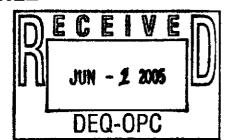
# East Bay Expansion Work Plan



Prepared for:





Kuhlman Electric Corporation 101 Kuhlman Avenue Crystal Springs, MS

Prepared by:

ENVIRONMENTAL MANAGEMENT SERVICES, INC.

P. O. Box 15369 Hattiesburg, MS 39404

### **Executive Summary**

The work, described herein, includes the removal, characterization for disposal, handling, and disposal where necessary of approximately 1,800 in-place cubic yards of soil and concrete currently located within the immediate footprint of a planned building and foundation expansion to an existing process building. The surface area involved comprises approximately 8,700 sq. ft. which is currently overlain by concrete and asphalt. The anticipated average depth of the excavation required for the foundation design is approximately 5.5 ft. below ground surface (bgs), however, this depth may vary from 3' to 7' bgs due to current irregular surface elevations.

Previous investigations of this area identified contaminants of concern including PCBs (Aroclor 1260), and chlorinated benzenes. Subsequent corrective action measures addressed only portions of this area via soil removal.

It is unknown if the depths to which this previous removal action reached within the boundaries of where corrective action occurred are adequate for worker protection during the building foundation excavation and construction as specified in the original remediation plan. In addition, the previous corrective action measures were not performed within the entire footprint of the intended expansion.

In respect of the stated corrective action, it was recognized that the need for continued precaution with respect to health and safety was inherent due to the persistence of the constituents of concern (COCs). Consequently, engineering controls for construction activities, and inspection and training requirements were stipulated in the Remediation Work Plan for Kuhlman Electric Plant Site, Kuhlman Electric Corporation, October 2001, (CA Plan) for ongoing repairs and maintenance activities.

The primary chemical constituents of concern are PCBs, primarily Aroclor 1260, and chlorinated benzenes as identified by earlier investigation. The allowable worker protection standard for Aroclor 1260 and some of the chlorinated benzenes in connection with the expansion project are yet undetermined, consequently, the appropriate personal protection measures for personnel performing the proposed work will have to be established via a job specific Health and Safety evaluation and a plan developed prior to the performance of the work.

The objectives of this current effort are (i) to provide engineering controls to eliminate the potential exposure pathways for construction workers during the grading and foundation construction activities within this area in a manner protective of health; (ii) protection of the environment by prevention of releases, etc. in connection with COCs in the soils at the site; and (iii) to comply with applicable laws and regulations with respect to the intended activities.

This work plan has been developed at MDEO's request such that the work can be performed in a safe and effective manner and to satisfy the requirements stipulated by, at a minimum, the applicable provisions of the Remediation Work Plan for Kuhlman Electric Plant Site, October 2001; the Toxic Substance Control Act (TSCA) 40 CFR 761.61(a); and applicable OSHA Worker Protection requirements.

The proposed work will be comprised of the following general tasks:

- Development of a job specific Health and Safety plan for the intended work,
- Mobilization, establishment of decontamination facilities, and establishment of survey control,
- Establishment of security of the work area,
- Installation of stormwater control measures to prevent intrusion into the intended excavation area,
- Utility location and identification within the intended excavation and surrounding area,
- Removal, segregation, and stockpiling of "clean" asphalt and fill soil previously placed atop geotextile within the areas previously remediated under the CA Plan,
- Sawing, demolition, and characterization of the concrete slab materials covering a portion of the area,
- · Removal and disposal of the concrete slab materials,
- Sampling of the in-place soil to be removed for characterization,
- Excavation and removal of soil within the construction boundaries for disposal,
- Placement of geotextile on bottom and sides of the resultant excavation.
- Installation of 8" to 12" of compacted backfill throughout the excavation,
- Final inspection and release to the General Contractor for foundation construction,
- Final decontamination and demobilization,
- Final project report preparation and submittal.

Contingency plans will be in place should sampling indicate material segregation and alternate disposal methods have to be employed.

### TABLE OF CONTENTS

0.1	Introduction
2.0	Hazardous Substance Identification
3.0	Project Objectives
4.0	Release and Exposure Potential
5.0	Geology and Hydrogeology
5.0	Field Work
6.1	Mobilization, Establishment of Decontamination Facilities, and Establish Survey
	Control4
6.2	Establishment of Security of the Work Area4
6.3	Installation of Stormwater Control - Measures to Prevent Intrusion into the Intended
	Excavation Area4
6.4	Utility Location and Identification within the Intended Excavation and Surrounding
	Area
6.5	Removal, Segregation, and Stockpiling Of "Clean" Asphalt and Fill Soil Previously
	Placed Atop . Geotextile within the Areas Previously Remediated Under the Corrective
	Action Plan5
6.6	Sawing, Demolition, and Characterization of the Concrete Slab Materials Covering a
	Portion of the Area6
6.7	Removal and Disposal of the Concrete Slab Materials
6.8	Sampling of the In-Place Soil and Concrete Construction Debris to Be Removed for
	Characterization6
6.9	Excavation and Removal of Soil within the Construction Boundaries for Disposal 8
6.10	Placement of Geotextile on Bottom and Sides of the Resultant Excavation
6.11	Installation of 8" To 12" of Compacted Backfill throughout the Excavation
6.12	Final Decontamination and Demobilization9
7.0	Schedule 10

### LIST OF FIGURES

Figure	Description
1	Site Location Map
2	Facility Layout
3	Proposed Sample Locations

### LIST OF ATTACHMENTS

Attachment	Description
A	Confirmation Sample Locations – Martin & Slagle
В	Mississippi General Contractors License
С	Health and Safety Plan

### 1.0 INTRODUCTION

This work plan has been developed subsequent to discussions with the Mississippi Department of Environmental Quality (MDEQ) regarding implementation of a planned building expansion within the boundary of an area previously the subject of Corrective Action Measures at the Kuhlman Electric Corporation (KEC) facility located at 101 Kuhlman Avenue, Crystal Springs, Mississippi. KEC owns and operates an electrical transformer manufacturing facility at this location.

Previous investigations at this facility confirmed the presence of soil impacted with PCB (Aroclor 1260) and various chlorinated benzenes. Corrective action measures have been conducted at this facility including a portion of the area intended for the current expansion. This work plan addresses the proposed excavation and disposal of soil and demolition debris impacted with Aroclor 1260 and chlorinated benzenes.

This plan is prepared by Environmental Management Services, Inc. (EMS) and provides pertinent information applicable to the proposed actions for review and approval by MDEQ prior to implementation.

This Work Plan has been developed such that the work can be performed in a safe and effective manner and to satisfy the requirements stipulated by, at a minimum, the applicable provisions of the Remediation Work Plan for Kuhlman Electric Plant Site, October 2001; the Toxic Substance Control Act (TSCA) 40 CFR 761.61(a); and applicable OSHA Worker Protection requirements.

The following sections referenced in the *Remediation Work Plan for Kuhlman Electric Plant Site, October 2001* present general information regarding the past history, operations, characteristics of the subject property and the surrounding vicinity, regulatory history, description of previous work, and remedial objectives.

1.0 Introduction

1.4

- 1.1 Site Description
- 1.2 Background
- 1.3 Summary of Previous Work Performed at the KEC Plant 1.3.1 Assessment Summary
  - Remediation Objectives and Rationale

A site location map is provided as Figure 1. Figure 2 is a facility layout identifying the area proposed for the intended expansion within the facility. Figure 3 is specific to the area of excavation and building construction and includes the proposed sampling location layout for the area to be excavated.

#### 2.0 HAZARDOUS SUBSTANCE IDENTIFICATION

Constituents of concern (COCs) have been identified at the facility and they include PCBs (Aroclor 1260) and various chlorinated benzenes. The concentrations and locations within the subject area and vicinity are indicated on Figure 5 included as Attachment A from the previous investigation. In addition, elevated concentrations of the noted COCs were present in soil removed during a maintenance event associated with a water line repair within the subject area.

### 3.0 PROJECT OBJECTIVES

The objectives of this current effort are:

- to provide engineering controls to eliminate the potential exposure pathways for construction workers during the grading and foundation construction activities within this area in a manner protective of health;
- protection of the environment by prevention of releases, etc.; and
- to comply with all applicable laws and regulations with respect to the intended activities.

As stated above, this Work Plan has been developed such that the work can be performed in a safe and effective manner and to satisfy the requirements stipulated by, at a minimum: the applicable provisions of the Remediation Work Plan for Kuhlman Electric Plant Site, October 2001; the Toxic Substance Control Act (TSCA), 40 CFR 761.61(a); and applicable OSHA Worker Protection requirements.

#### 4.0 RELEASE AND EXPOSURE POTENTIAL

Evaluation of the site characteristics and setting, site background, operations, potential migration pathways, characteristics of the COCs, and nature of the intended removal action identify the following potential receptors and exposure mechanisms for COCs that must be addressed for this removal action:

- Workers performing the removal action via dermal contact with waste, contaminated soil/sediment, and contaminated groundwater/stormwater;
- Workers performing the removal action via inhalation from waste, contaminated soil/sediment, and contaminated groundwater/stormwater;
- Workers performing the removal action via incidental ingestion from waste, contaminated soil/sediment, and contaminated groundwater/stormwater;
- Site workers via the same mechanisms as above;
- Onsite surface water via surface runoff/stormwater;
- Offsite surface water via surface runoff/stormwater;
- Offsite public roads via releases from transportation vehicles/equipment.

Workers performing the removal action are the population most likely to be exposed to COCs present in the soils at the project location. Therefore, a job specific Health and Safety (H&S)\_Plan and strict implementation is warranted.

Dust control and associated personnel and area air monitoring is warranted during work times and is required in the H&S plan.

Security measures are mandatory to prohibit site personnel and visitors access to the work area during the duration of the work.

Stormwater control measures and maintenance of control facilities throughout the duration of the work is warranted.

Contingency plans including collection and storage facilities for potential groundwater intrusion events are warranted.

A plan and facilities for vehicle and personnel decontamination including waste collection, handling, storage, and disposal is warranted.

### 5.0 GEOLOGY AND HYDROGEOLOGY

The shallow geology within the general area at the expected depths of excavation is well documented as extensive excavation has been performed at this facility during Corrective Action (CA) activities. The specific localized lithology within the excavation boundaries will be determined precisely during the conduct of the extensive characterization sampling. This information will be used to make a determination of the need for side shoring or other protective measures prior to excavation.

Due to the proximity to the existing building and upgradient conditions, the potential exists for localized groundwater intrusion during the excavation activities. Provisions will be made for removal capability and liquid storage prior to commencement of the excavation. Sampling, testing, waste characterization and disposition are inherent to all liquids generated during the work.

### 6.0 FIELD WORK

EMS will function as the remediation contractor for the intended work. EMS is licensed with the State of Mississippi for this type work (license attached). The proposed work will be comprised of the general tasks as described in the following sections:

### 6.1 Mobilization, Establishment of Decontamination Facilities, and Establishment of Survey Control

Mobilization to the job site will occur within one week of notice to proceed is received. Coordination with plant personnel and the general contractor will precede mobilization to agree upon the functional arrangement for the performance of the work, equipment storage, decon facilities, traffic flow, security, etc.

Manpower and equipment will be transported to the job site as agreed and both personnel and equipment decontamination facilities will be constructed including designated adjoining temporary waste storage and handling areas.

The EMS surveyor will coordinate with the general contractor, locate previous survey benchmarks, and establish baseline coordinates with which to maintain survey control throughout the project.

### 6.2 Establishment of Security of the Work Area

Via coordination with plant personnel and the general contractor, facilities will be installed to cordon the immediate work zone from local foot and vehicular traffic. The work zone will include the area to be excavated, buffer area for heavy equipment operation and parking, truck loading, waste handling and storage, and the decontamination facilities. A secondary zone will be designated for "clean" storage and support operations equipment, etc.

All excluded areas will be clearly marked and prohibition of entry for non-authorized personnel maintained throughout the duration of the excavation and removal activities.

KEC plant security will maintain monitoring of the designated exclusion zone during non-work periods.

A minimum of three continuous air monitoring stations will be installed within the work area distributed such to provide representative sampling of the ambient air during the work.

### 6.3 Installation of Stormwater Control - Measures to Prevent Intrusion into the Intended Excavation Area

There are three primary potential pathways that stormwater could enter the excavation area; from upgradient surface runoff along an existing chain wall; direct entry from rainfall; and from building roof and wall runoff.

- Berms will be constructed and maintained to divert upgradient runoff near the existing chain wall.
- The open excavation areas will be covered at end of day or in preparation for rainfall events. Runoff from temporary covers will be directed to downstream elevations and into existing drainage pathways.

• The building is currently curbed with downspouts at several locations along the east wall. These facilities will be inspected and temporary piping installed to divert roof drainage away from the excavation and work area.

In the event any liquids collect in the excavations via stormwater intrusion or groundwater seepage, these liquids will be collected and stored in a secure area for characterization and appropriate disposition.

### 6.4 Utility Location and Identification within the Intended Excavation and Surrounding Area

Coordination with plant personnel will occur prior to mobilization to attempt to identify and locate all utility or other structures within the work area. Examination of drawings and discussions with personnel knowledgeable regarding the previous excavations will be conducted.

Although this is entirely on private property, the Mississippi One Call service notification will be made.

Field instrumentation will be utilized post asphalt removal and post concrete removal to scan the intended excavation areas. An EM-31 conductivity instrument and a Schonstedt GA-52CX magnetic locator will be utilized over all areas possible in an attempt to locate and or isolate potential unknown subsurface obstacles. It is understood that at least one abandoned 8-inch diameter waterline exists within the intended excavation area.

## 6.5 Removal, Segregation, and Stockpiling Of "Clean" Asphalt and Fill Soil Previously Placed Atop Geotextile within the Areas Previously Remediated Under the Corrective Action Plan

The previous CA activities included placement of geotextile fabric at the final depths of excavation, backfilling with clean fill, and placement of an asphalt surface over the areas remediated.

The asphalt cover will be removed and the materials either stockpiled onsite for reuse or hauled directly offsite for disposal.

Utility clearance measures will be implemented over this area after asphalt removal.

Probing will be performed during sampling activities listed below and will establish the depths of the clean backfill. The backfill will be removed down to within approximately 6 inches of the geotextile. The clean fill material will be stockpiled onsite for reuse.

### 6.6 Sawing, Demolition, and Characterization of the Concrete Slab Materials Covering a Portion of the Area

A concrete slab of varying thickness overlies the southeast portion of the proposed expansion. After establishing the proposed limits necessary for the foundation construction, sawing of the slab where it joins adjacent surfaces that will remain will be performed. The slab will then be broken in place via use of a hydraulic breaker. The grid pattern designated for the sampling of the concrete and soil will be surveyed and marked, then representative samples of the concrete taken per the sampling protocol for construction debris. Characterization of this material will ensue and the appropriate plans made for removal and disposal. Equipment used in the demolition process will be decontaminated prior to use elsewhere. Dust control measures will be implemented during the demolition process to prevent potential airborne releases.

### 6.7 Removal and Disposal of the Concrete Slab Materials

It is anticipated that the concrete construction debris will be characterized such as to allow disposal in a Subtitle "D" landfill, (contents less than 50 mg/kg). In that event, the materials will be excavated, loaded on trucks, and hauled directly to the appropriate disposal facility for disposal. All trucks will be covered, inspected and/or decontaminated prior to exiting the site, and manifested.

In the event disposal at a Subtitle "C" landfill is deemed necessary from the waste characterization, standby roll-off containers will be used to hold the material until removal and disposal can be effected. The roll-offs will be covered immediately, properly labeled, and placed into a secure area prior to shipment.

### 6.8 Sampling of the In-Place Soil and Concrete Construction Debris to Be Removed for Characterization

Sampling of soil and concrete construction debris will be performed in-place to establish adequate waste characterization information for disposal purposes. All materials exhibiting less than 50 mg/kg concentration of Aroclor 1260 will be transported to a Subtitle "D" landfill for disposal. Any material exhibiting 50 mg/kg or greater concentration of Aroclor 1260 will be transported to a Subtitle "C" landfill for disposal.

The sampling location and frequency is proposed based upon the rationale of adequately representing both volume and special distribution within the intended excavation. It is proposed that a sampling grid be established approximately on a 10-foot by 10-foot pattern covering the entire area to be excavated. The total depth of excavation planned is to elevation 461.3 feet relative to onsite benchmarks, which allows for over excavation from the expected construction depths.

### Concrete Construction Debris

It is proposed that (15) samples be taken of the concrete via a random statistical spatial selection for the approximately 3,100 sq. ft. area. This yields approximately one sample per 3.8 cubic yards of material anticipated. In addition, it is proposed that up to three **biased** sample locations be chosen should field inspection indicate the potential presence of petroleum type substances or discoloration. The sample location selection is shown on Figure 3.

It is proposed that a representative sample from the entire slab cross section be taken at each location and analyzed for Aroclor 1260.

### Soil

Utilizing the grid layout proposed above, it is proposed that (70) soil samples be taken, one at each grid node. This yields approximately one sample for each 18.5 cubic yards of soil anticipated to be excavated. In addition, it is proposed that up to seven **biased** sample locations be chosen should field inspection indicate the potential presence of petroleum type substances or discoloration. The sample locations proposed are shown on Figure 3.

The intended method of sampling is with Geoprobe® soil sampling equipment. Soil samples will be collected using a Geoprobe® Macro-core 48-inch long, 2-inch diameter soil sampling probe equipped with a disposable 1.5-inch diameter clear PVC sample collection tube within the probe. Prior to insertion, the soil sampling probe and drill/push rod will be decontaminated in a designated decontamination station location established on site in accordance with field decontamination procedures referenced in EISOPQAM Appendix B "Standard Field Cleaning Procedures". Several decontaminated, pre-assembled soil probes are typically used in a Geoprobe soil boring effort to streamline the time necessary to acquire soil samples from a borehole location. Upon completion of each 4-foot soil "push", the sample collection tube will be retrieved and split open, and the soil will be visually described and logged by the field geologist or hydrogeologist in accordance with the Unified Soil Classification System. In a rapid fashion, portions of the soil core will then be field screened for volatile organic vapor content and selected for laboratory chemical analysis as necessary in accordance with the selection criteria.

Each soil core will be field screened at approximate one-foot intervals for volatile organic vapor concentration using a calibrated Photovac Model 2020 Photoionization Detector (PID) equipped with a 10.6 eV lamp or a Heath Consultants, Detecto-Pak® Flame Ionization Detector (FID).

The field screening technique will entail initially splitting the core liner tube to expose the top of the soil core along its length. In a rapid fashion, the soil core will be pried apart slightly at approximately 6-inch to 12-inch intervals using a clean disposable Teflon® spatula. Upon prying apart each small section, the probe of the detector will be inserted into the opening to record the concentration of volatile organic vapors present in the small headspace created in the core. All soil descriptions, detector readings and other pertinent observations will be recorded on dedicated soil boring logs for each location. Soil samples will be collected for laboratory analysis in accordance with the rationale listed. Any anomalously high detector readings from

portions of the soil core not originally slated for chemical analysis may be included in the sampling program if deemed warranted by the field geologist or hydrogeologist.

It is proposed that one sample per location be obtained. This will be accomplished via compositing all sample material obtained at each location from (1) four-foot or less interval. Samples will exclude concrete and the recent fill material located in the corrective action area. All core samples will be examined by a Mississippi Registered Geologist and screened with FID equipment prior to final sample preparation as described above.

All samples will be collected in accordance with EPA Region IV EISOPQAM.

All sample locations will be surveyed by a Mississippi Registered Land Surveyor and referenced to the current coordinate system utilized for this site.

All samples will be analyzed either by an on site laboratory and/ or an off site lab as referenced in Section 6.2 Analytical Methods of the CA Plan noted previously.

### 6.9 Excavation and Removal of Soil within the Construction Boundaries for Disposal

The vertical and horizontal boundaries of the intended excavation are well defined. The results from the above described sampling for waste characterization will be closely examined to determine if any of the area contains waste that exceeds the disposal criteria for disposal in a Subtitle "D" landfill. If not, the excavation will proceed via conventional means and all excavated soil will be loaded directly into trucks for transport to the appropriate disposal facility. In the event concentrations of the primary COC Aroclor 1260 are found that meet or exceed the 50 mg/kg level, the soil from this area will be segregated and loaded into standby roll-off containers and arrangements made for disposal at the appropriate Subtitle "C" landfill. MDEQ will be notified of any samples exceeding this threshold concentration.

Excavation near and adjacent to the existing building and foundations will be finalized either by manual digging or air lance measures, dependent upon the H&S conditions warranted. Excavation will terminate at existing foundations or footers encountered.

Continuous air monitoring of the area and personnel will be performed during all work periods during the excavation and loading process.

Dust control measures will be effected when necessary to prevent airborne transport of particulate.

Survey control will be maintained throughout the excavation process.

All loaded trucks will be covered, inspected, and decontaminated if necessary prior to exiting the facility.

All waste shipments will be manifested and documented for inclusion into the final report submittal to MDEO.

#### 6.10 Placement of Geotextile on Bottom and Sides of the Resultant Excavation

After it is determined that the limits of the excavation have been reached throughout the entire excavation, the general contractor will be given opportunity to examine the final bottom hole conditions for structural integrity. Upon acceptance, geotextile fabric will be installed and anchored to cover the bottom and sides of the area excavated.

The geotextile material to be used will be approved by the general contractor as suitable for subgrade application.

No confirmatory sampling is planned prior to installation of the geotextile.

### 6.11 Installation of 8 To 12-Inches of Compacted Backfill throughout the Excavation

After installation of the geotextile, clean fill material supplied by the general contractor will be placed into the excavation and compacted to an 8to12-inch thickness. The removal will then be considered complete and the excavated area released to the general contractor for foundation construction. Materials to be used in this backfill will be supplied by and certified clean by the general contractor. Material testing and compaction specification requirements will be provided by the general contractor prior to initiation of the excavation. Field compaction testing is to be provided by the general contractor.

#### 6.12 Final Decontamination and Demobilization

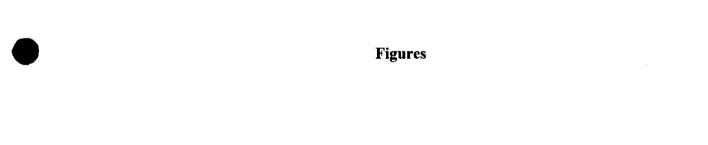
Upon completion of the excavation, all waste handling operations and facilities will be decommissioned and all final waste characterized and shipped offsite for disposal at the respective facilities per the characterization.

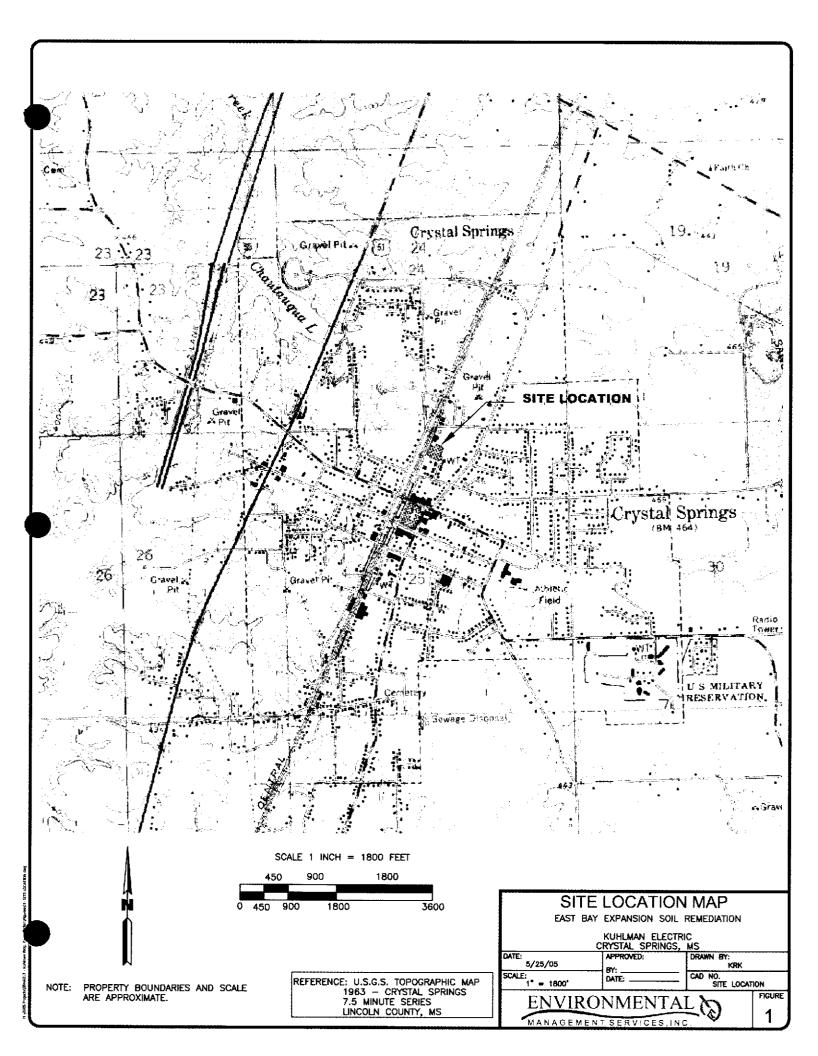
#### 7.0 SCHEDULE

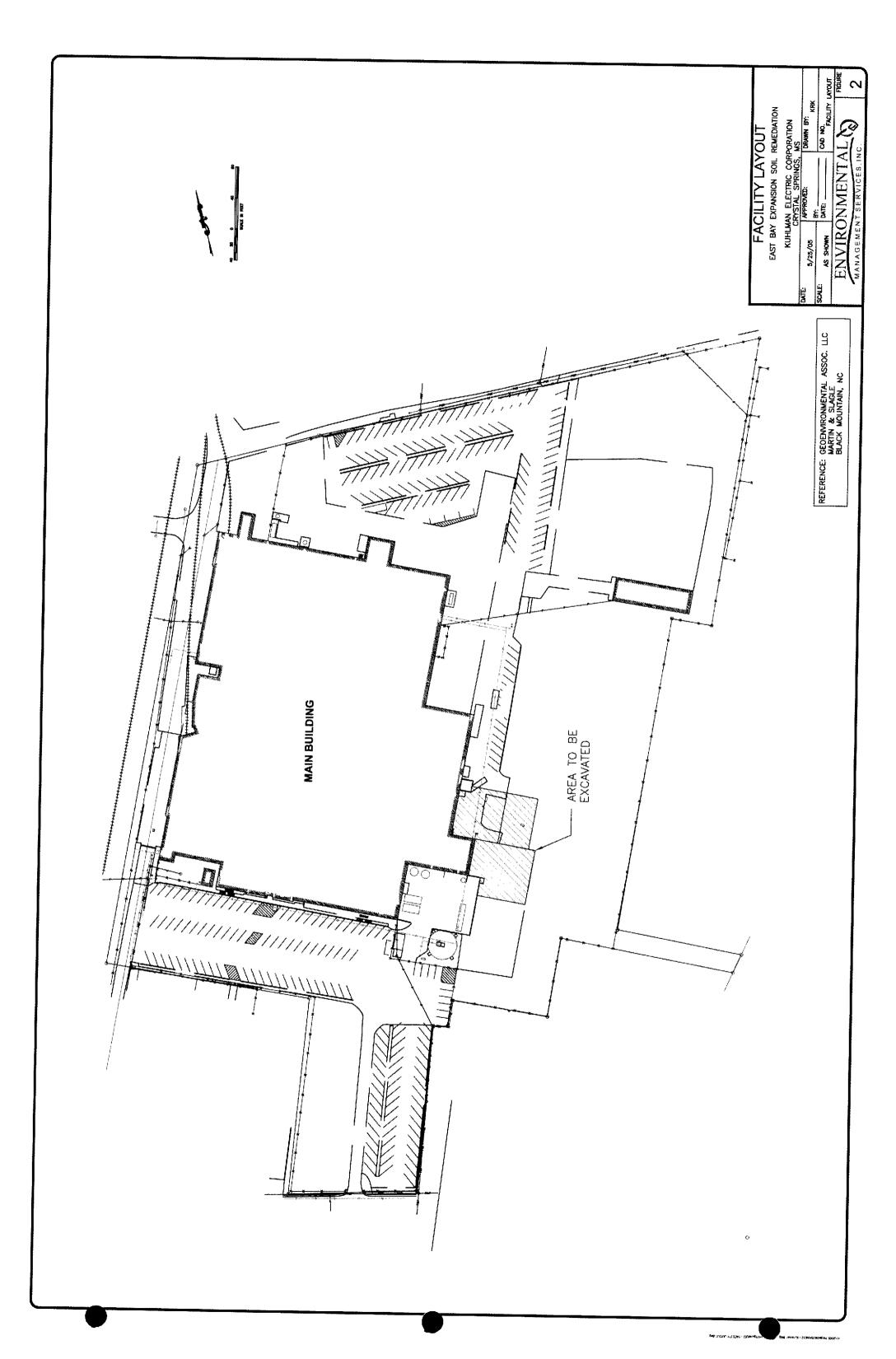
Mobilization can be effected within one week of receipt of the notice to proceed. The work is anticipated to require up to three weeks to complete without weather interferences or discovery of unknown conditions.

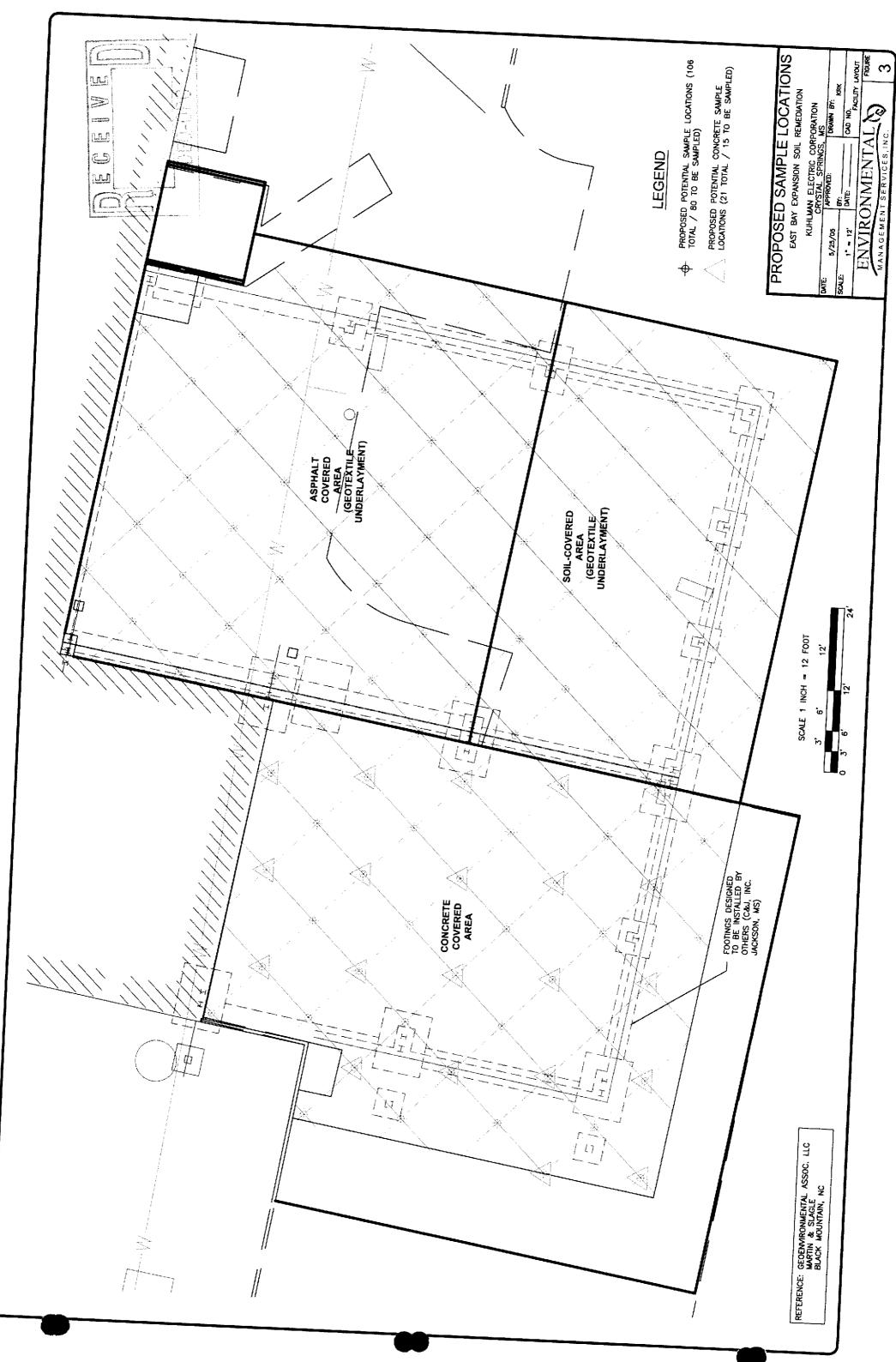
The anticipated sequence of work is as follows:

- 1) Development of a job specific health and Safety plan for the intended work,
- 2) Mobilization, establishment of decontamination facilities, and establishment of survey
- 3) Establishment of security of the work area,
- Installation of stormwater control measures to prevent intrusion into the intended 4) excavation area,
- 5) Utility location and identification within the intended excavation and surrounding area,
- 6) Sawing, demolition, and characterization of the concrete slab materials covering a portion of the area,
- 7) Sampling of the in-place soil to be removed for characterization,
- Removal and disposal of the concrete slab materials, 8)
- 9) Excavation and removal of soil within the construction boundaries of the concrete covered area for disposal,
- Removal, segregation, and stockpiling of "clean" asphalt and fill soil previously placed atop geotextile within the areas previously addressed under the CA Plan,
- 11) Excavation and removal of soil within the construction boundaries of the asphalt covered area for disposal,
- 12) Placement of geotextile on bottom and sides of the resultant excavation,
- 13) Installation of 8" to 12" of compacted backfill throughout the excavation,
- 14) Final inspection and release to the General Contractor for foundation construction,
- 15) Final decontamination and demobilization,
- 16) Final project report preparation and submittal









### Attachment A

Confirmatory Sample Locations Martin & Slagle