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9 June 1998

Mr. James Innes  
Michigan Department of Environmental Quality  
Shiawassee District Headquarters  
10650 Bennett Drive  
Morrice, MI 48857-9792

Work Order No. 01138-079-003

Re: Linden Road Landfill Site  
Flint Township, Michigan

Dear Mr. Innes:

Pursuant to your recent discussions with Mr. Robert Metcalf of General Motors (GM), the following documents are attached:

1. Revised Work Plan for the installation of new shallow monitoring wells inside the new site boundary.
2. Revised Section 2.1.1 of the Operation and Maintenance Plan.

If you have any questions or require additional information, please call me at (847) 918-4018.

Very truly yours,

ROY F. WESTON, INC.

S. Babusukumar, P.G.  
Senior Project Manager

SB/sr  
Attachments

cc: R. Metcalf, GM



## ATTACHMENT A

### WORK PLAN FOR THE INSTALLATION OF NEW SHALLOW MONITORING WELLS INSIDE THE NEW SITE BOUNDARY

#### LINDEN ROAD SITE, FLINT TOWNSHIP, MICHIGAN

##### Introduction

This Work Plan addresses the installation of new shallow monitoring wells inside the new eastern site boundary of the Linden Road site to monitor downgradient groundwater quality within the portion of the Linden Road site that will be capped and constructed for recreational purposes. The new eastern boundary refers to the new boundary resulting from the proposed delineation of the frontage area designated for alternate closure and eventual sale. Currently, there are three monitoring wells located in the frontage area. This Work Plan was prepared in response to a letter dated 1 April 1998 from the Michigan Department of Environmental Quality (MDEQ) to Mr. Robert Metcalf of General Motors (GM).

##### Details of Well Installation

Four new downgradient shallow monitoring wells (MW-10S, MW-11S, MW-12S, and MW-13S) will be installed along the inside of the new eastern boundary of the site. The attached Figure A-1 shows the locations of both the existing monitoring wells and the proposed new wells. The monitoring wells will be installed as close as possible to the new property boundary (Figure A-1).

Monitoring well drilling will be performed using 4.25-inch inside diameter hollow-stem augers (HSAs). Soil samples will be collected at continuous intervals with standard split-spoon samples using ASTM-1586 procedures. Consistent with the existing wells, the new wells will consist of a 2-inch diameter, stainless steel flush-jointed riser pipe and stainless steel (Grade 304) screens. The well screens will be 10 feet in length with 0.010-inch slotted openings. The well screens will be positioned to straddle the water table. All well construction and well development methods will be consistent with those employed in constructing the existing wells, as described on pages

4-29 through 4-31 of the "Interim Remedial Measures Evaluation and Site Investigation Report" (March 1992). The wells will be terminated with surface-mounted well covers.

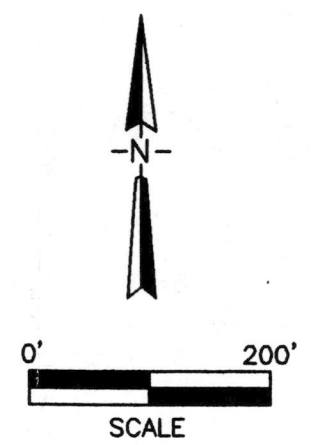
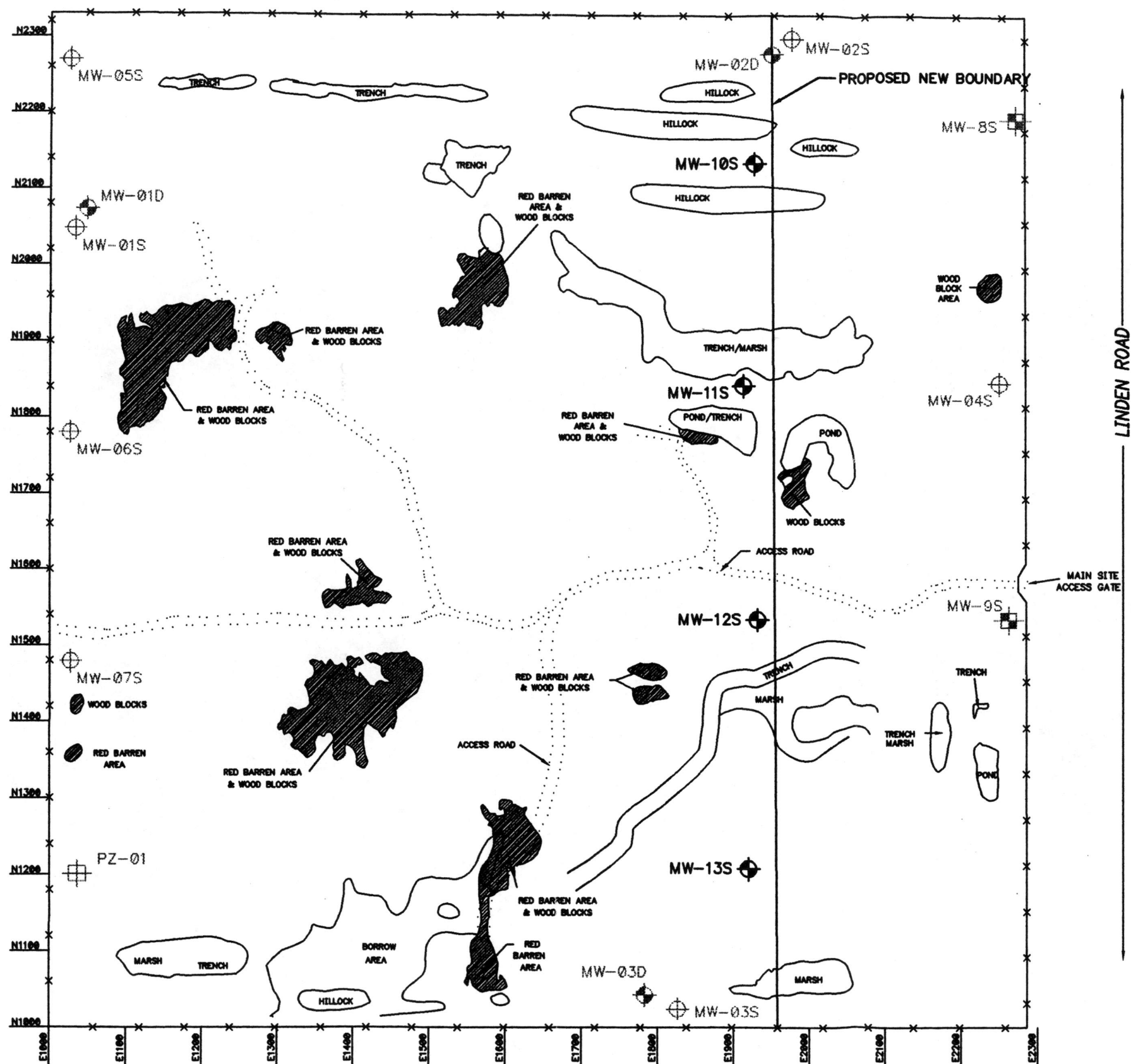
Upon completion of well installation and development, all the new well locations will be surveyed for both horizontal and vertical control.

The four new monitoring wells will be constructed upon completion of the placement of soil cover. These monitoring wells will be included in the groundwater monitoring plan associated with the Remedial Action Plan (RAP) for the Linden Road site.

As the groundwater monitoring plan includes only the shallow wells within the new site boundary, all deep groundwater monitoring wells including MW-01D, MW-02D, and MW-03D as well as all the shallow monitoring wells outside of the new site boundary including MW-02S, MW-04S, MW-08S, and MW-09S that currently exist at the Linden Road site will be decommissioned. This activity will be performed at the same time when the new proposed wells are installed.

A report will be forwarded to the MDEQ after completion of the well installation and decommissioning activities.

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**LEGEND**

MW-04S		EXISTING SHALLOW MONITORING WELL LOCATION
MW-02D		EXISTING DEEP MONITORING WELL LOCATION
PZ-02		EXISTING PIEZOMETER LOCATION
MW-10S		PROPOSED ADDITIONAL MONITORING WELL LOCATION

FIGURE A-1

**WESTON** Three Hawthorn Parkway  
 MANAGERS DESIGNERS/CONSULTANTS Vernon Hills, Illinois 60061

**PROPOSED MONITORING WELL LOCATIONS**  
 LINDEN ROAD LANDFILL SITE  
 Flint, Michigan

**SECTION 2**  
**OPERATION AND MAINTENANCE ACTIVITIES**

**2.1 SOIL COVER SYSTEM O&M**

The 2.5-foot final soil cover for the site consists of a 2-foot protective soil cover layer, and a 0.5-foot topsoil layer. The cover system has been designed in accordance with the Remedial Action Plan (RAP) prepared for the site. The objective of this inspection activity is to maintain the quality of the cover system to ensure the performance objectives dictated in the RAP are being met. The specific soil types and installation/restoration requirements are detailed in the construction specifications. Repair or reconstruction work will be completed in accordance with the construction specifications.

The final cover is intended to reduce the potential for human contact with the waste materials contained on the site. The final cover plan was prepared to allow the surface to shed water to the perimeter stormwater management system, minimize the need for additional off-site fill, and to minimize the potential for erosion damage. The 0.5-foot topsoil layer is provided as a highly organic layer that can support vigorous plant growth, which in turn will minimize erosion damage from precipitation events, and maximize evaporation and transpiration. During the inspection process, GM or its designated representative shall document the quality of the cover system and areas where the performance objectives are not being maintained.

**2.1.1 Soil Cover System O&M Inspection Requirements**

During the inspection process, GM will evaluate the quality of the vegetative cover across the site. A satisfactory area of vegetation shall be defined as an area of 10,000 square feet that has:

- No bare spots larger than 3 square feet.
- Not more than 10 percent of area with bare spots larger than 1 square foot.

Areas that show signs of erosion or sparse vegetation will be repaired. The surface will be graded and/or filled to match the surrounding grade with topsoil material, as specified in the construction specifications. The area will be reseeded and mulched in accordance with the specifications. In areas prone to excessive pedestrian traffic, wood chips or gravel may be used to create walking paths in lieu of vegetative restoration.

The cover system will be inspected for areas of significant erosion or cracking in the cover system. Significant erosion or cracking is defined as a crack or gully 6 inches deep or loss of vegetation and multiple gullies/cracks 3 inches deep. Each layer of the final cover will be repaired in accordance with the initial construction specifications. If significant erosion is discovered, the area will be overexcavated and material will be placed and recompact to restore the damaged section. The cover soil and the topsoil shall be replaced immediately following completion of the soil cover system to minimize damage.

GM or its designated representative will inspect the final cover for signs of settlement or subsidence. Areas showing signs of potential ponding or continued settlement will be backfilled with protective cover soil and topsoil and will be seeded/mulched in accordance with the construction specifications. The final cover vegetated areas will be mowed at a minimum twice per year.

Damaged areas of the final cover will be documented to include method and scope of the repairs conducted. The locations and suppliers of materials will be included in the documentation.

## **2.2 STORMWATER MANAGEMENT SYSTEM O&M**

The stormwater management system is intended to control runoff generated from precipitation events over the operating life of the site. The system consists of drainage channels directing runoff via culverts or other structures into the detention basin on the