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SAMPLING PLAN
VERIFICATION OF SOIL REMEDIATION
LINDEN ROAD SITE FRONTAGE ZONE SOIL REMEDIATION
FLINT TOWNSHIP, MICHIGAN

This sampling plan addresses verification sampling and analysis of soils at five proposed soil/waste excavation areas within a 400-foot frontage zone at the Linden Road site. Verification sampling will be conducted by Roy F. Weston, Inc. (WESTON®) on behalf of General Motors (GM). This sampling plan was prepared in accordance with the Michigan Department of Environmental Quality (MDEQ) Verification of Soil Remediation (VSR) guidance document dated April 1994.

BACKGROUND

In April and May 1997, WESTON conducted a characterization study of subsurface material within a portion of the Linden Road site to evaluate soil quality of an approximate 400-foot wide frontage zone along Linden Road. The objective of this study was to use the findings to evaluate the potential for remediating this area to meet the MDEQ Generic Commercial Criteria as indicated in the January 1996 Remedial Action Plan (RAP) and in the December 1996 Addendum to the RAP for the Linden Road site.

Findings of the above characterization study indicated that by removing soil associated with five selected areas of the study area, it is feasible to clean up the approximate 400-foot wide frontage zone of the Linden Road site to meet the MDEQ Commercial Sub-Category I Criteria. The findings of the above-referenced study was submitted to MDEQ in a report entitled "Findings of the Subsurface Soil Sampling Investigation for Frontage Development, Linden Road Site, Genessee County, Michigan" dated July 1997. The areas requiring soil remediation to meet the Commercial Sub-Category I Criteria were included in Figure 5-2 of the above-referenced report and is attached to this Sampling Plan.

Based upon the conclusions of the July 1997 report, GM plans to excavate and remove soil material from the above five locations. The removed soil material will be consolidated with the soil/fill material in the western portion of the site which will be capped, as proposed in the RAP.

VERIFICATION SAMPLING APPROACH

The areas of excavation are shown in Figure 5-2. The approximate dimensions of the areas proposed for excavation and the contaminant(s) exceeding Commercial Sub-Category I Criteria are as follows:

Area of Excavation	Approximate Dimensions of Excavation	Contaminant(s) Exceeding Commercial Sub-Category I Criteria
Area No. 1	100' x 100' x 3'	benzo(a)pyrene
Area No. 2	50' x 50' x 3'	arsenic
Area No. 3	300' x 300' x 7'	arsenic/lead/benzo(a)pyrene
Area No. 4	100' x 50' x 3'	arsenic
Area No. 5	50' x 25' x 3'	arsenic

Following completion of soil removal activities in each of the areas, verification sampling will be completed to determine the extent of impacted soils (if any) remaining in the excavations. The sampling activity will consist of collecting soil samples from all the sidewalls and the floor of each excavation.

The number and locations of clean closure verification samples will be in accordance with the MDEQ VSR guidance document dated April 1994, Revision 1.

Based on the areal extent of the areas of excavation, Areas No. 1, 2, 4, and 5 will be considered small sites (<0.25 acre). Area No. 3 will be considered a medium site (>0.25 acre).

Sampling at Small Sites

Based on Table 1 and Table 2 of the VSR, the following number of verification samples will be collected for analysis from the small sites:

Location	No. of Sidewall Samples	No. of Floor Samples
Area No. 1	6	9
Area No. 2	5	6
Area No. 4	5	7
Area No. 5	4	4

Sample analysis will include specific parameters identified above for each area of excavation.

Sampling at Medium Site (Area No. 3)

Consistent with Part 2 of the MDEQ VSR, verification for sampling will be conducted based on a grid system. Using the criteria recommended for medium sites in the VSR, the grid interval for this area of excavation is approximately 40 feet. It is estimated that a minimum of 50 floor samples and 30 sidewall samples will be collected in this area. Samples from this area will be analyzed for arsenic, lead, and benzo(a)pyrene.

Sample Collection and Handling

Samples from all the areas of excavation will be collected using stainless steel sample scoops and placed in appropriate clean glass containers and immediately sealed. Each sample will be collected within 6 inches of the ground surface. Each soil sample will contain a unique sample identification number. All samples will be discrete samples. The sample numbers, date, time, and field observations will be recorded on a logbook and appropriate chain-of-custody forms. Each excavation will be sampled for lead, benzo(a)pyrene, or arsenic, as appropriate. Appropriate

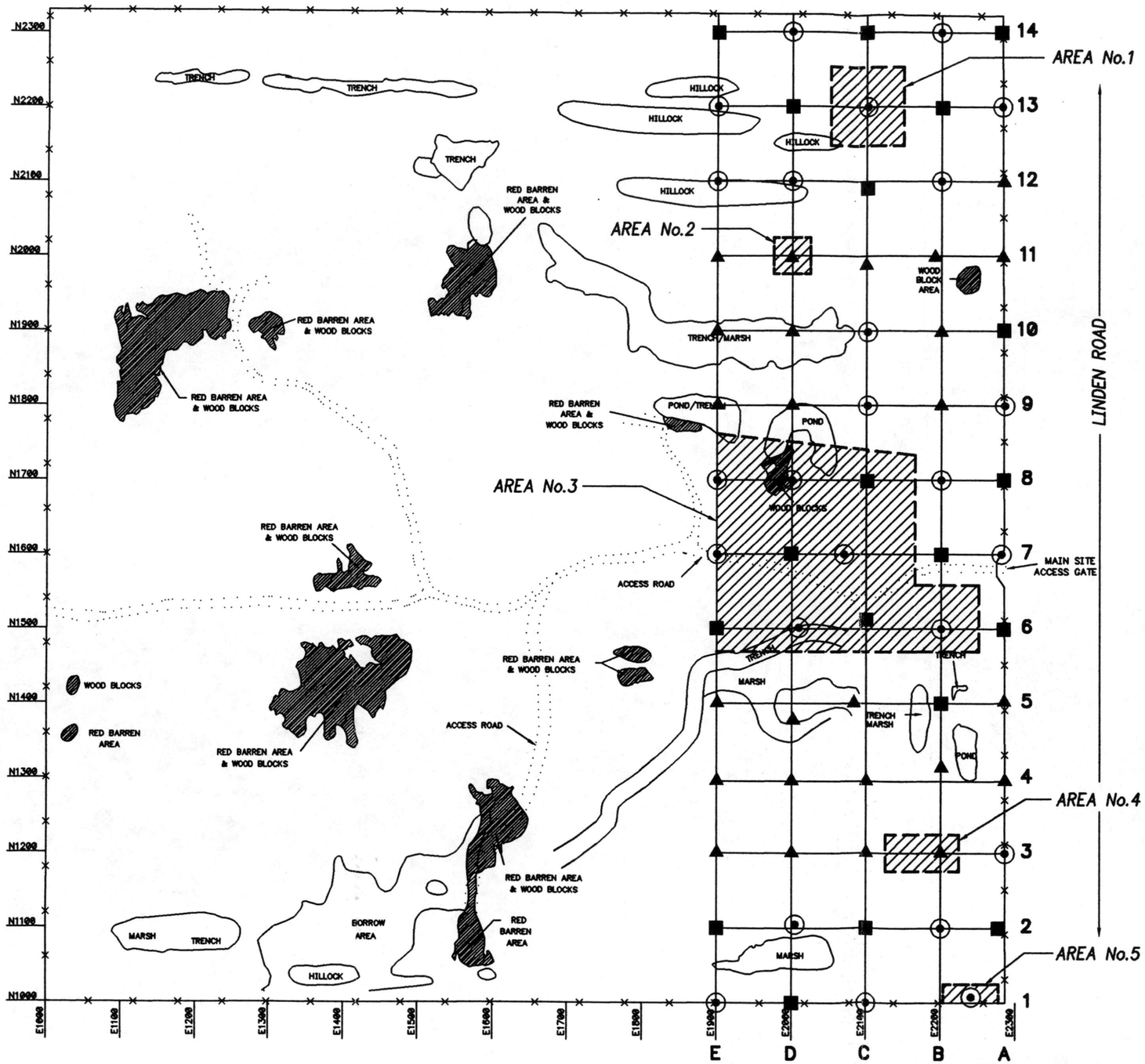
quality control (QC) samples will also be collected in conjunction with investigative samples. Decontamination procedures will be consistent with those described in the 1991 Site Investigation Work Plan for the Linden Road site.

Closure Evaluation

In order to facilitate progress during excavation activities, all samples will be submitted to the laboratory on a rapid (24-hour) turnaround. A MDEQ- and GM-approved laboratory will be selected for sample analysis. Once results are received, the decision will be made, based on the analytical results, to continue excavation or begin backfilling activities.

The excavations will be temporarily secured by construction fencing or caution flagging while samples are being analyzed. The analytical results will be compared to the MDEQ Generic Commercial Sub-Category I Criteria. If necessary, a statistical evaluation will be performed using data for each area of excavation. If analytical results indicate that the respective contaminants still exceed the Commercial Sub-Category I Criteria, then the depth of excavation will continue at a maximum of 1-foot increments before additional verification sampling can be conducted again. The lateral extent of additional excavation will be equal to the sampling interval centered at the impacted sample location. Once the criteria is achieved, backfilling of the excavation will proceed. Based on the findings of the verification sampling, if it is found that achieving Commercial Sub-Category I Criteria is not practical, GM will re-assess applicable closure criteria and information related to this re-assessment will be forwarded to MDEQ.

A report summarizing the clean closure verification sampling activities and the findings will be submitted to the MDEQ within 30 days of receiving all analytical results from the laboratory.



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SCALE

LEGEND

- ⊙ SOIL BORING LOCATION
- ■ AUGER PROBE LOCATION
- ▲ HAND AUGER LOCATION
- APPROXIMATE AREAS REQUIRING CLEANUP TO MEET COMMERCIAL SUB-CATEGORY I CRITERIA

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FIGURE 5-2

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

ESTIMATED AREAS REQUIRING SOIL MANAGEMENT COMMERCIAL SUB-CATEGORY I

LINDEN ROAD LANDFILL SITE
Flint, Michigan