

US EPA ARCHIVE DOCUMENT

## ATTACHMENT 4

# OPERATING PLAN

*Chemical Waste Unit*

*Clinton Landfill No. 3*

*0390055036 – DeWitt County*

*January 2009*

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*Prepared for:*

**Clinton Landfill, Inc.**

4700 N. Sterling Avenue  
Peoria, Illinois 61615

*Prepared by:*

**PDC Technical Services, Inc.**

4349 Southport Road  
Peoria, Illinois 61615

PDC Project No. 91-0118.31





# **OPERATING PLAN**

## **Clinton Landfill No. 3 – Chemical Waste Unit**

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## **OPERATING PLAN**

### **Clinton Landfill No. 3 Chemical Waste Unit**

#### **Introduction**

This Operating Plan describes how the Clinton Landfill No. 3 Chemical Waste Unit ("facility" or "unit") will be operated in order to ensure compliance with the facility's permits and applicable regulations. A separate Operating Plan describes the procedures that will be followed to properly operate and maintain the Clinton Landfill No. 3 Municipal Solid Waste Unit.

This unit will accept for disposal both RCRA-regulated non-hazardous industrial process and pollution control wastes, and TSCA-regulated wastes (collectively, "waste"). In the event of any conflict between the applicable RCRA and TSCA regulations, the more stringent requirement(s) will control.

#### **Operating Hours And Personnel**

Clinton Landfill No. 3 ("landfill"), including the proposed Chemical Waste Unit, may accept waste on Mondays through Fridays, 6 am to 6 pm, and on Saturdays from 6 am to 3 pm. Facility operations, including application of daily cover, cell development, etc. will occur until no later than 8 pm except under extreme conditions. The hours of operation may be expanded in emergency situations with notice to the Illinois Environmental Protection Agency (IEPA).

The landfill will be fully staffed with personnel to ensure efficient operations in accordance with the applicable regulations and permit conditions. The following describes the personnel that will be directly responsible for operating the landfill.

##### *Landfill Director*

The Landfill Director has overall responsibility for development and operation of the facility. The Landfill Director has substantial knowledge of all regulatory requirements pertaining to the landfill. The Facility Manager directly reports to the Landfill Director.

##### *Facility Manager*

The Facility Manager is responsible for the day-to-day operations of the facility. This includes supervising facility personnel, directing equipment and facility maintenance activities, and ensuring that the facility is operated and maintained in accordance with the permit.



#### *Gate Control Officer*

The Gate Control Officer performs load inspections and may be assigned other duties, such as that of the Scale Operator.

#### *Scale Operator*

The Scale Operator is responsible for operating the landfill scales and maintaining the scale tickets.

#### *Equipment Operators and Laborers*

Equipment Operators and Laborers operate waste and earth handling equipment, perform repairs and maintenance tasks, and conduct other activities as directed by the Facility Manager.

Facility personnel will receive training appropriate for their duties to ensure safe and compliant operation and management of the facility. An outline of the training program is provided in Appendix A.

### **Waste Acceptance Procedures**

Clinton Landfill, Inc. (CLI) will follow all USEPA and IEPA requirements for managing waste materials. The following sections describe the waste management procedures. The facility Operator may impose additional requirements for the transportation, disposal and handling of wastes to ensure protection to the environment, facility employees, and the landfill facility itself. Certain types of non-hazardous industrial process and pollution control wastes (known as Illinois Non-Special wastes) are not subject to the Profile Identification Record and Manifest requirements discussed herein.

#### *Signage*

A prominent sign will be maintained at the entrance to the landfill stating that disposal of hazardous waste is prohibited. The sign will also state that Special Waste will be accepted only if accompanied by an identification record and a manifest.

#### *Waste Analysis Plan*

A representative sample of each waste stream to be disposed in the CWU will, at a minimum, be analyzed for the following parameters:

- ☐ Paint filter,
- ☐ Flashpoint,



- ☐ Reactive sulfide,
- ☐ Reactive cyanide,
- ☐ pH, and
- ☐ Total PCBs, with identified Aroclors used for the total calculation reported individually (applicable only to wastes regulated by the Toxic Substances Control Act due to PCBs, and Illinois Special Wastes).

In addition, a representative sample of each Special Waste<sup>1</sup> stream will, at a minimum, be analyzed for the following additional parameters:

- ☐ Total phenols,
- ☐ The organic and inorganic Toxicity Characteristic Constituents listed in 35 Ill. Adm. Code Parts 721.124 by the Toxicity Characteristics Leaching Procedure (TCLP).

The following exceptions apply to the above analytical requirements:

- ☐ Total sulfide analysis may be substituted for reactive sulfide, only if the total sulfide concentration does not exceed 10 parts per million (ppm);
- ☐ Total cyanide analysis may be substituted for reactive cyanide, only if the total cyanide concentration does not exceed 10 parts per million (ppm);
- ☐ Total concentration analyses may be substituted for TCLP analyses except where the total concentrations exceed the TCLP limits specified in 35 Ill. Adm. Code Part 721.124;
- ☐ Analysis of the eight pesticide and herbicide Toxicity Characteristic Constituents (D012, D013, D014, D015, D016, D017, D020, and D031) can be waived if the Generator certifies that they are not expected to be present in the waste based on the nature of the waste and the generator's business;
- ☐ Petroleum-contaminated media and debris from Leaking Underground Storage Tank (LUST) sites subject to corrective action under 35 Ill. Adm. Code Parts 731 and 732 are only required to be analyzed for flash point, paint filter test, and TCLP lead;
- ☐ An MSDS for off-specification, unused or discarded commercial or chemical products may be used to determine the presence of hazardous constituents in lieu of analytical results;
- ☐ Complete TCLP analysis is not required in the case of an emergency cleanup provided: 1) the

<sup>1</sup> Special Waste is defined at 35 Ill. Adm. Code Part 810.103.





IEPA Emergency Response Unit (ERU) authorizes the waste stream analytical exemption, 2) the Operator obtains assurance that the Generator has received an incident number from the Illinois Emergency Management Agency, and 3) the waste was analyzed for the chemical constituents required by the IEPA ERU.

Waste streams will be reanalyzed at least once every 5 years and whenever the composition of the waste changes. A generator recertification will be obtained annually between analyses to ensure that the current analytical data continues to properly represent the waste.

Test methods employed for detailed analysis to characterize and to identify waste are provided in the following reference materials:

- ☐ EPA-600/4-79-020: "Methods for Chemical Analysis of Water and Wastes,"
- ☐ SW-846: "Test Procedures for Evaluating Solid Waste, Physical/Chemical Methods",
- ☐ "Standard Methods for the Examination of Water and Waste Water," 15th Edition, American Public Health Association, 1980, and
- ☐ The PDC Laboratories, Inc., "QA/QC Procedures for Waste Analysis".

#### Acceptance Criteria

These criteria are general and apply to most wastes received at the facility. If specific regulatory exemptions or variances exist or are promulgated in the future, the company Waste Acceptance Committee may modify these criteria accordingly.

Waste shall meet the following criteria prior to acceptance:

- ☐ PCB wastes must be tested as described above and determined to contain total PCB concentrations no greater than 500 parts per million (ppm).
- ☐ Contains no garbage, offal, dead animals, general household waste, commercial waste, or other wastes capable of being decomposed by microorganisms so as to cause significant malodor, gases, or other offensive conditions, or which is capable of providing food for birds and vectors (except as may be contained in remediation waste). Incidental organic debris contained in other wastes that are otherwise acceptable for disposal is allowed.
- ☐ Does not exhibit the characteristics of ignitability, reactivity, corrosivity, or toxicity as defined by 35 Ill. Adm. Code Part 721 Subpart C, and is not a listed hazardous waste as defined in 35 Ill. Adm. Code Part 721 Subpart D.



- ☐ Does not contain total phenol concentrations greater than 1,000 parts per million, unless specific information demonstrates that the material is not a threat to human health or the environment.
- ☐ Does not contain reactive cyanide concentrations greater than 250 parts per million unless specific information to show it does not present danger to human health or the environment is provided. Wastes with between 10 and 250 parts per million reactive cyanide can only be accepted if the Generator provides a signed certification that none of the following have occurred:
  1. The waste has never caused injury to a worker because of Hydrogen Cyanide (HCN) generation,
  2. That the OSHA work place air concentration limits of HCN have not been exceeded in areas where the waste is generated, stored, or otherwise handled, and
  3. That air concentrations of HCN above 10 parts per million have not been encountered in areas where the waste is generated, stored, or otherwise handled.
- ☐ Does not contain reactive sulfide concentrations greater than 500 parts per million unless specific information to show it does not present danger to human health or the environment is provided. Wastes with between 10 and 500 parts per million reactive sulfide can only be accepted if the Generator provides a signed certification that none of the following have occurred:
  1. The waste has never caused injury to a worker because of H<sub>2</sub>S generation;
  2. That the OSHA work place air concentration limits of H<sub>2</sub>S have not been exceeded in areas where the waste is generated, stored, or otherwise handled; and
  3. That air concentrations of H<sub>2</sub>S above 10 parts per million have not been encountered in areas where the waste is generated, stored, or otherwise handled.

#### *Foundry Wastes*

The following additional requirements apply to wastes generated from foundries.

Prior to first time acceptance, a CLI representative will tour the foundry facility and question knowledgeable foundry representatives to:

- ☐ Review the waste generation processes to identify all hearths where metal is melted, where dusts are generated, and identify all baghouses to ensure that hazardous wastes are not commingled with nonhazardous wastes,



- ☐ Review how waste streams are sampled at the point of generation to ensure that representative samples are collected, and
- ☐ Review the waste stream analytical data to confirm that all appropriate parameters have been analyzed.

CLI will not accept wastes that have been commingled with other wastes unless each waste stream was individually characterized and determined to be nonhazardous prior to being commingled.

#### *RCRA Empty Containers*

RCRA empty containers shall meet the following criteria:

- ☐ Have a rated capacity less than 110 gallons,
- ☐ Meet the definition of empty as provided in 35 Ill. Adm. Code Part 721.107(b), and
- ☐ For drums, at least one end must be removed and the drums must be intact, or both ends must be removed and the drums must be crushed flat prior to disposal.

Where possible, a copy of the material safety data sheet for products last contained in the drum shall be obtained and kept on file. Compressed gas cylinders will not be accepted.

#### *Recordkeeping*

The Operator will retain copies of all waste profile identification sheets, recertifications, certifications of representative sample, laboratory analyses, analysis plans, and any waivers of requirements (prohibitions, management authorization, and operating requirements) at the facility until the end of the post-closure care period, unless a document-specific requirement exists or is promulgated that requires less or more retention time.

#### *Waste Manifests*

All Special Wastes accepted for disposal shall be accompanied by a manifest. Manifests shall include the following information as a minimum:

- ☐ The name of the waste generator,
- ☐ When and where the waste was generated,
- ☐ The name of the waste hauler,



- ☐ The name of the solid waste management unit (i.e. Clinton Landfill No. 3 Chemical Waste Unit),
- ☐ The date of delivery to the landfill,
- ☐ The name, waste stream permit number, and quantity of waste delivered,
- ☐ The signature of the person who delivered the waste to the hauler, acknowledging such delivery,
- ☐ The signature of the waste hauler, acknowledging receipt of the waste, and
- ☐ The signature of the person who accepted the waste at the landfill, acknowledging acceptance of the waste.

Clinton Landfill No. 3 Chemical Waste Unit will be designated on the manifests as the final destination point. Any subsequent delivery of the waste or any portion or product thereof to a waste hauler will be conducted under a manifest initiated by Clinton Landfill No. 3.

All deliveries of Special Waste must be accompanied by three copies of the manifest. The hauler shall retain one copy of the manifest. Facility personnel will send one copy of the completed manifest to the person who delivered the waste to the hauler (typically the generator). Facility personnel will maintain one copy of the completed manifest on file for at least three years. Completed manifests will be made available to the IEPA at reasonable times for inspection and photocopying pursuant to Section 4(d) of the Illinois Environmental Protection Act.

#### *Profile Identification Record*

Generators of Special Waste must obtain the facility's written agreement to accept the waste prior to transporting the Special Waste to the facility.

The first step in Special Waste acceptance consists of the generator providing to the Operator a Special Waste profile identification sheet. The Special Waste profile identification sheet shall be supplied by the generator and certify the following:

- ☐ The generator's name and address,
- ☐ The transporter's name and telephone number,
- ☐ The name of the waste,



- ☐ The process generating the waste,
- ☐ Physical characteristics of the waste (e.g. color, odor, solid or liquid, and flashpoint),
- ☐ The chemical composition of the waste,
- ☐ The metals content of the waste,
- ☐ Absence of hazardous characteristics, including identification of wastes deemed hazardous by the USEPA or the IEPA,
- ☐ Absence of 2,3,7,8-tetrachlorodibenzodioxin (2,3,7,8-TCDD) above regulated concentrations, and
- ☐ Any other information, such as the results of tests performed in accordance with 35 Ill. Adm. Code Part 811.202, that can be used to determine whether 1) the Special Waste is regulated as a hazardous waste as defined by 35 Ill. Adm. Code Part 721, 2) the Special Waste is of a type that is permitted for, or has been classified in accordance with 35 Ill. Adm. Code Part 809, for disposal at the facility, and 3) whether the method of disposal at the facility is appropriate for the waste.

Each subsequent shipment of a Special Waste from the same generator must be accompanied by a transportation record in accordance with 35 Ill. Adm. Code Part 811.403(b), a copy of the original Special Waste profile identification sheet, and either:

- ☐ A Special Waste recertification by the generator describing whether there have been changes in the following: laboratory analysis (copies to be attached), raw material in the waste-generating process, the waste-generating process itself, the physical or hazardous characteristics of the waste, and new information on the human health effects of exposure to the waste, or
- ☐ Certification indicating that any change in the physical or hazardous characteristic of the waste is not sufficient to require a new Special Waste profile.
- ☐ Load Inspection Procedures

#### *Load Inspection Procedures*

All loads of wastes destined for the CWU will be inspected for the presence of unacceptable materials. The Gate Control Officer will:

- ☐ Inspect the manifest (as required) and the load to confirm that the waste appearance is similar to that described on the Waste Material Data Sheet, and perform fingerprint analysis consisting of a pH measurement, radioactivity scan, volatile organic vapor scan, and water reactivity screen.



Some waste streams undergo additional, more extensive gate control testing prior to acceptance, as may be required by regulations or deemed necessary by the Waste Acceptance Committee.

- ☐ Evaluate whether the load is acceptable and conforms to the USEPA and/or IEPA permit and facility pre-authorization.
- ☐ Notify the Administrative Compliance Manager if the load is suspected to be unacceptable, and obtain authorization to reject the load. The generator is notified and arrangements are made to return the load to the generator. Information regarding rejected Special Waste loads will be reported to the IEPA on a quarterly, or more frequent basis.
- ☐ If the load is deemed acceptable, direct the waste load to the appropriate landfill destination. Sign the manifest. The manifests are then distributed appropriately.

#### **Waste Segregation**

PCB wastes will be segregated from other wastes that are not compatible with PCBs throughout the waste receipt, handling and disposal operations. Wastes which are presumed to be not compatible with PCBs include MGP remediation wastes and wastes which exhibit an elevated temperature. Organic solvents and other RCRA hazardous wastes will not be accepted at the facility.

#### **PCB Articles, PCB Article Containers and PCB Containers**

PCB Articles, PCB Article Containers and PCB Containers are defined at 40 CFR Part 761.3. Generally, PCB Articles are any manufactured article, other than a PCB Container, that contains PCBs and whose surface(s) has been in direct contact with PCBs. PCB Articles include capacitors, transformers, electric motors, pumps, pipes, etc. A PCB Article Container is any package, can, bottle, bag, barrel, drum, tank, or other device used to contain PCB Articles or PCB Equipment, and whose surface(s) has not been in direct contact with PCBs. A PCB Container is any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCBs or PCB Articles and whose surface(s) has been in direct contact with PCBs.

CLI will only accept for disposal PCB Articles, PCB Article Containers and PCB Containers that have been prepared in accordance with the requirements at 40 CFR Part 761.60(b) and (c). PCB Articles, PCB Article Containers and PCB Containers will be carefully handled and placed in the landfill to prevent damage to the containers and articles. These items will then be positioned in the landfill so as to not come into contact with the landfill liner or cover system, and so as to not create voids between adjacent items. To accomplish this, PCB Articles, PCB Article Containers and PCB Containers will be:





- Placed no closer than 5 feet from the landfill floor and sidewall liner systems,
- Buried at least 5 feet below the bottom of the final cover barrier soil, and
- Positioned at a distance (horizontally and vertically) from each other so as to allow waste or soil to be placed and compacted between the items to ensure voids do not result.

### **Waste Solidification**

CLI plans to accept liquid wastes for solidification prior to disposal. Liquids accepted for solidification from incidental sources, such as precipitation, condensation, leachate, or load separation that are associated with PCB Articles or non-liquid PCB will exhibit less than 500 parts per million (ppm) PCBs. All other liquids accepted for solidification will exhibit less than 50 parts per million (ppm) PCBs. In any instance of conflict between the RCRA and TSCA regulations governing the acceptability of liquids, the more stringent requirement(s) will control.

The liquid wastes will be transported to CLI by licensed Special Waste haulers and will be subject to the Special Waste management requirements described in 35 Ill. Adm. Code Part 812.318.4.

Wastes to be solidified will be transported to a designated solidification area near the active face. The designated solidification area will be within an area that is developed and permitted (including Operating Permit) to accept waste. Because of the in-place environmental controls, the permitted landfill area is suitable for use as a site to conduct waste solidification. The solidification area location will vary, but will be at least 10 feet above the landfill floor, and at least 30 feet from the landfill sidewall liner system. Berms will be constructed around the solidification area to prevent storm water run-off from the area.

### **Testing Requirements**

Prior to acceptance for solidification, each waste stream will be analyzed for the following:

- ☐ Total organic halogens (TOX) using the test method specified in 35 Ill. Adm. Code Part 729. Any waste containing 10,000 parts per million (ppm) or more TOX will be analyzed for volatile organic compounds,
- ☐ Total PCBs,
- ☐ pH, and



- ☐ Bench-scale reactivity (wastes to be solidified using a reagent only), in general conformance with the following procedures:
  1. Weigh and place approximately 100 grams of waste into a stainless steel mixing bowl. For TSCA-regulated PCB liquids, record the initial temperature in degrees Fahrenheit.
  2. Slowly mix in the reagent to be used to solidify the waste until the mixture becomes crumbly, record the amount of reagent used.
  3. Observe for evidence of reactivity, such as fumes, vapors, smoke, excessive temperature rise, etc. Immediately discontinue the test if excessive reactivity is noted. For TSCA-regulated PCB liquids, record the temperature of the mixture in degrees Fahrenheit. A temperature increase of more than 10oF is unacceptable and an alternative quantity of reagent or different reagent must be utilized.
  4. Allow the mix to set for at least 6 hours, then weigh the final mix and perform a paint filter test.
  5. Record the initial weight of the waste, the weight of reagent used, the weight of the final waste/reagent mix, observations for reactivity, and paint filter test results. Calculate the percentage of reagent used to solidify the waste (reagent weight/initial waste weight).
  6. Solidified waste will be tested for liquids (paint filter test) prior to disposal.

#### *Waste Solidification Containers and Methods*

Wastes will be solidified in liquid-tight and structurally sound containers, such as steel drums, roll-off containers, or larger steel containers. Solidification containers will be adequately spaced to allow inspections and equipment access. Up to 10 drums and 10 containers will be used at any one time. A process flow diagram and conceptual plan of the treatment area are provided as Figures 1 and 2, respectively. The goal of the treatment is to solidify the waste such that the waste passes the paint filter test.

The wastes will be directly dumped or pumped from the waste transport trucks into the solidification containers. Alternatively, solidification will occur in the drums in which the wastes are transported (provided adequate freeboard is available for the solidification adsorbents/reagents and mixing operations). Solidification agents (reagents and/or adsorption materials) will be placed in the containers and thoroughly mixed with the wastes. The amount of solidification agent will vary, but is expected to typically range from 5 to 10 percent by weight.

When solidifying non-TSCA-regulated wastes, adsorbents (e.g. soil, "Oil-Dry", sawdust, and/or corn



cobs) will primarily be used for the solidification process. However, depending upon waste characteristics, reagents might also be used. Reagents may include lime, pozzalime, fly ash, bottom ash, and/or other appropriate, lime-based materials. Fly ash and bottom ash that are to be used as reagents may only originate from coal combustion. Pozzalime is simply a mixture of lime and a pozzalanic material. Market conditions, availability, and waste characteristics will dictate which solidification agents will be used.

When solidifying TSCA-regulated PCB liquids, adsorbents (e.g. soil, "Oil-Dry", sawdust, and/or corn cobs) will primarily be used for the solidification process. However, depending upon waste characteristics, reagents might also be used. Reagents may include cements, bentonite, lime, pozzalime, fly ash, bottom ash, and/or other appropriate, lime-based materials. Reagents will be demonstrated during the bench-scale study to not increase the waste temperature by more than 10° Fahrenheit to maintain worker protection and ensure that any reduction in PCB concentrations correlates directly with the reagent quantity added and not from volatilization.

Adsorbents and reagents will be stockpiled on site in accordance with the facility's Storm Water Pollution Prevention Plan (SW3P). The facility's SW3P specifies sediment controls for the site. Adsorbent stockpiles are expected to contain less than 500 cubic yards of adsorbent materials. Reagent stockpiles will be protected from storm water run-on, and will be covered to protect the reagents from precipitation. Reagent stockpiles will contain no more than 120 cubic yards of reagents.

Up to about 50 percent (by weight) of reagent could be required to solidify some anticipated wastes. It is unlikely that more than five batches per day will require solidification using a reagent. Therefore, it is currently estimated that, at most, 75 cubic yards of reagent will be used in a day.

The waste/solidification agent mix will be allowed to cure as required. Following curing, the waste will be tested for free liquids using the paint filter test. Wastes that pass the paint filter test will be removed from the containers using a backhoe or excavator. Material that cannot be removed using the mechanical equipment will be manually removed using shovels. The waste will be direct-loaded into a transport vehicle for delivery to the landfill's active face and disposed.

Wastes that do not pass the paint filter test will be allowed to cure longer and/or additional solidification agent will be mixed in with the waste.



It is currently estimated that up to 10 loads per day will be solidified. Wastes requiring solidification will be solidified on the day received. Solidified wastes are intended to be disposed the same day; however, depending upon the length of curing time that is required and the time of day that the waste was solidified, in some instances solidified waste may have to remain in the solidification container until the next business day. In these instances, such waste will be covered before the end of the day and disposed during the next business day. The solidification process is not expected to result in residual waste that cannot be properly managed at the facility.

### **Phasing Of Operations**

The Chemical Waste Unit will be developed in phases in order to minimize the open disposal area footprint and to minimize leachate generation. The initial phase will be constructed in the southwestern corner of the unit as illustrated on the facility drawings. Each subsequent phase will be immediately adjacent to, and tied into, a previously developed phase.

### **Manner Of Waste Placement**

Waste will be landfilled in lifts, each having a thickness of approximately 5 to 10 feet. Prior to waste placement, previously placed daily or intermediate cover will be at least partially removed to allow leachate to drain into the leachate collection system. Waste placement will generally occur in the lowermost portion of the active cell. However, higher tiers within the landfill may be designated for waste placement during inclement weather in order to ensure operating safety and efficiency.

Waste will generally be placed at the toe of the active face and pushed upwards in relatively thin lifts using a compactor, bulldozer, or other appropriate heavy equipment. Heavy equipment will not be allowed to operate directly above the liner and leachate drainage and collection system until at least 5 feet of waste covers the landfill floor in order to not overstress these landfill components. Therefore, the initial lift of waste over the landfill floor will be pushed over the top of the active face.

The first 5 feet of waste on the landfill floor will be free of debris that could damage the underlying geotextile. Nominally 18-inches of soil or select waste consisting of soil-like wastes containing no particles greater than 12 inches in any dimension will be placed against the sidewall liner system. The first lift will be carefully placed in order to prevent tears and excessive wrinkles in the geotextile.

PCB waste will not be placed in direct contact with incompatible wastes, such as MGP remediation



wastes, wastes containing organic solvents or wastes that exhibit a temperature greater than ambient.

The waste may be compacted using compactors or bulldozers to minimize void space and settlement. The steepness of the waste slopes has a significant impact on overall landfill stability. In order to provide the required factors of safety against slope instability, waste slopes greater than 40 feet high will be maintained no steeper than 3 horizontal to 1 vertical (3:1), other waste slope will be maintained no steeper than 2:1.

#### **Daily and Intermediate Cover**

The waste will be covered with daily cover, consisting of at least 6-inches of clean soil, and/or an alternative daily cover (ADC) at the end of each operating day. Areas with daily cover will be graded to prevent storm water runoff from the active area.

Daily cover soil will be derived from onsite excavations and/or stockpiles and will primarily consist of fine-grained silty and clayey soils (e.g. ML, CL, CH, SM, and SC). Daily cover soils will be compacted using a bulldozer or compactor. The compacted hydraulic conductivity of daily cover soils is expected to range from about  $10^{-5}$  to  $10^{-7}$  centimeters per second. Daily cover soil will be partially removed prior to subsequent waste placement to facilitate leachate drainage.

Commercially available polypropylene non-woven or woven geotextile such as Fabrisoil, Typar 3601, Amoco 2002 or their equivalents may be used at suitable times as determined by the Site Manager. At any one time, no more than 2,500 square yards of waste will be covered by ADC. ADC will not serve as daily cover at a specific area for more than 6 consecutive days.

ADC will only be used when weather conditions are conducive to its ability to prevent blowing litter, odors and access of waste materials to vectors. Geotextile ADC will be adequately anchored to prevent wind damage and ADC displacement. Any damage to the geotextile ADC will be repaired prior to continued use, or the damaged area will be covered with at least 6 inches of soil. ADC materials previously used as daily cover will not be reused for any purpose outside the waste boundaries.

A written record of ADC usage will be maintained. The record will include the date, weather conditions, ADC material used, and a description of its performance. A summary of this information will be included in the Facility's annual reports.



Areas which have been filled, but which have not reached final grade, and which will not receive additional waste deposits for more than 60 days, will receive an intermediate cover of at least 12 inches of clean soil. At least 18 inches of intermediate cover will be placed on perimeter slopes that are susceptible to erosion, such as those which are steeper than 20% and have uninterrupted drainage lengths longer than 200 feet. Furthermore, erosion control measures, such as temporary vegetation, drainage terraces, erosion control blankets (ECB), turf reinforcement mats (TRM), or other appropriate methods shall be incorporated as necessary on perimeter intermediate cover slopes that are susceptible to erosion and that remain in place longer than 12 months.

The intermediate cover soil will be graded and compacted to facilitate drainage of runoff, minimize standing water, and minimize infiltration. Intermediate cover soil will be derived from onsite excavations, and will primarily consist of fine-grained silty and clayey soils (e.g. ML, CL, CH, SM, and SC). The intermediate cover soils are expected to exhibit a hydraulic conductivity in the range of  $10^{-5}$  to  $10^{-7}$  centimeters per second. All or a portion of previously placed intermediate cover soils may be removed immediately prior to placing additional waste in the previously covered area.

The intermediate cover will be periodically inspected. All cracks, rills, gullies, and depressions will be repaired as necessary to maintain positive drainage and the minimum 12-inch thickness.

#### **Liner Freeze Protection**

The liner system shall be covered with at least 5 feet of solid waste, or a suitable thickness of other material (soil, straw, etc.) prior to onset of freezing weather in order to prevent the Earth Liner from freezing. Earth Liner suspected of being damaged by freezing temperatures shall be tested in accordance with sampling and laboratory hydraulic conductivity testing requirements provided in the Construction Quality Assurance (CQA) Plan to demonstrate that the Earth Liner retains its specified maximum hydraulic conductivity and/or shall be reconstructed in accordance with the specifications. Such reconstruction shall be subject to the requirements of the CQA Plan. Floor liner covered by at least 2 feet of waste (above the 12-inch sand drainage layer) may be presumably assumed to be sufficiently protected from freeze damage. Considering the insulating effects of the sidewall geotextile and geonet, sidewall liner covered with at least 18-inches of soil or select waste may be presumably assumed to be sufficiently protected from freeze damage.





### **Operating Equipment**

Appropriate and sufficient numbers of equipment will be stationed at the site to ensure compliance with the facility permit and applicable regulations. The following equipment is expected to be stationed at the site on a routine basis:

- ☐ Waste compactor, such as Caterpillar 836,
- ☐ Bulldozer, such as Caterpillar D8,
- ☐ Excavator or backhoe,
- ☐ Scrapers or articulated trucks, and
- ☐ Pick-up truck.

Additional equipment will be mobilized to the site as needed.

### **Operation Controls**

#### *Boundary Control*

Access to the facility for vehicles hauling waste and/or construction equipment and vehicles shall be limited to the gated entrance off U.S. Route 51. At least one other facility access point may be constructed to provide emergency and other limited access from Ethal Road to the east. This access is limited to specifically authorized small vehicles (e.g. automobiles and pick-up trucks) and emergency vehicles. All entrances will be locked at all times that the facility is not open.

A six-foot woven mesh fence or similar device will be constructed around the perimeter of the Chemical Waste Unit prior to accepting PCB wastes which can only be disposed in a landfill regulated as a Chemical Waste Landfill in accordance with 40 CFR Part 761.

Facility personnel will direct landfill customers, vendors, and visitors to the appropriate areas during operating hours. Unauthorized access to the open face and other areas within the facility boundary will be prevented at all times. Salvaging will not be allowed.

A permanent sign will be posted in a conspicuous location near the facility entrance with the following, and/or other information as required by the USEPA or IEPA:

- ☐ A statement that disposal of hazardous waste is prohibited,

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- ☐ A statement that Special Wastes must be permitted and must be accompanied by a manifest,
- ☐ The facility permit number issued by the IEPA Bureau of Land and the USEPA,
- ☐ The facility hours of operation,
- ☐ The prohibition of unauthorized dumping and trespassing,
- ☐ The name and telephone number of who to call in case of an emergency, and
- ☐ The name, address and telephone number of the Landfill Operator.

#### *Survey Control*

A grid coordinate system has been established at the facility for horizontal control as shown on the facility drawings. Vertical control references established elevation control benchmarks. Survey monuments will be established as appropriate to maintain the onsite horizontal and vertical control. Permanent survey monuments will be inspected annually, and resurveyed no less frequently than once every five years by a Licensed Surveyor.

#### *Air Quality, Dust, and Odor Control*

The facility will be operated in a manner that minimizes the impact to air quality by:

- ☐ Prohibiting open burning of waste,
- ☐ Watering access roads, adding dust palliatives, and sweeping paved roads as necessary to control dust,
- ☐ Confining the active face to the smallest practical area,
- ☐ Covering all waste by the end of the day that the waste is received,
- ☐ Promptly covering odorous waste (i.e. before the end of the day if necessary), and
- ☐ Implementing an effective dust control program to minimize dust emissions and migration.

#### *Road Maintenance*

Facility roadways will be maintained such that they support the operation and maintenance of the site without causing safety or nuisance problems or hazardous conditions. All weather roads will provide truck access directly to the landfill active face. Trucks will discharge waste at the edge of designated



unloading area, and heavy equipment will grade the waste into the active face as described elsewhere in this Operating Plan. At no time will waste hauling trucks enter the active face or travel directly on landfilled waste.

#### *Mud Tracking*

CLI will maintain a paved road from the Route 51 entrance to the scales. The road beyond this point to the landfill boundary will be either paved or gravel to provide all-weather access. Although the travel distance from the active face to the Route 51 entrance (1/2 mile, minimum) is expected to eliminate potential mud tracking onto Route 51, CLI will inspect the entrance road each day for excessive mud and dust accumulation. Accumulated mud and dust will be promptly removed to prevent potential tracking onto the public highway.

#### *Noise Control*

The facility will be operated in accordance with the noise restrictions imposed by 35 Ill. Adm. Code Part 900. Noise will be controlled by using equipment with functional mufflers and confining landfill operations to normal working hours. The unit is located in a rural area and surrounded on all sides by farmland, timber, or municipal solid waste landfills (Clinton Landfill No. 2 and Clinton Landfill No. 3 Municipal Solid Waste Unit). Therefore, noise from facility construction and operations is not expected to negatively affect the surrounding population.

#### *Vector Control*

Application and maintenance of daily cover will serve as the primary means for controlling vectors. Should a vector problem occur, the services of a professional pest control firm will be utilized.

#### *Fire Protection*

The facility Hazard Prevention and Emergency Response Plan, provided in Appendix B describes the equipment and activities that will be implemented to provide adequate fire protection for the facility and surrounding areas.

### **Leachate Management System**

#### *Extraction System Operations*

The landfill is designed to include a system for collecting, monitoring, extracting, and storing leachate.



System details are provided on the facility drawings.

The leachate extraction pumping system is designed to operate automatically. Electrical controls will automatically active the extraction pump within each leachate collection sump when the liquid level within the sump rises to the design elevation (i.e. no more than 12-inches above the liner system). The system will rely upon mechanical and electrical components that will require routine system checks and maintenance to ensure satisfactory performance. Routine checks will include recording the volume of leachate extracted and pump diagnostics (pressure head, flow rate, etc.). This information will be used to ensure that the leachate pumps and controls are operating properly and forewarn of the need for pump cleaning and/or replacement. Other specific checks and maintenance will depend upon the specific components that are selected, but will be performed in accordance with the manufacturers' recommendations.

Extracted leachate will be transmitted to the underground storage tank via double-wall pipe. The interstitial space between the primary and secondary containment pipe will be routinely monitored for evidence of leakage. In the event a leak in the primary pipe is detected, the piping system will be immediately repaired and/or replaced.

#### *Response Plan to Potential Leachate Seeps*

The Operator shall immediately respond to leachate seeps to prevent leachate from commingling with storm water runoff. Response procedures shall include the following as appropriate:

- ☐ Identify the source of the leachate and take action to prevent additional leachate from escaping.
- ☐ Contain leachate runoff prior to being discharged beyond the site boundary. Containment can consist of placing earthen berms, constructing diversion ditches, adsorbing the leachate with soil or other adsorbents, etc.
- ☐ Remove and properly dispose soil contaminated by leachate. Released materials containing PCBs at concentrations 50 parts per million or greater will be cleaned up in accordance with the USEPA Spill Cleanup Policy at 40 CFR 761, Subpart G.

#### *Leachate Storage and Disposal*

Leachate from the Chemical Waste Unit will be pumped directly to an underground storage tank(s) that is/are dedicated for storing leachate from the Chemical Waste Unit.



The Operator will check the liquid level within, and evidence of leakage from, the leachate storage tank each operating day. Automatic leak detection systems will be checked for proper function at least annually.

Leachate will be transferred from the underground storage tank into tank trucks that are positioned on a concrete containment pad (Leachate Load-out Facility). The following procedures shall be followed during each transfer of leachate from a storage tank into a tank truck:

- ☐ Position the tank truck such that the fill is at least 10 feet from the ends of the containment pad and, insert the fill nozzle into the fill port,
- ☐ Properly ground the truck as appropriate,
- ☐ Ensure that the containment pad storm water drain valve is closed, and the leachate tank return valve is open,
- ☐ Pump leachate into the tank truck,
- ☐ Continuously monitor the pumping and liquid level within the tank truck to ensure that the tank truck is not overfilled,
- ☐ Upon completion of the transfer, inspect the containment pad for any spills or overfills. Report any spills or overfills to the Facility Manager for proper cleanup, and
- ☐ Once spills or overfills are confirmed to not have occurred, or have been properly remediated, close the leachate return valve and open the storm water drain valve.

Leachate containing less than 50 ppm PCBs that is generated from a CWU cell following the disposal in that cell of MGP source material or PCB wastes which can only be disposed in a landfill that is permitted as a Chemical Waste Landfill pursuant to 40 CFR Part 761, shall either be: 1) solidified in accordance with this Operating Plan and disposed in the CWU or other landfill that is permitted to accept such waste, or 2) transported offsite to a properly licensed wastewater treatment plant for treatment and discharge under a National Pollutant Discharge and Elimination System (NPDES) permit. Leachate that is generated from a CWU cell prior to disposal in that cell of either MGP source material or PCB wastes which can only be disposed in a landfill that is permitted as a Chemical Waste Landfill pursuant to 40 CFR Part 761, shall either be: 1) recirculated into Clinton Landfill No. 2 or the Clinton Landfill No. 3 MSW Unit in accordance with previously approved permits, 2) solidified in accordance with this Operating Plan and disposed at a properly permitted landfill, or 3) transported offsite to a



properly licensed wastewater treatment plant for treatment and discharge under a NPDES permit. The selected offsite leachate treatment/disposal facility shall meet the requirements of 35 Ill. Adm. Code Part 811.309(e)(1) and (3). Leachate shall not be recirculated in the CWU. Leachate containing more than 50 ppm PCBs shall be managed as required by 40 CFR Part 761.60(a).

#### **Landfill Gas Collection and Control System**

Significant landfill gas is not anticipated at the CWU as a result of the types of wastes that will be accepted. Regardless, CLI will monitor for the presence of landfill gas at two monitoring wells installed within the CWU.

A portion of the Chemical Waste Unit will be overlain with municipal solid waste (MSW) as depicted on the drawings. A landfill gas collection and control system will be installed in the MSW Unit to safely control landfill gas migration. Landfill gas collection and control system operational requirements are provided in the approved Clinton Landfill No. 3 MSW Unit Operating Plan.

#### **Inspection and Maintenance Plan**

The Operator will maintain the facility to ensure efficient operations and compliance with the applicable regulations and permits. For instance, mechanical equipment, such as earthmoving equipment, landfill compactors, and pumps, will be subjected to a preventative maintenance program that will include routine inspections and scheduled maintenance items. In addition to maintaining mechanical equipment, the Operator will routinely inspect and maintain the access roads and boundary control, storm water management system, landfill cover, liner protective cover, leachate management systems, groundwater monitoring wells, landfill gas control system, waste stabilization area, and survey monuments to proper operating conditions. The inspection and maintenance plan for these features is provided in Appendix C.

#### **Personnel Monitoring and Protection**

The primary routes of exposure for PCBs are via skin contact and ingestion, for which appropriate Personal Protective Equipment (PPE) and work practices will be established. Airborne exposure is not considered to be a significant risk due to the low vapor pressure of PCBs. However, exposure monitoring will be conducted to verify airborne levels of concern are not present and to determine the appropriate level of PPE, if any.





Personal air monitoring will be performed to measure the exposure of site workers to airborne PCBs to ensure the exposure levels do not exceed the published occupational exposure limit (i.e., OSHA PEL). Personal exposure levels will be determined by conducting sampling and analysis in accordance with NIOSH Method 5503. Sampling will be conducted utilizing glass fiber filter and florasil sampling media and portable, personal sampling pumps capable of maintaining the recommended flow rate. Sample analysis will be conducted by an accredited laboratory.

Initial exposure determination will be conducted during the initial receipt of PCB-contaminated waste materials. Additional or ongoing exposure monitoring will be conducted if warranted by initial sample results, a significant change (increase) in waste PCB concentrations, or if indicated by on-site observations (e.g., dust conditions, employee complaint, etc.). Likewise, additional evaluations to determine the appropriate level of PPE, if any, will be performed in conjunction with each monitoring event. Employees will be notified in writing of all exposure monitoring results.

### **Operating Record**

The Operator will maintain at the facility, or in an alternative location specified by the USEPA or IEPA, an Operating Record. The Operating Record will include a copy of all information detailed below.

The Clinton Landfill No. 3 Operating Record will include all information submitted to, and received by, the IEPA pursuant to 35 Ill. Adm. Code Parts 812 and 813 as it becomes available. At a minimum, the Operating Record will contain the following information, even if such information is not required by 35 Ill. Adm. Code Parts 812 or 813:

- ☐ Any location restriction demonstration required by 35 Ill. Adm. Code Parts 811.302(e), 812.109, 812.110, 812.303, and 812.305,
- ☐ Inspection records, training procedures, and notification procedures required by 35 Ill. Adm. Code Parts 811.323,
- ☐ Gas monitoring results and any remediation plans required by 35 Ill. Adm. Code Parts 811.310 and 811.311,
- ☐ Documentation of the design of the leachate extraction system,
- ☐ Any demonstration, certification, monitoring results, testing, or analytical data relating to the groundwater monitoring program required by 35 Ill. Adm. Code Parts 811.319, 811.324, 811.325, 811.326, 812.317, 813.501, and 813.502,



- ☐ Closure and post-closure care plans and any monitoring, testing, or analytical data required by 35 Ill. Adm. Code Parts 811.110, 811.111, 812.114(h), 812.115 and 812.313, and
- ☐ Any cost estimates and financial assurance documentation required by 35 Ill. Adm. Code Parts 811 Subpart G.

In addition to the above, the information described in the following paragraphs will also be maintained in the facility's Operating Record upon disposal of PCB wastes which can only be disposed in a landfill that is permitted as a Chemical Waste Landfill pursuant to 40 CFR Part 761.

At a minimum, the following information will be maintained, as required by 40 CFR 761.75:

- ☐ Records of the PCB concentrations in liquid wastes, and
- ☐ The three dimensional burial coordinates for PCBs and PCB items.

The written annual records required by 40 CFR 761.180 will be maintained at the facility for at least 20 years after the Chemical Waste Unit is no longer used for the disposal of PCBs and PCB items, and contain the following information:

- ☐ All signed manifests generated or received at the facility during the calendar year,
- ☐ All Certificates of Disposal generated or received by the facility during the calendar year, and
- ☐ Records of inspections and cleanups performed in accordance with 40 CFR 761.65.

The written annual document log required by 40 CFR 761.180 will be prepared each year by July 1 for the previous calendar year, maintained at the facility for at least 20 years after the Chemical Waste Unit is no longer used for the disposal of PCBs and PCB items, and contain the following information:

The name address, and USEPA identification number of the facility and the calendar year covered;

- ☐ For bulk PCB waste, its weight in kilograms, the first date PCB waste placed in the tanker or truck was removed from service for disposal, the date it was placed in transport for off-site disposal, and the date of disposal;
- ☐ The serial number (if available) or other means of identifying each PCB Article not in a PCB Container or PCB Article Container, the weight in kilograms of the PCB waste in the PCB Article, the date it was removed from service for disposal, the date it was placed in transport for off-site disposal, and the date of disposal; and



- ☐ A unique number assigned by the generator identifying each PCB Container, a description of the contents of each PCB Container, such as liquid, soil, cleanup debris, etc., including the weight of the material in kilograms, the first date the material was removed from service for disposal, the date the PCB Container was placed in transport for off-site disposal, and the date of disposal.

The facility will submit an annual report to the USEPA Region V Administrator. The annual report will summarize the annual records and annual document log and be submitted each year by July 15 for the previous calendar year. The annual report will contain the following information:

- ☐ The name address, and USEPA identification number of the facility;
- ☐ A list of the numbers of all signed manifests of PCB waste generated or received at the facility during the calendar year;
- ☐ The total weight in kilograms of bulk PCB waste, PCB waste in PCB Transformers, PCB waste in PCB Large High or Low Voltage Capacitors, PCB waste in PCB Article Containers, and PCB waste in PCB Containers disposed of at the facility during the calendar year; and
- ☐ The total number of PCB Transformers, PCB Large High or Low Voltage Capacitors, PCB Article Containers, and PCB Containers disposed of at the facility during the calendar year.

For purposes of the annual report, PCB Voltage Regulators will be recorded and reported as PCB Transformers.

Annual report submittals will continue until the submission of the annual report for the calendar year during which the facility ceases PCB disposal operations.

In addition to the above recording and reporting requirements, the facility will collect and maintain for 20 years after the facility is no longer used for the disposal of PCBs and PCB Items, the following information:

- ☐ All documents, correspondence, and data that have been provided to the facility by any State or local government agency and that pertain to the disposal of PCBs and PCB Items at the facility;
- ☐ All documents, correspondence, and data that have been provided by the facility to any State or local government agency and pertain to the disposal of PCBs and PCB Items at the facility;
- ☐ Any applications and related correspondence sent by the facility to any local, State, or Federal authorities in regard to waste water discharge permits, solid waste permits, building permits, or other permits or authorizations such as those required by 40 CFR 761.75(c).
- ☐ Electrical equipment reclassification will not be conducted at the facility.

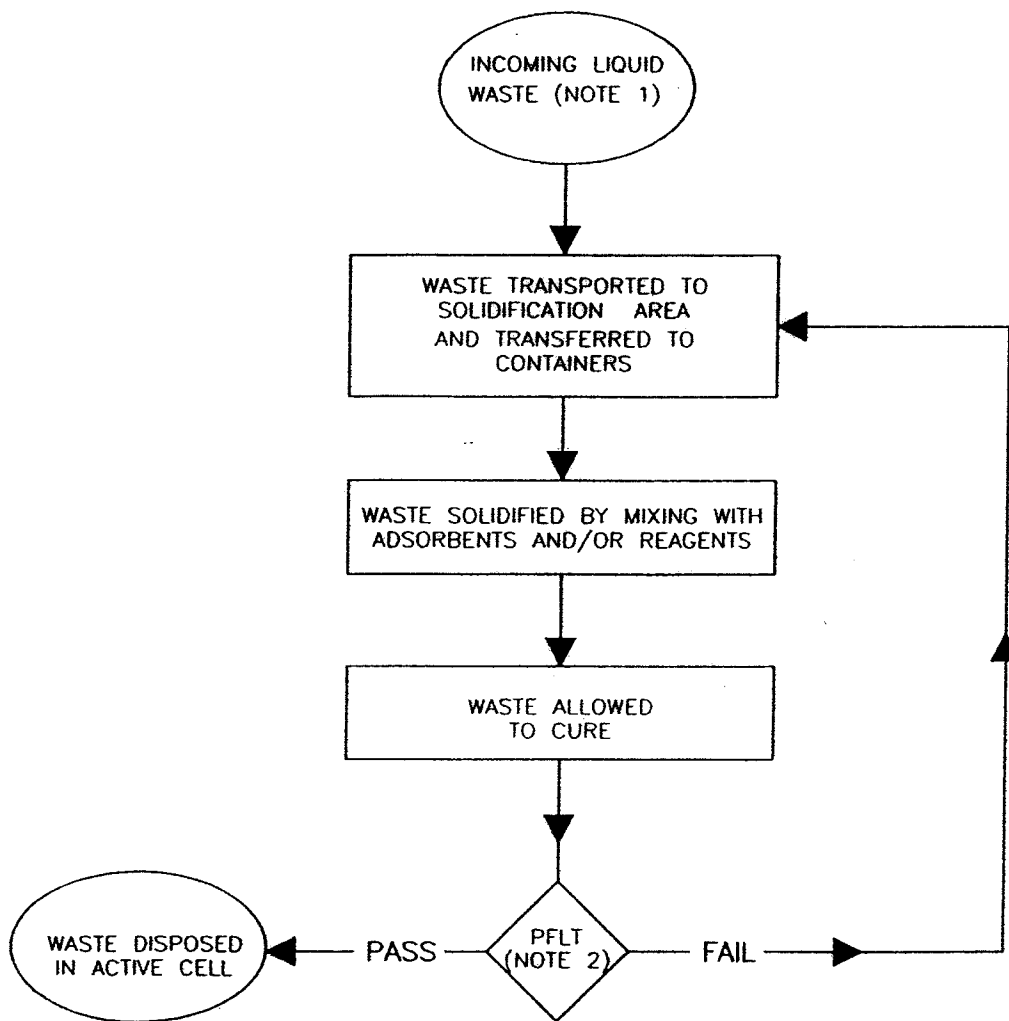
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## **FIGURES**





NOTES: 1. INCOMING WASTE IS SUBJECT TO PRE-APPROVAL PROCEDURES DESCRIBED IN OPERATING PLAN.

2. TCLP TESTING MAY ALSO BE REQUIRED - SEE OPERATING PLAN.

PFLT = PAINT FILTER LIQUIDS TEST

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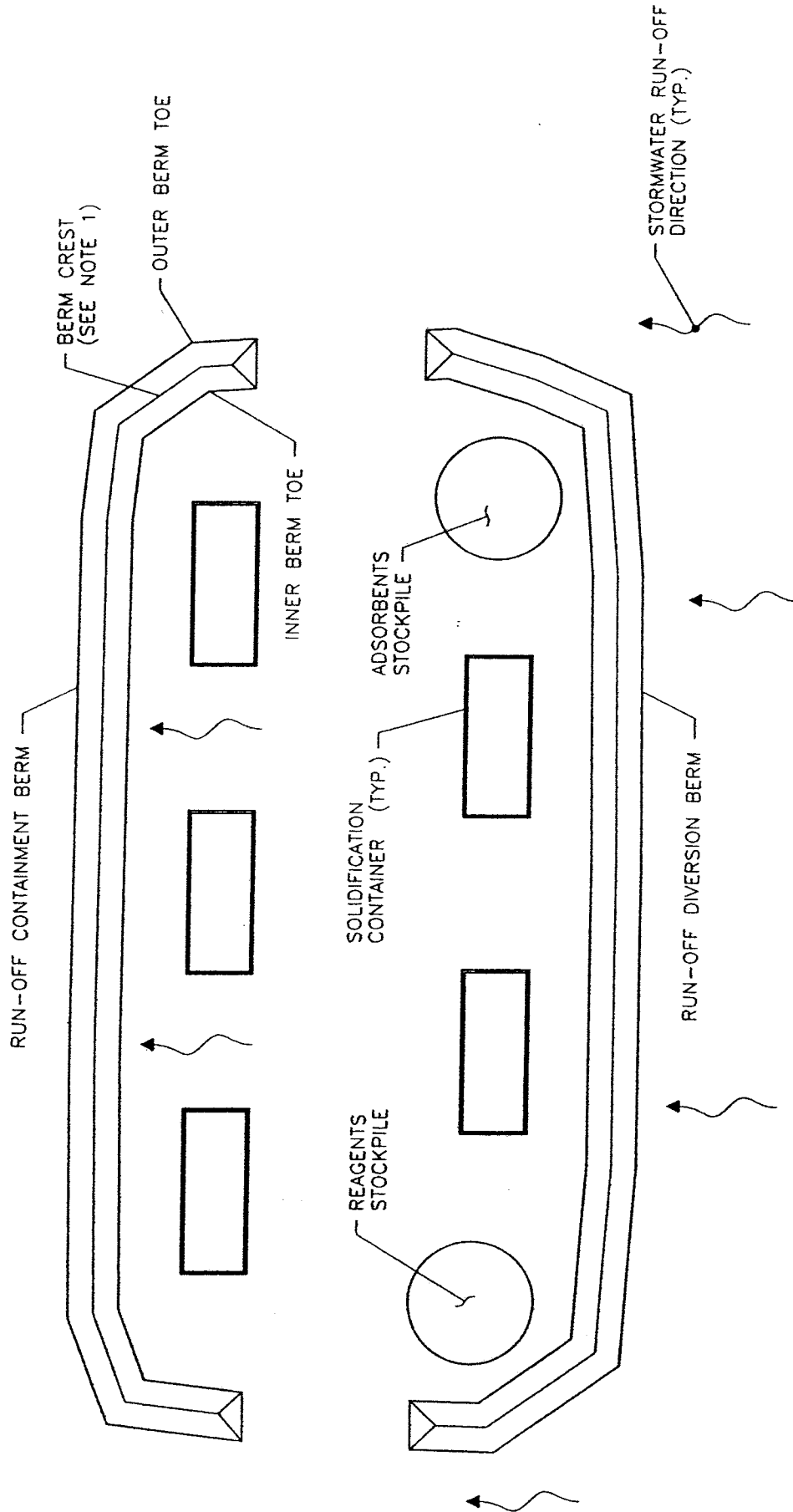
## FIGURE 1

PROCESS FLOW DIAGRAM  
 WASTE SOLIDIFICATION

CLINTON LANDFILL NO. 3

CLINTON, ILLINOIS

PROJECT NO. 91-118



NOTES:

1. TEMPORARY EARTH BERM WITH 18" HIGH CREST AND 2:1 SLOPES FOR SECONDARY CONTAINMENT AND STORMWATER RUN-ON DIVERSION.
2. SOLIDIFICATION CONTAINERS TO BE WATERTIGHT PLATE STEEL REINFORCED WITH TUBE STEEL FRAMES OR DOT-APPROVED DRUMS.
3. SOLIDIFICATION CONTAINERS, REAGENT/ADSORBENT STOCKPILES AND BERM LOCATIONS ARE SHOWN CONCEPTUALLY. ACTUAL LAYOUT WILL DEPEND ON NO. OF CONTAINERS/STOCKPILES, NEEDED AND SITE CONDITIONS.

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FIGURE 2

PROPOSED SOLIDIFICATION  
AREA LAYOUT

CLINTON LANDFILL NO. 3

CLINTON, ILLINOIS

PROJECT NO. 91-118



## **APPENDICES**



## **APPENDIX A: PERSONNEL TRAINING PROGRAM OUTLINE**



### **PERSONNEL TRAINING PROGRAM OUTLINE**

Facility personnel involved in waste management activities complete a comprehensive program of classroom and on-the-job instruction to ensure that the landfill is operated in compliance with all applicable regulations, including those enforced by the Illinois Environmental Protection Agency and the Occupational Safety and Health Administration. The major elements of the training program, as applicable to specific positions, include the following:

#### **Waste Management Regulations, Policies and Procedures**

- Regulatory Requirements
- Review of Site Operating Practices
- Use of Protective Equipment
- Load Checking Procedures
- Hazard Prevention and Response Plan Review
- Storm Water NPDES Permit Requirements

#### **OSHA Hazard Communication Program**

- OSHA Hazard Communication Standard
- Material Safety Data Sheets
- Emergency Phone Numbers for All Vendors of Hazardous Chemicals
- Hazardous Chemicals Safety Training

### **Safety and Health**

- Employee Safety and Health Program
- Hazardous Energy Control Program
- Confined Space Entry
- Hearing Conservation Program
- Respiratory Protective Program
- PCB Waste Handling

### **On-The-Job Training**

- Equipment Operation
- Load Inspection
- Field Inspection

Training is conducted as new employees are hired and as employees perform new duties. Classroom reviews of the initial training and other pertinent training issues are conducted annually.

## **APPENDIX B: HAZARD PREVENTION AND EMERGENCY RESPONSE PLAN**



# **HAZARD PREVENTION AND EMERGENCY RESPONSE PLAN**

*Clinton Landfill No. 3 - Chemical Waste Unit  
DeWitt County, Illinois*

*February 2008*

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*Prepared for:*

**Clinton Landfill, Inc.**

P. O. Box 9071  
Peoria, Illinois 61612

*Prepared by:*

**PDC Technical Services, Inc.**

4349 Southport Road  
Peoria, Illinois 61615

*PDC Project No. 91-0118*

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## **INTRODUCTION**

This Hazard Prevention and Emergency Response Plan (Plan) provides a plan of operations to ensure that the properties and populations surrounding Clinton Landfill No. 3 will be protected from danger in the event of fires, spills, or other operational accidents at the facility.

This Plan is divided into five main sections. Section 2 provides an overview of the organization, responsibilities, training, and health and safety considerations of the facility Hazard Prevention and Emergency Response Team. Section 3 identifies and provides an evaluation of the hazards that could threaten properties and populations surrounding the facility. Section 4 describes the procedures to be followed to prevent threatening hazards from occurring. Section 5 describes response procedures in the event an emergency. Section 6 identifies organizations and facilities that are available to provide outside assistance in the event of an emergency.

This Plan is not intended to fully address all safety and health issues related to onsite personnel. These issues, which include hazardous energy control (i.e. lockout/tagout), confined space entry, hearing conservation, and respiratory protection programs, are the subjects of other Corporate health and safety policy programs.



## HAZARD PREVENTION AND EMERGENCY RESPONSE TEAM

### Team Organization

Hazard prevention and emergency response require the cooperation and teamwork of all people who are granted access to the facility. Although specific Clinton Landfill, Inc. (CLI) employees are responsible for developing and implementing this Plan, all people who are granted access to the facility, including employees, vendors, truck drivers disposing waste at the facility, and visitors are expected to follow good work practices to minimize hazards and abide by this Plan.

CLI's Hazard Prevention and Emergency Response Team is comprised of the following:

Landfill Director: The Landfill Director has the overall responsibility for hazard prevention and emergency response. The Landfill Director's responsibilities include ensuring that the facility is adequately constructed, staffed and equipped to minimize hazards. The Landfill Director is also responsible for ensuring that the proper regulatory agencies are notified in the event of a release of a reportable quantity of a toxic or hazardous material.

Corporate Health and Safety Officer: The Corporate Health and Safety Officer is responsible for reviewing, modifying, and approving this Plan and for confirming through audits that this Plan is implemented. The Corporate Health and Safety Officer periodically meets with the Landfill Director and Landfill Manager to discuss any potential hazards or safety-related issues noted during audits.

Landfill Manager: The Landfill Manager is responsible for implementing the Plan on a day-to-day basis. The Landfill Manager is also responsible for ensuring that a designated Emergency Response Coordinator is onsite at all times that the facility is accepting waste.

Emergency Response Coordinator: The Emergency Response Coordinator is responsible for coordinating CLI's response to emergencies that have the potential to present a danger to human health or the environment.

### **Personnel Training**

All CLI employees whose responsibilities include active involvement in load checking or waste disposal activities are trained to recognize and mitigate hazardous conditions in accordance with this Plan.

Training occurs at the time of employment and prior to the employee being assigned new responsibilities for which they have not been trained. Refresher training is conducted annually.

## HAZARD IDENTIFICATION

Based on review of the proposed facility design and operating procedures, CLI concludes that the proposed facility presents very little danger to the surrounding area due to fire, spills, or other operational accidents. There are a few routine operational hazards, however, that, if left unchecked, could possibly present a danger to the properties or populations surrounding the facility. These operational hazards are described below.

### **Fires and Explosions**

#### *Grass and Forest Fires*

A grass or forest fire is probably the most likely hazard that could endanger the surrounding properties. Considering the relative remoteness of the facility, a grass or forest fire does not substantially threaten surrounding populations.

A grass or forest fire could start as a result of careless open flames, smoking, or hot work. Vehicle and equipment fires could also cause a fire. Section 4 of this Plan describes operational procedures that will be followed to minimize these hazards.

A threatening grass or forest fire could only occur during extremely dry and/or windy conditions. Even then, the lack of potential fuel during the periods when surrounding agricultural land is fallow would limit its spread.

#### *Waste Fires*

Two types of waste fires are considered. The first type is a fire occurring in waste prior to the waste being covered. The second type is a subsurface fire occurring in the buried waste. Both types of fires are relatively rare.

A fire in uncovered waste would be confined to a relatively small area since waste is covered each day. Although such a fire could release noxious smoke, the limited amount of fuel that would be available, lack of the presence of hazardous waste, and the distance to offsite populations would limit the danger to surrounding populations.

A waste fire could start as a result of careless open flames, smoking, or hot work. Vehicle and equipment fires could also cause a fire. Section 4 of this Plan describes operational procedures that will be followed to minimize these hazards.

Subsurface landfill waste fires can occur when significant aerobic biodegradation is allowed to occur in an uncontrolled manner within the waste mass. Such a fire would be entirely self-contained and emit very little smoke. A subsurface landfill fire could theoretically damage the landfill's liner system and thus should be considered.

#### ***Methane Explosions***

Explosive concentrations of methane are generated as the waste degrades anaerobically. Within the landfill itself, the risk of explosion is extremely remote because of the absence of oxygen. However, explosions can occur if methane is allowed to migrate outside the landfill boundaries and collect in enclosed areas such as utility vaults, basements, buildings, etc.

#### **Chemical Reactions**

A chemical reaction could occur when non-compatible materials contact each other. For instance, acidic wastes mixed with caustic reagents could result in a chemical reaction. Chemical reactions can result in toxic fumes, vapors, and/or a fire or explosion. The proposed landfill will not accept hazardous wastes; therefore, the risk of a hazardous chemical reaction is very low.

#### **Toxic or Hazardous Material Spills**

Toxic or hazardous materials that could potentially be spilled in significant quantities are landfill leachate (including landfill gas condensate), industrial waste, PCB liquids, fuels, and lubricants.

A surface spill of toxic or hazardous materials could endanger water quality and aquatic life if it were to escape the site. A large subsurface release of leachate/condensate could threaten groundwater.

## HAZARD PREVENTION

CLI's priority is to prevent hazards from occurring. The following sections describe design and operational procedures that CLI will perform in order to minimize the chance that hazards will occur.

### **Fires and Explosions**

The first defense against fires and explosions is to prevent their occurrence. The second line of defense is an effective response. This section describes procedures to be followed to prevent fires and explosions from occurring. CLI's response to fires and explosions is described in Section 5.

The primary threat of fires result from careless smoking, careless welding or other hot work, improper equipment maintenance, disposal of burning or hot waste loads, and improper landfill gas control system operations. The primary threat of explosions is migration of methane (landfill gas) into an enclosed area. The following sections describe the preventative procedures that are to be enforced to prevent fires and explosions.

#### *Open Flames, Smoking and Hot Work*

Open flames, smoking and hot work (e.g. welding, use of a cutting torch, and HDPE fusion/welding) are prohibited at the following locations:

- ☐ Within the waste boundaries where the waste is covered by less than 1 foot of cover soil unless monitoring demonstrates that the atmosphere at the work zone does not contain hazardous levels of combustible gas,
- ☐ Within 10 feet of the landfill gas collection and control system (except flames that are intended as part of the control system), leachate/condensate storage tank(s), leachate sump risers, condensate lift stations, and flammable material storage areas unless monitoring demonstrates that the atmosphere at the work zone does not contain hazardous levels of combustible gas, and
- ☐ Within 20 feet of fuel storage tanks and equipment refueling operations.

#### *Equipment Maintenance*

Equipment shall be routinely cleaned to ease identification of leaks and damaged electrical components, and to ensure that oil and other flammable materials do not accumulate on hot engine and exhaust

components. Equipment with fuel and/or excessive lubricant leaks is not to be used until repaired. All electrical components shall be properly maintained, well insulated and grounded as appropriate.

#### *Waste Material Fires*

Waste material fires are best prevented by not accepting hot or burning waste, and by properly operating the landfill gas collection and control system to prevent uncontrolled aerobic biodegradation of the waste mass.

The facility Operating Plan describes the load inspection procedures that will minimize the chance of accepting waste materials that do not conform to the facility waste acceptance criteria. In addition to load inspection, the equipment operators will be trained to identify reactive wastes that were undetected and allowed to be dumped. Response procedures are provided in Section 5 of this Plan.

A portion of the Chemical Waste Unit will be overlain with municipal solid waste (MSW). An earthen separation layer, as shown on the drawings, will separate the Chemical Waste Unit from the MSW. Although significant quantities of landfill gas will not be generated by the wastes that will be disposed in the Chemical Waste Unit, significant quantities of landfill gas might be generated in any overlying MSW. Therefore, landfill gas collection and controls might be required for this "piggybacked" MSW fill. The landfill gas collection and control system will be routinely monitored for methane, oxygen or nitrogen, and temperature at each active gas extraction wellhead. Elevated oxygen and/or nitrogen levels indicate air intrusion which can result in aerobic biodegradation activity and, therefore, must be properly managed. Proper management typically consists of improving the seals around the gas extraction wells or other cover penetrations, placing additional cover soils, or reducing gas extraction rates within the areas exhibiting high oxygen and/or nitrogen levels. Additional gas extraction wells might be required to provide adequate landfill gas control in areas where individual well extraction rates are lowered to reduce oxygen and/or nitrogen levels.

#### *Methane Explosions*

Methane shall be monitored in the subsurface, ambient air, and in onsite buildings as required by the Facility's permits issued by the Illinois Environmental Protection Agency Bureaus of Land and Air. The landfill gas collection and control system shall be expanded as necessary to properly eliminate excessive emissions and subsurface migration. Onsite buildings exhibiting excessive methane shall be properly ventilated to reduce methane levels. Buildings with methane concentrations approaching its lower explosive limit shall immediately be evacuated. Natural gas or propane to such buildings shall be

turned off. Electrical power shall also be turned off only if the point at which power is to be switched off is free of explosive gas and vapors.

### **Chemical Reactions**

As detailed in the facility Operating Plan, the facility conducts waste analysis and a pilot waste/reagent compatibility test prior to solidifying new liquid waste streams with a reagent. This testing minimizes the potential for chemical reactions.

### **Toxic or Hazardous Material Spills**

#### *Leachate*

Leachate (including landfill gas condensate) spills will be prevented by the following design and/or operational procedures:

- ☐ The leachate storage tank(s) shall be resistant to corrosion and be properly engineered to withstand internal pressures due to the weight of the leachate and external pressures due to wind and snow loads.
- ☐ The leachate storage tank(s) shall include secondary containment designed to contain the full volume of the tank(s) in the event of a primary tank rupture.
- ☐ Below ground leachate/condensate transmission pipes and lift stations shall be constructed of non-corrosive materials (e.g. high density polyethylene), be double-walled, and incorporate leak detection.
- ☐ The tank, piping and lift stations leak detection systems shall be routinely monitored for evidence of leakage. Identified leaks shall be immediately repaired.
- ☐ All leachate transfers from the leachate storage tank(s) into tank trucks shall occur within a concrete spill containment pad. Personnel conducting leachate transfers shall continuously monitor the transfer process and be capable of quickly stopping the transfer in the case of a spill or overfill condition.
- ☐ Landfill slopes shall be routinely inspected for evidence of leachate seeps. Seeps shall immediately be repaired. Impacted soils shall be excavated and disposed in the landfill.

Leachate recirculation in areas with chronic seeps shall be reduced as necessary to prevent additional seeps.

*PCB Liquids and Industrial Wastes*

PCB liquids and industrial wastes are contained within the waste-hauling vehicles and, therefore, are not likely to be released to the environment unless a waste-hauling vehicle overturns. In order to minimize the risk of this occurring, CLI will properly construct access roads with sufficient width, supporting capacity and grade to provide safe onsite travel. The roads will also be properly maintained to ensure adequate vehicular traction. Furthermore, CLI will establish and enforce an appropriate speed limit.

*Fuels and Lubricants*

The person performing the refueling shall attend all refueling operations. All maintenance, and most repairs will be conducted within the maintenance building. Lubricants and fuels that must be drained in the field shall be captured and properly disposed.



## **RESPONSE TO EMERGENCY CONDITIONS**

The Emergency Response Coordinator shall be immediately notified in the event of a threatened, or actual emergency condition. The Emergency Response Coordinator shall assess the magnitude of the incident, evaluate the threat to human health and the environment within and outside the facility, and coordinate the response. In coordinating the response, the Emergency Response Coordinator shall identify and summon the appropriate response team. If the response team includes Clinton Landfill, Inc. employees, the Emergency Response Coordinator shall ensure that the employees are properly trained and equipped (e.g. personal protective equipment) to respond to the emergency. In some cases, the only safe response is to evacuate the area.

### **Fires and Explosions**

#### *Response Equipment and Materials*

Type A-B-C fire extinguishers shall be located in each onsite building, each piece of heavy equipment, and the Landfill Manager's vehicle. The fire extinguishers shall be properly inspected and maintained.

Communications equipment, such as telephones and/or two-way radios shall be provided in each building that is continuously occupied. Portable communications equipment, such as a cellular telephone and/or two-way radio shall also be provided to the Emergency Response Coordinator, Landfill Manager, and the employee supervising the active face.

As described in the following section, the Clinton Fire Department is to be notified when onsite personnel cannot readily extinguish a fire. The Clinton Fire Department is equipped to transport and store (using portable reservoirs) adequate volumes of water to the site for fire fighting purposes. Their nearest "filling station" is a fire hydrant located at U. S. Route 51 and Kleeman Drive, approximately 1.7 miles north of the facility entrance. The Clinton Fire Department Fire Commissioner has informed CLI that this supply of water is sufficient to fight any reasonably anticipated fires at the facility.

#### *Response to Fires and Explosions*

Employees who are properly trained may fight incipient-stage fires using appropriate fire extinguishers, soil, fire blankets, and, when appropriate, water. CLI employees may also build firebreaks, containment berms to prevent spreading of flammable liquids, etc. as safe conditions allow. In no case shall employees risk injury or life fighting a fire.

Careful consideration shall be given to fires involving waste materials. If possible, burning wastes shall be isolated from other wastes, then smothered using soil. Water should be used only as a last resort.

The Emergency Response Coordinator shall request fire-fighting assistance from the Clinton Fire Department under the following conditions:

- ☐ A fire that cannot be easily and thoroughly extinguished by onsite personnel within a few minutes of discovery,
- ☐ A fire that extends, or threatens to extend, offsite,
- ☐ A fire affecting the structural components of a building,
- ☐ An explosion that causes structural damage,
- ☐ A fire or explosion that could possibly reoccur,
- ☐ A fire or explosion of unknown origin,
- ☐ A fire that may expose people to toxic vapors, smoke, fumes, etc., and
- ☐ A fire involving buried waste that cannot be readily exhumed and extinguished.

#### **Chemical Reactions**

The first step in controlling a chemical reaction is to segregate the incompatible materials, if this can be done safely. The second step is to cover and/or mix the incompatible materials with soil. Water should not be used by onsite personnel to control chemical reactions.

The Emergency Response Coordinator shall contact the Clinton Fire Department if a chemical reaction occurs that cannot be readily controlled by facility employees, or if fumes, vapor, smoke, etc. from a chemical reaction threatens to migrate beyond the facility boundary.

#### **Toxic or Hazardous Material Spills**

Spills of toxic or hazardous materials (including leachate, landfill gas condensate, PCB liquids, industrial waste, fuels, and lubricants) occurring outside the waste boundary shall be responded to as follows:

- ☐ Don appropriate personal protective equipment (PPE),

- ☐ Stop the source of the release (e.g. turn off pumps),
- ☐ Contain the spread of materials using earthen berms, booms, etc.
- ☐ Remove and place the material into containers and properly dispose the leachate,
- ☐ Remove and properly dispose soil that is grossly contaminated (i.e. saturated) with the spilled toxic or hazardous material, and
- ☐ Identify the material that was spilled and estimate the volume that was spilled. Immediately report the spill to the Landfill Director if industrial waste of any quantity was spilled, or if more than 25 gallons of leachate, landfill gas condensate, fuel, or lubricants were spilled. The Landfill Director will notify the proper regulatory agencies within 24 hours of the incident, as required.

In the event of a leak being detected within the leachate storage tank(s), leachate/condensate transmission piping system, or condensate lift station, CLI shall immediately investigate the source of the leak and make the necessary repairs. Leachate released to the environment shall be addressed as indicated above. The Landfill Director is to be immediately notified if leachate or condensate is released to the environment.

The Landfill Director shall assess the spill area and coordinate further remediation as required.

## **OUTSIDE ASSISTANCE**

The following agencies and facilities are available to assist in emergency response.

### **CLINTON FIRE DEPARTMENT**

118 West Washington  
Clinton, Illinois  
Emergency Telephone No.: 911  
Non-Emergency Telephone No.: 935-3159

### **DEWITT COUNTY SHERIFF**

101 West Washington  
Clinton, Illinois  
Emergency Telephone No.: 911  
Non-Emergency Telephone No.: 935-3196

### **JOHN WARNER HOSPITAL (including ambulance service)**

422 West White Street  
Clinton, Illinois  
Emergency Telephone No.: 911  
Non-Emergency Telephone No.: 935-9571

## **APPENDIX C: INSPECTION AND MAINTENANCE PLAN**



## FACILITY INSPECTION AND MAINTENANCE PLAN

### Clinton Landfill No. 3 – Chemical Waste Unit

FEATURE	INSPECTION FREQUENCY	ACTIONS
<b><u>Access Roads</u></b>		
Entrance gate security	Each operating day	Repair gate as necessary to maintain security
Dust control	Continuously each operating day	Add water or dust suppressant as necessary Sweep / clean paved entrance road
Mud tracking at the entrance	Each operating day	Clean tracked mud and accumulated dust Identify source and remedy as appropriate
<b><u>Storm Water Management System</u></b>		
Perimeter ditches and diversion berms	Quarterly and after 2-inch rains	Repair erosion and vegetation Remove accumulated silt
Letdown pipes and culverts	Quarterly and after 2-inch rains	Clear entrance of obstructions Check energy dissipaters
Evidence of leachate contamination	Continuously each operating day	Manage as leachate, remedy source
Sedimentation basin berms	Quarterly and after 2-inch rains	Repair erosion and vegetation Eliminate burrowing animals
Sedimentation basin siltation	Quarterly	Remove silt as necessary to maintain adequate storm water run-off storage
<b><u>Landfill Cover</u></b>		
Erosion, rills and gullies	Monthly and after 2-inch rains	Repair erosion extending 4-inches deep
Leachate seeps	Each operating day	Repair as required
Vegetation (final cover)	Monthly and after 2-inch rains	Repair in accordance with Post-Closure Care Plan
<b><u>Liner Protective Cover</u></b>		
Minimum 18 inches on sidewall liner prior to waste placement	Prior to waste placement	Add protective soil as required
Proper freeze protection: 3 feet cover/waste on floor 18 inches cover on sidewalls	Each operating day during freezing weather	Add protective cover as required

## FACILITY INSPECTION AND MAINTENANCE PLAN

### Clinton Landfill No. 3 – Chemical Waste Unit

FEATURE	INSPECTION FREQUENCY	ACTIONS
<b><u>Leachate/Condensate Management Systems</u></b>		
Leachate tank and leachate force main leak detection	Weekly	Inspect for leaks
Leachate level in tank	Each operating day	Empty as required
Leachate spills on truck loading containment pad	After each use	Clean pad of spills and drain to tank
Leachate extraction system	Weekly	Volume of leachate extracted
Leachate collection piping system	As necessary	Clean using high-pressure water jets
Leachate extraction pumps	Quarterly	Check proper operation, repair and/or replace as needed to achieve desired performance
Automatic leak detection systems	Annually	Check for proper operation
<b><u>Groundwater Monitoring Wells</u></b>		
Check security	Quarterly	Repair as required
Check surface seal	Quarterly	Repair as required
<b><u>Waste Solidification Area</u></b>		
Damaged / leaking containers	Each operating day	Repair or replace as necessary
Spilled waste	Each operating day	Remove and dispose in active face
Run-off control berms	Each operating day	Repair as required
<b><u>Survey Monuments</u></b>		
Check integrity	Annually	Replace as necessary
Resurvey by Licensed Surveyor	Every 5 years	
<b><u>Perimeter Security</u></b>		
Check integrity	Weekly	Repair as necessary