

CITY OF HAMILTON

**Red Hill Valley Project
Decontamination Plan
Former Rennie Street Landfill Site**

Prepared by

**Dillon Consulting
Limited**

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Red Hill Valley Project

Rennie St. Landfill Excavation

DECONTAMINATION PLAN

1. OBJECTIVE(S)

To remove contaminants that may have accumulated on equipment, to protect the health and safety of the workers and the public, and to protect the environment. Equipment may include those items used during the sampling, excavation, temporary on-site storage, or on-site transportation of waste.

This plan does not apply to the decontamination of workers, personal protective equipment, or decontamination during emergency events, which are discussed in the Supplemental Health and Safety Plan Site Contaminants.

2. PROCEDURE(S)

The decontamination procedures to be used will vary by the type of equipment used, as presented in the following sections. Decontamination procedures were developed following guidance provided by NIOSH/OSHA/USCG/USEPA (1985) and ASTM Standard D5088-90 (1990).

Heavy Machinery

Heavy machinery includes equipment such as backhoes, excavators, bulldozers and waste hauling vehicles (dump trucks, trailers or tanker trucks). If used, conveyance, crushing, screening, or other equipment of comparable size would also be considered to be heavy machinery.

Prevention

The Contractor will inspect the equipment to confirm that the equipment arrives on the site in a clean state. If obvious indications of contamination are observed, the Contractor will refuse entrance of the equipment onto the site, or decontaminate the equipment before it is used subject to the approval of the Engineer.

No personal vehicles, "lunch wagons" or other non-essential vehicles will be permitted within the area of active work where the potential to encounter waste may occur.

Vehicular traffic will be kept to a minimum. To the extent practical, equipment will be stored when not in use (e.g., overnight) in the location last used or the nearest safe location. Overnight staging in clean areas is not permitted unless the equipment is first

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decontaminated to prevent the potential for tracking contamination back and forth across the site.

The Contractor will operate the equipment in a manner that minimizes contact with waste, including minimizing the surface area contacting waste and minimizing the potential for spills, drips, splashes or sprays.

Equipment, once decontaminated, will be stored in a designated clean area of the site, or preferably removed from the site as soon as practicable.

Waste hauling vehicles will be restricted to driving on the temporary excavation access roads. Tire contact with refuse is to be avoided.

Excavation will proceed towards the southeast where the site access/egress point is located.

The waste receiver will be responsible for the appropriate decontamination of waste hauling vehicles at their facility once the waste has been received and before the vehicle departs the facility.

Decontamination Location, Equipment and Methods

Equipment decontamination will take place in designated decontaminated areas. The designated areas will be constructed to incorporate the following features:

- semi-mobile, capable of being disassembled and relocated several times as excavation proceeds;
- one or two layers of heavy, puncture-resistant geomembrane/plastic to resist vehicle traffic;
- sized to be at least 4 metres longer and wider than the largest anticipated equipment (allows 2 m on all sides for ease of access by the decontamination technician);
- bermed and sloped to permit collection of wash waters using a utility pump;
- sides or curtains to contain splash or spray from pressure washer;
- supply of municipal water (e.g., insulated stationary tank, water truck or access to water from a nearby hydrant);
- steam pressure washer and power supply to operate washer and heat water; and
- tank for storing spent wash water and drums for storing mud/semi-solids.

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Subject to the Contractor's planned layout of temporary excavation access roads, the designated decontamination areas will be located close to the edge of the excavation area to maximize the size of the clean area. As the excavation proceeds to the southeast, the decontamination area would be moved southeast correspondingly. The decontamination areas will be located at the confluence of the access roads such that all equipment departing the excavation work area must pass through decontamination before proceeding into the clean area.

Those portions of the equipment that contacted or likely contacted waste will be decontaminated as follows:

- gross contamination (e.g., caked mud) will be removed using a scraper
- loose contaminants will be removed using long-handled brushes and a warm water and soap solution (e.g., Liquinox® phosphate-free detergent); and
- steam pressure washing.

The backhoe and excavator buckets may require more frequent and thorough decontamination because they will have the greatest waste contact and will also be used in some cases to facilitate collecting waste classification samples. Decontamination may also include immersion in a warm soap and water solution (e.g., in a galvanized tub) and/or a solvent rinse using alcohol (methanol or isopropanol), hexane or acetone. A mobile decontamination centre, consisting of one or more galvanized tubs on a flatbed trailer, will serve to expedite decontamination. The frequency of decontamination will be a field decision based on the type of waste materials being encountered.

Spent wash water and mud/semi-solids will be handled, stored, tested, classified and disposed of in accordance with applicable regulations.

The effectiveness of the decontamination method will be assessed at the beginning of the excavation work and periodically throughout the work project. Wipe sampling will be used to confirm that equipment has been appropriately decontaminated for PCBs before it is allowed to depart the site. Each backhoe, excavator and bulldozer will be individually tested with one or more wipe samples. Wipe sample results will be compared to an acceptance value of 10 µg/cm², as adopted from the MOE PCB Sampling Protocol (MOE, 2000). The decontamination procedure will be revised if required.

Liquid Storage Tanks

Equipment decontamination waters will be stored in tanks and tested to determine the required disposal method. Use of these tanks is described elsewhere in this contract.

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The Contractor will inspect the equipment to confirm that the equipment arrives on the site in a clean state. If obvious indications of contamination are observed, the Contractor will refuse entrance of the equipment onto the site, or decontaminate the equipment before it is used subject to the approval of the City.

Care will be exercised when pumping liquid, filling or draining each tank to avoid spills, drips, splash or spray on the external surface of the tanks.

Decontamination Location, Equipment and Methods

The inside of all tanks will be steam-cleaned at the location where the tank was used before the tank departs the site.

Spent wash water and mud/semi-solids will be handled, stored, tested, classified and disposed in accordance with applicable regulations.

The effectiveness of the decontamination method will be assessed by collecting wipe samples for PCBs analysis at a frequency of one in ten tanks. Wipe sample results will be compared to an acceptance value of 10 $\mu\text{g}/\text{cm}^2$, as per MOE (2000). The decontamination procedure will be revised if required.

Smaller Equipment and Tools

Small equipment and tools may include monitoring instruments, pumps, hoses, shovels and non-disposable sampling tools.

Prevention

Equipment will be stored in a clean and dry location away from potential contact or other exposure to waste until required for use. Cleaned equipment will only be handled by persons wearing clean, disposable gloves.

Monitoring instruments will not be handled such that they contact waste directly, such as by placing the instrument directly on the ground or by handling the instrument after handling waste. Instruments will be bagged, handled only with clean, disposable gloves, and/or placed on clean portable surfaces (e.g. folding tables).

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Equipment contacting waste will be cleaned before and after each use. Equipment will be allowed to air dry after cleaning. Reagent-grade methanol, isopropanol, hexane or acetone are acceptable solvents. Cleaning fluids will not be re-used and will be stored, handled and tested for appropriate off-site disposal.

All hoses used for transferring leachate will be disposed as waste at the end of the project.

3. DOCUMENTATION

The following will be documented under this procedure:

- The decontamination procedures used will be documented in the daily field notes.
- A record of all equipment leaving the site will be maintained by the Contractor including decontamination procedures and wipe sample results.