

APPENDIX F
LIQUID WASTE SOLIDIFICATION PLAN
Hyland Facility Associates Landfill
Angelica, New York

Prepared for
Hyland Facility Associates
6653 Herdman Road
Angelica, NY 14709

Prepared by
McMahon & Mann Consulting Engineering, P.C.
2495 Main Street, Suite 432
Buffalo, NY 14214

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FIGURES

- Figure 1 General Site Plan
- Figure 2 Mixing Vessel Schematic

1.0 INTRODUCTION

Hyland plans to provide a disposal option for generators of liquid waste by creating a solidification process at the Hyland Facility. Operation of the solidification process is intended to directly address Part 360-2.17(k) and (n) and Special Condition 3 of the current Part 360 Permit, which prohibit the disposal of wastes containing free liquids within the landfill. Authorized wastes, which contain free liquids, will be solidified with an appropriate absorbent material prior to disposal in the active area of the landfill (see Figure 1).

The solidification process will be operated as an integrated component of the existing permitted solid waste management activities at the facility. The solidification process will be operated in conjunction with on-going operation of the landfill. Existing facilities and controls (site controls, staffing and supervision, and the waste control program) will apply to the solidification process.

2.0 SOLIDIFICATION PROCESS AREA

2.1 Location and Setting

Figure 1 shows the current site conditions (November 2010), which indicates that Cells 1, 2 and 3 are constructed and being filled. A portion of Cell 4 is currently being constructed, followed by future construction of the remaining area of Cell 4 and Cell 5. Hyland plans to locate the solidification process area in close proximity to the active disposal area, which is currently located in Cell 3. The location of the solidification process area will be within the constructed landfill footprint, but can potentially change each year.

The constructed and future landfill cells are double lined in accordance with 6 NYCRR Part 360 requirements. Therefore, since the solidification process area is contained within the lined landfill, double containment of the mixing system is provided.

2.2 Liquid Solidification Mixing System

The liquid solidification-mixing system will consist of one to three steel mixing vessels, each with a minimum capacity of approximately 7,000 gallons. Each mixing vessel will be capable of containing the liquid waste as it is being mixed with the absorbent material. The mixing vessels will be buried and backfilled into the landfill to provide vessel stability during mixing operations. Safety fencing and barriers will be placed around the mixing vessels to provide a physical barrier to prevent persons from falling into the mixing vessels.

The area surrounding the mixing vessels will be compacted to allow equipment to operate on all four sides of the mixing vessels. The compacted areas will be sloped toward the mixing vessels to facilitate drainage of any spilled liquids back into the mixing vessels. A water storage tank and pressure washer system will also be available on an as needed basis, to allow rinsing of waste containers prior to leaving the site. A typical plan and section view of the mixing vessel setup is shown on Figure 2. The area will consist of a waste unloading and loading area, a mixing area and an absorbent material stockpile area.

3.0 LIQUID SOLIDIFICATION OPERATION AND MAINTENANCE

3.1 Access Control and Operating Hours

Access to the liquid solidification process area at the Hyland Facility will be the same as access to the active landfill areas as described in Section 5.2 of this Operations and Maintenance Manual. In addition, the liquid solidification process will only occur during the normal landfill operating hours as stated in Section 5.1 of this Operations and Maintenance Manual.

3.2 Incoming Materials

Waste Types and Characterization

The Hyland Facility intends to accept non-hazardous wastes containing free liquids that are amenable to efficient solidification with available bulking agents and which do not pose a safety or health hazard to operating personnel. The facility's waste control plan will be used to screen candidate wastes against these two basic acceptance criteria.

In screening candidate wastes for possible acceptance, the facility's Special Waste Program as described in Section 7.1.1 of this Operations and Maintenance Manual will, for example, evaluate the waste's possible reactivity (reactive sulfides and cyanides, compatibility with solidification agents or prior waste residuals, etc.) and potential emissions (excessive solvent levels, for example) that may affect worker health and safety.

Typical wastes that will be accepted for solidification at the Hyland Facility include, but are not limited to:

- Sludges of various types, such as oil/water separator sludge, paint booth sludge, carwash sludge and paper sludge,
- Off-specification commercial products such as off-specification latex paint and off-specification vinegar,
- Metal cleaning water,
- Waste plasticizer,
- Water, cuttings and synthetic oil based drilling mud from installation of soil and rock borings,
- Flocculent waste water,
- Septage and grease trap wastes, and

- Food wastes, including off-specification bottled beverages, sauces and soups.

All special wastes, which are profiled and approved by the Hyland Facility for acceptance to the liquid solidification process, will be submitted to the NYSDEC for review and approval. Drums and totes that will not be returned to the waste generator shall be identified as part of the special waste approval, so that the Hyland Facility can accept and crush these containers once they have been emptied.

Waste Quantities

All wastes accepted by the facility are ultimately disposed of in the active landfill, following solidification. The quantity (by weight) of the liquid waste stream is recorded during the initial inbound receipt control process, prior to solidification. This inbound liquid waste weight is tracked and recorded against the existing approved design capacity for active landfilling. Absorbent waste materials used in the liquid solidification process will also be tracked and recorded.

Waste Receiving Process

The liquid waste stream is integrated into the Hyland Facility's Solid Waste Receiving Process. This process includes three primary methods for inbound waste monitoring: pre-acceptance waste screening measures, quality control measures for waste load acceptance and periodic, detailed inspections of inbound waste loads. These three components, as they are applied to the facility's waste stream, are discussed in detail in Section 7 of this Operations and Maintenance Manual. Additional details regarding liquid wastes are discussed below.

Section 2.2 of the Operations and Maintenance Manual indicates that waste streams with free liquid are not accepted for disposal, though as discussed in this section, they may be approved for disposal through the liquid solidification process.

Liquid wastes will most commonly be delivered to the facility in tankers, small vacuum trucks, as well as in sealed totes and drums (as approved by the NYSDEC). For delivery of the waste load to the site, the waste vehicle driver will enter the site through the existing entrance and proceed onto the scale for weighing and inbound processing. All inbound waste loads will be weighed, empty weights including those for drums and totes being returned to the generator will be scaled when leaving the site. The outgoing empty weight will be subtracted from the inbound weight for record of actual waste weight. Concurrent with weighing, the vehicle driver will present shipping documentation (manifest) to scale house personnel. The personnel will review the shipping papers for accuracy, including review against the approved waste profile, and inspect the waste load to verify the quantities and types of waste listed on the manifest and profile. Scale house personnel will check if:

- The quantity of the waste (bulk liquid weight/volume, number of drums, etc.) agrees with the quantity on the accompanying manifest, and
- Shipping containers are in acceptable condition (i.e. container integrity, labels or markings are complete and accurate, etc.).

In the event of an inbound discrepancy, the waste generator is contacted for appropriate resolution. The waste load is returned or rejected if the discrepancy cannot be correctly resolved. The waste hauler will be instructed to contact the generator for further instructions, in the event of load rejection. The generator will also be immediately notified directly by the Hyland in the event of load rejection. A load rejection form (see Appendix C of the Operation and Maintenance Manual) will also be implemented in accordance with the Contingency Plan.

In the event that the waste load is approved for acceptance, the shipment will be directed to the liquid solidification process area for unloading. Landfill operators will be notified such that they are available to direct and assist the vehicle driver in unloading of the waste; the operators will be concurrently notified/reminded by the scale house personnel of any special handling requirements concerning unloading, solidification or disposal of the waste, as necessary.

A landfill operator monitors all waste unloading. During the unloading process, the operator will observe the waste load to determine if:

- The waste load substantively differs visually from the description contained on the profile or from previous loads of the same waste stream, and
- The load exhibits an odor, which is noticeably different or stronger than the odor described on the profile or exhibited by previous shipments.

If any actual or potential discrepancies are determined, the operator will document the discrepancy and notify the Special Waste Approvals Person for additional guidance and instruction.

In the event that unauthorized wastes are received, the material will be managed in accordance with the procedures outlined in the Hyland Facility's Contingency Plan.

Due to the nature of the liquid waste, random load inspections are not conducted in accordance with the Waste Control Program (i.e. dumping of a designated load in the landfill active area for detailed inspection). Instead, a facility operator directly monitors all waste loads delivered to the facility during the unloading and mixing process.

3.3 Equipment

The equipment used in the liquid stabilization process is both mobile and stationary equipment. The typical equipment will include:

- Steel mixing vessels,
- An excavator or similar device to mix the waste loads during solidification and to load-out the solidified material,
- A water storage tank and pressure washer system will be available as needed, and
- Off road dump trucks or other appropriate methods of conveyance to transport the solidified waste material to the daily active landfill area.

3.4 Personnel Staffing and Training

The same management and personnel currently working at the Hyland Facility will perform operation of the liquid solidification process. Employee safety and training will be performed in accordance with the current facility programs. The Hyland Facility Landfill Manager has ultimate responsibility and authority for ensuring that the liquid solidification process is adequately staffed with trained personnel.

Several of the current landfill operators will be trained in the operations of the liquid solidification process. Though, typically only one operator will be assigned to the liquid solidification process area on days when liquids are being solidified. The operator's duties will include:

- Directing and monitoring unloading of inbound waste loads,
- Visually inspecting drums and totes to ensure all liquid waste is removed,
- Monitoring of waste loads during unloading and processing to verify that the waste load is consistent with the pre-acceptance characterization,
- Placement of absorbent material into the mixing vessel,
- Mixing the waste load with the absorbent material,
- Ensuring through visual inspection that the waste has been sufficiently solidified and that no free liquids are present,
- Load-out of the solidified material for transport to the active landfill area,

- Empty drums and totes not being returned to the waste generator will be crushed and transported to the active landfill area, and
- Routine policing of the facility for nuisance conditions, implementation of good housekeeping procedures, etc.

All personnel associated with operation of the liquid solidification process receive appropriate initial and on-going training to ensure that they can adequately and safely perform their work duties. Training is provided through specific facility training sessions and/or within the context of routine safety meetings. All personnel training sessions will be documented.

3.5 Waste Solidification Procedures

Following completion of the inbound scale and inspection process, all loads are directed to the facility for unloading. In most cases, the liquid waste is discharged directly from the inbound truck into the mixing vessels. The unloading process can also include rinsing of the inbound tanker or container, as necessary. The resulting rinse water will be directed into the mixing vessels.

Drums and totes that are not being returned to the waste generator will be visually inspected to ensure that the containers are empty. The empty containers will be placed adjacent to the mixing vessels until liquid solidification is complete. The containers will then be crushed and loaded out for disposal in the active landfill area.

Absorbent materials are staged adjacent to the mixing vessels (see Figure 2). Absorbent materials may be auto fluff, slag, ash from wood, coal or other biomass combustion process, wood chips and other appropriate materials. Non-waste absorbent materials may also be temporarily stored in other areas of the facility. All of the absorbent materials will be appropriately managed and covered or tarped if required when not in active use.

Prior to discharging the waste load, a layer of the designated absorbent material will be placed in the bottom of the vessels. The waste load will then be discharged into the mixing vessels; the operator will add more of the designated absorbent material. At all times a minimum freeboard of 1 foot is maintained for the materials being processed within the mixing vessels. The operator mixes the waste and absorbent material. A sufficient quantity of absorbent material is added until mixing of the waste is complete and free liquids are no longer present, based on visual inspection.

After the mixing process is complete, the mixed waste is loaded and transported to the active landfill area.

Routine operating procedures will be to pre-schedule liquid waste loads so as to coordinate with the on-site inventory of absorbent material, such that all loads will be processed and land filled on a daily basis. At a minimum, no unsolidified waste load will remain in the mixing vessels overnight and all empty drums and totes will be crushed and disposed of daily or tarped overnight.

3.6 Site Inspection Maintenance and Monitoring

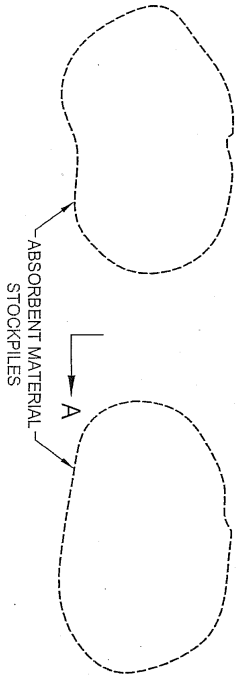
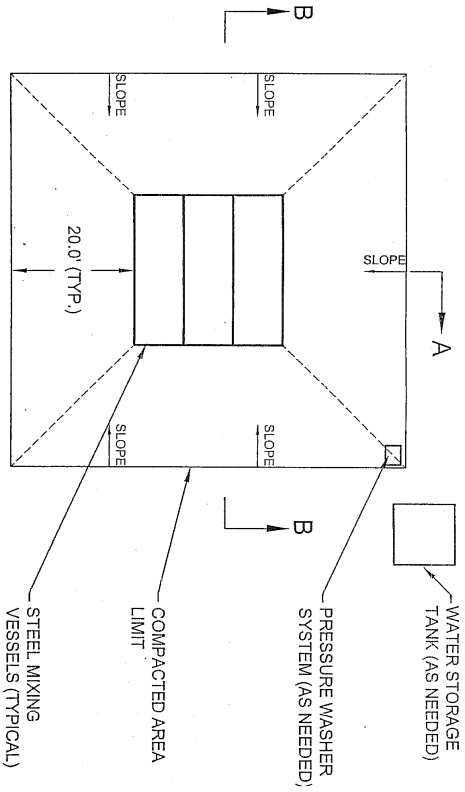
The liquid solidification process area will be policed on a daily basis by the landfill operator for potential nuisance conditions and acceptable housekeeping. This activity will include inspecting the mixing vessels and adjacent areas.

The Hyland Facility is formally inspected on a weekly basis to ensure overall facility integrity and environmentally-sound operations. The liquid solidification process area will be included in this inspection to ensure that the mixing vessels are not damaged and that the stockpiled absorbent materials are being properly managed. Liquid solidification operations will immediately cease if any damage or a breach is noted in the mixing vessels; operations will resume only upon completion of acceptable repair.

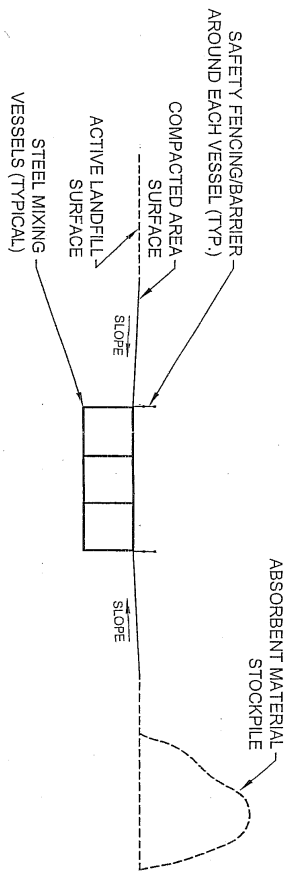
All deficiencies identified during the weekly inspections will be promptly repaired and documented. All structural repairs made to the mixing vessels will be specifically documented and maintained with facility records.

3.7 Record Keeping and Reporting

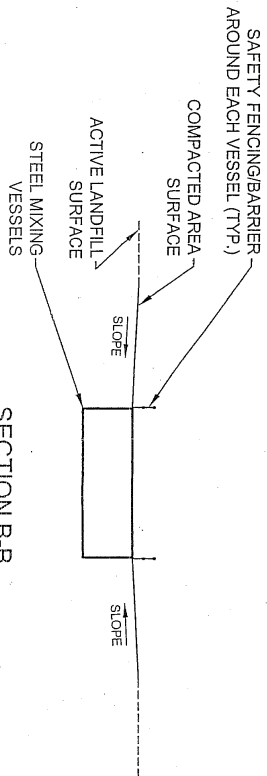
All liquid waste loads received and processed at the Hyland Facility will be recorded and maintained at the facility. Absorbent materials used for liquid waste mixing will also be recorded. These records will be summarized and included as part of the NYSDEC quarterly and annual reports.



TYPICAL MIXING VESSEL PLAN
SCALE: N.T.S.



SECTION A-A
SCALE: N.T.S.



SECTION B-B
SCALE: N.T.S.

NOTE:
UNAUTHORIZED ALTERATION OR ADDITION
TO ANY SURVEY, DRAWING, DESIGN, OR
SPECIFICATION IS A VIOLATION OF SECTION 7209 PROVISION 2 OF
THE NEW YORK STATE EDUCATION LAW.

McMahon & Mann
Consulting Engineers, P.C.
255 MAIN STREET, SUITE 602
BUFFALO, NY 14214
PHONE: (716) 834-8391
FAX: (716) 834-8391

HYLAND FACILITY
O&M MANUAL
NEW YORK
ALLEGANY COUNTY

MIXING VESSEL SCHEMATIC
DWG. NO. 93002-579b
FIGURE 2