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29 January 2003

Mr. James Innes
Michigan Department of Environmental Quality-RRD
P.O. Box 30242
Lansing, Michigan 48909 32240

Re: Focused Investigation to Evaluate Extent of Vinyl Chloride in Groundwater
Linden Road Landfill Site (Parcel #3)
Flint Township, Michigan

Dear Mr. Innes:

Weston Solutions, Inc. (WESTON), on behalf of General Motors (GM) is pleased to submit this plan and scope of work to conduct a focused environmental investigation at the above-referenced site. This Plan is in response to Michigan Department of Environmental Quality's (MDEQ) request by letter dated 18 December 2002 to GM, concerning the potential extent of vinyl chloride in groundwater in the area of Monitoring well MW-3S. The following paragraphs include a summary of relevant background information, followed by the proposed scope of work for this project.

BACKGROUND INFORMATION

Ongoing environmental activities at the site consist of routine groundwater and methane gas monitoring performed as required by the April 1999 Operation and Maintenance (O&M) Plan. Sampling is conducted annually and results forwarded to the MDEQ in an annual groundwater sampling and methane monitoring report.

Vinyl chloride was has been found to exceed its reference drinking water criteria in well MW-3S during the most recent sampling round (October 2002), as well as previous rounds. MW-3S is located in the southeastern corner of the property in the vicinity of the former oil disposal area. Vinyl chloride was first detected in this well during the second annual sampling event (October 2001) at a level of 0.023 mg/L. While groundwater is not used for potable purposes in this area, the detected concentration is above the MDEQ drinking water criteria for this compound. Based on these results, two additional samples were collected (during February and June 2002) to confirm the presence of vinyl chloride in this well. The results of these additional samples, as well as October 2002 sample results confirm the presence of vinyl chloride in MW-3S at levels above drinking water criteria. Vinyl chloride levels since October 2001 appear relatively stable and range between 0.013 and 0.024 mg/L, with the latest result being in the approximate middle of the range (0.019 mg/L).

The source of vinyl chloride is unknown but may be due to anaerobic biodegradation of trichloroethene (TCE). Based on the site investigations, there are two potential sources for the TCE in groundwater. TCE contamination was documented during interim action removal of the former oil disposal area and it is possible that some residual low level TCE and/or its breakdown products is present in the vicinity of MW-3S within the perched shallow water-bearing zone. Other common TCE breakdown products have also been detected in MW-3S, including 1,1-dichloroethane, and cis- and trans-1,2-dichloroethene at steady or slightly increasing levels. Additionally, the Dye Road Dump, west of the site, may be a potential source as evidenced by low-level detections in monitoring well MW-1S and MW-5S.

Previous investigations indicate that a shallow water-bearing zone (water table condition) exists at a depth of approximately 5 to 10 feet below ground surface (bgs). This zone, which ranges from 0 to 6 feet in thickness, consists of mixtures of silt, sand, and gravel in layers of varying thickness within an overall silty clay matrix. Existing well MW-3S is installed as a shallow groundwater monitoring well screened from 2.5 to 10.5 feet bgs. According to the geologic log for this location, the primary water producing zone for this well appears to be alternating silt, silty clay, and clayey silt found between approximately 2 and 6 feet bgs. Groundwater flow within the shallow water-bearing zone has been previously determined to be east-northeast over the majority of the site. However, in the vicinity of MW-3S, groundwater flow direction has a more southeasterly component.

An 8 to 13 feet thick clay layer is present beneath the shallow water-bearing zone throughout the site and acts as a lower confining layer. Below the clay confining layer lies continued laminated glacial deposits comprised of low-permeability silty clay, and thin (0.5 to 2.5 feet) isolated lenses of saturated silt and sand. This lower water-bearing zone has been investigated previously and found to be unimpacted by site contaminants due to the effectiveness of the confining layer.

SCOPE OF WORK

The specific objective for the investigation is to evaluate the presence and extent of vinyl chloride in the shallow water bearing zone downgradient of MW-3S. To accomplish the stated objective, WESTON proposes to advance up to 12 shallow soil borings using direct-push (e.g., Geoprobe) equipment for the purpose of geologic logging and collection of one or two grab groundwater samples at each location. A 75-foot grid will be established and soil borings will be completed as shown on Figure 1.

At each location, up to three separate holes may be advanced. The initial boring at each location will be advanced to an approximate depth of 12 feet bgs and will be used to log stratigraphy and evaluate water-bearing characteristics of the location (e.g., presence of saturated zones capable of producing groundwater samples). Each boring will be described and logged by a qualified

geologist utilizing the Unified Soil Classification System (USCS). Upon completion of logging, this hole will be sealed using granular or pelletized bentonite. To evaluate the potential vertical extent of vinyl chloride within the shallow water-bearing zone, up to two additional borings will be advanced adjacent to the stratigraphy borehole for the purpose of collecting grab groundwater samples. Based on the geologic log of existing well MW-3S, the primary water-producing zone is expected to be present at approximately 2 to 6 feet bgs. Therefore, a 4-foot long sheathed screen point sampling device will be driven to an approximate depth of 6 feet bgs, opened, and a grab groundwater sample collected. If the geologic log indicates permeable materials are present between approximately 6 and 12 feet bgs, the screen point sampler will be advanced to this depth interval and an attempt will be made to collect a second groundwater sample. If the log indicates only one water-bearing zone is present which is less than 4-feet thick, only one sample will be collected.

Groundwater samples will be collected using a peristaltic pump. Attempts will be made to purge approximately three volumes of the sampler and measure pH, specific conductance, and temperature prior to sample collection; however, due to the expected low permeability conditions, this may not be possible. If the sampler goes dry, the groundwater sample will be collected as recharge occurs. In the event that recharge in the shallow zone is very slow, a temporary 1-inch PVC well point may be installed and allowed to recharge overnight prior to sampling.

Sampling equipment will be decontaminated between each use in accordance with standard procedures outlined in the O&M Plan for this site. Where peristaltic pump tubing is used, a new length will be allocated for each sampling attempt. Quality assurance/quality control (QA/QC) will be evaluated by collection of equipment blank and field duplicate samples. A trip blank sample will also be analyzed for each shipment of aqueous VOC samples to the laboratory. Groundwater samples collected during the investigation will be submitted to Merit Laboratories, Inc. of East Lansing, Michigan. Analysis will consist of volatile organic compounds (VOCs) only. Laboratory data will be validated by a WESTON chemist in accordance with standard U.S. EPA protocol.

REPORT PREPARATION

Following completion of field activities, WESTON will compile and evaluate data and information obtained during the field investigation. A brief letter report summarizing the results will be prepared. The report will include detailed discussions of investigation activities as well as analytical summaries, sampling location maps, and conclusions and recommendations for future evaluation activities, which will be dependent on the results of this investigation.

SCHEDULE

The field effort proposed above is anticipated to take a total of approximately 1 week, while the completed summary report is expected to be prepared within approximately 2 to 3 weeks of receipt of analytical results. Laboratory analysis will be completed with standard turnaround time (approximately 3 weeks). Field work will commence after a site access agreement has been completed between GM and the owners of the property south of the site. WESTON will notify MDEQ at least one week prior to the start of field work.

If you have any questions or require additional information, please contact either of us at (847) 918-4000.

Very truly yours,

Weston Solutions, Inc.

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Sr. Project Manager

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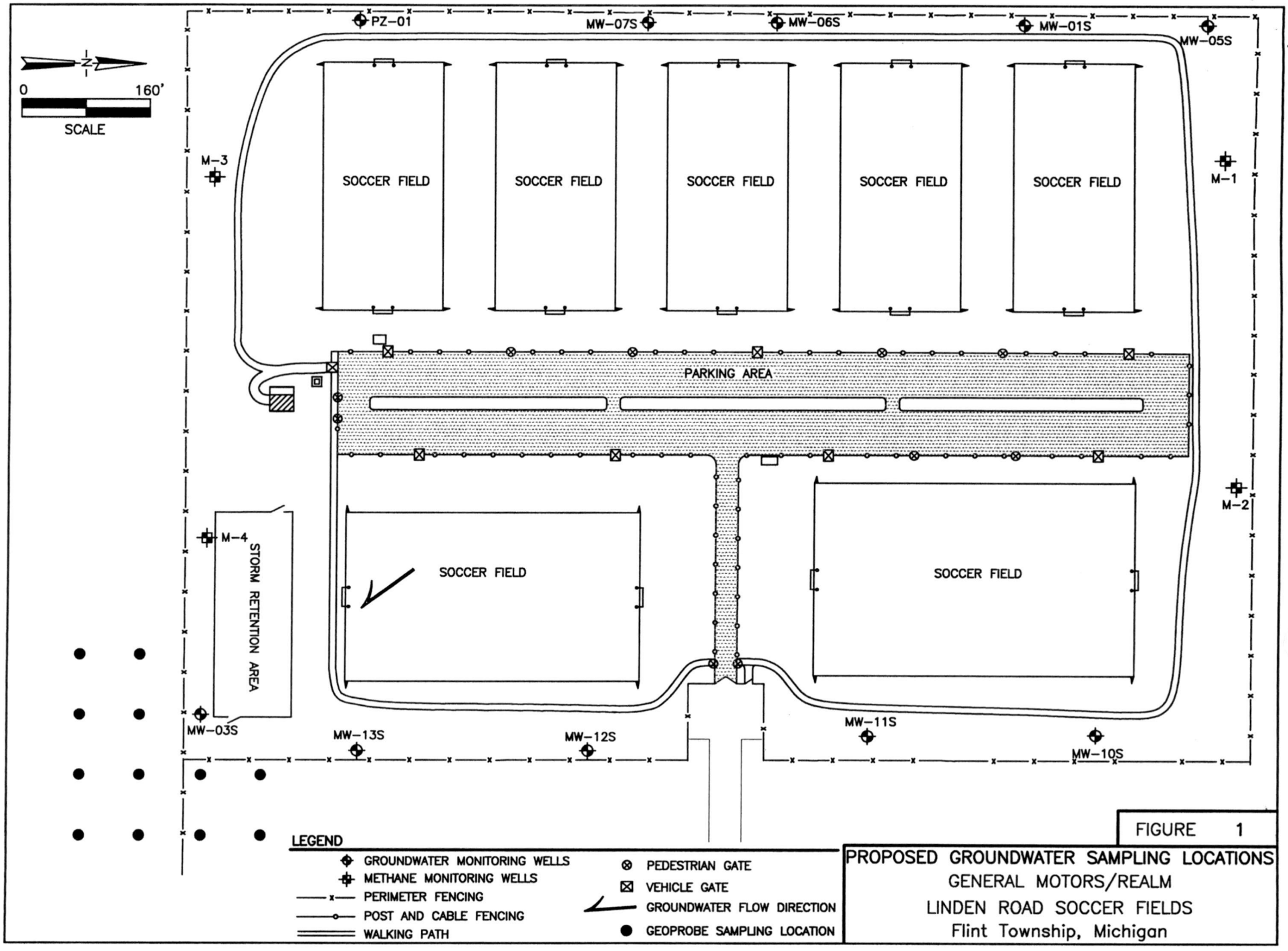

FIGURE 1

PROPOSED GROUNDWATER SAMPLING LOCATIONS
GENERAL MOTORS/REALM
LINDEN ROAD SOCCER FIELDS
Flint Township, Michigan

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