



engineering and constructing a better tomorrow

September 14, 2010

Mr. Jeff Grow
Division of Waste Management
Superfund Branch
200 Fair Oaks Lane
Frankfort, KY 40601

**Subject: Work Plan for Initial Removal Activities
Former Vermont American Facility
500 East Main Street, Louisville, Jefferson County, Kentucky
AI# 51784
MACTEC Project No. 6680-08-9635**

Dear Mr. Grow:

On behalf of Robert Bosch Tool Corporation (RBTC, successor to Vermont American Corporation), MACTEC Engineering and Consulting, Inc. (MACTEC) has prepared this letter as a Work Plan for the upcoming work to be performed at the former Vermont American site located at 500 East Main Street in Louisville, Kentucky. The proposed work was described in general terms under Section 4.3 (Initial Removals) in the *Management Plan* (MACTEC, May 20, 2010) submitted to you in May 2010, and additional detail, including an Implementation Schedule and a Soil Sampling Plan, was provided to you in a letter from MACTEC dated July 1, 2010. This letter updates and supersedes the information provided in the letter dated July 1, 2010.

We anticipate the proposed work will proceed in phases over a period of three weeks, between September 27 and October 15, 2010. An updated Implementation Schedule (**Figure 1**) is attached to this letter, along with a site map showing the general layout and the current and proposed monitoring well locations (**Figure 2**). The following is a general schedule for the planned activities:

- **Week 1** – The four existing wells will be sampled. Vegetation in the northeast courtyard area will be cleared, and cleaning of the trenches in the East Shop and selected floor areas in the East Shop and Main Street Building will be performed.
- **Week 2** – Soil Sampling Program in the three Management Areas (i.e., the former plating areas), as described in the attached Soil Sampling Plan (revised). Also during this week, abandonment of the two wells inside the building and installation of two replacement wells outside the building will be performed.
- **Week 3** – Floor removal in the former East Main Plater area (EMP, inside the Main Street Building).

The following sections describe each of these phases of work in more detail, and provide clarifications to supplement the information in the *Management Plan*.

Groundwater Sampling and Monitoring Well Relocation

Given the poor condition of the building doors and the logistical difficulties that will be involved in gaining access to the inside of the building for large equipment, it will be most practical to perform the abandonment of the two wells located inside the building (W-2 and W-3) concurrently with the other interior work. Prior to well abandonment, a round of groundwater sampling will be performed from all four of the existing wells, following the procedures described in the *Management Plan*. Samples will be shipped by overnight service to ESC Lab Sciences in Mt. Juliet, Tennessee for analysis.

As soon as practical after the wells are sampled, W-2 and W-3 will be abandoned and replaced with two new wells installed in the parking lane on the south side of East Main Street, at the approximate locations shown on the map in **Figure 2**. Well abandonment and new well construction will be performed by Geo-Drill, Inc., a Kentucky Certified Driller, following the requirements of the Kentucky Division of Water (KDOW) contained in 401 KAR 6:350.

As shown in Table 4 of the *Management Plan*, wells W-2 and W-3 are 50-55 feet deep with 30 feet of screen, whereas W-1 is 50 feet deep with 30 feet of screen, and W-4 is 70 feet deep with 10 feet of screen. The proposed replacement wells will be 60 feet deep with 30 feet of screen (to insure they will not go dry and to allow for the high degree of water level fluctuation that is typical of the Ohio River alluvium aquifer). The wells will be constructed of two-inch Schedule 40 polyvinyl chloride (PVC) well casing with factory slotted screens, finished with flush-mounted bolting lids at the surface.

Endris Engineering PSC (Professional Surveyors) will survey the top-of-casing elevations on the existing monitoring wells. After completion, the two new monitoring wells will be tied by survey to the same vertical datum.

Clearing and Cleaning

MACTEC has accessed the property, with the permission of 500 Associates, Inc., on three occasions since the Access Agreement was executed on August 17, 2010. The photographs included in **Attachment A** provide an overview of current property conditions. Of particular note are the following observations:

- Eight drums labeled “Non-Hazardous Waste” are located in the open courtyard, and are presumed to contain investigation-derived waste generated during previous investigations contracted by 500 Associates, Inc. The drums are in poor condition and will most likely require over-packing before they can be transported offsite. Our preference would be to have these drums removed from the site prior to performing our work. If they are not moved we will work around them to the extent practical.
- The Main Street building has a newer roof and is generally dry. The roof in the East Shop is an older wooden roof which has partially decayed, shedding debris onto the floor and letting in rainwater. As a result, there is a large amount of small debris (along with some larger fallen supports and light fixtures) that obstructs the floor and the trenches in the East Shop, and there is standing water in small sections (deeper sumps) of the floor trench system.

- Access doors to the building are in poor condition, and some may have to be removed to provide access for equipment. If doors have to be removed, they will be re-attached if possible, or replaced with boarding if necessary to limit access and maintain site security.
- The exterior courtyard is heavily vegetated, and portions of the courtyard will have to be cleared in order to perform the Soil Sampling Program. RBTC has agreed to include this in the scope of work to be performed by MACTEC.

The planned clearing and cleaning activities in the management areas are proposed to support the Soil Sampling Program as well as the eventual demolition of the East Shop and the east end of the Main Street Building. Clearing and cleaning activities will be performed by AST Environmental, Inc. under subcontract to MACTEC. The specific activities planned to be performed on behalf of RBTC will be the following:

- The northeast corner of the open courtyard will be cleared of vegetation and debris to provide access for the Soil Boring Program, using a skid steer, chain saw and power trimmer. Vegetation and debris cleared from this area will be staged in the southern portion of the courtyard.
- The east end of the Main Street building includes a former plating area (EMP) and an open area north of the East Shop where an overhead crane is parked. Because the floor in the EMP has already been broken through in some areas during earlier sampling activities by others, we will minimize use of water in this area, to avoid driving surface contamination into the underlying soil. Instead, we will broom sweep the area and possibly relocate some of the concrete debris to avoid spreading contamination while moving equipment, and will later remove contaminated debris as part of the floor removal.
- Oily spots on the floor on the east end of the Main Street Building will be cleaned with a pressure washer or power sweeper, possibly aided by detergent. All wash water will be recovered using a wet/dry vacuum.
- The East Shop contains between 350 and 400 linear feet of concrete lined floor trenches ranging from 8 to 12 inches wide, and with depths varying from 8 to 31 inches. Two deeper sumps were observed to have standing water. We will use dry techniques (shovels and wet/dry vacuums) to remove the dry debris that has fallen into the trenches, and will stage this debris as demolition debris for future removal during building demolition. After relocation of the dry debris, the trenches will be inspected for signs of staining or sludges. Sludges will be removed and containerized, and any stained areas will be cleaned using a pressure washer along with a wet/dry vacuum to recover the wash water.
- Any standing water present in the deeper sumps will be removed and containerized with the wash water. If sludge/solids are present below the standing water, these will be removed and containerized.

- All recovered wash water will be staged in drums pending characterization and offsite disposal. Recovered sludge will also be drummed, and solidified if necessary, pending characterization and disposal.

Once the cleaning and clearing activities are substantially complete, Endris will perform a field survey in order to mark the future right-of-way line, as well as the boring locations designated in the attached Soil Sampling Plan.

Soil Sampling Program

The attached Soil Sampling Plan (**Attachment B**) has been revised from the Soil Sampling Plan dated July 1, 2010, and also supersedes the revised plan submitted to you on August 25, 2010. This version addresses the notes contained in your letter of August 13, 2010. Specifically, the analytical method listed for hexavalent chromium has been changed to 7196A, and the Figure (now **Figure 3**, attached) has been revised to show only 35 soil borings (23 shallow and 12 deep borings). Additional changes have been made after discussions with Barr & Prevoist, environmental consultant to the Kentucky Transportation Cabinet (KYTC), in order to make our proposed sampling approach more consistent with the approach being used on other properties in the future Interstate right-of-way. Specifically, the sampling intervals have been adjusted, and provisions have been made to perform limited additional analyses for disposal characterization purposes.

Additional details concerning the proposed Soil Sampling Program are provided in the attached revised Soil Sampling Plan.

Floor Removal

The purpose of the proposed floor removal activities in the area of the EMP will be to remove, prior to the future building demolition, all near-surface debris which should not be handled as demolition debris.

For this purpose, the concrete floor will be removed from an area of the Main Street Building measuring approximately 37 feet by 45 feet (shown in orange on **Figure 3**). The floor removal will be performed by AST Environmental, Inc. under subcontract to MACTEC. The floor will initially be broken up using a hydraulic hammer mounted on a skid steer, and the debris will be pulled out and staged in piles using a mini-excavator.

All concrete debris that is stained or colored with plating waste will be loaded into roll-off boxes, located in the exterior courtyard, and staged prior to removal for offsite disposal. In addition to the concrete debris, all obviously stained gravel beneath the concrete, and near-surface soil down to six inches will also be removed and loaded in the roll-offs for offsite disposal. Inert (non-stained) concrete debris will be piled and staged for later removal during building demolition.

Upon completion of the floor removal, the excavation will be backfilled with at least six inches of dense grade aggregate that will be leveled off and ramped if necessary to permit future equipment movement through the area.

Waste Handling

Waste management during removals is addressed in section 4.3.3 of the *Management Plan* (MACTEC, May 20, 2010). The following details provide additional clarification to the procedures described in that document:

- In previous correspondence between Tim Hubbard of the Kentucky Division of Waste Management (KDWM) and Mark Mangun, consultant for 500 Associates, Inc., dated February 21 and March 17, 2003, the KDWM stated that sludges from the East Shop and soil excavated beneath the former plating areas should be designated as F-listed waste for the purposes of disposal. Based on MACTEC's review of the KDWM correspondence as well as historical analytical data and information for the property, we propose the following listing codes for purposes of waste management and disposal:
 - F007 (spent cyanide plating bath solutions from electroplating operations) for wastes generated in the former plating areas; and
 - F007 and F002 (spent halogenated solvents) for wastes generated in the East Shop.
- All liquids, including wash water and decontamination liquids generated during the activities described above, will be staged in drums or poly tanks, and labeled, pending characterization for disposal. Liquids generated in the EMP (a former plating area) will be staged separately from liquids generated in the east end of the Main Street Building and the East Shop. MACTEC has contacted the Metropolitan Sewer District (MSD) to initiate the process for an Unusual Discharge Request (UDR) for discharge to the sewer. The staged liquids will be sampled and analyzed for the MSD-required parameters. If the staged liquids do not meet the MSD limits for disposal in the publically owned treatment works (POTW), they will be characterized for disposal offsite as hazardous wastes.
- All sludges generated from cleaning in the East Shop will be staged in drums, solidified if necessary, and removed for disposal as F007, F002 hazardous waste.
- Visibly stained concrete debris, gravel and soil from the EMP area will be staged in roll-off boxes and removed for disposal as F007 hazardous waste.
- Soil from beneath the former plating areas, when it is excavated in the future, will be designated as F007 hazardous waste. Based on the Soil Sampling Program (described in the attached revised Soil Sampling Plan), some of this soil may be demonstrated to no longer contain hazardous waste. The extent of the soil associated with former plating areas that will require handling as a hazardous waste (if it is excavated) will be mapped based on the results of the Soil Sampling Program, and presented to the KDWM Hazardous Waste Branch for approval of the determination prior to future excavation.
- Upon completion of the initial removal activities, MACTEC will submit a letter to the KDWM documenting the activities and providing disposal documentation for all waste removed from the site.

Closing

We hope this letter and attachments provide you with all the information you require for your review of the planned activities. If you have any questions, please feel free to call Alison Dunn at 859-566-3729. We will keep you posted on any changes in the attached schedule, and welcome you to visit the site during the proposed work activities.

Sincerely,
MACTEC ENGINEERING AND CONSULTING, INC.



Alison L. Dunn, P.G.
Project Manager/Principal Hydrogeologist
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T. Scott Kelly, P.E. *with permission*
Senior Engineer
email: tskelly@mactec.com

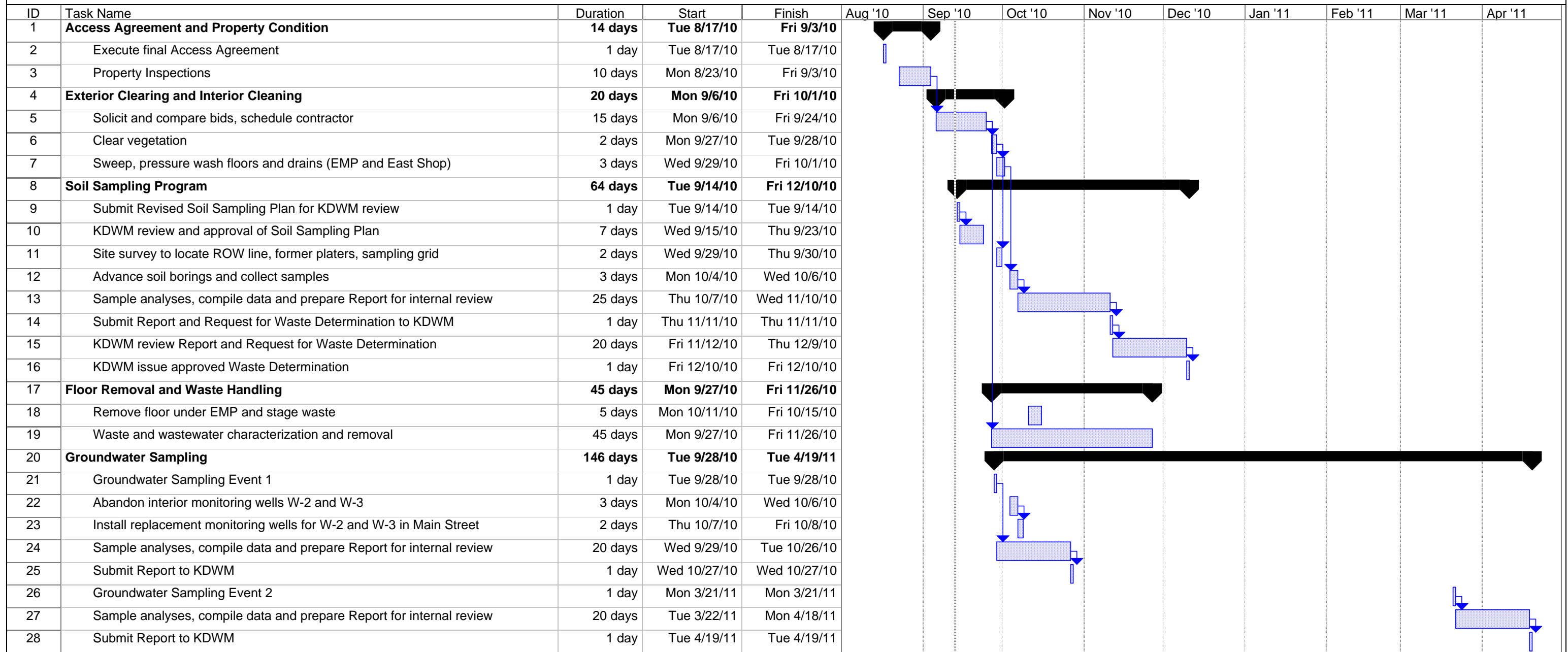
Attachments:

- Figure 1 – Implementation Schedule (Revised)
- Figure 2 – Site Layout and Monitoring Well Locations
- Figure 3 – Proposed Soil Boring Locations
- Attachment A – Photographs
- Attachment B – Soil Sampling Plan

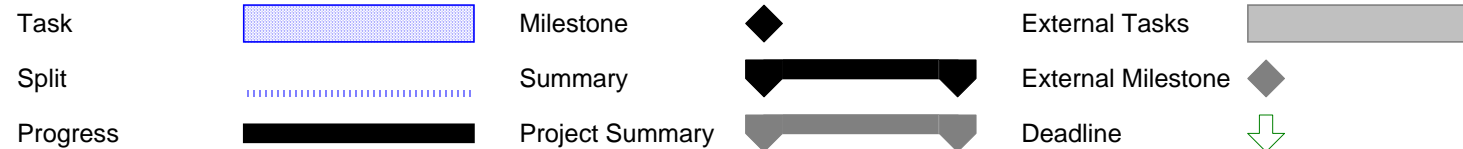
cc: John Young, Robert Bosch, LLC
David Luepke, Robert Bosch Tool Corporation
Charles G. Middleton, Middleton Reutlinger
Paul S. Johnstone, MACTEC

FIGURES

PROPOSED SCHEDULE FOR MANAGEMENT PLAN IMPLEMENTATION (REVISED)



**AI # 51784, Former Vermont American Facility
500 East Main Street, Louisville, Kentucky**

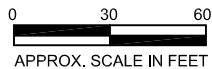
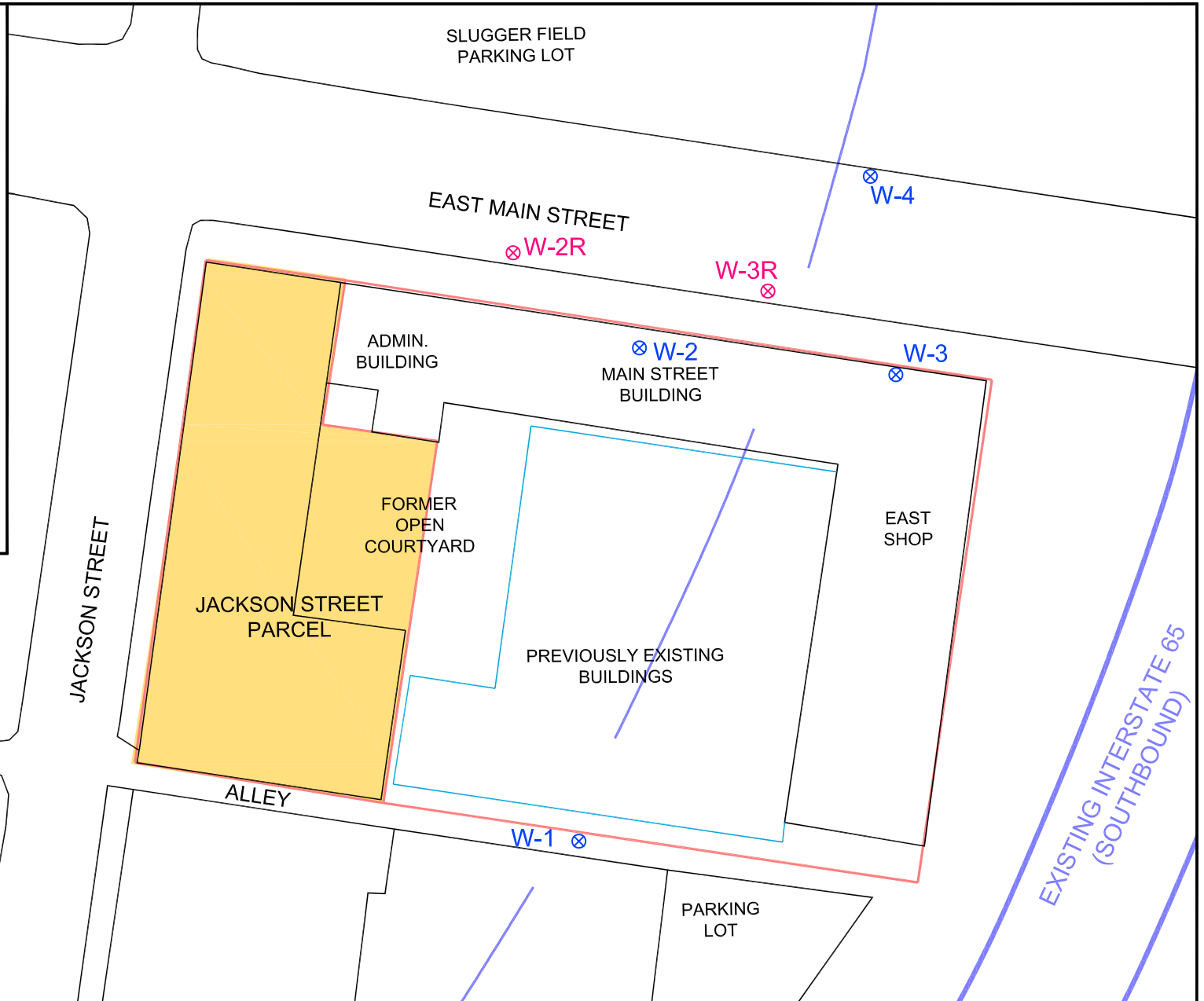


Date of Last Revision: Mon 9/13/10

FIGURE 1

LEGEND

- EXISTING BUILDING
- PREVIOUS BUILDING
- PROPERTY LINE
- EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
- ⊗ MONITORING WELL - EXISTING
- ⊗ MONITORING WELL - PROPOSED REPLACEMENT WELL LOCATION



MACTEC
 2456 Fortune Drive, Suite 100
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SITE LAYOUT AND MONITORING WELL LOCATIONS












FORMER VERMONT AMERICAN FACILITY
 500 EAST MAIN STREET, LOUISVILLE, KENTUCKY

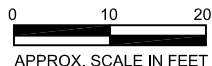
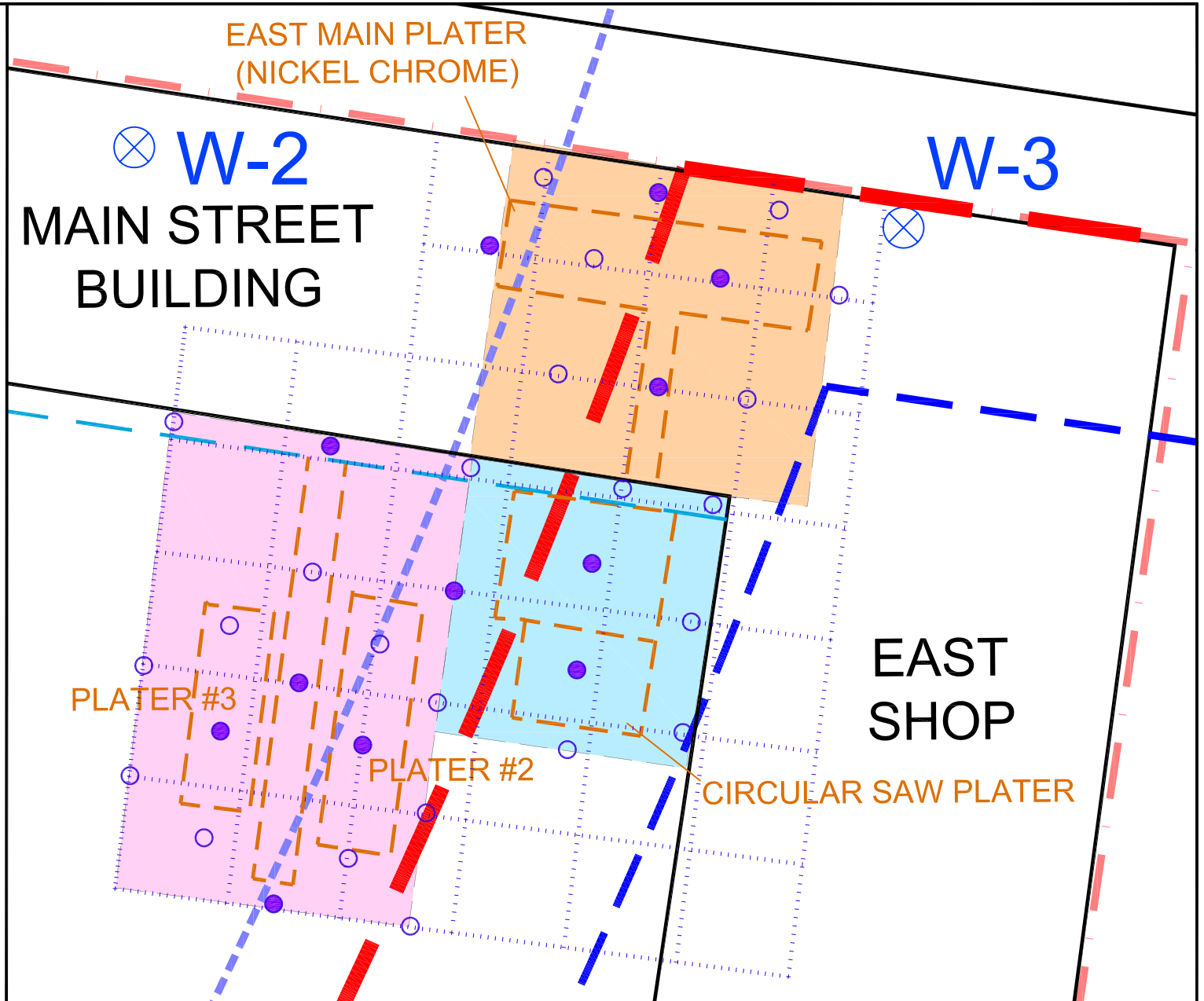
PROJECT NUMBER: 6680-08-9635

APPROX. SCALE	1" = 60'
DATE	9/9/2010
DRAWN BY	TSK
APPROVED BY	ALD

FIG. 2

LEGEND

-  EXISTING BUILDING
-  PREVIOUS BUILDING
-  PROPERTY LINE
-  EDGE OF FUTURE INTERSTATE RIGHT-OF-WAY (APPROX.)
-  EDGE OF FUTURE RETAINING WALL OR ABUTMENT (APPROX.)
-  APPROXIMATE LIMIT OF RETAINING WALL AND ABUTMENT FOUNDATIONS
-  MONITORING WELL
-  MANAGEMENT AREA
-  SAMPLING GRID (15 FT SPACING)
-  PROPOSED SOIL BORING (10 FT DEEP)
-  PROPOSED SOIL BORING (20 FT DEEP)



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PROPOSED SOIL BORING LOCATIONS

FORMER VERMONT AMERICAN FACILITY
 500 EAST MAIN STREET, LOUISVILLE, KENTUCKY

PROJECT NUMBER: 6680-08-9635

APPROX. SCALE	1" = 20'
DATE	9/9/2010
DRAWN BY	ALD
APPROVED BY	SMD

FIG. 3

ATTACHMENT A
PHOTOGRAPHS
(CURRENT SITE CONDITIONS)



PHOTO 1:
View of the northeast corner of the court yard (Circular Saw Plater, Plater #2 and Plater #3 areas). The south wall of the Main Street Building is visible in the background (left), the corner of East Shop is on right.



PHOTO 2:
Drums were observed in the court yard.



PHOTO 3:
View of the drums
observed in the court
yard. Eight drums
are present.



PHOTO 4:
View of drums
observed in the court
yard. Some of the
drums were observed
to have rust on the lid
tops and/or to be
bulging.



PHOTO 5:
View of sliding steel door leading from court yard into East Shop. Door is broken (falling off hangers).



PHOTO 6:
View of the same door from the inside of the East Shop, loose brick is piled against wall to right of door, floor trench in front of bricks, typical dust and debris on floor.



PHOTO 7:
View looking south from north end of East Shop, of floor trench running along the west wall of the East Shop. Note debris and overhead obstacles throughout the East Shop.



PHOTO 8:
View of East Shop showing debris across floor, typical floor trenches.



PHOTO 9:
Steel plate with hole
covering trench at
north end of East
Shop.



PHOTO 10:
Large pit located in
the center of the East
Shop floor. Water is
present in the pit.



PHOTO 11:
View of monitoring well W-2 near north wall Main Street Building.



PHOTO 12:
View of east end of Main Street Building (East Main Plater area) looking from the east wall west. Monitoring well W-3 in foreground. Broken concrete represents general locations of 1997 sampling locations EMP-6 through EMP-9 and 1999 location BW-5.



PHOTO 13:
Door leading from Main Street Building out to East Main Street. Door is broken and cannot be opened in its current condition.



PHOTO 14:
Interior door leading from Main Street Building into East Shop. Door could only be opened halfway.

ATTACHMENT B
SOIL SAMPLING PLAN

SOIL SAMPLING PLAN

**FORMER VERMONT AMERICAN FACILITY
500 EAST MAIN STREET
LOUISVILLE, KENTUCKY
AGENCY INTEREST # 51784**

Revised September 14, 2010

1. PURPOSE

This Soil Sampling Plan is provided as a supplement to the *Management Plan* (MACTEC, May 20, 2010), to revise and provide more specific details concerning the Soil Sampling Program proposed in Section 4.3.2 of that plan. The Soil Sampling Program will focus on three areas of the property formerly occupied by plating lines and designated as Management Areas in the *Management Plan*. These areas and the approximate locations of the former plating lines (or platers) are shown on the map in **Figure 3** of the Work Plan to which this Soil Sampling Plan is attached. One Management Area (the site of the former East Main Plater) is inside the building that faces East Main Street (the Main Street Building, also known by its subsequent use as a Bonded Warehouse). Two of the areas (the sites of the Circular Saw Plater, and Platers #2 and #3) are located in an open courtyard area bounded by the Main Street building to the north and the East Shop to the east. This open courtyard area was formerly occupied by buildings which were demolished by 500 Associates, Inc. in 1990.

The primary purpose of the Soil Sampling Program is to determine the concentrations of the constituents of concern (COCs) in soil beneath the former platers. In previous correspondence concerning this site, the Kentucky Division of Waste Management (KDWM) has indicated that soil beneath the former plating areas, if removed from the ground, would be considered a listed hazardous waste under the Resource Conservation and Recovery Act (RCRA). However, under the KDWM's current Contained-In Determination (CID) policy, a soil may be determined to no longer be a hazardous waste if it no longer contains hazardous constituents above the residential screening levels for soil. The current residential screening levels in Kentucky are the United States Environmental Protection Agency (USEPA) Region 9 October 2002 Preliminary Remediation Goals (PRGs) for residential soil. Under the CID policy, the KDWM prefers that the determination be made based on in-situ data, before the soil is excavated.

The purpose of the Soil Sampling Program, therefore, will be to map the occurrence and concentrations of the COCs in the areas of the former platers, both horizontally and vertically, to provide the basis for a No Longer Contained-In Determination to be approved by the KDWM Hazardous Waste Branch. Once the map and determination are approved by the KDWM, should excavation of soil be required by future property use within the Management Areas, soils with concentrations of COCs below the PRGs should have no restricted uses if excavated and reused onsite.

Soils with concentrations of COCs exceeding the PRGs, if excavated, will be handled as a listed hazardous waste (F007). Also included in the Soil Sampling Program will be limited analyses to further characterize the soil for disposal purposes, to verify that it will comply with the RCRA Land Disposal Restrictions (LDRs), so that it can be disposed by landfilling without additional treatment.

2. CONSTITUENTS OF CONCERN

As identified in the *Management Plan*, the COCs for soil at the site are lead (total), chromium (total), and chromium (hexavalent). The following are the PRGs for soil for these three constituents:

Constituent	Residential (mg/kg)	Industrial (mg/kg)
Lead (Total)	400	750
Chromium (Total)	210	450
Chromium (Hexavalent)	30	64

Note: mg/kg = milligrams per kilogram (ppm).

Analytical results from the Soil Sampling Program will be compared to both the Residential and Industrial PRGs. Although soil concentrations for all three COCs must be below the residential PRGs for the soil to be determined to no longer be a hazardous waste, comparison to industrial PRGs may be helpful in the evaluation and management of soil to be left in place after excavation.

3. **SAMPLING LOCATIONS**

The proposed soil boring locations are shown on the map in **Figure 3** of the Work Plan to which this Soil Sampling Plan is attached. Locations are approximate and may be adjusted as a result of the field survey (to be conducted prior to sampling) and/or obstructions that may be encountered in the field during sampling.

In developing the sampling locations, the intent of the proposed layout was to sample approximately on 15-foot centers. As shown in **Figure 3**, a grid with a 15-foot by 15-foot spacing was superimposed on the former plating areas. Sampling locations were then adjusted to be aligned with the locations of the former plating lines.

There are 35 proposed soil boring locations identified on **Figure 3**. Of those, 23 are intended to be 10-foot deep borings (designated by open circles), and 12 are intended to be 20-foot deep borings (designated by filled circles).

Three soil samples will be collected for laboratory analysis from the 10-foot deep borings, and four from the 20-foot deep borings. The sampling intervals in the borings (0-2 feet, 2-5 feet, 5-10 feet and 10-20 feet in the deeper borings) have been selected for consistency with sampling intervals being used by the consultant for Kentucky Transportation Cabinet (KYTC) on other properties in the future Kennedy Exchange right-of-way for the expanded Interstate.

Additional information concerning proposed soil sampling methods is provided in the following section.

4. **FIELD METHODS**

Soil borings will be advanced using direct push technology (DPT) methods, with a Geoprobe® rig or equivalent. Inside the building, in the area of the former East Main Plater, a hammer bit will be used to penetrate the concrete floor, and soil sampling for laboratory analysis will begin below the level of visibly stained near-surface soil, approximately six inches below the bottom of the concrete (since this near-surface soil is to be removed as part of the floor removal, immediately after the soil sampling program is completed). In outside areas, soil sampling for laboratory analysis will begin immediately below the shallow root zone, within two to four inches of the ground surface.

Soil below the surface will be sampled continuously using a hollow soil core barrel with a clear acetate sampling liner. Upon completion of sampling from each soil boring, the boring will be abandoned by backfilling with hydrated bentonite pellets.

The appearance of the soil will be observed and logged by MACTEC's field geologist. A representative soil sample will be collected for laboratory analysis from the following three intervals in the 10-foot borings: 0-2 feet, 2-5 feet and 5-10 feet. In the 20-foot borings, a fourth soil sample will be collected from the interval at 10-20 feet.

Representatively spaced soil aliquots from the sampled intervals will be composited using clean nitrile gloves, decontaminated stainless steel tools, and laboratory-cleaned glass containers. Each composited sample will be stored in a laboratory-supplied eight-ounce glass jar, and sample jars will be kept in coolers chilled with ice. Samples will be transported or shipped by overnight carrier to a commercial laboratory for analysis, accompanied by a completed and signed chain-of-custody form.

A total of 117 field samples will be collected for analysis. In addition, for quality control purposes, MACTEC will submit approximately five field duplicates, four matrix spike/matrix spike duplicates, and one equipment rinsate blank per day of sampling, for a total of approximately 135 analytical samples.

5. ANALYTICAL METHODS

The following analytical methods, holding times and reporting limits will apply to the laboratory analyses of all soil samples collected for this Soil Sampling Program:

Constituent	Method (USEPA SW-846)	Holding Time (days)	Reporting Limit (mg/kg)
Lead (Total)	6010B	180	0.25
Chromium (Total)	6010B	180	0.50
Chromium (Hexavalent)	7196A	30	2.0

Note: mg/kg = milligrams per kilogram (ppm).

The LDR limits for lead and chromium in soil are 7.5 milligrams per liter (mg/L) and 6.0 mg/L, respectively, in a Toxicity Characteristic Leaching Procedure (TCLP) extract. Using the “20 times” rule, soils containing less than 150 mg/kg of lead, and less than 120 mg/kg of chromium, would be expected to have a TCLP leachate below these limits. Should any of the soil results exceed 150 mg/kg for lead, or 120 mg/kg for chromium, those soil samples will be extracted using TCLP, and the extracts will be analyzed for lead and chromium. The results will be compared to the LDRs for those metals.

6. **REPORT**

Upon completion of the laboratory analyses, MACTEC will prepare a report documenting the field methods and results, and including soil boring logs and laboratory analytical reports. The report will also include the surveyor’s map, with final boring locations shown (approximately) on the map. An overlay map will be prepared identifying the soil boring locations where at least one sample was found to exceed the residential PRG for at least one COC, and tables will be provided summarizing the results for each sample.

If appropriate based on the analytical results, statistical and/or contouring analyses may be performed on the data. The report will include a map outlining the area(s) of soil to be treated as hazardous waste (if excavated) based on PRG exceedances. A request for No Longer Contained-In Determination will accompany the report, which will be submitted to both the Superfund and Hazardous Waste Branches of the KDWM.