GZA GeoEnvironmental

Engineers and Scientists

June 5, 2008
File No. 21.0056340.0

Mr. Rick Eisenman
Delphi Automotive
1000 Lexington Avenue
Rochester, New York

Re: Work Plan for Focused Environmental Assessments of
Building 6 UST Area & Building 9 and
Downgradient Monitoring Well Installation
Delphi Thermal Facility
Lockport, New York

535 Washington Street
11th Floor
Buffalo, New York
14203
716-685-2300
FAX 716-685-3629
www.gza.com

Dear Mr. Eisenman:

GZA GeoEnvironmental of New York (GZA) has prepared this work plan for the Delphi Thermal (Delphi) for the following work to be done at the Delphi Lockport, New York facility (Site).

- Focused Environmental Assessment (FEA) at the Building 6 underground storage tank (UST) area (see Figure 1);
- FEA of Building 9 (see Figure 2);
- Installation of a downgradient bedrock monitoring well as part of further downgradient groundwater investigations (see Figure 3); and
- Evaluate the potential cause of contamination detected in monitoring well MW-6-2.

BACKGROUND

In 2006, Delphi completed a site-wide Current Conditions Summary and Field Investigation Report (Study) to identify areas of soil and/or groundwater contamination. The findings of the Study included the following.

Building 6 UST Area - Petroleum contamination, primarily volatile organic compounds (VOCs), was detected in groundwater samples collected from two UST wells (MW-6-F-1 and MW-6-F-5, see Figure 1). The detected concentrations exceeded their respective Class GA criteria in the New York State Department of Environmental Conservation (NYSDEC) Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1), June 1998, amended April 2000. Delineation of the extent of groundwater contamination and an evaluation for remediation has been requested by Delphi.

Building 9 - Polyaromatic hydrocarbons (PAHs) were detected in two areas within Building 9, at concentrations that exceed the NYSDEC Part 375-6.8(b) Industrial Soil Cleanup Objectives. Additionally, the summary of the Study indicated that light non-aqueous phase liquid (LNAPL) may be an issue in Building 9. Delineation of the extent of contamination and an evaluation for remediation has been requested by Delphi.

In late 2007, Delphi began an assessment of downgradient groundwater conditions on the eastern portion of the Site, north and south of the trichloroethylene (TCE) spill area (NYSDEC Site #932113). The purpose of the downgradient assessment was to assess if contaminated groundwater was migrating at locations not previously investigated in the eastern portion of the Site. In November 2007, five downgradient bedrock monitoring wells were installed as shown on Figure 3. These wells were sampled in December 2007. At the request of the New York State Department of Environmental Conservation (NYSDEC) select downgradient wells were sampled again in February and April 2008. To further investigate TCE detected in monitoring well MW-7-1, NYSDEC has requested an additional bedrock monitoring well be installed south of MW-7-2 and additional rounds of groundwater samples be collected from the downgradient wells.

PURPOSE

The purpose of this work plan follows.

Building 6 UST Area

- Assess the extent of petroleum VOC contamination identified in the vicinity of the USTs present on the west side of Building 6, as shown on Figure 1.
- Determine if LNAPL is present in the groundwater.
- Evaluate if remediation is warranted.

Building 9

- Assess the extent of PAHs identified in the two areas within Building 9, as shown on Figure 2.
- Determine if LNAPL is present in the groundwater.
- Evaluate if remediation is warranted.

Downgradient Groundwater Assessment

- Assess the groundwater condition southeast of MW-7-1 were TCE has been detected in groundwater above its respective groundwater standard.
- Review files to assess the potential cause of downgradient groundwater contamination detected in monitoring well MW-6-2.
- Evaluate if additional downgradient work in warranted.

SCOPE OF WORK

GZA proposes the following scope of work to assess the concerns identified for the Building 6 Tank Area, Building 9 FEA and downgradient of MW-7-1.

PROJECT PREPARATION

GZA prepared a Site-specific health and safety plan (HASP) for protection of GZA workers and will coordinate with the analytical laboratory (Free-Col Laboratories, soil and groundwater) prior to the commencement of field activities. The HASP to be used for this work is the same as the one previously submitted as Attachment 1 of the Building 10 FEA Work Plan dated June 27, 2007.

The soil probe (Building 9) and monitoring well locations (Building 6, Building 9 and Downgradient) will need to be approved by Delphi staff prior to mobilizing to the Site to perform the investigation work. Excavation permits will also need to be issued by Delphi prior to the start of the work.

SOIL PROBES

Twelve soil probe locations have been proposed to further investigate areas around 9-102-C and 9-108-C (see Figure 2) to better determine if the contamination previously identified is isolated. The seven soil probes shown in blue will be completed as part of the Building 9 FEA and the five shown in orange are contingent locations, that will be completed if necessary (e.g., limits of the PAH contamination have not been identified).

The soil probes will be advanced into overburden soils utilizing direct push technology via a hydraulic hammer mounted on a truck or track mounted rig equipped with 2-inch inner diameter by 48-inch long macrocore sampler. Soil probes will be advanced to refusal. Bedrock is at approximately 7 bgs (based on our experience from work at the adjacent Building 8 and the depth of soil samples collected from Building 9, as part of the Study). Nine of the 12 soil probes are located within Building 9 and will require that the slab-on-grade floor be pre-cored prior to probing. The remaining three locations are located outside of the building.

A field engineer/geologist will observe the completion of soil probes and will create a field log for each probe. Real time air monitoring will be conducted while the soil probes are being completed using an organic vapor meter (OVM). Soil samples will be collected from the soil probes for classification, laboratory analysis and screening with our OVM for the presence of volatile organic vapors. Soil samples will be collected at two-foot intervals to the bottom of the probes. Samples collected for analytical testing will be based on visual, olfactory, field screening (i.e., OVM) and engineering judgment. At least one soil sample from each soil probe will be analyzed for SVOCs via EPA Method 8270 STARS list.

Groundwater is not expected to be encountered in the overburden soil during our soil probe work.

MONITORING WELL INSTALLATION

Three permanent groundwater monitoring wells will be installed as part of the petroleum VOC delineation in the vicinity of the Building 6 UST Area (see Figure 2). The monitoring wells will be installed into the top of bedrock in order to intercept the upper groundwater bearing zone.

Two permanent monitoring wells will be installed as part of our delineation in Building 9 to determine if groundwater has been impacted in the vicinity of the two areas identified and to determine if LNAPL is present. The two monitoring wells will be installed in the immediate vicinity (within 5 feet) of 9-102-C and 9-108-C (see Figure 2).

One permanent monitoring well will be installed as part of our downgradient groundwater condition assessment. The bedrock monitoring well will be located south of MW-7-2 (see Figure 3) and installed consistent with the methodologies used to install the other five downgradient wells as per our October 11, 2007 Work Plan[1]

Based on the Study and our previous experience at the Site, groundwater is located in the vicinity of the overburden soil and bedrock interface. This depth varies across the Site but is expected to be at approximately 7 to 10 feet bgs. Therefore, the test borings to install the monitoring wells will require rock coring to reach the required depths.

Test borings for monitoring well installation will be advanced in the overburden soils using a truck mounted rotary drill rig using 4¼ - inch inside diameter hollow stem augers (HSA). Overburden soil samples will be obtained by driving a 1 3/8-inch inside diameter by 24-inch long split spoon sampler 24-inches ahead of the lead cutting shoe of the HSA, in general accordance with ASTM D1586.

Soil samples collected from the test borings will be classified in the field by visual examination. Boring logs that identify appropriate stratification lines, blow counts (if applicable), sample identification, sample depth interval and recovery, and date will be generated for each test boring/monitoring well and will be included as an appendix to our FEA report.

Drilling fluids will not be used while advancing the HSA in the overburden, so groundwater can be identified, if encountered.

Upon advancing the HSAs to the top of apparent bedrock, as indicated by auger refusal, a HQ size rock core barrel will be used inside the HSA to core into bedrock until the first water-bearing zone is encountered (indicated by the loss of core water) or the hole is cored to a maximum depth of 10 feet from the top of rock. Because there is a potential for LNAPL to be present, which could impact an overburden groundwater zone (if present), a steel casing will not be installed at the overburden/bedrock interface to seal of the overburden zone from

[1] "Work Plan for Downgradient Monitoring Installation, Eastern portion of Delphi Lockport Facility, Lockport, New York" letter to Mr. Glenn May, NYSDEC, dated October 11, 2007.

bedrock for the monitoring wells being installed as part of the Building 6 and Building 9 work.

For the downgradient well being installed south of MW-7-2, designated MW-7-4, the well will be installed into bedrock consistent with methodologies used as part of the remedial investigation work previously done (NYSDEC approved Focused Remedial Investigation and Focused Feasibility Study (FRI/FFS) Work Plan dated April 2001) in this portion of the Lockport Complex. These methodologies were used to install the other five downgradient monitoring wells.

Soil cuttings and water generated as part of the well installation will be containerized and staged for disposal by Delphi.

The rock core samples will be logged including run number, sample interval, length of sample recovered, rock quality designation (RQD), depth where drill water was lost, and a description of the rock mass and individual discontinuities (bedding planes, joints, voids, etc.). This information will be included on the boring logs. Rock core samples will be placed in wooden core boxes and labeled with the project name and number, boring number, run number, depth interval of the run and date. The rock core boxes shall be stored by Delphi.

The test borings will be observed by a field engineer/geologist and a field log for each boring/monitoring well will be created. Real time air monitoring will be conducted while test borings are being completed using an OVM. Soil samples will be collected at two-foot intervals to the bottom of the boring for classification, laboratory analysis and screening with the OVM. Soil samples collected for analytical testing will typically be collected from contaminated soils or material, based on visual, olfactory, field screening (OVM) and engineering judgment that warrant further assessment. At least one soil sample from each test borings associated with the Building 6 UST Area and Building 9 will be analyzed for chemical parameters as follows. No soil samples are anticipated to be submitted for analysis from the downgradient well location.

- Building 6 UST Area: VOCs via EPA Method 8260
- Building 9: SVOCs via EPA Method 8270 STARS

The completed test borings will be converted to groundwater monitoring wells constructed of 2-inch inner diameter flush coupled PVC riser and screen. The screened interval shall intercept the water table extending approximately 3 feet below and 2 feet above the water table. The screen will consist of an approximate 5 foot long section of machine slotted pipe. A sand filter will be placed in the boring around the annulus space of the well screen such that the sand extends a minimum of 1-foot above the top of the screen. An approximate 3-foot thick layer of bentonite will be placed above the sand filter to provide a seal from the overlying overburden conditions. A mixture of cement/bentonite grout will extend from the bentonite seal to approximately 3-feet bgs. The monitoring well will be completed by placing a flush-mounted road box over the riser. Concrete will be placed in the boring around the protective casing and sloped away from the casing.

Prior to monitoring well development, a disposable polyethylene bailer will be lowered into the well to determine if free product has accumulated within the well. A free product check will be done each time the well is assessed (i.e., development, purging or sampling)

The monitoring well will be developed to remove the fines and establish the filter pack. Hydraulic conductivity testing will be done to assess whether the monitoring well is functioning and provide hydrologic information that will aid in evaluating subsurface conditions. Water level measurements will be collected and, if allowable, will be used with other monitoring wells at the Site to interpret groundwater flow direction. The water generated during development and purging will also be drummed for disposal by Delphi.

SOIL AND GROUNDWATER ANALYTICAL TESTING

Soil and groundwater samples collected will be submitted to Free-Col Laboratories for chemical analysis and will include VOCs via EPA 8260 and SVOCs via EPA 8270 STARS. At a minimum, one soil sample will be collected from each of the soil probes completed and one groundwater sample from each of the six wells will be submitted. GZA assumes a ten-business day turn around time for analytical test results.

An additional round of groundwater samples will also be collected from select downgradient monitoring wells (MW-6-1, MW-6-2, MW-7-2, and MW-7-4) in October/November 2008 in conjunction with the monitored natural attenuation groundwater sampling associated with the TCE spill area.

REVIEW OF BUILDING 6 FILES AND DRAWINGS

GZA will work with Delphi to review available files and drawings associated with the historical operations within Building 6 and subsurface utilities to assess a potential source or preferential pathway for the groundwater contamination detected at monitoring location MW-6-2.

DATA ANALYSIS/REPORT PREPARATION

GZA will prepare a Focused Environmental Assessment (FEA) report for Building 6 UST Area and Building 9 containing a comprehensive discussion of the FEA findings.

The FEA report will include:

- Introduction;
- Description of the site and setting;
- Description of the geology, hydrogeology and hydrology;
- Sampling and analysis investigation overview, including appropriate tables and figures;
- Laboratory results; and
- Conclusions and recommendations.

A letter report will be generated for the additional downgradient groundwater assessment. The letter report will summarize the work completed to date and discuss if additional downgradient work is warranted. Additionally, a letter report will also be generated for the October/November 2008 downgradient groundwater sampling event.

SCHEDULE

It is our understanding that Delphi would like to complete the investigation for Building 9 once the facility's operations in this building have ceased and the equipment is removed to allow access. Therefore, the work is tentative scheduled to begin in June/July 2008. The work associated with the Building 6 Tank Area and the downgradient monitoring well will be completed in conjunction with the work associated with Building 9. The field activities will be conducted during the requested time periods upon receiving an informal approval of this work plan from NYSDEC.

Please do not hesitate to contact the under signed if you have any questions or require any additional information.

Sincerely,

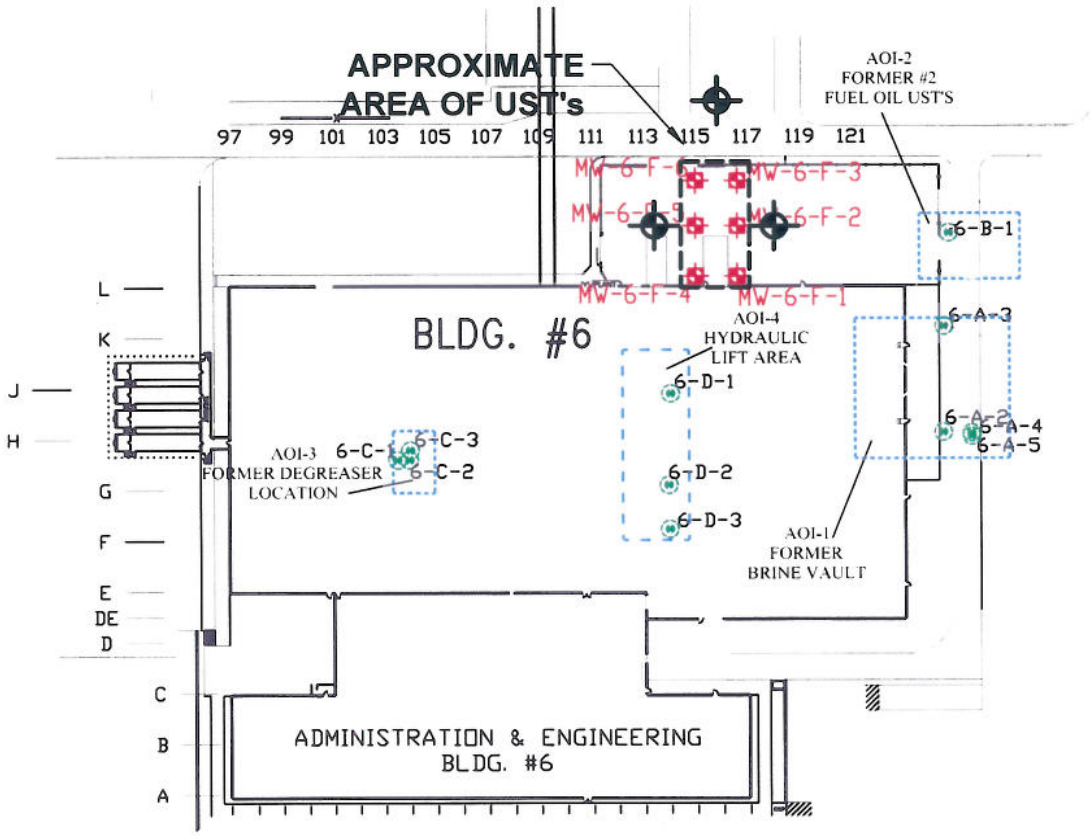
GZA GEOENVIRONMENTAL OF NEW YORK

Christopher Boron
Project Manager

Ernest R. Hanna, P.E.
Principal

Attachments: Figure 1 – Building 6 Test Boring/Monitoring Well Location Plan
Figure 2 – Building 9 Soil Probe and Test Boring Location Plan
Figure 3 – Monitoring Well at Downgradient Location

CC: Mr. Glenn May (NYSDEC Region 9), electronic copy
Ms. Cathy Ver (Delphi, Lockport), electronic copy



LEGEND:

APPROXIMATE LOCATION OF PROPOSED MONITORING WELL

MW-6-F-2 APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELL DONE BY OTHERS

6-B-1 APPROXIMATE LOCATION AND DESIGNATION OF SOIL BORINGS DONE PREVIOUSLY BY OTHERS

NOTES:

1. BASE MAP ADAPTED FROM A SITE PLAN OF BUILDING 6 PROVIDED BY THE CLIENT.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

DRAWN BY: DEW

DATE: MAY 2008

GZA GeoEnvironmental of New York

SCALE IN FEET 0 75 150 300

DELPHI AUTOMOTIVE SYSTEMS

DELPHI LOCKPORT FACILITY

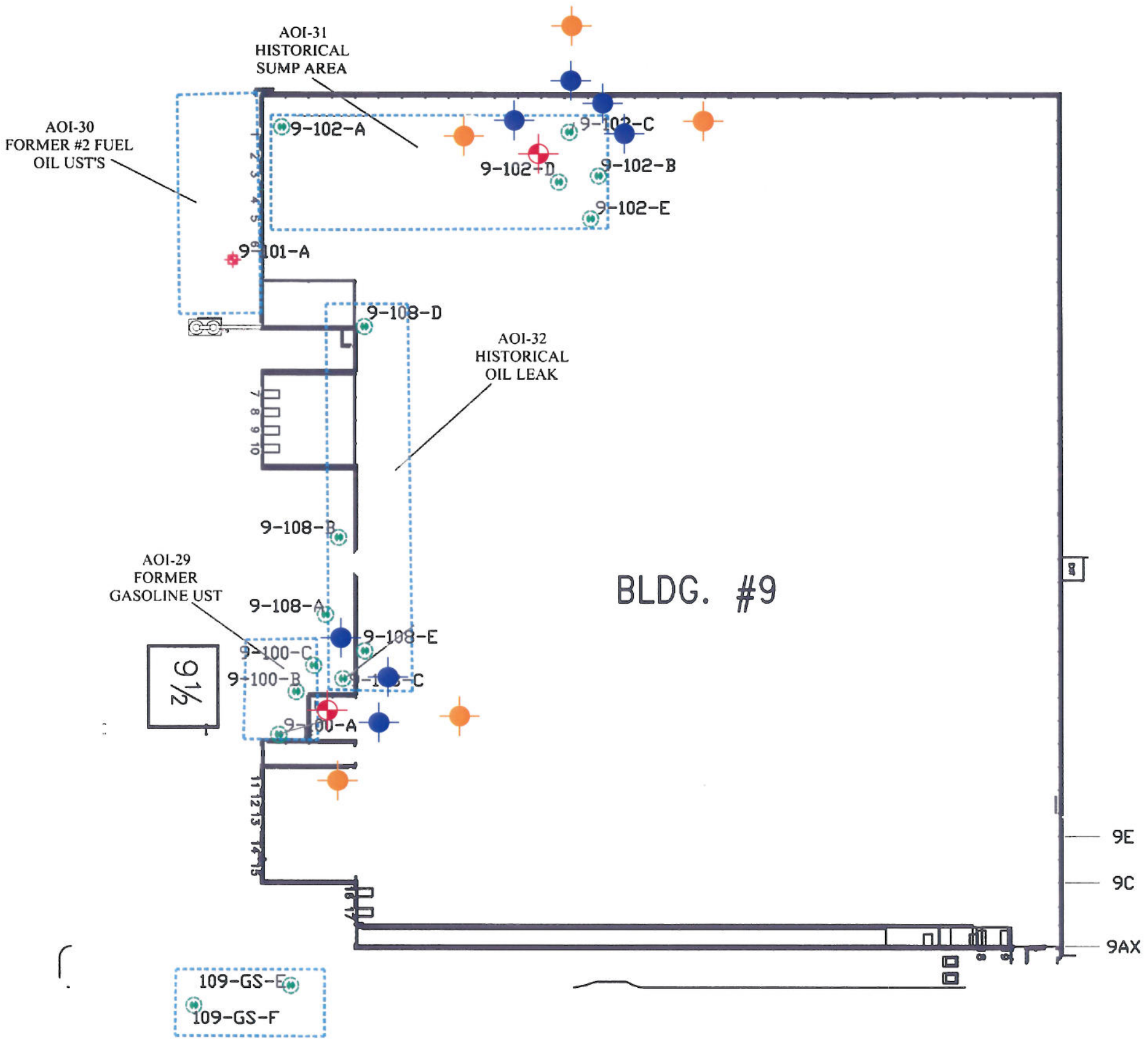
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK

FOCUSED ENVIRONMENTAL ASSESSMENT

BUILDING 6 UST AREA PLAN

PROJECT No.
21.0056340.00

FIGURE No.
1



NORTH

LEGEND:

- APPROXIMATE LOCATION OF PROPOSED MONITORING WELL (2 LOCATIONS)
- APPROXIMATE LOCATION OF PROPOSED SOIL PROBE (9 LOCATIONS)
- APPROXIMATE LOCATION OF CONTINGENT SOIL PROBE (3 LOCATIONS)
- 9-101-A — APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELL DONE BY OTHERS
- 9-102-D — APPROXIMATE LOCATION AND DESIGNATION OF SOIL BORINGS DONE PREVIOUSLY BY OTHERS

NOTES:

1. BASE MAP ADAPTED FROM A SITE PLAN PROVIDED BY THE CLIENT.
2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

DRAWN BY: DEW
DATE: MAY 2008

GZA GeoEnvironmental of New York

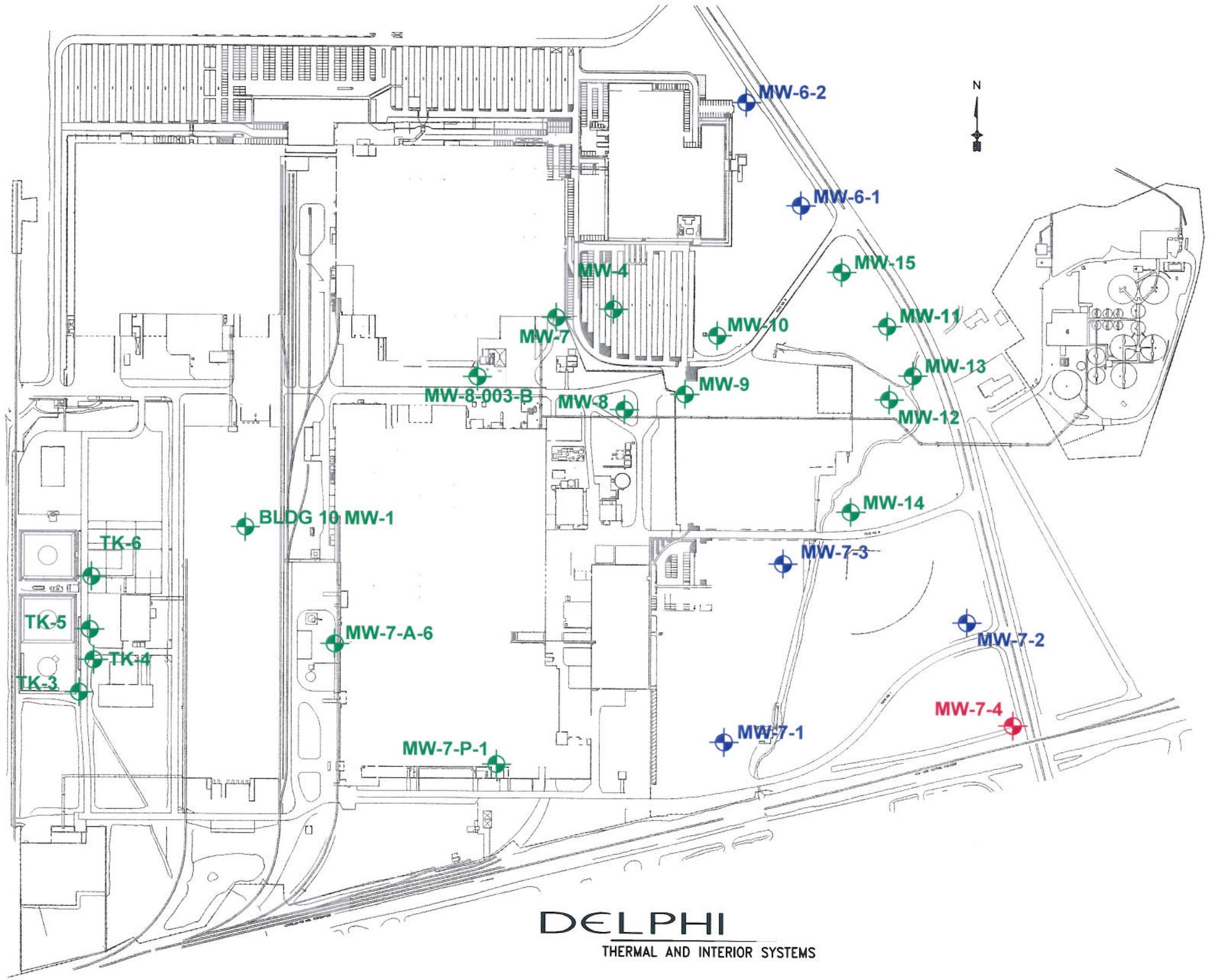
APPROXIMATE SCALE IN FEET
0 50 100 200

DELPHI THERMAL AND INTERIOR SYSTEMS
DELPHI LOCKPORT FACILITY
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK

FOCUSED ENVIRONMENTAL ASSESSMENT
BUILDING 9 PLAN

PROJECT No.
21.0056340.00

FIGURE No.
2



LEGEND:

- MW-7-4 — APPROXIMATE LOCATION AND DESIGNATION OF PROPOSED MONITORING WELL
- MW-7-2 — APPROXIMATE LOCATION AND DESIGNATION OF MONITORING WELL INSTALLED NOVEMBER 2007.
- MW-11 — APPROXIMATE LOCATION AND DESIGNATION OF MONITORING WELL INSTALLED PREVIOUSLY.

NOTES:

1. BASE MAP ADAPTED FROM A DRAWING PROVIDED BY DELPHI THERMAL AND INTERIOR SYSTEMS SEPT. 2007.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

DRAWN BY: DEW

DATE: JUNE 2008

GZA GeoEnvironmental of New York

APPROXIMATE SCALE IN FEET

0 200 400 800

DELPHI AUTOMOTIVE SYSTEMS

DELPHI LOCKPORT FACILITY

200 UPPER MOUNTAIN ROAD, LOCKPORT, NEW YORK

DOWNGRADIENT INVESTIGATION

DOWNGRADIENT MONITORING WELL LOCATION PLAN

PROJECT No.
21.0056340.00

FIGURE No.
3