula, keeping the entire surface wet. Keep moving the formula around the floor with bristle brooms or mechanical scrubbing machines until the formula starts to react and become slippery under foot, approximately 15 to 40 minutes after you apply the formula. If the material starts to gum up prior to removal then re-mist the floor with fresh water do not flood the surface with water, just enough to make the formula easy to move around. Then squeegee the formula off the surface or use a mechanical floor vacuum to remove the formula, and allow the floor to dry. Do not allow areas to prematurely dry while you are working the formula in. On existing floors, thoroughly clean the floors so that they are water permeable. The existing floor must be completely dry. Use the same application as above. A sheen will normally develop over time. **CAUTION: DO NOT** allow areas to puddle and dry as they will leave a hard white crystal on the surface. A recommended step for applicators that want to have a slight sheen immediately after the application, is to lightly mist the surface with CHEMTEC ONE formula (**do not flood the surface**) and work it in with a lambs wool applicator until the floor is about dry and **NO** puddles are visible. **DO NOT APPLY TO WET CONCRETE**

A.2) Application on Steel troweled Surfaces in Food Preparation, Retail Grocery, Harsh Environments or Dusting Problem Areas AND FOR WAL-MART NEIGHBORHOOD GROCERY ACCOUNT. CHEMTEC ONE is applied in **TWO** application at a rate of 175 to 250 square feet per gallon. On new floors, you can install the formula as soon as possible after the finish troweling operation. After the surface is hard enough to walk on with out marking. It is recommended that you do not treat an area to large to manage, normally two to three people can control three section wide the length of the slab at a time. Simply saturate the surface with the formula, keeping the entire surface wet. Keep moving the formula around the floor with bristle brooms or a mechanical scrubber until the formula starts to react and become slippery under foot, approximately 15 to 40 minutes after you apply the formula, then squeegee the formula off the surface or use a mechanical floor vacuum to remove the formula, and allow the floor to dry for approximately 30 minutes, then apply the 2nd application the same as the 1st application and allow the floor to dry for 30 minutes. Do not allow areas to prematurely dry while you are working the formula in during the first 2 applications. On existing floors, thoroughly clean the floors so that they are water permeable. The existing floor must be completely dry. Use the same application as above. A sheen will normally develop over time. **CAUTION: DO NOT** allow areas to puddle and dry as they will leave a hard white crystal on the surface. PLEASE CONSULT THE LATEST WAL-MART SPECIFICATION FOR ALL OTHER INFORMATION REGARDING BURNISHING OPERATION

B) Application on brushed finished fully cured surfaces such as bridge decks, roads, loading ramps, parking facilities, driveways and so on. CHEMTEC ONE is applied in **TWO** applications at a rate of 100 to 125 square feet per-gallon for each application. Simply saturate the surface and let it dry using the following method. Puddling areas should be pushed over to dryer areas. Areas that dry prematurely should have more formula pushed to it or be re-sprayed. Brush the formula around the surface until it is absorbed in, then just let it dry. The goal is to get the proper amount of formula to penetrate as uniformly as possible. The second application is a repeat of the first application. **WAIT** a minimum of **4 to 6 hours** between applications. (Page 2 of 3)

CAUTION: There must be a minimum of **12 hours** with **NO** water being allowed on the surface after the last application. A quality control step to make sure you have reached proper saturation levels is to, take an eye dropper with muriatic acid with 28% HCL level and randomly test the concrete with a drop of acid immediately after the second application has dried. Put a drop of acid on the treated surface and observe it for a few seconds, then wipe it up. If you get very little to no reaction to the acid you have reached the proper saturation level. If it reacts you need to put more material on those areas until the acid does not react. C) Application on Vertical or underneath bridge decks or parking facility ceiling surfaces. Because you are working against the force of gravity and using the wicking acting of the concrete to draw the formula in on these surfaces, you will need to apply CHEMTEC ONE at a slower rate with a minimum of two to three applications. Use a paint roller or a mist sprayer to apply the formula. The surface must be completely dry before proceeding. On vertical surfaces apply the formula starting at the top of the surface, working you way down. Apply the formula by saturation the surface, but not creating excessive run off. Wait until the surface is dry approximately 2 to 3 hours before applying the second and third applications. Use the same procedure on each application.

When applying the formula on the underneath of bridge decks or parking facilities ceilings, saturate the surface until the formula starts to drip back out. Wait until the surface is dry, approximately 2 to 3 hours and perform the second and third applications the same as the first application. This particular type surface application will take 3 application. Coverage will vary with particular concrete being treated, the temperature and the amount of waste generated by the applicator. Normal coverage rate for this type of application should be 175 to 200 square feet per gallon for each application.

☛ It is likely that the treated concrete will have a brown tint when the project is complete that will not remain, but it is an indication that iron is present in the concrete. After the last application has dried traffic can return to the area. Roughly three hours after the completion of the project.

CHEMTEC ONE

"THE ULTIMATE CONCRETE PROTECTION"

Manufactured by

CHEMTEC INT'L INC. Cincinnati Ohio

(513) 474-2090 Toll Free 1-888-889-7779 www.concretesealer.net

☛ **Please watch the weather reports,** it is crucial that the surface of the concrete not get wet for at least 10 to 12 hours after the final application of the product. **CAUTION** Avoid applying or splashing on glass, painted surfaces, or aluminum. Product may stain these surfaces. Protect decorative fronts from contact. Keep out of traffic pattern when treating roadways or bridges . It is recommended that you flush Bridge Decks and Roadways with fresh water 24 hours after the last application has dried, to prevent any un-reacted material that may be on the surface from becoming slick at the first rain. If you intend to paint lines or install toppings on the surface after treatment, flush surface with fresh water and let dry prior to your installation. Dispose of waste properly per federal, state or local environmental regulations if required. **DO NOT ALLOW CONCRETE TO FREEZE FOR 24 HOURS. DO NOT STORE IN ALUMINUM OR METAL CONTAINERS. DO NOT APPLY TO WET CONCRETE. Cti707**

Cincinnati Ohio
513-474-2090
Cell 513-858-2090

----- Original Message -----

From: Taylor, Kelly

To: jsist@fuse.net

Sent: Friday, January 25, 2013 9:03 AM

Subject: ChemTec One Question

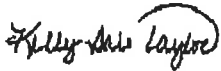
Good Day Mr. Sist,

I received your contact information from your website, so if you are not the correct person to answer my question, please forward this email as needed.

Safety-Kleen Systems, Inc. had an outdoor concrete tank farm floor sealed with ChemTec One in May 2000. The applicator performed an acid test following application to verify proper application.

Are the sealing/protective properties still in effect? I have a State regulatory Inspector asking "how do you know if you can't see it?"

Thank You!



Kelly Dale Taylor Environmental, Health & Safety Manager | Safety-Kleen | A Clean Harbors Company | Madison, WI | kelly.d.taylor@safety-kleen.com
608.298.6420 (o) | 608.209 0280 (c) | 608.221.9685 (f) | safety-kleen.com

safety-kleen. PROTECTION CHOICES PEOPLE
MAKE GREEN WORK

ATTACHMENT 9.8 SAFETY DATA SHEETS

SAFETY DATA SHEET

Original
File Copy

CHEMTEC ONE

Section 1. Identification

GHS product identifier : CHEMTEC ONE
Product code : 12023100, 12023330, 12023470, 12023529
SDS # : CT-001
Other means of identification : Not available.
Product type : Liquid.
Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Industrial
Supplier/Manufacturer : CHEMTEC INT'L
7771 Woodstone Drive, Suite 100
Cincinnati, OH 45244-2855
Phone: 513-474-2090 Fax: 513-474-2054
Emergency telephone number : 1-888-889-7779

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Causes serious eye irritation.
Causes skin irritation.

Precautionary statements

Prevention : Wear eye/face protection. Wear protective gloves. Wash hands thoroughly after handling.

Response : IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Water soluble reactive silicates	5 - 20	Proprietary

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation.
- Ingestion** : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 4. First aid measures

Specific treatments : No specific treatment.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : No specific data.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

- | | |
|---|---|
| Engineering measures | : Good general ventilation should be sufficient to control worker exposure to airborne contaminants. |
| Hygiene measures | : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
|
<u>Personal protection</u> | |
| Respiratory | : If a risk assessment indicates this is necessary, use a properly fitted, air-purifying or airfed respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |
| Hands | : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. |
| Eyes | : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: splash goggles |
| Skin | : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Environmental exposure controls | : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |
| Personal protective equipment (Pictograms) | : |



Section 9. Physical and chemical properties

Appearance

- | | |
|---|-------------------------------------|
| Physical state | : Liquid. |
| Color | : Colorless. |
| Odor | : Not available. |
| Odor threshold | : Not available. |
| pH | : Not available. |
| Melting point | : 0°C (32°F) |
| Boiling point | : 101.11 to 102.22°C (214 to 216°F) |
| Flash point | : Closed cup: Not applicable. |
| Burning time | : Not applicable. |
| Burning rate | : Not applicable. |
| Evaporation rate | : Not available. |
| Flammability (solid, gas) | : Not available. |
| Lower and upper explosive (flammable) limits | : Not available. |

Section 9. Physical and chemical properties

Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 1.07 to 1.09
Solubility	: Easily soluble in the following materials: cold water and hot water.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
Elemental Phosphorus	: Not available.
VOC content	: 0 % [Calculated value for the mixture]

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Extremely reactive or incompatible with the following materials: oxidizing materials and acids.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Storage	: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 11. Toxicological information

Information on toxicological effects

Information on the likely routes of exposure	: Dermal contact. Eye contact. Inhalation.
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Potential acute health effects

Eye contact	: Causes serious eye irritation.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: Causes skin irritation.
Ingestion	: Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: No specific data.
Skin contact	: Adverse symptoms may include the following: irritation redness
Ingestion	: No specific data.

Section 11. Toxicological information

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	19600 mg/kg

Section 12. Ecological information

Ecotoxicity : Not available.

Aquatic ecotoxicity

Not available.

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Not classified as dangerous in the meaning of: DOT, ADR / RID, IMDG / IMO, ICAO / IATA

Section 15. Regulatory information

U.S. Federal regulations : TSCA 12(b) one-time export: No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are listed or exempted.

EPA Registration Number : Not available.

Section 15. Regulatory information

Clean Air Act Section 112 : Not listed

(b) Hazardous Air Pollutants (HAPs)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65

Not available.

Canada

Canadian lists

Canadian NPRI : None of the components are listed.

Canada inventory : All components are listed or exempted.

Canadian PCP/DIN Number : Not available.

International regulations

International lists

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory: Not determined.

Korea inventory: All components are listed or exempted.

Malaysia Inventory (EHS Register): Not determined.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

Taiwan inventory (CSNN): Not determined.

Section 16. Other information

History

Date of printing : 2/3/2015.

Date of issue/Date of revision : 2/3/2015.

Date of previous issue : 1/8/2015.

Version : 2.01

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Safety Data Sheet

Material Name: SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT

SDS ID: 82739

Section 1 - PRODUCT AND COMPANY IDENTIFICATION**Material Name**

SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT

Part Number

6657

Synonyms

Odorless parts washer solvent; Odorless degreasing solvent; High Isoparaffinic content petroleum distillates/petroleum naphtha; mineral spirits.

Product Use

Cleaning and degreasing metal parts. If this product is used in combination with other products, refer to the Safety Data Sheet for those products.

Restrictions on Use

None known.

MANUFACTURERSafety-Kleen Systems, Inc.
42 Longwater Drive
Norwell, MA 02061-9149
U.S.A.**SUPPLIER (in Canada)**Safety-Kleen Canada, Inc.
25 Regan Road
Brampton, Ontario L7A 1B2
Canadawww.safety-kleen.com

Phone: 1-800-669-5740

Emergency Phone #: 1-800-468-1760

Issue Date

July 21, 2020

Supersedes Issue Date

December 17, 2019

Original Issue Date

March 27, 1998

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with Schedule 1 of Canada's Hazardous Products Regulations (HPR) (SOR/2015-17) and paragraph (d) of 29 CFR 1910.1200 in the United States

Flammable Liquids - Category 3

Aspiration Hazard - Category 1

GHS Label Elements**Symbol(s)****Signal Word**

Danger

Hazard Statement(s)

Flammable liquid and vapor.

May be fatal if swallowed and enters airways.

Safety Data Sheet

Material Name: SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT

SDS ID: 82739_Canada

Precautionary Statement(s)

Prevention

Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take action to prevent static discharges. Use non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection.

Response

In case of fire: Carbon dioxide, regular foam, dry chemical, water spray, or water fog. Class B/C or Class A/B/C fire extinguisher. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops or persists. IF SWALLOWED: Aspiration hazard. Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.

Storage

Store in a well-ventilated place. Keep cool. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

None known.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
64742-48-9	Naphtha (petroleum), hydrotreated heavy	100

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Remove contaminated clothing and wash before reuse. Get medical attention if irritation develops or persists.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.

Ingestion

IF SWALLOWED: Aspiration hazard. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Call a poison control center or doctor immediately for treatment advice.

Most Important Symptoms/Effects

Acute

May be fatal if swallowed and enters airways.

Delayed

No information on significant adverse effects.

Indication of any immediate medical attention and special treatment needed

IF exposed: Call a POISON CENTER or doctor/physician. Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

Safety Data Sheet

Material Name: SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT

SDS ID: 82739_Canada

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, regular foam, dry chemical, water spray, or water fog. Class B/C or Class A/B/C fire extinguisher.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Special Hazards Arising from the Chemical

Flammable liquid and vapor. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Runoff to sewer may cause a fire or explosion hazard. Heated containers may rupture or be thrown into the air. Empty containers may retain product residue including flammable/explosive vapors. Product may be sensitive to static discharge, which could result in fire or explosion.

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide, unidentified organic compounds.

Fire Fighting Measures

Keep away from sources of ignition - No Smoking. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Stay away from the ends of tanks. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Stay upwind and keep out of low areas. Dike for later disposal.

Special Protective Equipment and Precautions for Firefighters

A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear appropriate personal protection equipment. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean tool into a sealable container for disposal. All equipment used when handling the product must be grounded. Additionally, for large spills: Dike far ahead of liquid spill for collection and later disposal. There may be specific regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see SECTION 15: REGULATORY INFORMATION.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat, sparks, and flames. Where explosive mixtures may be present, equipment safe for such locations should be used. Ground/Bond container and receiving equipment. Do not breathe vapor or mist. Use in a well-ventilated area. Avoid contact with eyes, skin and clothing. Do not eat, drink, or smoke when using this product.

Safety Data Sheet

Material Name: SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT

SDS ID: 82739_Canada

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep cool. Store locked up.

Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition; containers may explode and cause injury or death.

Empty product containers may retain product residue and can be dangerous. See SECTION 14:

TRANSPORTATION INFORMATION for Packing Group information.

Incompatible Materials

Acids, alkalis, oxidizing agents, reducing agents, halogens.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Canada and ACGIH have not developed exposure limits for any of this product's components.

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

Provide general ventilation. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear safety glasses. Additional protection like goggles, face shields, or respirators may be needed dependent on anticipated use and concentrations of mists or vapors. Eye wash fountain and emergency showers are recommended. Contact lens use is not recommended.

Respiratory Protection

A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 or Canada's CSA Standard Z94.4-M1982 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

Skin Protection/Glove Recommendations

Where skin contact is likely, wear neoprene, nitrile, or equivalent protective gloves; use of natural rubber or equivalent gloves is not recommended. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, coveralls, long sleeve shirts, or other protective clothing.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, Gloves, and Lab coat or apron.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid	Physical State	Liquid
Odor	Not available	Color	Not available
Odor Threshold	Not available	pH	Not available
Melting Point	Not available	Boiling Point	Not available
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not available

Safety Data Sheet

Material Name: SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT

SDS ID: 82739_Canada

Autoignition Temperature	Not available	Flash Point	51°C (123.8°F)
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	0.76
Water Solubility	Not available	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	0.76 - 0.7707 g/ml
Molecular Weight	Not available	Heat of Combustion	41.2 kJ/g
Oxidizing properties	Not oxidizing	Explosive properties	Not explosive

Volatile Organic Compounds (As Regulated)

100 WT%; 6.4 LB/US gal; 766g/l as per 40 CFR Part 51.100(s). VOC VAPOR PRESSURE: < 1.0 mmHg@ 68°F (20°C) Product may or may not be considered photochemically reactive (100% by weight). Consult your state or local air district regulations for location specific information.

Other Information

No additional information is available.

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions

Will not polymerize under normal temperature and pressure conditions.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Incompatible Materials

Acids, alkalis, oxidizing agents, reducing agents, halogens.

Hazardous decomposition products

None under normal temperatures and pressures. See also SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

May cause irritation, nausea, vomiting, irregular heartbeat, headache, dizziness, drowsiness, disorientation, loss of coordination, lung congestion, internal bleeding, lung damage (from aspiration).

Skin Contact

May cause irritation of the skin.

Safety Data Sheet

Material Name: SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT

SDS ID: 82739_Canada

Eye Contact

May cause irritation of the eyes.

Ingestion

May be fatal if swallowed and enters airways. Aspiration hazard. May cause nausea, vomiting, irregular heartbeat, dizziness, convulsions, unconsciousness, lung damage (from aspiration).

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Naphtha (petroleum), hydrotreated heavy (64742-48-9)

Oral LD50 Rat >6000 mg/kg (no deaths occurred); Dermal LD50 Rabbit >3160 mg/kg; Inhalation LC50 Rat >8500 mg/m³ 4 h

Product Toxicity Data

Acute Toxicity Estimate

Dermal	> 2000 mg/kg
Oral	> 2000 mg/kg

Immediate Effects

May be fatal if swallowed and enters airways.

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

May cause irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

Germ Cell Mutagenicity

No information on significant adverse effects.

Tumorigenic Data

No information available for the product.

Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

No significant target effects reported.

Specific Target Organ Toxicity - Repeated Exposure

No significant target effects reported.

Aspiration hazard

May be fatal if swallowed and enters airways.

Medical Conditions Aggravated by Exposure

Individuals with pre-existing respiratory tract (nose, throat, and lungs), central nervous system, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

Additional Data

No additional information is available.

Safety Data Sheet

Material Name: SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT

SDS ID: 82739_Canada

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Naphtha (petroleum), hydrotreated heavy	64742-48-9
Fish:	LC50 96 h Pimephales promelas 2200 mg/L

Persistence and Degradability

This material is believed not to biodegrade.

Bioaccumulative Potential

This material is believed not to bioaccumulate.

Mobility

Expected to have high mobility in soil.

Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. Based on available data, this information applies to the product as supplied to the user. Processing, use, or contamination by the user may change the waste code applicable to the disposal of this product. Contact Safety-Kleen regarding proper recycling or disposal.

Section 14 - TRANSPORT INFORMATION

Emergency Response Guide Number

128: Reference . North American Emergency Response Guide Book

Transportation Regulations

DOT NON-BULK PACKAGES (less than or equal to 119 gallons)(Shipments via vessel and aircraft must use bulk shipping description.): Shipping Name: Cleaning Compounds (petroleum naphtha)(Not US DOT Regulated)

BULK PACKAGES:

Shipping Name: Combustible liquid, n.o.s. (petroleum naphtha)

UN/NA: NA1993 Hazard Class: Combustible liquid Packing Group: III Required Placards: Class 3, NA1993

TDG SMALL MEANS OF CONTAINMENT (Shipments via aircraft must use large means of containment shipping description):

Shipping Name: CLEANING COMPOUNDS (petroleum naphtha)(Not TDG regulated)

LARGE MEANS OF CONTAINMENT

Shipping Name: PETROLEUM DISTILLATES, N.O.S. (petroleum naphtha)

UN/NA #: UN1268 Hazard Class: 3 Packing Group: III

Required Placards: Class 3, UN1268

Section 15 - REGULATORY INFORMATION

Canada Regulations

CEPA - Priority Substances List

None of this product's components are on the list.

Ozone Depleting Substances

None of this product's components are on the list.

Safety Data Sheet

Material Name: **SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT**

SDS ID: 82739_Canada

Council of Ministers of the Environment - Soil Quality Guidelines

None of this product's components are on the list.

Council of Ministers of the Environment - Water Quality Guidelines

None of this product's components are on the list.

U.S. Federal Regulations

None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories:

Flammable; Carcinogenicity; Acute toxicity; Aspiration Hazard; Germ Cell Mutagenicity

U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ or PA.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Not listed under California Proposition 65.

Component Analysis - Inventory

Naphtha (petroleum), hydrotreated heavy (64742-48-9)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	No	No	Yes	No
KR - REACH CCA		MX	NZ	PH	TH-TECI	TW	VN (Draft)	
No		Yes	Yes	Yes	Yes	Yes	Yes	

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 1 Fire: 2 Instability: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Update to Composition.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals

Safety Data Sheet

Material Name: SAFETY-KLEEN ODORLESS MINERAL SPIRITS SOLVENT

SDS ID: 82739_Canada

List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TH-TECI - Thailand - FDA Existing Chemicals Inventory (TECI); TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplier to the user.

EPA ID Number: TND000614321
Permit Number: TNHW-DRAFT

ATTACHMENT 10. MISCELLANEOUS UNIT MANAGEMENT

Attachment 10 consists of four sections as follows:

- Attachment 10.1 Miscellaneous Storage Units
- Attachment 10.2 Return and Fill Calculations
- Attachment 10.3 Drum Washer/Wet Dumpster Drawings and Pictures
- Attachment 10.4 Drum Rinsing System Operation

ATTACHMENT 10 MISCELLANEOUS STORAGE UNITS

DRUM WASHER UNIT AND WET DUMPSTERS

The return and fill consist of two return and fill dock structures with secondary containment and two drum washers 163-gallons each with a capacity of 326 gallons total.

MISCELLANEOUS UNIT STANDARDS

At the service center, spent parts cleaner solvent and aqueous cleaner return and fill station. Containers of spent solvent are emptied into the drum washer units at the return and fill station. The solvent is then pumped into the spent solvent storage tank located in the tank farm.

The return and fill station have secondary containment in the form of interlocking, steel containment pans with a total capacity of an estimated 1,284 gallons. The wet dumpster units, exterior measures 3 feet wide, 5 feet long, and 3 feet 4 inches in depth. A schematic of the wet dumpsters and the tank is presented in Attachments 10.3, and 10.4. They are constructed of 14-gauge steel. The interior of these units has a volume capacity of 163 gallons consisting of a sump capacity of 46 gallons and an additional 117 gallons above the sump for a total combine capacity of the two units being 326 gallons. Within the wet dumpster units are drum support rollers and a spray nozzle for washing drums. A float switch is located near the top of the sump in the wet dumpster and when triggered will activate a pump that will transfer the spent solvent to the hazardous waste storage tank. The wet dumpster/drum washer unit is tight piped to the tank and all piping is aboveground. The wet dumpster units open like a clam shell and operate open to the atmosphere. These units are equipped with a recirculating pump that allows solvent held in the sump to be used for cleaning drums by being sprayed through a nozzle. The continued use vat is also piped to this nozzle allowing solvent product to be used in cleaning drums. When in operation, the wet dumpster unit holds two drums, one for washing and one for drying.

The return and fill station have been designed in accordance with Class I, Division II standards of the National Fire Protection Association. The secondary containment underlying the station consists of 8 interlocking, metal containment pans each 10' x 5' and 6 inches high. This secondary containment area is free of cracks and gaps and is impermeable. The return and fill station has secondary containment in the form of sloped concrete floors and sumps. The secondary containment calculations are in Attachment 10.2.

The drum washer is tight-piped to the tank and all piping is aboveground. The drum washer will be closed except during the addition of wastes or the removal of drum washer sediment.

ATTACHMENT 10.2 RETURN AND FILL CALCULATIONS

Secondary Containment Calculations

Formular Used (L) x (W) x (H)

$$L = 10'$$

$$W = 5'$$

$$H = 6''$$

$$10' \times 5' \times 6'' = 25 \text{ ft}^3$$

$$\text{Volume of Containment} = 25 \text{ ft}^3 \times 7.48 \text{ gallons/ft}^3 = 187 \text{ gallons per containment pan}$$

$$187 \text{ gallons} \times 8 \text{ Containment Pans} = 1496 \text{ Gallons}$$

$$10' \times 5' \times 6'' \times 7.48 \text{ gal/cf} = 187 \text{ gallons}$$

$$\text{Volume of Containment} = 25 \text{ ft}^3 \times 7.48 \text{ gallons/ft}^3 = 187 \text{ gallons per containment pan}$$

$$187 \text{ gallons} \times 8 \text{ Containment Pans} = 1496 \text{ Gallons}$$

Displacement of Drum Washers/Continued use Vats

$$5\text{ft} \times 3\text{ft} \times 6\text{in} \times 7.48 \text{ gal/cft} = 56 \text{ gallons}$$

$$56 \text{ gallons} \times 3 \text{ units} = -168 \text{ gallons}$$

Miscellaneous Displacement of Columns, Bumper Posts, Hardware, Equipment 3% = 44 Gal

Total Containment

$$1496 \text{ gallons} - 168 \text{ gallons} - 44 \text{ gallons} = 1284 \text{ gallons}$$

**ATTACHMENT 10.3 DRUM WASHER/WET DUMPSTER DRAWINGS AND
PICTURES**

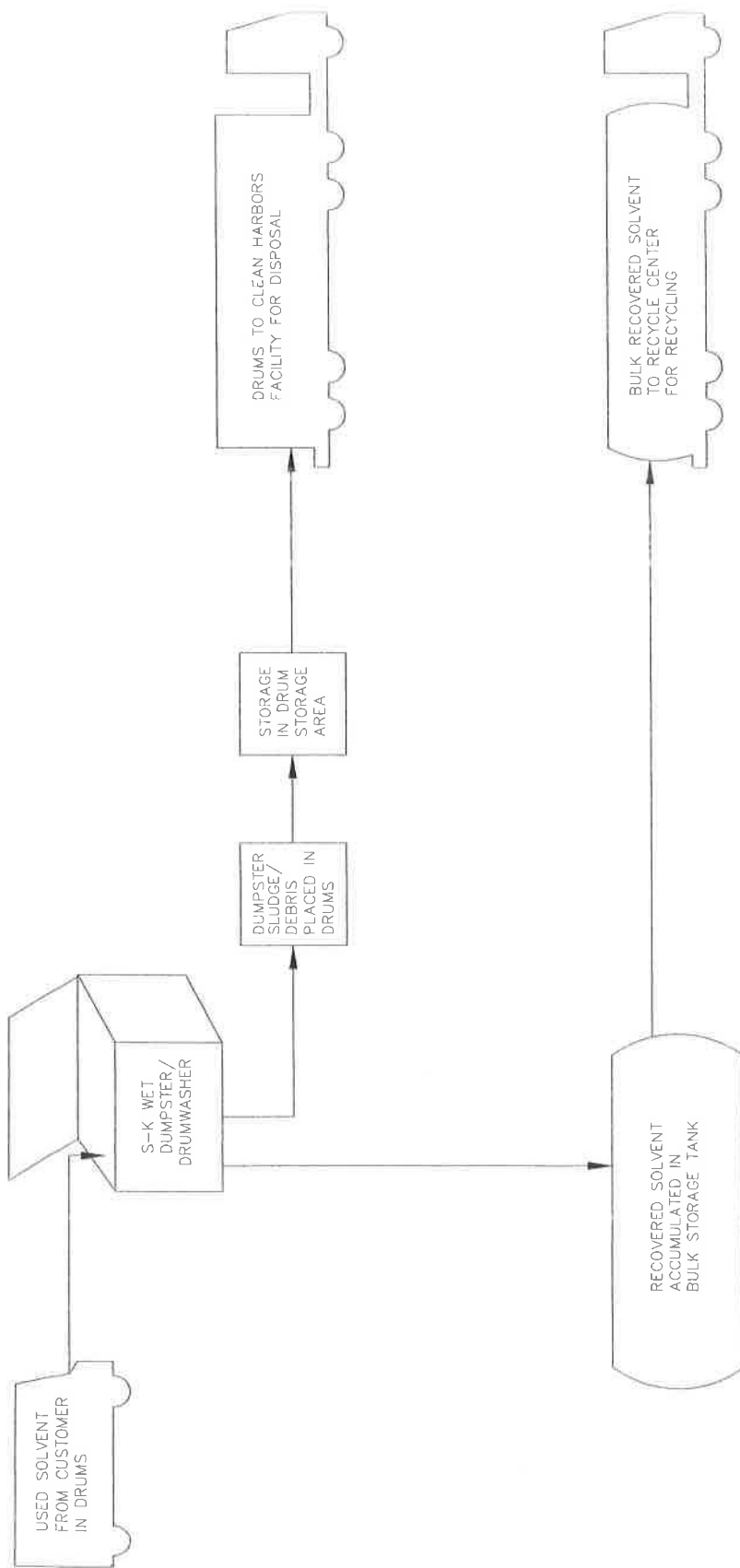


NOTICE
RETURN AND FILL OPERATIONS REQUIRE:
• SAFETY GLASSES
• NEOPRENE GLOVES
• CHEMICAL RESISTANT METATARSAL BOOTS
• OR LONG SLEEVES
• CHEMICAL RESISTANT WHOLE
• WEARING PROTECTIVE TOOLS
• USING PNEUMATIC TOOLS
WORK SAFELY

DANGER
NO SMOKING, MATCHES
OR OPEN LIGHTS







PROPRIETARY STATEMENT

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1000 East Broadway, Suite 200, Colorado, CO 80202
Phone: (303) 443-7000 • Fax: (303) 443-7000

TITLE

HANDLING PROCESS FOR
SPENT MINERAL SPIRITS

SAFETY-KLEEN CORP.

177 BE THARD ROAD, CLARK, ILLINOIS 60431

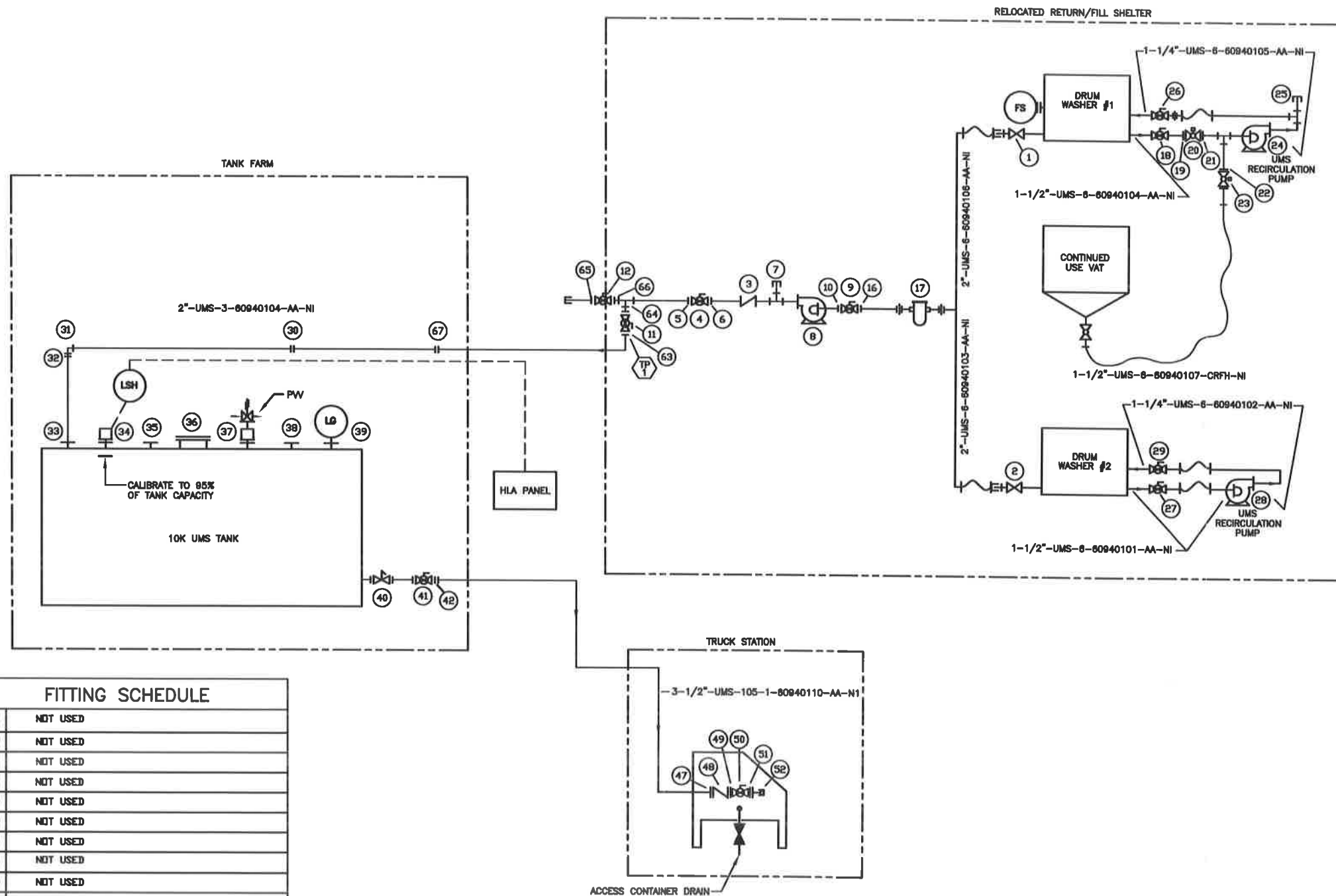
DATE	BY	DATE	BY	DATE
1-15-92	1-15-92	1-15-92	1-15-92	1-15-92
DESIGNED	DRAWN	CHECKED	APPROVED	SHEET NO.
				850 840
STANDARD				

FITTING SCHEDULE

1	2" THREADED GATE VALVE
2	2" THREADED GATE VALVE
3	2" THREADED CHECK VALVE
4	2" FLANGED BALL VALVE
5	2" FLANGED CONNECTION
6	2" FLANGED CONNECTION
7	1 1/2" BUTTERFLY PLUG
8	USED MINERAL SPIRITS PUMP
9	2" FLANGED BALL VALVE
10	2" FLANGED CONNECTION
11	2" FLANGED BALL VALVE
12	2" FLANGED BALL VALVE
13	NOT USED
14	NOT USED
15	NOT USED
16	2" FLANGED CONNECTION
17	2" THREADED BASKET STRAINER
18	1 1/2" THREADED BALL VALVE
19	1 1/2" FLANGED CONNECTION
20	1 1/2" FLANGED ELECTRIC BALL VALVE
21	1 1/2" FLANGED CONNECTION
22	1 1/2" FLANGED CONNECTION
23	1 1/2" FLANGED ELECTRIC BALL VALVE
24	UMS RECIRCULATION PUMP
25	1 1/2" BUTTERFLY PLUG
26	1 1/4" THREADED BALL VALVE
27	1 1/2" THREADED BALL VALVE
28	UMS RECIRCULATION PUMP
29	1 1/4" THREADED BALL VALVE
30	2" FLANGED CONNECTION
31	2" 90 DEG ELBOW
32	2" CLOSED NIPPLE 2'-4" BELL
33	3" CLOSED NIPPLE
34	3" HLA MOUNTING
35	3" 8" EMERGENCY VENT
36	24" MANWAY
37	2" PRESSURE/VAC VENT
38	3" PLUG
39	3" LEVEL GAUGE
40	3" FLANGED INTERNAL EMERGENCY VALVE
41	3" BALL VALVE
42	3" FLANGED CONNECTION
43	NOT USED
44	NOT USED
45	NOT USED
46	NOT USED
47	3" FLANGED CONNECTION
48	3" FLANGED CHECK VALVE
49	3" FLANGED CONNECTION
50	3" FLANGED BALL VALVE
51	3" FLANGED CONNECTION
52	3" FLANGED CAMLOC W/CAP

FITTING SCHEDULE

53	NOT USED
54	NOT USED
55	NOT USED
56	NOT USED
57	NOT USED
58	NOT USED
59	NOT USED
60	NOT USED
61	NOT USED
62	2" END OF PIPE
63	2" FLANGED CONNECTION
64	2" FLANGED CONNECTION
65	2" FLANGED CONNECTION
66	2" FLANGED CONNECTION
67	2" FLANGED CONNECTION



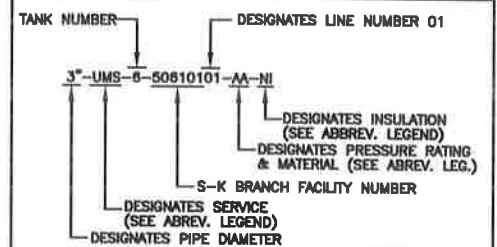
GENERAL NOTES

- 1.) PIPING TO CONFORM TO ASME B31.3, REFERENCE SAFETY-KLEEN CORP.'S PIPING SPECIFICATIONS.
- 2.) REFERENCE SAFETY-KLEEN CORP.'S PROJECT MANUAL FOR ALL SPECIFICATIONS.
- 3.) ALL PROPOSED PROCESS PIPE JOINTS TO BE WELDED.
- 4.) PAINT ALL PIPE AND TANKS PER SK SPECS.
- 5.) ALL PIPING TO BE SUPPORTED EVERY 8'-0" MAX. CONTRACTOR TO SUPPLY ALL BRACKETS, CLAMPS, ECT. AS REQUIRED FOR SUPPORTING PIPE.
- 6.) PIPING TO BE PRESSURE TESTED PER SAFETY-KLEEN SPECIFICATIONS.
- 7.) ITEMS SUPPLIED BY S-K TO BE INSTALLED BY CONTRACTOR.
- 8.) FOR LINE NUMBER MATERIAL DESIGNATIONS AND INSULATION AND HEAT TRACING REFER PIPE IDENTIFICATION LABEL BELOW. CONTRACTOR TO LABEL PIPING 12" O.C. LABEL MATERIAL TO BE SUBMITTED TO PROJ. MGR. PRIOR TO INSTALLATION FOR APPROVAL.
- 9.) PIPE BOTH OUTLETS FROM T-3 FROM OUTLETS AT TOP OF CONE BOTTOM. LEAVE CONE BOTTOM OUTLET AS DRAIN.
- 10.) CONTRACTOR TO INSPECT ALL EXISTING EQUIPMENT PRIOR TO CONSTRUCTION IN ORDER TO IDENTIFY ANY DEFECTIVE EQUIPMENT. CONTRACTOR TO NOTIFY OWNER OF ANY EQUIPMENT NOTED EXISTING THAT REQUIRES REPLACEMENT.
- 11.) CONTRACTOR TO INSTALL S-K SUPPLIED SIGNS AS REQ'D.

ABBREVIATION LEGEND

AA = 150# PRESSURE RATING, ANSI CLASS/ CARBON STEEL, A53, GRADE B
 NI = NOT INSULATED (NOT HEAT TRACED)
 FP = FREEZE PROTECTED (HEAT TRACED)
 PW = PRESSURE VACUUM VENT
 LG = LEVEL GAUGE
 HLA = HIGH LEVEL ALARM PROBE
 FS = FLOAT SWITCH
 CRFH = CHEMICALLY RESISTANT FLEXIBLE HOSE

PIPE IDENTIFICATION LABEL



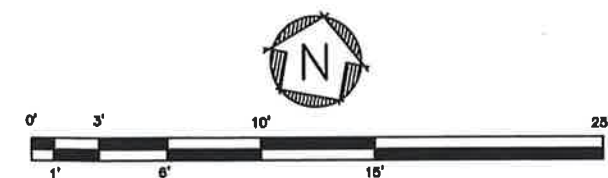
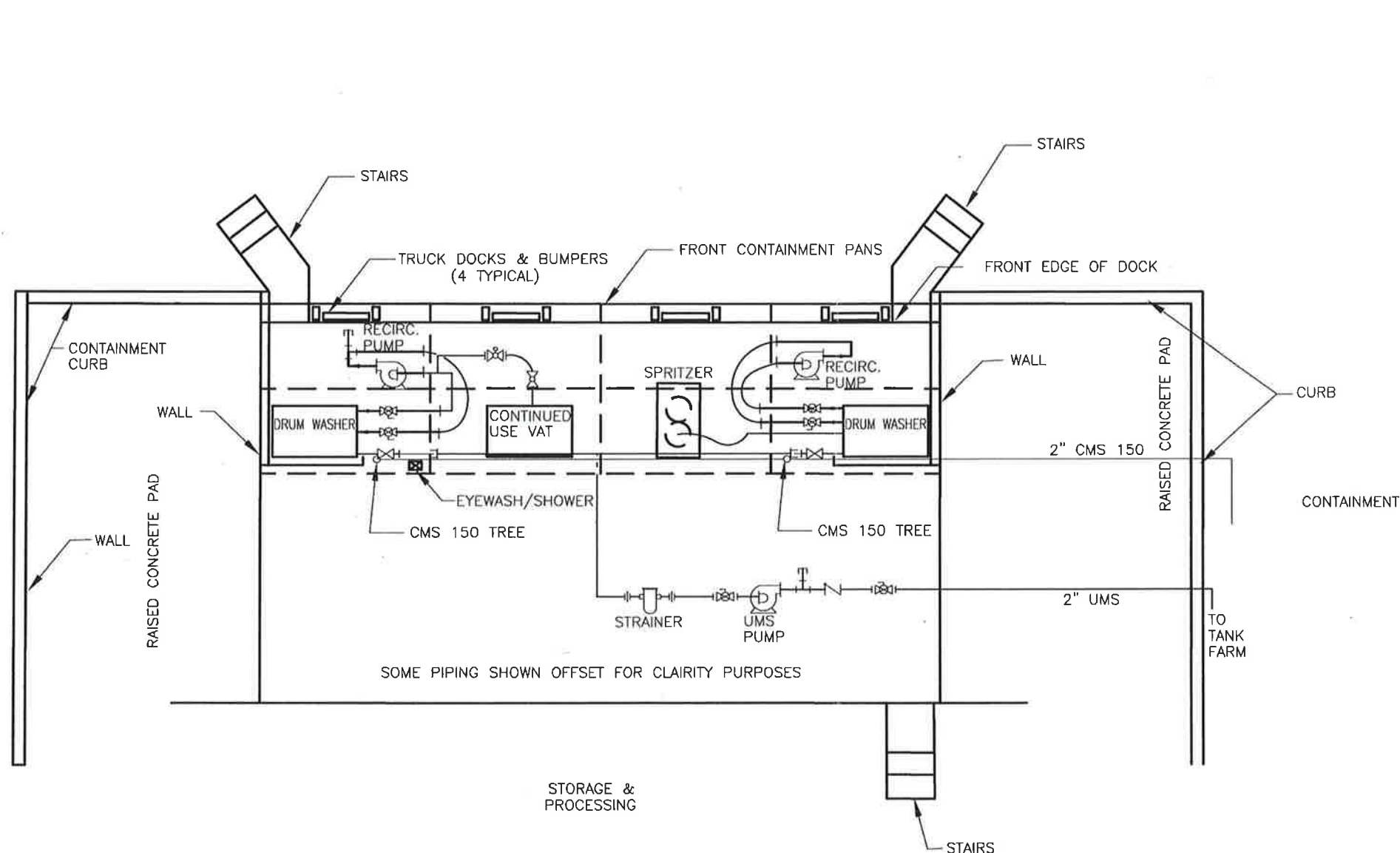
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USED MINERAL SPIRITS
PROCESS SCHEMATIC

Q	ISSUED FOR PERMIT	JEK	CW	CW	032519
F	REVISE TO SHOW NEW UMS TANK	JEK	EK	EK	063008
E	REVISE TAGGING	JEK	EK	EK	030408
D	REVISED PER IAC INSPECTION	JEK	EK	EK	050707
C	ADDED CONTINUED USE VAT AND TAGS	TW	TW	TW	010700
B	ISSUED FOR CONSTRUCTION	TRW	TW	TRW	032499
A	RELEASED TO FF FOR BID	ML/MH	KJM	FF	112385
NO.	DESCRIPTION	BY	CHK	APPR	DATE
REVISIONS					
SCALE NONE BY MCL CHKD KJM APPROVED DP OPERATIONS DATE 11-15-95					
SERVICE CENTER LOCATION MILLINGTON, TN SC-DWG NUMBER 7160-4100-151 REV. NO. G					

SAFETY-KLEEN SYSTEMS, INC.
 5500 N. COIT, EXPRESSWAY STE 408 RICHMOND, TX 75386
 PHONE 281-569-5749



CONTAINMENT CALCULATIONS

FORMULA USED (L) X (W) X (H) X 7.48 GAL/CF

L = 10'
W = 5'
H = 6"

10' X 5' X 6" X 7.48 GAL/CF = 187 GALLONS
187 GALLONS X 8 PANS = +1496 GALLONS

DISPLACEMENT OF DRUM WASHERS/CONTINUED USE VATS

5' X 3' X 6" X 7.48 GAL/CF = 56 GALLONS
56 GAL X 3 UNITS = - 168 GALLONS

MISC. DISPLACEMENT OF COLUMNS, BUMPER POSTS, HARDWARE, EQUIPMENT 2% = - 44 GALLONS

TOTAL CONTAINMENT = +1284 GALLONS



GENERAL NOTES

1. PIPING CONFIGURATION VERIFIED BY S-K ON 7/10/20.

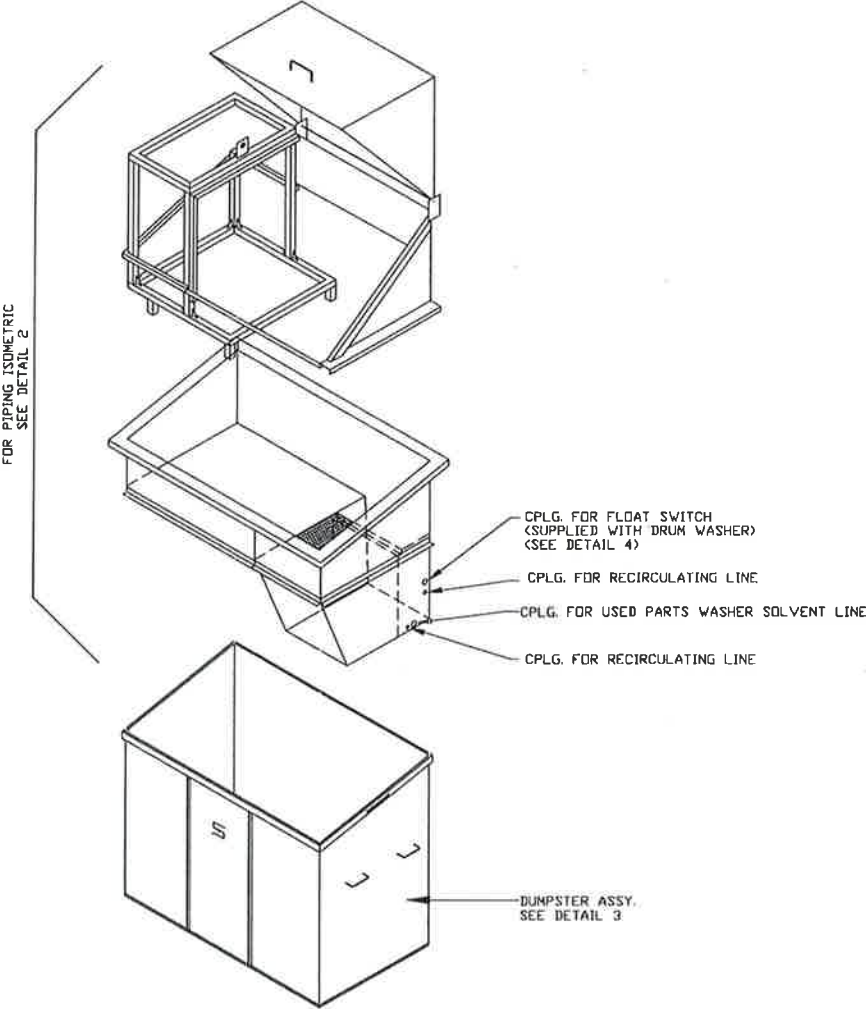
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RETURN FILL PIPING PLAN

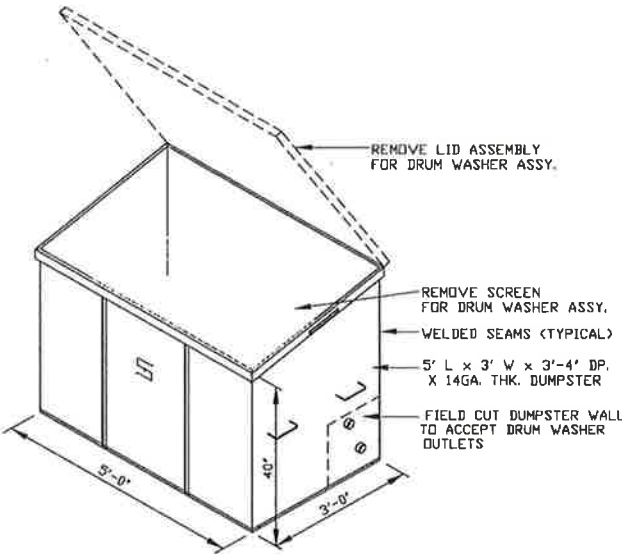
REVISIONS					SAFETY-KLEEN SYSTEMS, INC.			
B	ISSUED FOR PERMIT	JEK	CW	CW	072720	2800 N. CENT. EXPRESSWAY STE 400 RICHARDSON, TX 75080		
A	ISSUED FOR PERMIT	JEK	CW	CW	032019	PHONE: 800-889-5740		
D	REV ISSUE	JEK	BC	BC	020206	SCALE 1/4" = 1'-0"	BY JEK	CHKD BC
NO.	DESCRIPTION	BY	CHK	APPR	DATE	SERVICE CENTER LOCATION	SO-DWG NUMBER	REV. NO.
						MILLINGTON, TN	7160-5600-100	B

DUMPSTER/BARREL WASHER ASSY – DETAIL 1

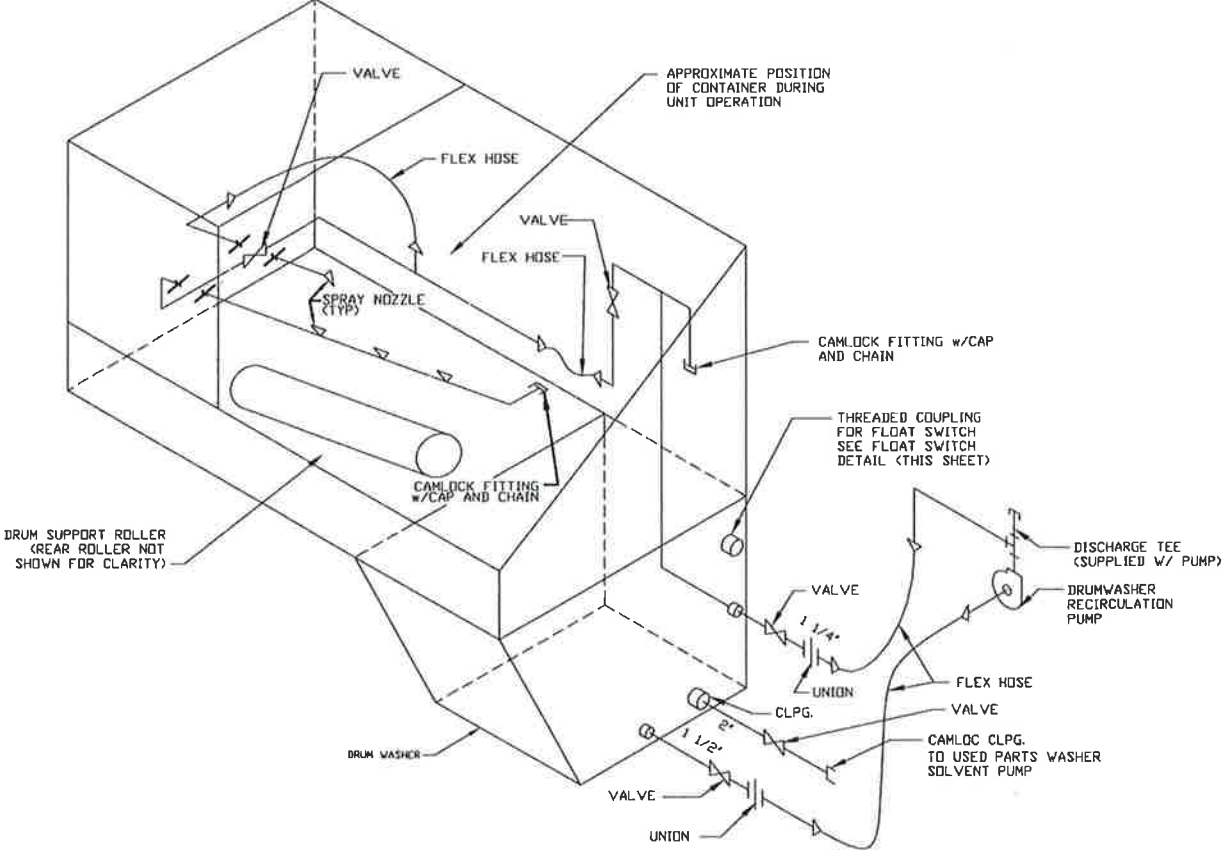


SWIC DRUM WASHER CAPACITY IS 163 GALLONS

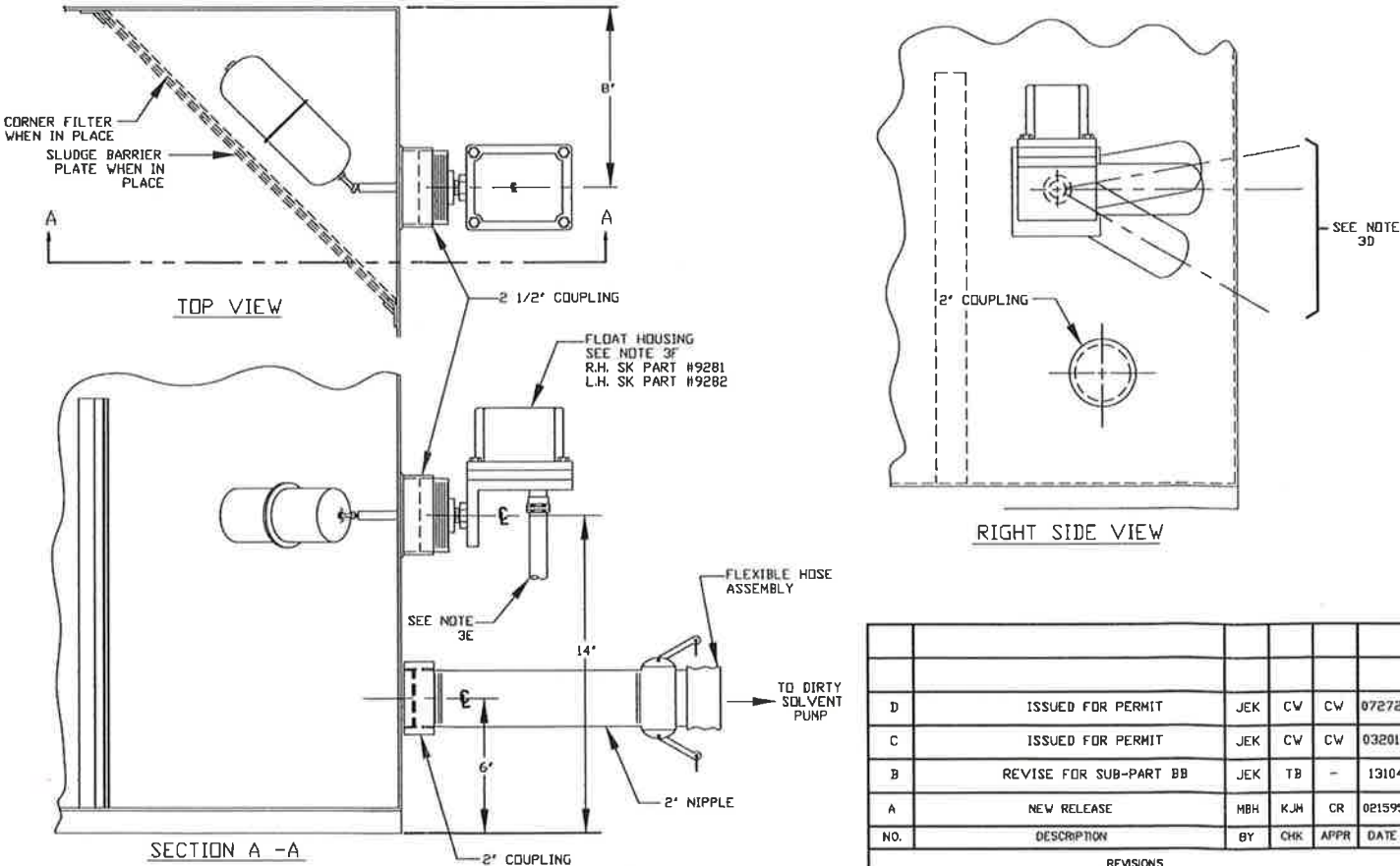
DUMPSTER ASSY. – DETAIL 3



BARREL WASHER PIPING ISOMETRIC – DETAIL 2



FLOAT SWITCH INSTALLATION – DETAIL 4



GENERAL NOTES

- 1.) THE BARREL WASHER UNIT AND DUMPSTER ARE SUPPLIED BY SAFETY-KLEEN CORP. AND COMBINED BY CONTRACTOR. RECIRCULATING PUMP, AND VALVES FOR DRUM WASHER ARE SUPPLIED BY SAFETY-KLEEN CORP. AND INSTALLED WITH CONTRACTOR SUPPLIED PIPE UNIONS AND HOSES.
9. ALL ITEMS WITH SAFETY-KLEEN PART NO. REFERENCES WILL BE SUPPLIED TO CONTRACTOR.
3. FLOAT SWITCH INSTALLATION INSTRUCTIONS
- A. TAKE FLOAT SWITCH AND WRAP CLOCKWISE WITH 2 TEFLON WINDS OF TAPE AND INSTALL INTO 2 1/2" COUPLING ON OUTSIDE OF DUMPSTER
- B. TAKE FLOAT AND THREAD IT INTO THE FLOAT SWITCH FROM THE INSIDE SHAFT OF THE DUMPSTER AND TIGHTEN SECURELY.
- C. RELEASE SHIPPING BRACKET BY REMOVING SCREW AND DISCARDING BRACKET.
- D. FLOAT TRAVEL SETTING ADJUSTMENTS CAN BE ACCOMPLISHED BY LOOSENING ADJUSTMENT SCREWS. THE FLOAT TRAVEL ARC SHOULD BE SET AT 10" TRAVEL UP AND 30" TRAVEL DOWN (SEE CALIBRATION ON DIAL). SEE RIGHT SIDE VIEW.
- E. FLOAT SWITCH SHOULD BE WIRED UP ACCORDING TO MFGRS. SPECS AND IN COMPLIANCE WITH ANY LOCAL CODES. (USE RIGID CONDUIT THROUGHOUT).
- F. FLOAT SWITCH TO BE INSTALLED ON SAME SIDE OF DUMPSTER AS DRAIN LINE. INSTALLATION SHOWN IS FOR RIGHT HAND SIDE OF DUMPSTER. FLOAT SWITCH IS SQUARE D CLASS 9037 HR - 3 (RIGHT HAND) OR HR - 4 (LEFT HAND).
- G. RE-ADJUST FLOAT STOPS TO THOSE SHOWN ON RIGHT SIDE VIEW.
- H. WHEN DUMPSTER DOES NOT HAVE A 2 1/2" COUPLING, ONE SHOULD BE ON (LIQUID TIGHT) TO DIMENSIONS SHOWN.



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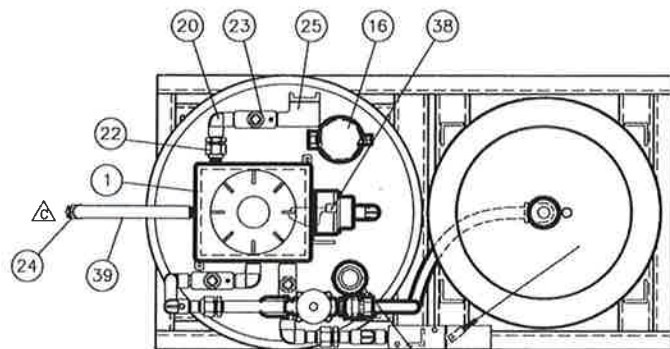
DRUM WASHER/DUMPSTER ISOMETRIC

SAFETY-KLEEN SYSTEMS, INC.
2800 N. COYT. EXPRESSWAY STE 400 RICHARDSON, TX 75080
PHONE: 800-555-5740

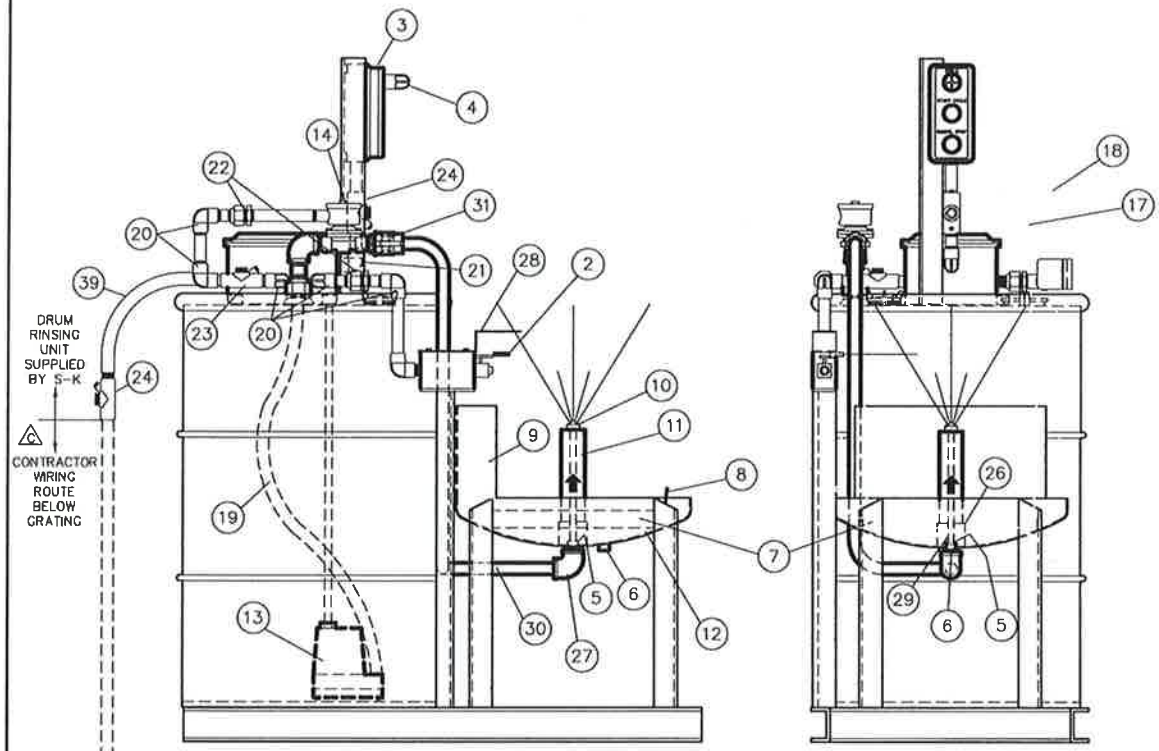
SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
NONE	MBH	KJM	CR		02-08-99
SERVICE CENTER LOCATION	SC-DWG NUMBER	REV. NO.			
MILLINGTON, TN.	7160-5600-299	D			

NO.	DESCRIPTION	BY	CHK	APPR	DATE
D	ISSUED FOR PERMIT	JEK	CW	CW	072720
C	ISSUED FOR PERMIT	JEK	CW	CW	032019
B	REVISE FOR SUB-PART BB	JEK	TB	-	13104
A	NEW RELEASE	MBH	KJM	CR	021595
REVISIONS					

ATTACHMENT 10.4 DRUM RINSING SYSTEM OPERATION

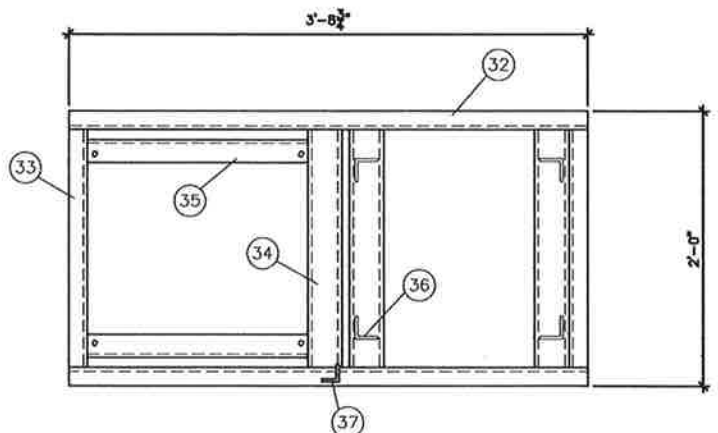


DRUM RINSER PLAN - DETAIL 1
SCALE: 1 1/2"=1'-0"



DRUM RINSER SIDE ELEVATION - DETAIL 2
SCALE: 1 1/2"=1'-0"

DRUM RINSER FRONT ELEVATION - DETAIL 3
SCALE: 1 1/2"=1'-0"



SKID PLAN - DETAIL 4
SCALE: 1 1/2"=1'-0"

SEQUENCE OF OPERATION

1. POSITION DRUM IN DRAIN PAN MAKING SURE LIMIT SWITCH LEVER IS ENGAGED.
2. DEPRESS START CYCLE PUSHBUTTON AND RELEASE. PUMP MOTOR WILL RUN BUT SOLENOID VALVE REMAINS CLOSED FOR SET TIME OF TR1 (1-10 SEC.). THE RED CYCLE LIGHT WILL BE ON.
3. AFTER TR1 HAS TIMED OUT THE SOLENOID VALVE OPENS AND REMAINS OPEN UNTIL TR2 (1-10 SEC.) HAS TIMED OUT. DURING THE TIME SET ON TR2 SOLVENT IS BEING SPRAYED INTO THE DRUM.
4. AFTER TR2 HAS TIMED OUT, A DRAIN CYCLE TR3 (1-180SEC.) BEGINS. DURING THIS TIME THE PUMP CANNOT BE RESTARTED. THE RED CYCLE LIGHT WILL REMAIN ON UNTIL TR3 HAS TIMED OUT.
5. THE PUMP MOTOR WILL STOP IF EITHER THE EMERGENCY STOP PUSHBUTTON IS DEPRESSED OR IF THE DRUM IS MOVED, DISENGAGING THE LIMIT SWITCH.

ELECTRICAL NOTES

1. ALL CONDUIT, J-BOXES AND FITTINGS TO MEET CLASS 1 DIV. I, GROUP B, C & D REQUIREMENTS.
2. USE #14 THIN MTW ONLY.
3. USE WIRE LABELS ON BOTH ENDS OF ALL WIRES.
4. RUN SAFETY GROUND WIRES IN GREEN #14.
5. CONTRACTOR SCOPE OF WORK IS TO ROUTE 110V POWER SUPPLY TO UNIT TO UNIT AND CONNECT TO TERMINAL STRIP AND TO INCLUDE GROUND CONNECTION.



EQUIPMENT SCHEDULE FOR DETAILS 1, 2, 3 & 4

ITEM	QTY.	DESCRIPTION	P/N	MFR.
1	1	ELECTRICAL ENCLOSURE,	GUB06109-00-AA-B0-AA-MT	CROUSE-HINDS
2	1	LIMIT SWITCH, NEMA 7	802X-A7	ALLEN-BRADLEY
3	1	START/STOP STATION, "EMERG. STOP" & "START CYCLE", NEMA 7	800H2HAP7	ALLEN-BRADLEY
4	1	PILOT LIGHT, NEMA 7, "CYCLE LIGHT"	800H-LP10R	ALLEN-BRADLEY
5	1	NOZZLE COUPLING, 1/2", STEEL	COMMON COMMODITY	-
6	1	DRAIN COUPLING, 3/4", FEMALE TANK FLG.	COMMON COMMODITY	-
7	1	16 GALLON DRUM POSITIONING RING	-	SEMLER IND.
8	1	30 GALLON DRUM LOCATING STOP	-	SEMLER IND.
9	1	DRUM BACK STOP	-	SEMLER IND.
10	1	SPRAY NOZZLE	1/4-G-SS-10	SPRAYING SYSTEMS
11	1	SPRAY NOZZLE GUARD PIPE, 2" X 8" NIP. THD. ONE END	-	SEMLER IND.
12	1	DRIP PAN	-	-
13	1	COMS PUMP	SK PART # 3790	LITTLE GIANT
14	1	SOLENOID VALVE, 1/2"	EFB210G94	ASCO
15	1	VENT & FLAME ARRESTOR, 2"	522	PROTECTOSEAL
16	1	FILL CAP	179M-0200 AC	MORRISON
17	1	16 GALLON DRUM	SHOWN FOR CLARITY	-
18	1	30 GALLON DRUM	SHOWN FOR CLARITY	-
19	1	HOSE, WINGFOOT, 1" X 3', W/ MNPT X FCOPU ENDS	-	HOSE PROS
20	7	1/2" XP ELBOW	EL19	CROUSE-HINDS
21	1	3/4" XP ELBOW	EL29	CROUSE-HINDS
22	3	1/2" XP UNION	UNF105	CROUSE-HINDS
23	3	SEAL OFF, 1/2" XP	EYS116	CROUSE-HINDS
24	2	SEAL OFF, 3/4" XP	EYS216	CROUSE-HINDS
25	1	CONDULET, 1/2", 90°	GUAL 14	CROUSE-HINDS
26	1	HALF COUPLING, 2", FEMALE	COMMON COMMODITY	-
27	1	ELBOW, 1/2", 90°, BLACK	COMMON COMMODITY	-
28	1	LIMIT SWITCH GUARD	-	SEMLER IND.
29	1	NIPPLE, 1/2" X 8", BLACK PIPE	-	SEMLER IND.
30	1	HOSE, WINGFOOT, 1/2" X 4', W/ MNPT X FCOPU ENDS	-	HOSE PROS
31	1	COUPLER, MALE, 1/2", BRASS	633-F-0400	CIVACON
32	2	CHANNEL IRON, 3" X 4.1#	COMMON COMMODITY	SEMLER IND.
33	2	CHANNEL IRON, 3" X 4.1#	COMMON COMMODITY	SEMLER IND.
34	3	CHANNEL IRON, 3" X 4.1#	COMMON COMMODITY	SEMLER IND.
35	2	ANGLE IRON, 2" X 2" 1/4"	COMMON COMMODITY	SEMLER IND.
36	4	ANGLE IRON, 2" X 2" 1/4"	COMMON COMMODITY	SEMLER IND.
37	1	ANGLE IRON, 1 1/2" X 1 1/2" X 3/16"	COMMON COMMODITY	SEMLER IND.
38	1	CLIP, TAMPER RESISTANT, CRIMP TYPE W/ WIRW	COMMON COMMODITY	SEMLER IND.
39	1	18"L. FLEXIBLE ELECTRIC CABLE (NEMA 9)	COMMON COMMODITY	SEMLER IND.

EQUIPMENT SCHEDULE FOR DETAIL 5

ITEM	QTY.	DESCRIPTION	PART NO.	MFR.
1	1	CLASS 1, GROUP B,C,D DEVICE ENCLOSURE	GUB06109-00-AA-B0-AA-MP	CROUSE-HINDS
2	1	NEMA 7/9 3-GANG PUSHBUTTON STATION	GCS 16	KILLARK
3	1	NEMA 7/9 START PUSHBUTTON	800H-AP1	ALLEN-BRADLEY
4	1	NEMA 7/9 STOP PUSHBUTTON	800H-BP6	ALLEN-BRADLEY
5	1	NEMA 7/9 120V. RED PILOT LIGHT	800H-LP10R	ALLEN-BRADLEY
6	1	NEMA 7/9 LIMIT SWITCH	802X-A7	ALLEN-BRADLEY
7	1	12" NYLON LIMIT SWITCH ROD LEVER	802T-W3C	ALLEN-BRADLEY
8	1	HYPALON PROTECTIVE GREEN P.B. BOOT	800H-NP5B	ALLEN-BRADLEY
9	1	HYPALON PROTECTIVE RED P.B. BOOT	800H-NPE5A	ALLEN-BRADLEY
10	2	0-10 SEC. ON DELAY TDR 120V.	H3G-8C AC120	OMRON
11	2	TDR 8 PIN SOCKET	P2CF-08	OMRON
12	1	1.8-180 SEC. OFF DELAY TDR	T3K-180-461(120V.)	NATIONAL CONTROLS
13	1	TDR 11 PIN SOCKET	PP113A	OMRON
14	1	CLASS CC FUSE BLOCK	BC6031S	BUSSMAN
15	1	10 AMP. CLASS CC FUSE	KTK-R-10	BUSSMAN
16	2	WIRE TERMINAL BLOCK	524	BUCHANAN
17	1	WIRE TERMINAL BLOCK END PIECE	530	BUCHANAN
18	3	LEGEND PLATES	800H-W500	ALLEN-BRADLEY
19	1	DPDT 120 V. 10 AMP. RELAY	K10P-11A15-120	P & B
20	1	RELAY SOCKET BASE	-	P & B

REVISIONS

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	RELEASED TO BJ FOR REVIEW	MBH			011196
B	ADDED ITEMS 38 & 39 RELEASED TO BJ FOR REVIEW	MBH			030796
C	UPDATED ITEMS 4, 10, 13, 17 & 18 ON EQUIP. SCHED. (1, 2, 3 & 4) UPDATED SEQ. OF OPER. (2, 3 & 4) UPDATED ELEC. NOTES (1 & 5) BEND ITEMS 24 & 39 VERT & DOWN AND ADDED ARROWS & TEXT CHANGED DWG. & DETAIL (1, 2, 3, & 5) TITLES - REMOVED INITIALS IN CHKD/APPR/OPER BOXES	MBH			032396
D	ISSUED FOR PERMIT	JEK	CW	CW	032019
E	ISSUED FOR PERMIT	JEK	CW	CW	072720

TITLE
DRUM RINSING (SPRITZER) SYSTEM
ASSY. DETAILS & ELECTRICAL SCHEMATIC

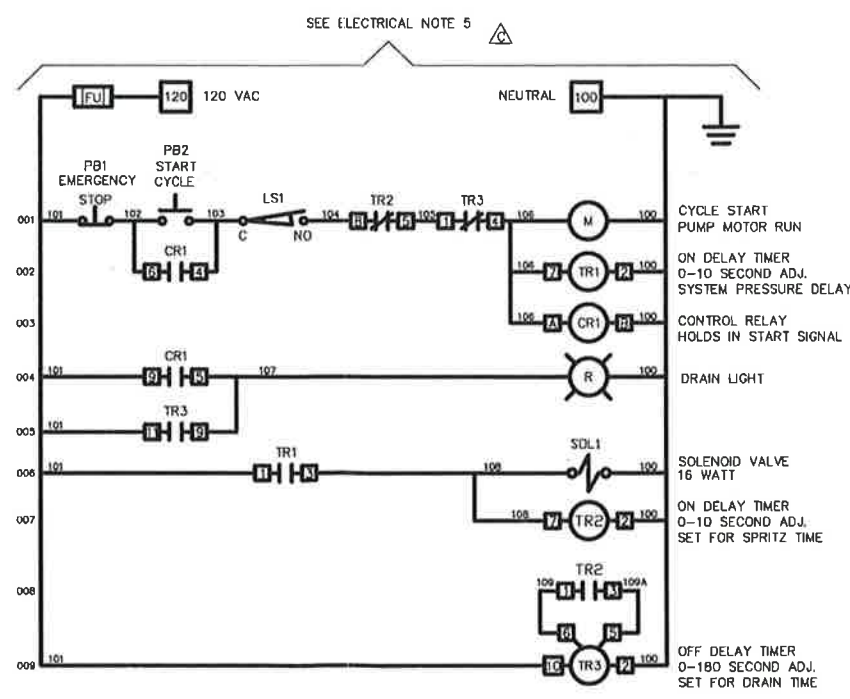
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SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
1.5" = 1'-0"	MBH				030796
SERVICE CENTER STANDARDS			STD-DWG NUMBER		REV. NO.
MILLINGTON, TN.			7160-5700-200		E

DRUM RINSER ELECTRICAL SCHEMATIC - DETAIL 5

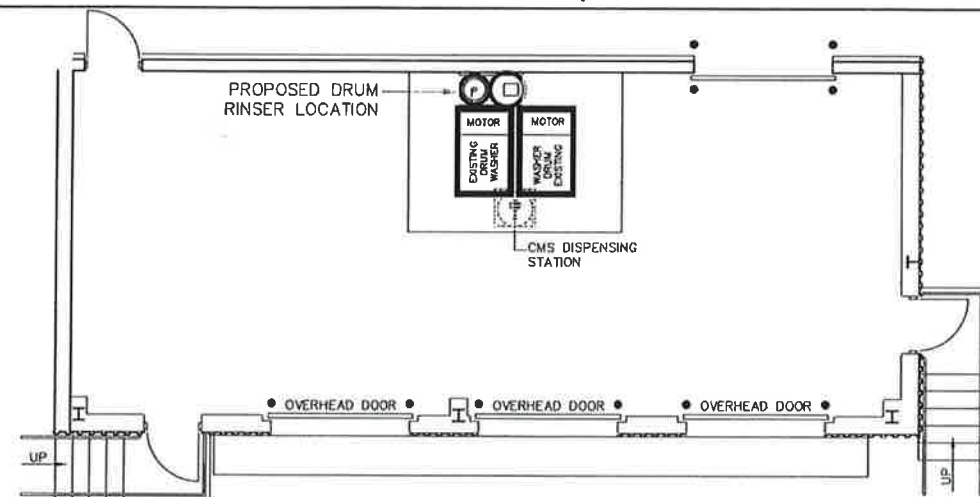
SCALE: 1 1/2"=1'-0"



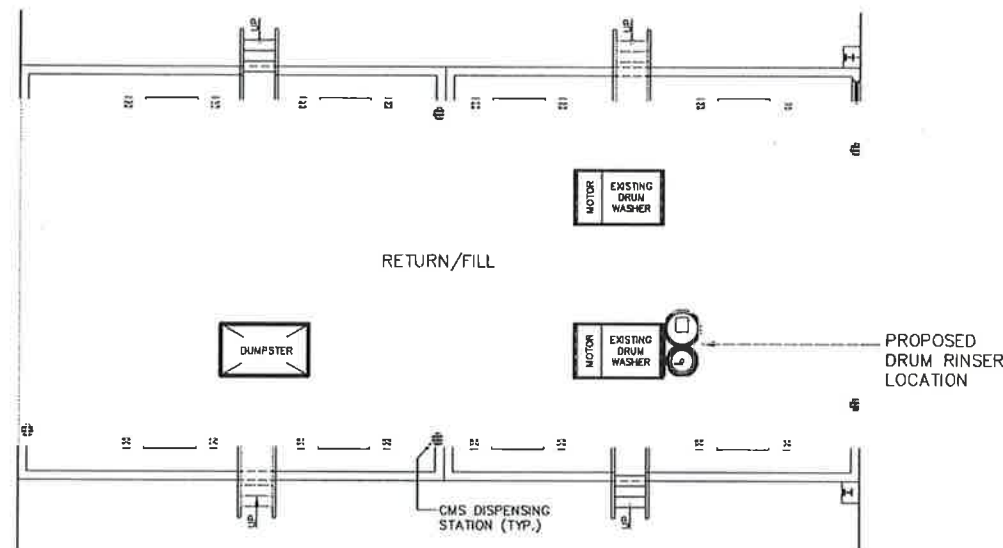
TYPICAL RETURN/FILL PLANS

TYPICAL DRUM RINSER INSTALLATION DETAILS

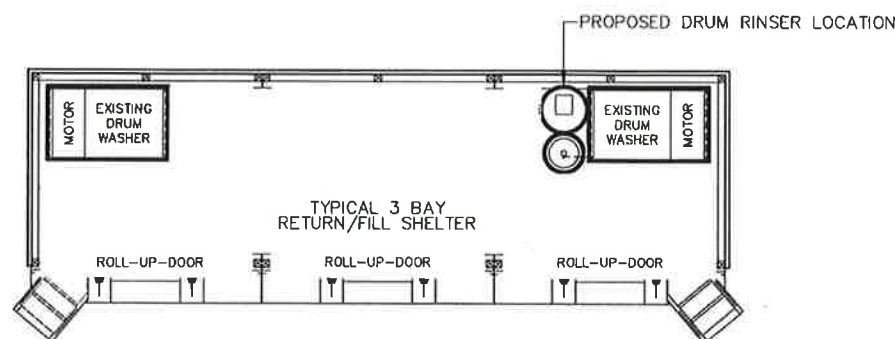
GENERAL NOTES



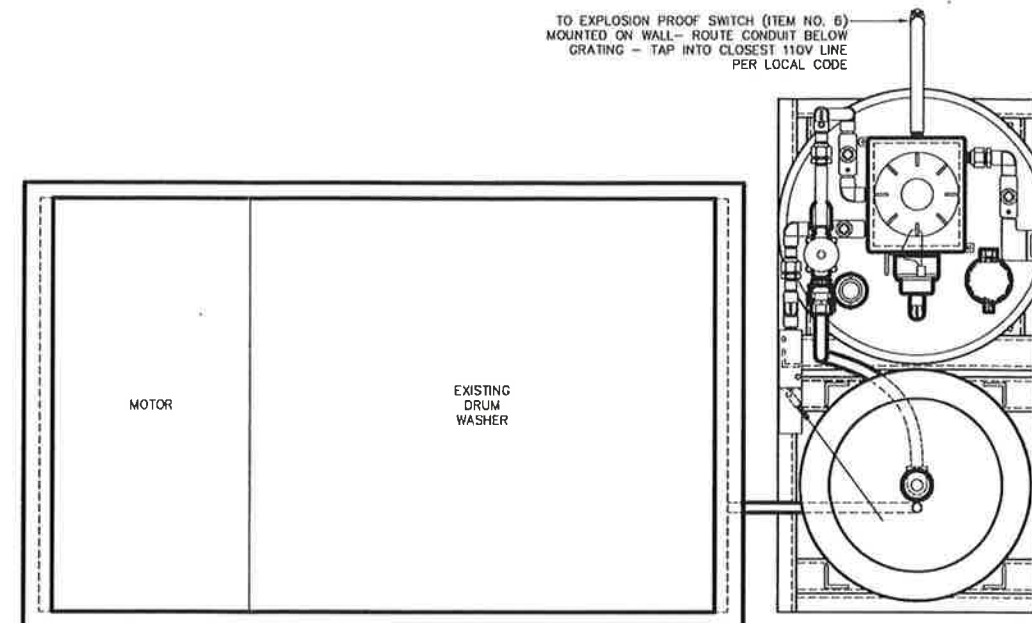
RETURN/FILL BUILDING PLAN
SCALE: 3/16"=1'-0"



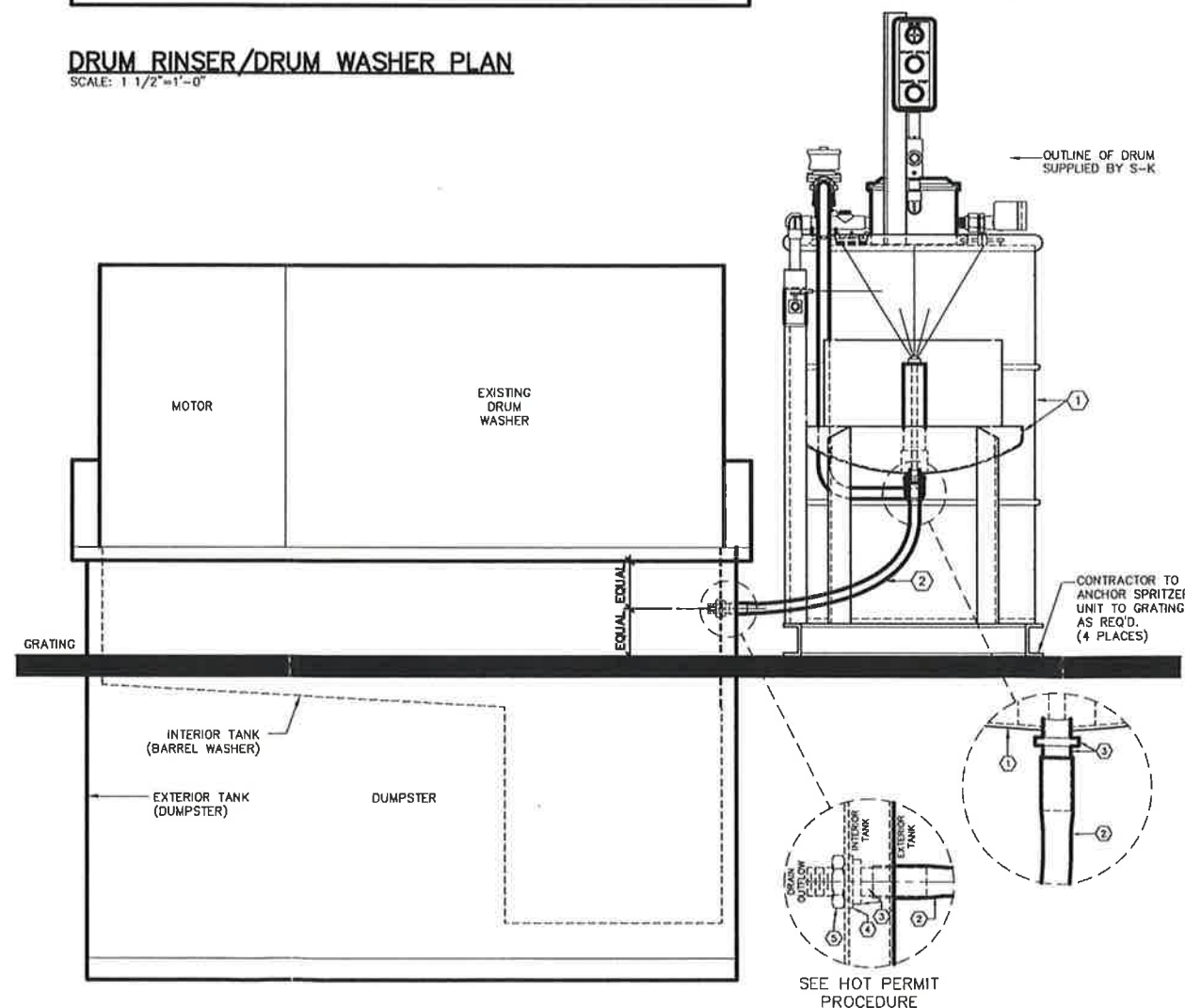
RETURN/FILL DOCK PLAN
SCALE: 3/16"=1'-0"



RETURN/FILL SHELTER PLAN
SCALE: 1/4"=1'-0"



DRUM RINSER/DRUM WASHER PLAN
SCALE: 1 1/2"=1'-0"



DRUM RISER/WASHER FRONT ELEVATION
SCALE: 1 1/2"=1'-0"

- THIS FACILITY IS FOR THE STORAGE AND HANDLING OF CLASS IB, CLASS II & CLASS IIIA & IIIB LIQUIDS.
- CONTRACTOR TO VERIFY EXISTING SITE CONDITIONS.
- CONTRACTOR TO PROVIDE A COMPLETE SYSTEM.
- UNLESS NOTED OTHERWISE ALL ITEMS REQ'D. FOR INSTALLATION SHALL BE SUPPLIED BY CONTRACTOR.
- SEE THE EQUIPMENT SCHEDULE FOR A LIST OF S-K SUPPLIED ITEMS.
- CONTRACTOR TO CUT 30"L. x 3/4" HOSE (ITEM 2) AS REQ'D. TO PROVIDE SMOOTH ARC. IF LONGER HOSE IS REQ'D. CONTRACTOR TO SUPPLY A NEW LONGER HOSE.
- CONTRACTOR TO TIE INTO EXISTING 110V ELECTRICAL SYSTEM AS REQ'D. PER CODE.
- CONTRACTOR TO CONSULT W/ THE LOCAL BRANCH MANAGER REGARDING THE FINAL LOCATION OF THE DRUM RINSER UNIT.
- CONTRACTOR TO MOUNT EXPLOSION PROOF SWITCH (ITEM NO. 6) ON WALL AS REQ'D.



HOT PERMIT PROCEDURE

- CONTRACTOR HARDWARE:
 - HOLE SAW ARBOR WITH 1/4" PILOT DRILL
 - 1 3/4" HOLE SAW
 - 1 1/8" HOLE SAW
- PROCEDURE:
 - USE SAW ARBOR TO DRILL 1/4" PILOT HOLE THRU EXTERIOR AND INTERIOR TANKS
 - WITH ARBOR AND 1 3/4" HOLE SAW, CUT HOLE INTO EXTERIOR TANK.
 - WITH ARBOR AND 1 1/8" HOLE SAW, CUT HOLE INTO INTERIOR TANK.

EQUIPMENT SCHEDULE

TAG	DESCRIPTION	QTY	REMARKS
1	SPRITZER UNIT SEE DWG. B50-932	1	SUPPLIED BY S-K INSTALLED BY CONTRACTOR
2	30"L. x 3/4" HOSE	1	SUPPLIED BY S-K INSTALLED BY CONTRACTOR
3	HOSE BARB	2	SUPPLIED BY S-K INSTALLED BY CONTRACTOR
4	GASKET	1	SUPPLIED BY S-K INSTALLED BY CONTRACTOR
5	NUT	1	SUPPLIED BY S-K INSTALLED BY CONTRACTOR
6	EXPLOSION PROOF SWITCH	1	SUPPLIED BY S-K INSTALLED BY CONTRACTOR SEE GEN. NOTE 9

REVISIONS

NO.	DESCRIPTION	BY	CHK	APPR	DATE
A	RELEASED TO BJ FOR REVIEW	MBH			030798
B	UPDATED GEN NOTES (3, 6, 7, 8&9) UPDATED EQUIP. SCHED. (3 & 6) BEND ELEC. CONN. VERT & DOWN AND UPDATED ARROW REF. CHANGED DWG. TITLE DRUM RINSER WAS SPRITZER REMOVED ALTERNATE LOC. DRUM WASHER WAS BARREL WASHER	MBH			032296
C	ISSUED FOR PERMIT	JEK	CW	CW	032019
D	ISSUED FOR PERMIT	JEK	CW	CW	072720

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TITLE
DRUM RINSER (SPRITZER) INSTALLATION
DETAILS & TYPICAL R/F LOCATION PLANS

SAFETY-KLEEN SYSTEMS, INC.
2600 N. COIT, EXPRESSWAY STE 400 RICHARDSON, TX 75080
PHONE 800-660-5740

SCALE	BY	CHKD	APPROVED	OPERATIONS	DATE
AS NOTED	MBH	KJM	DOD	RJ/WJ	030798
SERVICE CENTER LOCATION	MILLINGTON, TN.		STD-DWG NUMBER	7160-5700-201	REV. NO.
					D

DRUM RINSING SYSTEM OPERATION

I. Electrical

The unit is powered by 120 VAC service as noted on the drawing. All electrical wiring is Class I, Division I (explosion-proof) with seal-offs in all required locations per NEC (National Electric Code). All circuitry is housed within the NEMA 7 enclosure, Item No. 1. All switching is enclosed in the NEMA 7 start/stop station, Item No. 3. The limit switch, Item No. 2, prevents the system from being operated without a drum in position, by interrupting the power supply.

II. Process

The operation of the system includes first filling the 55 gal drum reservoir (not numbered) with clean solvent. This is accomplished through the fill cap, Item No. 16 which can be pad-locked closed to prevent inadvertent use by unauthorized personnel. During filling of the reservoir, the drum is venting through the vent and flame arrestor, Item No. 15. Once this has been completed the unit is ready to begin rinsing drums. The system is designed to rinse either 16 or 30 gallon size drums which fit into either the internal concentric ring or the drain pan respectively, Item No. 12. With a drum in place, the safety conditions are met for the limit switch, Item No. 2 as discussed previously to allow the system to operate. The operator presses the start button which activates the pump, Item No. 13. A red pilot light, Item No. 4, also comes on at this time. A delay timer, (internal circuit component), allows the pump to come to rinsing pressure (~ 9.5 psig) to ensure the best nozzle performance. This takes about 4 seconds. Once this condition has been met, a second timer activates controlling the rinsing cycle duration. This timer opens a solenoid valve, Item No. 14 which allows the flow of solvent from the pump to the rinsing nozzle, Item No. 10. When the rinsing cycle is complete (~ 3 seconds), the solenoid valve closes and the pump is turned off automatically. At this point a third timer activates a drain cycle of approximately 45 seconds. This is designed into the system to ensure the proper drainage time is allowed for the rinsing solvent to drain out of the drum. This has been determined experimentally for optimum results. The system cannot be restarted until this cycle is complete.

All solvent draining from the drum is channeled through a $\frac{1}{2}$ " hose between the drain coupling, Item No. 6 and the used solvent dumpster, (note shown-separate existing system). Once the 45 second drain cycle is complete, the system resets, the red pilot light goes out and the drum may be removed for filling with clean solvent for use.

Allan A. Manteuffel Technical Center

P.O. Box 92050
Elk Grove Village, IL
7009-2050

12555 W. Old Higgins Rd.
Elk Grove Village, IL 60007
Telephone: 312/694-2700
Fax: 312/825-7850

10-39

CLASS 1 MODIFICATION-EFFECTIVE 9/18/96

EPA ID Number: TND000614321
Permit Number: TNHW-DRAFT

ATTACHMENT 11. SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

Attachment 11 consists of five separate sections as follows:

11.1. SUMMARY TABLES OF REQUIREMENTS FOR SWMUS AND AOCS

FIGURE 11.1-1 – SWMU LOCATIONS

11.2. RCRA FACILITY INVESTIGATION (RFI) OUTLINE

11.3. CORRECTIVE MEASURES STUDY (CMS) OUTLINE

11.4. CORRECTIVE ACTION COMPLIANCE SCHEDULE

11.5. CORRECTIVE ACTION REMEDIES

**ATTACHMENT 11.1. SUMMARY TABLES OF REQUIREMENTS FOR
SWMUS AND AOCs**

Table 11.1-1 List of solid waste management units (SWMUs) and areas of concern (AOCs) that require no further action under the corrective action conditions of this permit:				
SWMU /AOC	SWMU Identification	Dates of Operation	SWMU Description	No Further Action Justification
4	Previously Permitted Container Storage Area	1982 to Present	Non-Permitted Unit—Area surrounding the regulated Container Storage Area is currently used for vehicular parking.	EPA letter dated March 26, 1991
6	Rainwater Containment Area	1982 to Present	Non-Permitted Unit—5,000-gallon holding tank used for collecting and sampling of rainwater from aboveground tank farm prior to discharge.	EPA letter dated March 26, 1991

Table 11.1-2 List of solid waste management units (SWMUs) and areas of concern (AOCs) that require Confirmatory Sampling (CS):

As of permit issuance, there are no units identified that require Confirmatory Sampling in accordance with the Specific Conditions For Corrective Action section of this permit.

Table 11.1-3 List of solid waste management units (SWMUs) and areas of concern (AOCs) that require a RCRA Facility Investigation (RFI):

As of permit issuance, there are no units identified that require a RCRA Facility Investigation in accordance with the Specific Conditions For Corrective Action section of this permit.

Table 11.1-4 List of solid waste management units (SWMUs) and areas of concern (AOCs) that require Interim Measures (IM):
--

As of permit issuance, there are no units identified that require Interim Measures in accordance with the Specific Conditions For Corrective Action section of this permit.

Table 11.1-5 List of solid waste management units (SWMUs) and areas of concern (AOCs) that require a Corrective Measures Study (CMS):
--

As of permit issuance, there are no units identified that require a Corrective Measures Study in accordance with the Specific Conditions For Corrective Action section of this permit.
--

Table 11.1-6 List of solid waste management units (SWMUs) and areas of concern (AOCs) that require implementation of a Corrective Action Remedy ::

As of permit issuance, there are no units identified that require a Corrective Action Remedy in accordance with the Specific Conditions For Corrective Action section of this permit.

Table 11.1-7 List of solid waste management units (SWMUs) and areas of concern (AOCs) that are regulated by a Hazardous Waste Permit:

SWMU /AOC	SWMU Identification	Dates of Operation	SWMU Description	Remedy
1	Wet Dumpsters	1982 to Present	Permitted Unit--Two wet dumpsters used to transfer spent solvents from drums to the hazardous waste tank.	Implement Closure as required by Permit Condition II.L. attached as Attachment 7 upon closure of unit or facility.
2	Aboveground Storage Tank	1982 to Present	Permitted Unit—Hazardous waste aboveground storage tank: 10,000-gallon capacity.	Implement Closure as required by Permit Condition II.L. attached as Attachment 7 upon closure of unit or facility.
3	Hazardous Waste Container Storage Area (CSA)	1982 to Present	Permitted Unit—Hazardous waste Container Storage Area: May contain other non-hazardous wastes and products within the CSA.	Implement Closure as required by Permit Condition II.L. attached as Attachment 7 upon closure of unit or facility.
5	Oily Water Tanker Storage Area	1982 to Present	Non-Permitted Unit—Containment area that includes a 5,000-gallon tanker used to haul off non-hazardous oily water from vacuum truck off-loading.	Follow regulations for closure of used oil tanks in 0400-12-.09(6)(e)(8)(l)

ATTACHMENT 11.2. RCRA FACILITY INVESTIGATION (RFI) OUTLINE

The purpose of the RFI portion of the hazardous waste corrective action process is to evaluate the nature and extent of releases of hazardous wastes or hazardous constituents and to gather necessary information to update the conceptual site model and to support the Corrective Measures Study or Interim Measures. Planning for the investigation is best accomplished through a logical progression of tasks:

- Gather information on the source of the release(s) to the environment (Source Characterization);
- Gather information on the physical aspects of the environment which will affect the migration and fate of the release and identification of exposure pathways for both humans and non-human members of the environment (Environmental Setting); and
- Use Source Characterization and Environmental Setting to develop a conceptual model of the release that will be used to plan and conduct a program to define the nature, rate, and extent of the release (Sampling and Analysis Plan).

An RFI Work Plan and RFI Report are generally required elements of the RCRA corrective action process. The requirements for a full, detailed RFI are listed in this attachment. The Tennessee Department of Environment and Conservation (the Department) recognizes that each facility is unique. Therefore, the scope and requirements of the RFI must be focused to fit the complexity of the site-specific situation. The work plan requirements listed in this attachment in no way limit the site-specific opportunities for the facility. For example, the RFI may be implemented in phases. Relevant information contained in previously developed documents, such as a RCRA Part B Plan application, may be referenced as appropriate, but must be summarized in either the RFI Work Plan or the RFI Report. In addition, the Department understands that Risk Assessments are becoming more widely utilized to place characterization information into context and to aid in determining remedial solutions. If a Risk Assessment is expected to be performed in the future, note that the U.S. EPA Region 4, has developed a series of Risk Bulletins to provide the facility and their contractors with the general format and process the Department expects a Risk Assessment to follow.

Additionally, EPA has developed guidance for the use of generic regional screening levels (RSLs) for most hazardous constituents of concern to enable simple risk evaluations through comparisons with the actual release concentration measured in the soil or water at the facility solid waste management units (SWMUs) and areas of concern (AOCs). These generic RSLs are conservative health-based concentrations of hazardous constituents determined to be risk indicators for the protection of human health or the environment. EPA Region 4 recommends use of these generic RSLs as guidance for both Superfund and RCRA sites. For several frequently detected industrial contaminants (lead, arsenic, PAHs, PCBs, dioxins, etc.), EPA has also developed risk-based cleanup levels for both residential and industrial land use scenarios approach may be appropriate in the following types of situations, among others: facilities where removal remedies have been proposed by the owner/operator, facilities with straightforward remedial solutions or where presumptive remedies can be applied, facilities where few remedial options are available, and facilities where the remedy is phased. The Department will determine on a case-by-case basis if a concurrent RFI/CMS is appropriate. Because of the unique data collection requirements necessary for a remedial solution

which includes natural attenuation of contaminants in groundwater, if natural attenuation is expected to be part of the remedial solution, then the Sampling and Analysis Plan must be crafted to include monitoring of specific water quality parameters unique to natural attenuation (e.g., nitrites/nitrates, ferrous iron, sulfides, dissolved oxygen, methane, hydrogen, etc.).

I. RFI WORK PLAN REQUIREMENTS - ELEMENTS OF THE RFI WORK PLAN

The RFI Work Plan must include, at a minimum, the following elements:

A. Introduction - Summary of any relevant existing assessment data

The permittee must describe the purpose or objective of the RFI Work Plan and provide a summary of any existing environmental data that is relevant to the investigation. At a minimum, the summary must provide all the following items:

1. Land ownership history;
2. Facility operating dates;
3. Facility's product(s);
4. Raw materials used in facility operations and wastes generated;
5. Nature and extent of any known contamination source areas (regulated units solid waste management units and areas of concern, spill locations, potential migration pathways, and potential impacts to health and human environment [information must be depicted on maps];
6. Summary of any ongoing Interim Measures and past assessments; and
7. Summary of permit objective and how this objective will be satisfied.

B. Environmental Setting

The permittee must provide information on the environmental setting at the facility. The permittee must characterize the Environmental Setting as it relates to identified sources, pathways, and areas of releases of hazardous constituents from SWMUs or AOCs. Data gaps pertinent to characterization of releases must be identified and provisions made in Subsection I.E of this attachment to obtain the relevant information to fill the data gap. The Environmental Setting must cover the following items, at a minimum:

1. Hydrogeology

The permittee must formulate a conceptual site model using all available information on the waste, unit characteristics, hydrological conditions, and any existing monitoring data. For groundwater, this model must account for the ability of the waste to be dissolved or to appear as a distinct phase, as

well as geologic and hydrologic factors which affect the release pathway. The permittee must discuss all the above and include the following:

- (a) A description of the regional and facility specific geologic and hydrogeologic characteristics affecting groundwater flow beneath the facility, including:
 - (i) Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;
 - (ii) Structural geology: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, metamorphic foliation, etc.);
 - (iii) Depositional history;
 - (iv) Regional and facility specific groundwater flow patterns (porous media, fracture media, karst media); and
 - (v) Identification and characterization of areas and amounts of recharge and discharge (springs in karst terrane, base level streams and rivers).
- (b) An analysis of any topographic features that might influence the groundwater flow system (e.g., sinkholes and sinking streams in karst terranes).
- (c) Based on any existing field data, tests (e.g., pump tests, tracer tests), and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:
 - (i) Hydraulic conductivity and porosity (total and effective), groundwater flow velocity, groundwater basin discharge;
 - (ii) Lithology, grain size, sorting, cementation;
 - (iii) An interpretation of hydraulic interconnections between saturated zones (i.e., groundwater aquifers) and surface waters; and
 - (iv) The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content, etc.).

- (d) Based on data obtained from groundwater monitoring wells and piezometers installed upgradient water wells or springs downgradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring, including:
 - (i) Water-level contour or potentiometric maps, including seasonal variations;
 - (ii) Hydrologic cross sections showing gradients;
 - (iii) The flow system, including the vertical and horizontal components of flow; and
 - (iv) Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences and for karst terrane, storm flow.
- (e) A description of man-made influences that may affect the hydrology of the site, identifying:
 - (i) Local water supply and production wells with an approximate schedule of pumping;
 - (ii) Man-made hydraulic structures (pipelines, french drains, ditches, roofs, runways, parking lots, etc.); and
 - (iii) Exposure pathways and potential receptors must be identified within a one-mile radius.
 - (iv) Other groundwater uses

2. Soils

The permittee must provide a conceptual site model of the release using all available information on the waste, unit characteristics, environmental setting, and any existing monitoring data. For soil investigations, this model must account for the ability of the waste to be dissolved by infiltrating precipitation, its affinity for soil particles, its degradability and decomposition products, unit-specific factors affecting the magnitude and configuration of the release, and address the potential for transfer of contaminants in soil to other environmental media. Permittee must provide a summary to include this information and also the following:

- (a) Surface soil distribution;
- (b) Soil profile, including ASTM classification of soils;
- (c) Transects of soil stratigraphy;

- (d) Hydraulic conductivity (saturated and unsaturated);
- (e) Relative permeability;
- (f) Bulk density;
- (g) Porosity;
- (h) Soil sorption capacity;
- (i) Cation exchange capacity (CEC);
- (j) Soil organic content;
- (k) Soil pH;
- (l) Particle size distribution;
- (m) Depth of water table;
- (n) Moisture content;
- (o) Effect of stratification on unsaturated flow;
- (p) Infiltration;
- (q) Evapotranspiration;
- (r) Storage capacity;
- (s) Vertical flow rate; and
- (t) Mineral content.

3. Surface Water and Sediment

The permittee must provide a description of the surface water bodies in the vicinity of the facility. This summary may include, but not be limited to, the following activities and information:

- (a) Description of the temporal and permanent surface water bodies, including:
 - (i) For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;

- (ii) For impoundments: location, elevation, surface area, depth, volume, freeboard, and construction and purpose;
 - (iii) For streams, ditches, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (i.e., 100-year event), discharge point(s), and general contents;
 - (iv) Drainage patterns; and
 - (v) Evapotranspiration.
- (b) Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, dissolved oxygen profiles, nutrients, chemical oxygen demand, total organic carbon, specific contaminant concentrations, etc.
- (c) Description of sediment characteristics, including:
- (i) Deposition area;
 - (ii) Thickness profile; and
 - (iii) Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.).

4. Air

The permittee must provide information characterizing the climate in the vicinity of the facility. Such information may include, but not be limited to:

- (a) A description of the following parameters:
- (i) Annual and monthly rainfall averages;
 - (ii) Monthly temperature averages and extremes;
 - (iii) Wind speed and direction;
 - (iv) Relative humidity/dew point;
 - (v) Atmospheric pressure;
 - (vi) Evaporation data;
 - (vii) Development of inversions; and

- (viii) Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence (i.e., hurricanes).
- (b) A description of topographic and man-made features that affect air flow and emission patterns, including:
 - (i) Ridges, hills, or mountain areas;
 - (ii) Canyons or valleys;
 - (iii) Surface water bodies, e.g., rivers, lakes, or bays; and
 - (iv) Buildings.

5. Sub-Surface Gas

- (a) A definition and description of environmental setting Characterization
 - (i) climate;
 - (ii) site-specific meteorological conditions;
 - (iii) soil conditions;
 - (iv) site-specific terrain;
 - (v) subsurface gas migration pathways;
 - (vi) location of engineered conduits; and
 - (vii) location of surrounding structures

C. Source Characterization

For those sources from which releases of hazardous constituents have been detected, the permittee must provide analytical data to completely characterize the wastes and the areas where wastes have been placed, to the degree that is possible without undue safety risks, including: type; quantity; physical form; disposition (containment or nature of deposits); and facility characteristics affecting release (e.g., facility security and engineering barriers). Data gaps on source characterization must be identified and provisions made in Subsection I.E of this attachment to obtain the relevant information to fill the data gap. This summary must include quantification of the following specific characteristics for each source area:

1. Unit/Disposal Area Characteristics

- (a) Location of unit/disposal area;
- (b) Type of unit/disposal area;
- (c) Design features (to include unit dimensions);
- (d) Operating practices (past and present);
- (e) Period of operation;
- (f) Age of unit/disposal area;
- (g) General physical conditions; and
- (h) Method used to close the unit/disposal area.

2. Waste Characteristics

- (a) Type of wastes placed in the unit:
 - (i) Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);
 - (ii) Quantity; and
 - (iii) Chemical composition (to include contaminants of concern and indicator parameters).
- (b) Physical and chemical characteristics, such as:
 - (i) Physical form (solid, liquid, gas);
 - (ii) Physical description (e.g., powder, oily sludge);
 - (iii) Temperature;
 - (iv) pH;
 - (v) General chemical class (e.g., acid, base, solvent);
 - (vi) Molecular weight;
 - (vii) Density;
 - (viii) Boiling point;
 - (ix) Viscosity;

- (x) Solubility in water;
 - (xi) Cohesiveness of the waste; and
 - (xii) Vapor pressure.
- (c) Migration and dispersal characteristics of the waste, such as:
- (i) Sorption capability;
 - (ii) Biodegradability, bioconcentration, or biotransformation;
 - (iii) Photodegradation rates;
 - (iv) Hydrolysis rates;
 - (v) Chemical transformations.
 - (vi) Determine background levels;
 - (vii) Vertical and horizontal extent of release including concentrations of constituents; and
 - (viii) Determine rate and direction of release migration (if migrating) to include inter-media transport.

D. Potential Receptors

The permittee must provide data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Data gaps pertinent to receptor analysis must be identified and provisions made in Subsection I.E of this attachment to obtain the relevant information to fill the data gap. The following characteristics must be identified at a minimum:

1. Current local uses and planned future uses of groundwater, including:
 - (a) Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and
 - (b) Location of groundwater users, to include withdrawal and discharge wells and springs, within one mile of the impacted area.

The above information must also indicate the aquifer or hydrogeologic unit used or impacted for each item.

2. Current local uses and planned future uses of surface waters directly impacted by the facility, including:

- (a) Domestic and municipal uses (e.g., potable and lawn/gardening watering);
- (b) Recreational uses (e.g., swimming, fishing);
- (c) Agricultural uses;
- (d) Industrial uses; and
- (e) Environmental uses (e.g., fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including but not limited to the following:

- (a) Recreation;
- (b) Hunting;
- (c) Residential;
- (d) Commercial; and
- (e) Relationship of population locations and prevailing wind direction.

4. A general description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A general description of the ecology within the area adjacent to the facility.

6. A general demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to age, sex, and sensitive subgroups.

7. A description of any known or documented endangered or threatened species near the facility.

E. Sampling and Analysis Plan(s) for Characterization of Releases of Hazardous Waste/Hazardous Constituents

The permittee must prepare a plan to document all monitoring procedures necessary to characterize the extent, fate, and transport of releases (i.e., identify sample locations, sample procedures, and sample analysis to be performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents, so as to ensure that all information and data are valid and properly documented). The sampling strategy and procedures must be in accordance with the most recent version of the EPA Region 4's Field Branches Quality System and Technical Procedures or an equivalent method approved by the Commissioner. Quality assurance samples must follow the most recent version of

EPA Region 4 Field Services Branch's Field Sampling Quality Control. Data evaluations for purposed compliance must follow the Data Quality Objectives (DQOs) as outlined in the most recent version of "EPA's Guidance for Systematic Planning Using the Data Quality Objectives Process (EPA QA/G-4)". If a Risk Assessment is expected to be performed once release characterization is complete or nearly complete, Data Quality Objectives (DQO) for a Human Health Risk Assessment requires a DQO of Level 3 or greater.

The Sampling and Analysis Plan, at a minimum must specifically discuss the following unless a particular procedure in the Field Branches Quality System and Technical Procedure is directly referenced:

1. Sampling Design and Rationale

- (a) Rationale for choosing the sampling approach and method;
- (b) Rationale for obtaining all necessary ancillary data;
- (c) Rationale for determining conditions under which sampling must be conducted;
- (d) Rationale for determining which media are to be sampled (e.g., groundwater, air, soil, sediment, subsurface gas);
- (e) Rationale for determining which constituents/parameters are to be measured and at which location(s);
- (f) Rationale for selecting the frequency of sampling and length of sampling period; and
- (g) Rationale for selecting the types of samples (e.g., composite vs. grab) and number of samples to be collected for each sampling location.

2. Sampling Procedures

- (a) Documenting field sampling operations and procedures, including:
 - (i) Documentation of procedures for preparation of reagents or supplies that become an integral part of the sample (e.g., filters, preservatives, and absorbing reagents);
 - (ii) Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;
 - (iii) Documentation of specific sample preservation method;
 - (iv) Calibration of field instruments;

- (v) Submission of appropriate blanks (e.g., field, equipment, trip, etc.);
 - (vi) Potential interferences present at the facility;
 - (vii) Construction materials and techniques associated with monitoring wells and piezometers;
 - (viii) Field equipment listing and sampling containers;
 - (ix) Sampling order; and
 - (x) Decontamination procedures.
- (b) Selecting appropriate sample containers;
 - (c) Sampling preservation; and
 - (d) Chain-of-custody, including:
 - (i) Standardized field tracking reporting forms to establish sample custody in the field prior to shipment;
 - (i) Pre-prepared sample labels containing all information necessary for effective sample tracking; and
 - (iii) Chain-of-custody seals for sample containers and coolers.

3. Sample Analysis

Sample analysis must be conducted in accordance with SW-846: Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, most recent version or an equivalent method approved by the Commissioner.

The sample analysis section of the Sampling and Analysis Plan must specify the following:

- (a) Chain-of-custody procedures, including:
 - (i) Identification of a responsible party to act as sampling custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;
 - (ii) Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and
 - (iii) Specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

- (b) Sample storage (e.g., maximum holding times);
- (c) Sample preparation methods;
- (d) Analytical Procedures, including:
 - (i) Scope and application of the procedure;
 - (ii) Sample matrix;
 - (iii) Potential interferences;
 - (iv) Precision and accuracy of the methodology; and
 - (v) Method Detection Limits; and
 - (vi) Practical Quantitative Limits.
- (e) Calibration procedures and frequency;
- (f) Data reduction, validation, and reporting;
- (g) Internal quality control checks, laboratory performance and systems audits, and frequency, including:
 - (i) Method blank(s);
 - (ii) Laboratory control sample(s);
 - (iii) Calibration check sample(s);
 - (iv) Replicate sample(s);
 - (v) Matrix-spiked sample(s);
 - (vi) “Blind” quality control sample(s);
 - (vii) Control charts;
 - (viii) Surrogate samples;
 - (ix) Zero and span gases; and
 - (x) Reagent quality control checks.
- (h) External quality control checks by TDEC, including:

- (i) Spikes and blanks at sampling events for which TDEC or its technical representative provides oversight; and
- (ii) The equivalent of a Contract Laboratory Program (CLP) data package for samples split with TDEC or for which TDEC specifically requests the data package.
- (i) Preventive maintenance procedures and schedules;
- (j) Corrective action (for laboratory problems); and
- (k) Turnaround time.

F. Data Management Plan

The permittee must develop and initiate a Data Management Plan to document and track investigation data and results. This plan must identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan must also provide the format to be used to present the raw data, conclusions drawn from the analysis of samples and any trends found when evaluating the data (e.g., groundwater plume appears to be stable).

1. Data Record

The data record must include the following:

- (a) Unique sample or field measurement code;
- (b) Sampling or field measurement location and type;
- (c) Sampling or field measurement raw data;
- (d) Laboratory analysis ID number;
- (e) Property or component measures; and
- (f) Result of analysis (e.g., concentration, data qualifiers).

2. Tabular Displays and Trend Analysis

The following data must be presented in tabular displays:

- (a) Unsorted (raw) data;
- (b) Results for each medium or for each constituent monitored including any trends in the data;

- (c) Data reduction for statistical analysis, as appropriate;
- (d) Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and
- (e) Summary data.

3. Graphical Displays

The following data must be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

- (a) Display sampling location and sampling grid;
- (b) Indicate sampling boundaries and where more data are required;
- (c) Display geographical extent of contamination, both horizontally and vertically;
- (d) Illustrate changes in concentration in relation to distances from the source, time, depth, or other parameters; and
- (e) Indicate features affecting inter-media transport and show potential receptors.

G. Project Management Plan - Schedule of Implementation

The permittee must prepare a Project Management Plan, which will cover qualifications of personnel categories and the management control structure for the project. The permittee must also provide a schedule for completing the planned RFI activities. The schedule must be as specific as possible (i.e., it must indicate the number of days/weeks/months required for each major work plan task).

II. **RFI REPORT REQUIREMENTS - ELEMENTS OF THE RFI REPORT**

The RFI Report must include, at a minimum, the following elements:

A. Introduction

The permittee must describe the purpose of the RFI Work Plan and provide a summary description of the project.

B. Environmental Setting

The permittee must describe the environmental setting in and around the facility. The RFI Work Plan must contain some, if not all, of the information on the environmental setting. Any information collected during implementation of the

work plan that clarifies or improves understanding of the environmental setting must be provided in this section.

C. Source Characterization

The permittee must summarize the sources of contamination and nature of releases identified at the facility. The RCRA Facility Assessment and the RFI Work Plan must contain some, if not all, of the information on source characterization. Any information collected during work plan implementation or obtained from the sources (e.g., voluntarily or from other environmental programs) that directly addresses source characterization must be provided in this section.

D. Sampling and Analysis Results

The permittee must present data results obtained pursuant to the RFI Work Plan. The permittee must identify any work plan proposals which were not completed and explain why such actions were not finished. The permittee must also present its analysis/interpretation of how the sampling data meet the RFI objective and how the sampling data fits or modifies the contaminant conceptual model. For all analytical data, the permittee must discuss the results of data quality/data review.

E. Data Quality Assurance/Data Quality Data Review

The permittee must perform a Quality Assurance/Quality Control data review on all data present in the RFI. The Quality Assurance/Quality Control data review must be in accordance with the EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA-540/R94-013) and the U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (EPA-540/R94-012). The data review must address the following, at minimum:

1. Holding times;
2. Blanks;
3. Laboratory Control Samples;
4. Field Duplicates;
5. Surrogate Recoveries;
6. Matrix Spike/Matrix Spike Duplicates; and
7. Data Assessment - Data Usability.

F. Conclusions

The permittee must summarize the major conclusions reached after analysis of the environmental setting, source characterization, sampling and analysis results, and data quality. Any data gaps needed to complete characterization of the scope and extent of the releases from SWMUs or AOCs or to refine further the contaminant conceptual model, must be identified and recommendations made in the Recommendations section of the report.

G. Recommendations

The permittee must provide its recommendations on what, if any, further action is needed to complete the characterization of release(s) from SWMUs or AOCs.

H. Work Plan for Additional Investigations

If further investigations are determined to be needed to complete the objective of the RFI, then the permittee must provide a work plan to complete characterization of the release(s).

ATTACHMENT 11.3. CORRECTIVE MEASURES STUDY (CMS) OUTLINE

The purpose of the CMS portion of the hazardous waste corrective action process is to identify and evaluate potential remedial alternatives for the releases of hazardous constituents that have been identified at the facility through the RCRA Facility Investigation or other investigations that need further evaluation. The scope and requirements of the CMS are balanced with the expeditious initiation of remedies and rapid restoration of contaminated media. The scope and requirements of the CMS must be focused to fit the complexity of the site-specific situation. It is anticipated that permittees with sites with complex environmental problems may need to evaluate a number of technologies and corrective measure alternatives. For other facilities, however, the evaluation of a single corrective measure alternative may be adequate. Therefore, a streamlined or focused approach to the CMS may be initiated. Information gathered during any stabilizations or interim measures (IM), will be used to augment the CMS, and, in cases where corrective action goals are met, may be a substitute for the final CMS.

The requirements for a full, detailed CMS are listed below. TDEC has the flexibility not to require sections of the study, where site-specific situations indicate that all requirements are not necessary. Additionally, TDEC may require additional studies besides these discussed in order to support the CMS. The detail of a CMS may vary based upon the complexity of the site, on-going IM, established presumptive remedies, etc. However, the CMS Report may include the following elements:

I. CMS INTRODUCTION/PURPOSE

The permittee must describe the purpose of the CMS Report and provide a summary description of the project.

II. DESCRIPTION OF CURRENT SITUATION

The permittee must submit a summary and an update to the information describing the current situation at the facility and the known nature and extent of the contamination, as documented by the RFI Report. This discussion must concentrate on those issues which could significantly affect the evaluation and selection of the corrective measures alternative(s). The permittee must provide an update to information presented in the RFI regarding previous response activities and IM which have or are being implemented at the facility. The permittee must also make a facility-specific statement of the purpose for the response, based on the results of the RFI. The statement of purpose must identify the actual or potential exposure pathways that must be addressed by corrective measures.

III. ESTABLISHMENT OF PROPOSED CLEANUP OBJECTIVES

- A. Clean up levels which are the site-specific concentrations in a given media that a final remedy must achieve for the remedy to be considered complete;
- B. Points of compliance which represents where the media clean up levels are to be achieved; and

- C. Remediation time frame which is the site-specific schedule for a remedy. It includes both the time frame to construct the remedy and estimate of the time frame to achieve the clean-up objectives at the point of compliance.

IV. **IDENTIFICATION, SCREENING, AND DEVELOPMENT OF TECHNOLOGIES**

The permittee must identify the corrective measure(s) and alternative measure(s) that are applicable to the facility and that will achieve the media clean up objectives. Technologies can be combined to form the overall corrective action measures and alternatives. The alternative or alternatives developed must represent a workable number of option(s).

- A. Identification: List and briefly describe potentially applicable technologies for each affected media that may be used to achieve the corrective action objectives, including a table that summarizes the available technologies.

Note: The permittee must consider innovative treatment technologies, especially in situations where there are a limited number of applicable corrective measure technologies. Permittee must demonstrate the ability of the technology or the alternatives identified meet the clean-up objectives and the time frame to achieve the clean-up objectives at point of compliance.

- B. Screening: The permittee must screen the corrective measure technologies to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

Site, waste, and technology characteristics, which are used to screen inapplicable technologies, are described in more detail below:

1. Site Characteristics: Site data must be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics must be eliminated from further consideration.
2. Waste Characteristics: Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics must be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site).
3. Technology Limitations: During the screening process, the level of technology development; performance record; and inherent construction, operation, and maintenance problems must be identified for each technology considered. Technologies that are unreliable, perform poorly, or

are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

- C. Corrective Measure Development: The permittee must assemble the technologies that pass the screening step into specific alternatives that have the potential to meet the corrective action objectives for each media. Options for addressing less complex sites could be relatively straight-forward and may only require evaluation of a single or limited number of alternatives. Each alternative may consist of an individual technology or a combination used in sequence (i.e., treatment train). Different alternatives may be considered for separate areas of the facility, as appropriate. List and briefly describe each corrective measure alternative.

V. EVALUATION OF FINAL CORRECTIVE MEASURE ALTERNATIVES

In evaluating the selected alternatives (i.e., those that passed through the screening step, including those situations when only one remedy is being proposed), the permittee must prepare and submit information that documents that each remedy will meet specific cleanup criteria. Using the guidance below, the permittee must provide detailed documentation of how all selected alternatives will comply with each of the following standards:

A. Protect Human Health and the Environment

Corrective action remedies must be protective of human health and the environment. Remedies may include those measures that are needed to be protective but are not directly related to media cleanup, source control, or management of wastes. An example would be a requirement to provide alternative drinking water supplies in order to prevent exposures to releases to an aquifer used for drinking water purposes. Therefore, the permittee must provide a discussion of any short-term remedies necessary to meet this standard, as well as discuss how the corrective measures alternative(s) meet this standard.

B. Attain Media Cleanup Standards

Remedies will be required to attain media cleanup standards. As part of the necessary information for satisfying this requirement, the permittee must address whether the potential remedy will achieve the remediation objectives. An estimate of the time frame necessary to achieve the goals must be included. Contingent remedies may be proposed if there is doubt if the initial remedy will be successful (e.g., contingent remedies to innovative technologies).

C. Control of Sources of Releases

The permittee must address the issue of whether source control measures are necessary, and if so, the type of actions that would be appropriate. Any source control measure proposed must include a discussion on how well the method is anticipated to work given the particular situation at the facility and the known track record of the specific technology.

D. Comply with any Applicable Standards for Management of Wastes

The permittee must include a discussion of how the specific waste management activities will be conducted in compliance with all applicable state and federal regulations [e.g., closure requirements, Land Disposal Restrictions (LDRs)].

E. Other Factors

There are six general factors that will be considered as appropriate by TDEC in selecting/approving a remedy that meets the four standards listed above. The six decision factors and examples of the types of information to include in the CMS alternative evaluation are:

1. Long-term reliability and effectiveness: The permittee may consider whether the technology, or combination of technologies, have been used effectively under analogous site conditions, whether failure of any one technology in the alternative would have any immediate impact on receptors, and whether the alternative would have the flexibility to deal with uncontrollable changes at the site. Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. In addition, each corrective measure alternative must be evaluated in terms of the projected useful life of the overall alternative and of its component technologies. Useful life is defined as the length of time the level of effectiveness can be maintained.
2. Reduction in the toxicity, mobility, or volume of wastes: As a general goal, remedies will be preferred that employ techniques that can eliminate or substantially reduce the potential for the wastes in SWMUs or contaminated media at the facility to cause future environmental releases. Estimates of how the corrective measure alternative will reduce toxicity, mobility, and or volume of the waste is required and may be accomplished through a comparison of initial site conditions to expected post-corrective measures conditions.
3. Short-term effectiveness: The permittee must evaluate each corrective measure alternative for short-term effectiveness. Possible factors to consider are fire, explosion, exposure to hazardous constituents and potential threats associated with the treatment, excavation, transportation and re-disposal or containment of the waste material.

4. Implementability: Information to consider when assessing implementability include:
 - (a) The administrative activities needed to implement the corrective measure alternative (e.g. permits, rights of way, etc.) and the length of time these activities will take;
 - (b) The constructability, time for implementation, and time for beneficial results;
 - (c) The availability of adequate off-site treatment, storage capacity, disposal services, needed technical services and materials; and
 - (d) The availability of prospective technologies for each corrective measure alternative.
5. Cost: The permittee must develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate must include both capital and operation and maintenance costs. The capital costs must include, but are not limited to, costs for: engineering, site preparation, construction, materials, labor, sampling and analysis, waste management and disposal, permitting, health and safety measures, etc. The operation and maintenance costs must include labor, training, sampling and analysis, site security, inspections, maintenance materials, utilities, waste disposal or treatment, etc. The corrective action cost estimate must be based on the costs to the permittee of hiring a third party to conduct corrective action activities and must include all direct costs and also all indirect costs, including contingencies. A third party is a party who is neither a parent nor a subsidiary of the permittee. Costs must be calculated as the net present value of the capital and operation and maintenance costs.
6. Community Acceptance: Keep interested members of the public informed of all corrective action activities taking place at the facility. Evaluate remedies based on the degree to which they are acceptable to the interested community.

VI. CORRECTIVE MEASURES JUSTIFICATION AND RECOMMENDATION

The permittee must justify and recommend in the CMS Report a corrective measure alternative for consideration by TDEC. Such a recommendation must include a description and supporting rationale for the preferred alternative that is consistent with the corrective action standards and remedy selection decision factors discussed above. In addition, this recommendation must include summary tables which allow the alternative or alternatives to be understood easily. Trade-offs among health risks, environmental effects, and other pertinent factors must be highlighted. The Commissioner will select the corrective measure alternative or alternatives to be implemented based on the results presented in the CMS Report.

VII. REPORTS

A. Corrective Measures Report

Permittee must prepare a draft and final Corrective Measures Study Report presenting the results of the study and recommending a corrective measures remedy and alternative(s) as required in Section III.G.

B. Progress Reports

Permittee will submit bimonthly (60 day) progress reports as required in Section III.G.3. The bimonthly (60 day) reports must, at a minimum contain the following information:

1. Description and estimate of the percentage of the CMS completed;
2. Summaries of all findings;
3. Summaries of all changes made in the CMS during the reporting period;
4. Summaries of all contacts with representatives of the local community, public interest groups, or state government during the reporting period;
5. Summaries of all problems or potential problems encountered during the reporting period;
6. Actions being taken to rectify problems;
7. Changes in personnel during the reporting period;
8. Projected work for the next reporting period; and
9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

ATTACHMENT 11.4. CORRECTIVE ACTION COMPLIANCE SCHEDULE

Compliance Schedule	Due Date
Notification Requirements for Newly Identified Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs): <i>Paragraphs VI.B.1 and III.B.2</i>	Within 15 calendar days of discovery
SWMU Assessment Report (SAR): <i>Paragraph VI.B.3</i>	Within 90 calendar days of notification
Notification Requirements for Newly Discovered Releases from SWMUs or AOCs: <i>Paragraph VI.C.1</i>	Within 15 calendar days of discovery
Confirmatory Sampling (CS) Work Plan for suspected AOCs under Paragraph III.B.1 or SWMUs identified under Paragraph III.B.4: <i>Paragraph VI.D.1</i>	Within 45 calendar days of notification by the Commissioner
Implementation of CS: <i>Paragraph VI.D.3</i>	As specified by the Commissioner in the CS Work Plan approval letter
CS Report: <i>Paragraph VI.D.4</i>	In accordance with the schedule in the approved CS Work Plan
RCRA Facility Investigation (RFI) Work Plan for SWMU(s) and AOC(s) identified under Paragraphs V.B.4, V.C.2, or V.D.5: <i>Subparagraph VI.E.1(a)</i>	Within 90 calendar days of notification by the Commissioner which SWMUs or AOCs require an RFI
Notify to implement RFI Sampling: <i>Paragraph VI.E.2</i>	At least 20 calendar days prior to any RFI sampling activity
Draft RFI Report: <i>Subparagraph VI.E.3(a)</i>	In accordance with the schedule in the approved RFI Work Plan
Final RFI Report: <i>Subparagraph VI.E.3(a)</i>	Within 30 calendar days of receipt of the Commissioner's final comments on Draft RFI Report
RFI Progress Reports: <i>Subparagraph VI.E.3(d)</i>	Quarterly, beginning 90 calendar days from the start date specified by the Commissioner*
Interim Measures (IM) Work Plan: <i>Subparagraph VI.F.1(a)</i>	Within 30 calendar days of notification by the Commissioner
IM Progress Reports: <i>Subparagraph VI.F.3(a)</i>	In accordance with the approved IM Work Plan** or semi-annually for IM initiated by the permittee

CORRECTIVE ACTION COMPLIANCE SCHEDULE (Continued)

Compliance Schedule	Due Date
IM Report: <i>Subparagraph V.F.3(b)</i>	Within 90 calendar days of completion of Interim Measures
CMS Progress Reports: <i>Subparagraph VI.G.2</i>	Submitted bi-monthly (60 calendar days)
Draft Corrective Measures Study (CMS) Report: <i>Subparagraph VI.G.3</i>	Within 90 calendar days of notification by the Commissioner that a CMS is required
Final CMS Report: <i>Subparagraph VI.G.4</i>	Due date as specified by Commissioner's disapproval of the draft CMS Report
Demonstration of Financial Assurance: <i>Subparagraph VI.I.2</i>	Within 60 calendar days of the effective date of permit modification for remedy
Adjustments to Financial Assurance: <i>Subparagraph II.D.2(c) and VI.I.2</i>	Annually adjusted for inflation or within 60 calendar days of an approved alternative amount based on a revised cost estimate
Noncompliance/Imminent Hazard Notification: <i>Subparagraph I.D.12(f)(i)</i>	Oral within 24 hours and written within 5 calendar days of becoming aware of the hazardous circumstances
The above reports must be signed and certified in accordance with Tennessee Hazardous Waste Management Rules 0400-12-01-.07(2)(a)7 through 10. Italicized conditions provide the locations in the permit with compliance schedule requirements * This applies to Work Plan execution that requires more than 180 calendar days. ** This applies to Work Plan execution that requires more than one year.	

ATTACHMENT 11.5. CORRECTIVE ACTION REMEDIES

RESERVED: As of permit issuance, there are no solid waste management units or areas of concern that require implementation of a remedy under the Corrective Action conditions of this permit.

FIGURE 11.1-1

SOLID WASTE MANAGEMENT UNIT LOCATIONS

SAFETY-KLEEN SYSTEMS, INC.
3536 FIKE ROAD
MILLINGTON, TENNESSEE

SAFETY-KLEEN SYSTEMS, INC.
2600 N. CENT. EXPRESSWAY STE 400
RICHARDSON, TX 75080

SC-DWG NUMBER: 7160-SP00-006 REVISION NUMBER: B
FEBRUARY 6, 2006

