PROJECT MANAGEMENT WORK PLAN/BUDGET ESTIMATE

FOR

SITE CHARACTERIZATION/ REMEDIAL DESIGN
STUART OLVER HOLTZ SITE
SITE #8-28-079
HENRIETTA, NEW YORK

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
WORK ASSIGNMENT D004440-3

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SITE CHARACTERIZATION/ REMEDIAL DESIGN
STUART OLVER HOLTZ SITE
PROJECT MANAGEMENT WORK PLAN

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1.0 INTRODUCTION

This *Project Management Work Plan/Budget Estimate (PMWP)* has been prepared to identify the activities and costs for Site Characterization and Remedial Design for the Stuart Olver Holtz, Inc. (SOH) site. This is Work Assignment 3 under the URS Corporation – New York (URS) Engineering Services (Design/Construction) Standby Contract with the New York State Department of Environmental Conservation (NYSDEC or the Department).

1.1 General Site Information

1.1.1 Site Description

The 3.8-acre SOH site is located at 39 Commerce Drive, a mixed commercial/industrial area, in Henrietta, Monroe County (Figure 1). A manufacturing building which formerly occupied the eastern half of the site, was demolished in 2005, and only the building slab remains. The rest of the site consists of a paved parking lot, driveways and grass-covered areas. Immediately to the west of the property is a swale that receives drainage from the facility. Ruby Gordon's Furniture Store is located south of the site, and several commercial/retail buildings that front West Henrietta Road are located east of the site (See Figure 2).

1.1.2 Operational and Disposal History

Originally known as Electro Chemical Products, Inc., SOH operated a specialty metals finishing business at this site from 1962 until 1986, when it applied for Chapter 11 bankruptcy protection (Shaw, 2002). The facility was transferred to Metalade, Inc., which conducted operations similar to SOH.

An uncontrolled release of plating and coating solutions occurred in 1974 during a fire that destroyed a portion of the facility (Shaw, 2002). In 1980, SOH began accumulating drums of solvents

for processing in anticipation of receiving a permit to operate a solvent recovery unit at the site. The permit was never granted and in 1983, 200 of more than 300 solvent drums were removed from the site, some of which reportedly had leaked. The SOH site was later listed as a Class 2 inactive hazardous waste site.

Chlorinated solvents have been found in the groundwater at the site at concentrations that exceed New York State groundwater quality standards. The potential source area for this contamination has been identified as a former loading dock located outside the southwestern portion of the building (Figure 2). The source area is also thought to extend under the building slab (Shaw, 2002). Volatile organic compounds (VOCs), attributed to the SOH site, have also been detected in groundwater collected in basement sumps at the Ruby Gordon facility.

As an Interim Response Measure (IRM), the Department selected Bianchi Industrial Services, LLC to decommission the SOH building and ancillary equipment/utilities. The IRM began on November 4, 2005, and was substantially complete on January 25, 2006. The work included asbestos abatement prior to demolishing the building, as well as decommissioning drain lines and removing accumulated sediments/water from sumps, pits, catch basins, and related piping.

1.1.3 Site Geology/Hydrogeology

Site Geology. Subsurface conditions at the site, on average, consist of the following strata from the ground surface downwards (Shaw 2003):

- Fill - 5 feet thick – loose to medium dense, fine to coarse sand
- Lacustrine Deposits – 7 feet thick – stiff to soft clays and silts
- Upper Glacial Till – 14 feet thick
- Lower Glacial Till – 14 feet thick
- Shale Bedrock

The upper till is highly variable in terms of grain size distribution, but is generally medium dense to dense and widely graded from fine to coarse sand, with some silt/clay, and some fine to coarse gravel. Also present in the upper till are fine to medium sand strata from two to 10 feet thick, which provide zones of higher permeability for groundwater movement. The upper till, which is continuous across the site, appears to be the primary water bearing unit. The lower till is denser than the upper till, contains more silt and clay, and does not have the sand strata found in the upper till. The permeability of the lower till is one or two orders of magnitude lower than the upper till. Below the glacial till is severely weathered and fractured shale of the Vernon formation.

Hydrogeology. Overburden groundwater at the site generally flows to the north and northwest; however, there can be a localized southwesterly flow component when the Ruby Gordon basement sump pumps are operating. Groundwater flow in the upper till and the weathered bedrock appears to occur under semi-confined conditions. The upper till is bounded above and below by much lower permeability layers; i.e., the lacustrine deposits and the lower till, respectively. Likewise, the water-bearing weathered and fractured shale is bounded above by the lower till and below by more competent and less permeable shale.

1.1.4 Nature and Extent of Contamination

The primary overburden groundwater contaminants of concern (COCs) at the site are the following VOCs (Shaw, 2002):

- 1,1,1-Trichloroethane (TCA)
- 1,1,1-Dichloroethane (DCA)
- 1,1-Dichloroethene (DCE)
- 1,2-DCA
- 1,2-DCE (total)
- Methylene Chloride

- Trichloroethene (TCE)
- Tetrachloroethene (Perchloroethene or PCE)
- Vinyl Chloride

In December 2000, TCE concentrations in groundwater were as high as 640,000 µg/L; the groundwater quality standard for TCE is only 5 µg/L, per NYSDEC *TOGs 1.1.1* (NYSDEC, 1998).

The potential source area for groundwater contamination at the site has been identified as the former loading dock located outside of the southwestern portion of the building (Figure 2). The source area was also postulated to extend under the building slab (Shaw 2002). In 2000, elevated VOC concentrations in soil samples were found in this area at 16 to 24 feet, 30 feet, and 38 to 40 feet below ground surface. TCE was the most prevalent VOC detected with concentrations as high as 110,000 µg/kg; the NYSDEC cleanup objective to protect groundwater quality is only 700 µg/kg per *TAGM 4046* (NYSDEC, 1994).

1.1.5 Selected Remedy

The Department completed a Remedial Investigation/Feasibility Study (RI/FS) in 1996, and the Record of Decision (ROD) was signed in 1997. The selected remedy originally consisted of a short-term groundwater source extraction system, a down gradient contaminated overburden groundwater collection trench system, and passive pre-treatment of contaminated groundwater using zero-valent iron filings contained in subsurface vaults. The pre-treated groundwater would have discharged by gravity to a local publicly owned treatment works (POTW).

In 2002, the ROD remedy was re-evaluated and a *Pre-Design Investigation Summary/Focused Feasibility Study (FFS) Report* (Shaw, 2002) concluded that a two-step process of in situ chemical oxidation (ISCO) using permanganate, followed by enhanced natural bioremediation, would be more cost effective and achieve the remediation objectives faster. An *Explanation of Significant Differences* amended the ROD in October 2005 to incorporate this remedy (NYSDEC, 2005).

Based on a 65% Engineering Design Report prepared by Shaw Environmental, Inc. (Shaw, 2002), the major components of the new remedy are (See Figure 3):

- First injecting permanganate to destroy chlorinated ethenes in groundwater. The injection wells would be located on the northern and western site boundaries, along a portion of the southwestern site boundary, and in a closely spaced line upgradient of the Ruby Gordon sump pumps.

- Followed by injecting a carbon source such as molasses to enhance natural anaerobic biodegradation of chlorinated ethanes. Carbon injection would occur in the source area and within the groundwater plume.

- According to the current design, 80 injection wells will be installed to a depth of about 24 feet below ground surface, with the bottom 5-foot interval screened. At this depth, the injection well screens would be on average within the upper glacial till aquifer. The remedy also includes drainage improvements between Ruby Gordon and the SOH site, removing contaminated surface soils, long-term groundwater monitoring, and deed restrictions.

1.2 Scope of Project

In accordance with the *Work Assignment Scope,* included as Attachment 1, URS will further delineate the suspected source area at the former loading dock and under the slab. The investigation work will include: soil borings, new monitoring wells, sampling of soils and groundwater, indoor air/soil gas sampling, laboratory analyses, data validation, investigation derived waste (IDW) management, and a summary report of the findings. URS also proposes to perform a geophysical survey of the site to attempt to identify unknown underground features at the site.

Shaw Environmental, Inc. (SHAW) has submitted to NYSDEC draft (65%) plans, specifications, and a design report for ISCO with permanganate injection (SHAW, 2003). As stated in the *Work Assignment Scope*, URS will review and finalize the ISCO design to allow NYSDEC to competitively bid construction, operation, and maintenance of the ISCO system. Costs for finalizing the design of the second phase of the site remediation have not been included.

Design requirements for implementing the second phase of the remediation, namely enhanced anaerobic bioremediation of ethanes facilitated by molasses injection, can only be determined after the first phase, ISCO, has been completed. Permanganate injection results in a highly oxidized state in the aquifer, but for the second phase to be successful, there must be a highly reductive environment. As stated in Shaw's *65% Design Report*, the second phase design will require a sampling and analysis program to evaluate geochemical and microbiological conditions in the ground, and a lengthy bio-assessment bench scale study using the post-permanganate injection treated soils to assess the viability of the process and the molasses dosing schedule.

Because of the future unknowns associated with the post-ISCO geochemical conditions in the ground, URS has not included budgeted costs associated with the final design of enhanced bioremediation. We recommend developing these costs later once some data are available concerning the impact of the permanganate injection on subsurface conditions and groundwater quality.

The Work Assignment consists of the following major tasks:

- Task 1 – Work Plan Development
- Task 2 – Supplemental Investigation/Pre-Design Investigation
- Task 3 – Additional Tasks
- Task 4 – Plans and Specifications
- Task 5 - Pre-Award Services

Work under Task 3 is optional, depending on the results of Task 2 and could include individual source area investigations, IRMs, and design/installation of sub-slab air venting systems.

Section 2.0 of this *Project Management Work Plan* describes the scope of work for each of these tasks and their corresponding subtasks in detail.

2.0 SCOPE OF WORK

This section describes the four major tasks associated with the Site Characterization/ Remedial Design Work Assignment at the Stuart Olver Holtz Site. URS' understanding of the scope of this project is based upon the Department's *Work Assignment Letter and Scope* dated November 28, 2005 and included in Appendix A.

2.1 Task 1 - Develop Detailed Work Plan

URS has developed and submitted for the Department's review and approval, this *Project Management Work* Plan (PMWP) that includes a description of major tasks, a summary schedule, a staffing plan and budget, budget assumptions, deliverables, an M/WBE utilization plan, and a list of proposed subcontractors. URS will also submit separately the following:

- *Field Activities Plan (FAP)*
- *Health and Safety Plan (HASP)*
- *Quality Assurance Project Plan (QAPP)*
- Final Work Assignment Progress Schedule for the supplemental investigation and the remedial design

The plans are described in more detail in Section 2.2.

Budget Assumptions

- One trip to the site by the following URS personnel: Project Manager, Project Geologist, and Project Design Engineer. Duration of the trip is one day (8 hours).
- One trip to Albany by the following URS personnel: Project Manager, Project Geologist, and Project Design Engineer. Duration of the trip is two days (16 hours), including travel.

- Costs for this task include a brief review of previous project documents to gain an understanding of the site and the scope pf the project.
- One set of NYSDEC comments on the *Draft PMWP*.
- Costs for the *FAP, HASP*, and *QAPP* are included in Task 2.
- Costs for citizenship participation, as required by the Work Assignment, are included in Task 5.1.

Deliverables

- Five copies of the *Draft and Final PMWP*.

2.2 Task 2 – Supplemental Investigation/Pre Design Field Activities

This subsection describes work that will be done to investigate the extent of contamination that exists below the SOH building slab. Data generated during this portion of the work will be combined with existing site information from previous investigations and used as input in the design of the ISCO remedy for this site.

It is important to adequately define the source area and the plume in order to estimate the total oxidant demand from an estimate of the total mass of contaminant present, both sorbed and dissolved. Permanganate is not chemical-specific and ISCO will act on all potentially oxidizable contaminants present in the soil and groundwater within the aquifer. Consequently, it is important to collect soil samples below the groundwater table to identify the sorbed contaminant mass (ITRC, 2005). ISCO may also oxidize some metals, increasing their solubility (e.g.: iron, chromium, and selenium).

Naturally occurring organic and inorganic material in the soil and groundwater may also be acted on by ISCO, thereby increasing the demand for oxidant unrelated to the degradation of the contaminants. This natural oxidant demand (NOD) is measured in the laboratory on both soil and groundwater samples; however, we have assumed that the majority of the NOD will come from the soil.

The major tasks associated with this investigation are:

- Work Plans
- Surface Soil Sampling
- Soil Borings and Subsurface Soil Sampling
- Monitoring Well Installation
- Groundwater Sampling and Analysis
- Soil Gas and Indoor Air Sampling
- Geophysical Survey
- Supplemental Investigation Summary Report

Each of these tasks is described in detail in the following subsections. Budget assumptions and deliverables are listed in Sections 2.2.10 and 2.2.11, respectively.

2.2.1 Work Plans

The following Plans will be prepared to describe in detail the requirements for the supplemental investigation:

- *Field Activities Plan (FAP)*
- *Health and Safety Plan (HASP)*
- *Quality Assurance Project Plan (QAPP)*

Field Activities Plan. Also known as a *Field Sampling Plan (FSP)*, the *FAP* will provide guidance for the field work by defining in detail the sampling and data gathering procedures to be used. It will provide all pertinent information on the field work such as: drilling methods, monitoring

well construction, sample locations and sample methods, the approximate number of samples, analysis parameters and methods, and investigation derived waste (IDW) management.

Health and Safety Plan. The HASP will be developed to document the policies and procedures that will be implemented to protect the URS site worker and the public from potential hazards posed by work at this site. The HASP will address at a minimum the following elements per 29 CFR 1910.120 (USDOL, 2006):

- Key health and safety personnel
- Safety and health risk or hazard analysis for each task and site operation
- Employee training
- Personal protective equipment
- Medical surveillance requirements
- Frequency and types of air monitoring and environmental sampling techniques
- Site control measures
- Decontamination procedures
- Emergency procedures
- Confined space entry procedures, if needed
- Spill containment

Quality Assurance Project Plan. The QAPP will provide an overview of quality assurance/quality control (QA/QC) procedures that will be used during the supplemental investigation. The QAPP will describe at a minimum the data quality objectives; sample custody/holding times; analytical procedures; internal QC checks; calibration procedures; corrective actions; and data reduction, validation, and usability.

The New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) has certified the analytical laboratory selected for this project. The laboratory will report the results in accordance with the NYSDEC Analytical Services Protocol (ASP) Category B deliverable requirements. Data validation will be done by the URS project chemist, who will also prepare the *Data Usability Summary Report (DUSR)*.

2.2.2 Surface Soil Sampling

Surface soil samples will be collected from suspect source areas that are visually identified. The samples will be collected from zero to two inches below the surface, vegetative cover, or pavement. Before sampling, URS will first confirm potential sample locations with the Department.

We have assumed that no more than 10 samples will be collected. Per the *Work Assignment Scope* (Attachment 1), for budgeting purposes, 30 percent of the samples (3) will be analyzed for VOCs, semi-volatile organic compounds (SVOCs), pesticides, PCBs, and metals. The remaining samples (7) will be analyzed only for VOCs.

2.2.3 Soil Borings/Subsurface Soil Samples

Fifteen soil borings will be advanced below the building slab to further investigate the extent of contamination in the suspected source area. The boring locations will be selected in consultation with the Department and presented in the *FAP*.

The borings will be advanced using rotary drilling equipment and hollow stem augers having a minimum inside diameter of 4-1/4 inches (8-inch outside diameter). The slab will be saw cut first to facilitate inserting the augers. Each boring will extend to approximately 40 feet below ground surface (bgs), which is the average depth to the top of bedrock (See Section 1.1.3). Continuous soil samples will be collected using a 2-inch outside diameter split-barrel sampler in accordance with *ASTM D-1586, Standard Method for Penetration Test and Split Barrel Sampling of Soils*. The URS geologist on site will classify and describe each sample on a boring log using the Unified Soil Classification System per *ASTM D 2487-00, Standard Classification of Soils for Engineering Purposes*.

For budgeting purposes, it is assumed that two samples (30 total) will be selected from each boring for laboratory analysis. Samples will be collected from the vadose zone to delineate the source area and from below the groundwater table to estimate the oxidant demand for remediating the sorbed COCs within the aquifer. Full TCL analyses will be performed on 30 percent of the samples (9), and the remaining 21 samples will be analyzed for VOCs only. Five additional soil samples from the upper glacial till will be taken (~100 grams) for analysis of natural oxidant demand.

2.2.4 Monitoring Well Installation

A groundwater monitoring well will be installed in each of the 15 completed soil borings. The monitoring wells will be constructed of new, 2-inch inside diameter, Schedule 40 PVC pipe with threaded and flush joints. The slotted well screen will be 10 feet long and placed within the upper glacial till aquifer. Monitoring well installation details such as well screen slot size and sand filter pack material will be specified in the *FAP*. Following well development, groundwater levels will be measured in each new well and in the existing wells.

The *Work Assignment Scope* (Attachment 1) calls for each borehole to be pressure grouted with a cement/bentonite grout mixture to 24 feet bgs (approximately the bottom of the upper till) before constructing the monitoring wells. URS proposes instead to use bentonite chips to backfill the borehole because they are cheaper, they do not impact groundwater quality or the sand pack, and abandoning the wells later is much easier (a 24-foot long PVC monitoring well can easily be pulled from the ground). Bentonite chips will also be used to backfill the borehole above the sand pack.

The new monitoring wells and the existing monitoring wells will be surveyed for horizontal and vertical location under the direct supervision of a New York State licensed land surveyor. Horizontal control will be referenced to the New York State Plane, North American Datum 1983 (NAD 83), and vertical control will be referenced to New York State Plane, North American Vertical Datum (NAVD 88).

2.2.5 Groundwater Sampling and Analysis

Groundwater samples will be collected from the 15 new monitoring wells plus a selected number of the existing wells to measure contaminant concentrations within the plume and to verify its current boundaries. There are 26 existing wells and piezometers that were used during previous investigations, 21 on the SOH property and five on neighboring properties (Figure 4). Whether or not they still exist and are suitable for groundwater sampling is unknown. The first step in this sub-task will be to assess the condition of each of the existing wells and piezometers. The steps in this assessment are:

- Compile well completion diagrams for each well, if available (wells without documentation will not be sampled)
- Locate each well in the field for which the well completion diagrams are available
- Measure the depth to the bottom of the well screen and compare to the as-built depth
- Record groundwater levels
- Select wells suitable for sampling

Consistent with the *Work Assignment Scope* (Attachment 1), we have assumed that 23 of the existing wells will be suitable for sampling groundwater.

A total of 38 groundwater samples will be collected using low-flow sampling techniques, and analyzed for VOCs, SVOCs, pesticides, PCBs and metals (total and dissolved). Samples will also be analyzed for the following miscellaneous parameters: total organic carbon (TOC), chemical oxidant demand (COD), total dissolved solids (TDS), total petroleum hydrocarbons (TPH) and chloride.

The URS geologist in the field will do measurements of the following baseline water quality parameters: pH, oxidation-reduction potential, dissolved oxygen, dissolved carbon dioxide, temperature, and specific conductance.

2.2.6 Soil Gas and Indoor Air Sampling

Because VOCs have been detected in groundwater samples taken from the Ruby Gordon basement sumps, as part of this Work Assignment, indoor air and soil gas below the basement slab will be sampled and analyzed. The work will be done following the procedures in the *Field Sampling Plan for Vapor Intrusion Evaluations for New York State Remediation Sites* (URS, 2006). This plan has already been reviewed and approved by the Department for other URS work assignments, and it will be incorporated by reference into the *FAP* for this project.

URS has assumed that the Department will arrange for access to the Ruby Gordon facility for URS to conduct the work. Prior to sampling, the building will be inspected to identify conditions that could interfere with the proposed testing, identify sample locations, and complete the NYSDOH's *Indoor Air Quality Questionnaire and Building Inventory* (NYSDOH, 2005). Sample locations will be confirmed after discussion with the Department.

Twenty-four hour SUMMA canister samples will then be collected of the sub-slab soil gas, basement air, first floor air, and outside ambient air. A duplicate basement air sample will also be collected. All samples will be analyzed for TCL VOCs by USEPA Method TO-15 (USEPA, 1999). For the record, URS will take digital photographs of each sample location.

A letter report of the soil gas and indoor air sampling activities will be prepared that will include the following:

- A narrative summary of the sampling activities and results
- Data summary tables as well as complete analytical results
- Sample location plan
- SUMMA canister sampling field data sheets
- Field notes and/or daily activity logs

- Chain of custody forms
- The Indoor Air Quality Questionnaire and Building Inventory
- Photographs of sample locations
- DUSR

2.2.7 Geophysical Survey

URS recommends conducting a geophysical survey of the site, including below the former building slab. This work will be subcontracted to Radar Solutions International (RSI) of Waltham, MA, a women-owned business enterprise (WBE). This sub-task of the supplemental investigation was not originally part of the Department's *Work Assignment Scope* (Attachment 1).

The objective of the survey is to locate underground utilities and other below ground features, such as underground storage tanks (USTs). Current information on these features at the site is very limited. The underground utilities and USTs could be potential obstructions to installing ISCO injection wells, and the buried utility trenches could act as preferred migration pathways for the oxidant, limiting its effectiveness in the aquifer. Unknown USTs are also an additional potential source of contamination.

To do the survey, RSI will use metal detection equipment (Geonics EM61) and ground penetrating radar (Geophysical Survey Systems SIR-3000 Portable Digital Radar System. Survey grids will be established on site and the equipment will be GPS-navigated.

2.2.8 Supplemental Investigation Summary Report

The activities and findings of the supplemental investigation will be presented in a summary report that will include:

- A description of the field activities

- A description of deviations from this *Work Plan* and the *FAP*
- Data summary tables of detected compounds and a discussion of the data
- Comparison of analytical results to applicable NYSDEC cleanup criteria
- Boring logs, well completion diagrams, development logs, and purge logs with water quality measurements
- Geophysical survey report from RSI
- Existing site features map
- Sample location plan
- Other figure as required to describe the findings
- Site photographs
- Complete validated data tables and DUSR
- Summary/Conclusions/Recommendations

2.2.9 Investigation Derived Waste (IDW)

All IDW generated during equipment decontamination, drilling, well development, and well purging will be placed in drums and staged on site. At the completion of the investigation, a licensed transportation and disposal subcontractor will be required to characterize the IDW and dispose of it at an appropriate permitted facility. Personal protective equipment and sampling equipment will be double bagged and disposed of at a municipal waste landfill.

2.2.10 Budget Assumptions

Work Plans/Reports

- Deliverables listed in Section 2.2.11 will be submitted as draft and final
- Five hard copies of each submittal will be provided plus a compact disk containing a portable data format file copy of the final submittal
- Only one set of NYSDEC comments will be received on the draft submittal

Surface Soil Sampling

- No more than 10 surface soil samples will be collected by the URS geologist during the boring program.
- No additional time is included for this task for sample collection
- The samples will be analyzed for the parameters listed in Section 2.2.2

Soil Borings, Subsurface Soil Sampling, and Monitoring Well Installation

- For this investigation program the URS geologist and field technician will be from the URS Buffalo office and will be on site full time unless otherwise noted
- All work at the site can be conducted in level D personal protective equipment
- Allow one day site visit by project manager
- One 8-hour day on site for the geologist and field technician to locate the borings
- One 8-hour day for the geologist to arrange for and provide access to the site for utility clearance by Dig Safely-New York
- Fifteen soil borings will be drilled with continuous split-barrel sampling to 40 feet bgs

- Two soil samples from each boring will be analyzed for the TCL parameters listed in Section 2.2.3
- Five additional samples will be collected and analyzed for NOD
- A monitoring well will be installed in each boring as described in Section 2.2.3
- The soil borings, subsurface soil sampling, and monitoring well installations can be completed in twelve 10-hour work days, not including travel time
- No additional time is included for equipment breakdowns or weather delays
- Costs for abandoning monitoring wells are not included

Monitoring Well Development

- The fifteen new monitoring wells will be developed after all have been installed
- The URS geologist and field technician will develop two wells at a time and will complete well development in five 10-hour days, not including travel time
- The existing monitoring wells will not need to be re-developed

Groundwater Sampling

- The condition assessment of the existing wells can be completed in one 10-hour day by the geologist and field technician, not including travel time
- Purging of the wells by the geologist and field technician will begin a minimum of two weeks after developing the new wells
- One sample will be collected from each of the 15 new wells and 23 of the existing wells using low-flow sampling techniques
- The samples will be analyzed for the parameters listed in Section 2.2.5

- Well purging and sampling can be completed in five 10-hour days, not including travel time

Survey

- Survey of the sampling locations will be conducted by two Buffalo-based URS surveyors using GPS equipment
- The survey can be completed in one 10 hour day on site, not including travel time
- The field technician will be on site to provide site access and direct the survey crew

Geophysical Survey

- Because of potential interferences with the EM61, this work will be done after the drill rig has left the site
- The field technician will assist the geophysical subcontractor, RSI, for two 10-hour days to complete this work

Soil Gas/Indoor Air Sampling

- Allow a one-day trip for the field technician to inspect the Ruby Gordon facility to select sample locations and complete the *Indoor Air Quality Questionnaire and Building Inventory*
- The sample locations will be confirmed after discussion with the Department
- Allow a second one-day trip to set up the SUMMA canisters for sampling
- Return the following day to collect the SUMA canisters for shipment to the laboratory
- Standard (30 days) turn-around time for analysis results
- A letter report of the results will be prepared as described in Section 2.2.6

Investigation Derived Waste

- Soil cuttings, decontamination water, development water, and purge water will be placed in drums and staged at the site
- URS will subcontract with a licensed transportation and disposal (T&D) firm to characterize the waste for disposal at a suitably permitted facility
- Oversight of IDW disposal by the T&D firm will be done by the field technician over one 8-hour day

Supplemental Investigation Summary Report

- The report will be submitted as draft and final
- One set of minor comments will be received from the Department on the draft report
- One trip to Albany by the project manager and the geologist to discuss the results with the Department
- Trip duration is two 8-hour days, including travel

2.2.11 Deliverables

URS will submit five copies of draft and final versions of the following documents described herein for the supplemental investigation of the site:

- *Project Management Work Plan/Budget Estimate*
- *Field Activities Plan*
- *Health and Safety Plan*
- *Quality Assurance Plan*
- *Soil Gas/Indoor Air Sampling Report*

- *Supplemental Investigation Summary Report*

In addition to the hard copies, a PDF file of each final document will be submitted on a compact disk.

2.3 Task 3 – Additional Tasks

It is URS' understanding that the work associated with these additional tasks will only be undertaken if requested by the Department. At that time, URS will develop a budget amendment that will be negotiated with the Department prior to the start of work.

2.3.1 Task 3.1 – Individual Source Area Investigation

If field investigations described in Task 2 identify possible additional source areas, the Department may request further focused investigation in these localized areas, in the form of additional soil samples, soil gas samples, groundwater samples, etc.

2.3.2 Task 3.2 – Interim Remedial Measures

If local areas of contamination, identified as source areas, can be appropriately mitigated by IRMs, then the Department may request such measures.

2.3.3 Task 3.3 – Design and Installation of Air Venting Systems

If indoor air samples reveal contaminant levels in the Ruby Gordon facility that the NYSDOH finds unacceptable, the Department may request that URS install a sub-slab depressurization (SSD) system in the building basement.

2.3.4 Budget Assumptions

- URS will develop budget assumptions and costs for these additional tasks when requested by the Department

2.3.5 Deliverables

- None at this time.

2.4 Task 4 – Plans and Specifications

The remedial design for this site was started by Shaw Environmental who issued an *Excavation and Disposal, In-Situ Oxidation, and Enhanced Bioremediation Design Report (65% Engineering Design Report)* in June 2003 (Shaw, 2003). Since this document was issued site conditions have changed and almost three years have passed. Based on our initial review of Shaw's submittal, the design and the backup for it are largely conceptual in nature. These factors require that the design be substantially revisited prior to advancing it to the final design stage.

2.4.1 SubTask 4.1 Design Basis Report

URS will develop a *Design Basis Report (DBR)* that will be submitted separately from the *Supplemental Investigation Report* (Section 2.2.8). The *DBR* will incorporate the findings of the supplemental investigation, our review of Shaw's *65% Design Report,* and any modifications to the design basis as appropriate to allow the remedial design to be successfully implemented. The Shaw report will be a primary reference for the *DBR*; information in the Shaw document will generally not be repeated in the *DBR*. The *DBR* will be prepared as a draft for NYSDEC review prior to continuing with the remedial design.

2.4.2 SubTask 4.2 Plans and Specifications

URS will prepare plans and specifications to be used in competitively bidding the construction, operation, and maintenance of the selected remedy in conformance with New York State and applicable federal laws, rules, regulations, and guidelines. URS will utilize NYSDEC's standard construction contract clauses and format (latest version) to prepare the contract documents. The specifications will include minimum requirements for the site management plan, construction quality assurance plan, and health and safety plan to be prepared by the selected remedial contractor.

The Shaw 65% design documents include specifications and several half-size drawings. URS proposes to use most of the design approach utilized by Shaw; however, the information presented on the Shaw drawings was generally conceptual in nature. The design specifications are also somewhat generic in nature and missing important sections such as electrical and controls and instrumentation. Also, the need to use both potassium and sodium permanganate will be subjected to a cost and efficiency analysis.

As a result, URS recommends that the first set of deliverables for the remedial design consist of a Pre-Final (95%) design package. Following comments from NYSDEC and the Monroe County Health Department, the final design documents will be prepared.

Pre-Final (95%) Design. URS will prepare the pre-final submission of the plans and specifications, and our *DBR* summarizing the supporting data, documentation and design calculations. The design will address the removal of the soil hot spots identified by Shaw in the 65% design, utility lines identified as potential off-site conduits for contamination and permanganate migration, and in-situ treatment utilizing permanganate. A project meeting will be held in Albany to review this submission.

Assumptions

- URS will prepare intermediate design drawings and specifications
- URS will prepare the intermediate design phase DBR

- It is not anticipated that any special permits will be required to implement this design
- Ten drawings will be included in the design as identified in Table 4- 1
- The project manger and the project engineer will attend one meeting in Albany.

Deliverables

- Five copies of the Pre-Final (95%) Contract Documents (drawings and specifications), and the DBR.

Final (100%) Design. URS will prepare and submit the final version of the plans and specifications, the project cost estimate and the DBR. URS assumes that NYSDEC will require three draft copies of the final design documents for review. Any NYSDEC comments will be addressed and incorporated into the Final (100%) complete and stamped design documents.

Project Cost Estimate. URS will prepare the engineer's project cost estimate during the preparation of the final design documents. This estimate will include the costs of implementing the remedial design, as well as monitoring and maintenance costs for the ISCO treatment process. This pre-bid estimate will include quantity take-off sheets and the basis for unit and lump sum prices used in the cost estimate.

2.4.3 Budget Assumptions

- The costs for Task 4 include responding to one round of comments on the Pre-Final (95%) Design, and responding to one round of comments on the draft Final (100%) Design.
- A list of the drawings assumed to be required for this design is shown in Table 4-1.

2.4.4 Final Deliverables

- Five copies of the Final (100%) Contract Documents and the DBR

- Mylar originals of the design drawings stamped and signed by a New York State professional engineer
- 75 sets of the Contract Documents and drawings for bid purposes
- Compact disk(s) containing all final deliverable documents in PDF format, and drawings in AutoCAD.

2.5 Task 5 Pre-Award Services

During the pre-award phase, URS will provide support services to the Department for the purposes of competitively bidding the site remediation contract, as summarized below.

2.5.1 Task 5.1 Pre-bid and Public Meetings

URS will assist the Department at a pre-bid meeting that will be held at the Stuart Olver Holtz site. At the pre-bid meeting, URS will emphasize to the prospective bidders important items of the project, conduct a tour of the site, answer any questions, and prepare minutes of the meeting. URS will also prepare addenda to address clarifications to the bid documents, and URS will prepare written responses to all questions from prospective bidders.

URS will also assist the Department at a public meeting to describe the project. At the meeting, URS will answer questions concerning the design, construction, and scheduling of the project. URS will prepare graphic materials and fact sheets for the meeting. Minutes will be prepared following the meeting and distributed by URS.

2.5.2 Task 5.2 – Bid Review

URS will review plans required by the Contract Documents and submitted by the Contractor selected to do the work. The scope of URS' review will be to verify compliance with the requirements of the Contract Documents. Such submittals will include, but will not be limited to, a Contractor HASP.

2.5.3 Budget Assumptions

- The pre-bid and the public meetings will be attended by the URS Project Manager and the URS Design Engineer.
- Each meeting (including travel) is assumed to be of one-day duration (8 hours).
- Only one (1) set of comments will be received from the Department on the draft minutes of each meeting.
- The meetings will be held in Henrietta, NY at the site or in a public meeting facility near the site and secured by the Department.
- Two addenda, including one that contains the minutes from the pre-bid meeting, will be required. Costs assume that addenda are developed for clarification only and do not require re-design of any portion of, or the development of any new components of, the bid documents.
- The level of effort assumed for this task is as shown as shown in Appendix B.

2.5.4 Deliverables

- Draft and Final prebid meeting minutes will be prepared and submitted.
- Draft and Final public meeting minutes will be prepared and submitted.
- Up to two addenda to the bid documents as draft and final.
- Written review comments on Contractor's plans as final only.

3.0 SCHEDULE

A schedule for performing the work described in Section 2 is presented in Table 3-1.

4.0 IDENTIFICATION OF AREAS OF WORK REQUIRING SUBCONTRACTING

The areas of work requiring subcontracting are as follows:

- Drilling/Well Installation;
- Geophysical Survey;
- Laboratory/Analytical Services;
- IDW Management; and,
- Document Reproduction

The Minority/Women-owned business utilization plan form is included in Appendix C.

5.0 STAFFING PLAN/KEY PERSONNEL

The proposed management plan and key personnel for this project and the responsibilities of each project position are described below.

- Project Director (Donald Hunt, P.E.) is responsible for assuring the availability of resources, overall project performance, and representing URS in all contractual matters with the Department.

- Project Manager (Donald Hunt, P.E.) will be responsible for technical and financial management of the project, and for overall coordination and review of component work activities. The Project Manager will serve as the initial and primary contact with the Department throughout the project.

- Project Quality Assurance (James Lanzo, P.E.), will ensure that all project deliverables undergo a thorough QA review by senior staff members who are qualified and experienced in appropriate disciplines.

- Field Investigation Coordinator (Kevin McGovern, P.G., CPG); will oversee the execution of the supplemental investigations and pre-design field activities.

- Project Design Engineer (Craig Pawlewski, P.E.); will be responsible for the remedial design, including preparation of plans, specifications, and the design report. Other approved staff will be assigned as needed to complete the work.

- Project Health and Safety (Sheldon Nozik, CHMM), will coordinate developing the HASP and will provide guidance and input regarding its implementation.

6.0 PROJECT COST

An estimate of the project cost is presented in Appendix B.

REFERENCES

Interstate Technology and Regulatory Council (ITRC), 2005. *Technical regulatory Guidance for In Situ Chemical Oxidation of Contaminated Soil and Groundwater*; January.

New York State Department of Environmental Conservation (NYSDEC), 2005. *Explanation of Significant Differences, Stuart Olver Holtz, Town of Henrietta, Monroe County, Site Registry No. 8-28-079;* October.

New York State Department of Environmental Conservation (NYSDEC), 1998. Division of Water Technical and Operational Guidance Series, TOGs 1.1.1, Ambient Water Quality Standards and Guidance Values and groundwater Effluent Limitations.

New York State Department of Environmental Conservation (NYSDEC), 1994. Division of Technical and Administrative Guidance Memorandum, TAGM 4046, Determination of Soil Cleanup Objectives and Cleanup Levels.

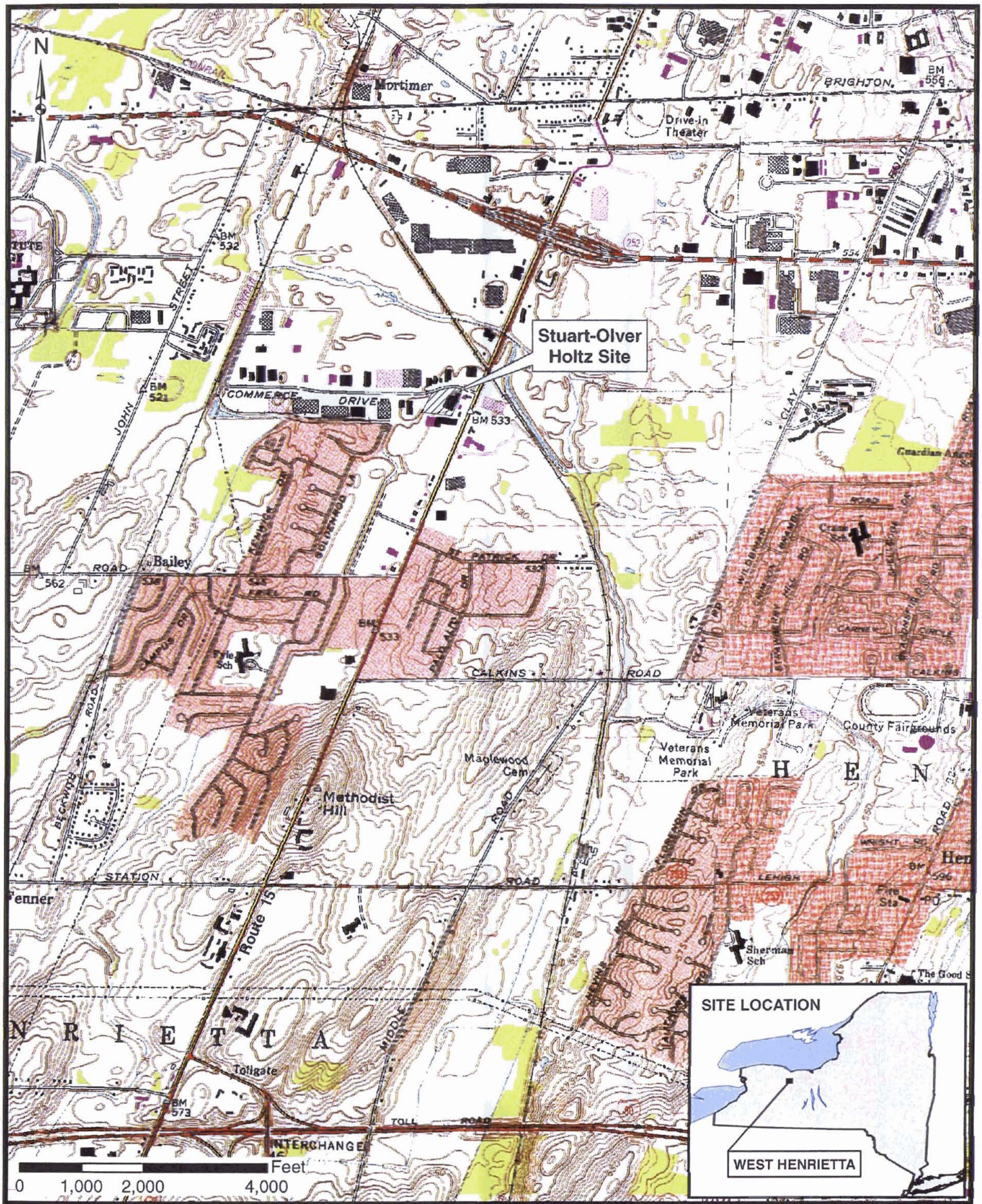
New York State Department of Health (NYSDOH), 2005. Indoor Air Sampling and Analysis Guidance; available at http://www.health.state.ny.us/nysdoh/indoor/guidance.htm; February.

New York State Department of Labor (NYSDOL), 2006. *Title 29 Code of Federal regulations (CFR), Part 1910.120, Hazardous Waste Operations and Emergency Response*; retrieved May 17, 2006 from http://www.osha.gov.

Shaw Environmental, Inc. (Shaw), 2002, *Pre-Design Investigation Summary Focused Feasibility Study, Stuart Olver Holtz Site, Henrietta, NY*; Prepared for New York State Department of Environmental Conservation; November 27.

Shaw Environmental, Inc. (SHAW), 2003. *Excavation and Disposal, In-Situ Oxidation, and Enhanced Bioremediation Design Report (65% Engineering Design Report)*; Prepared for New York State Department of Environmental Conservation; June 19.

URS Corporation, Inc. (URS), 2006. *Field Sampling Plan for the Vapor Intrusion Evaluations for New York State Remediation Sites*; prepared for New York State Department of Environmental Conservation; March.

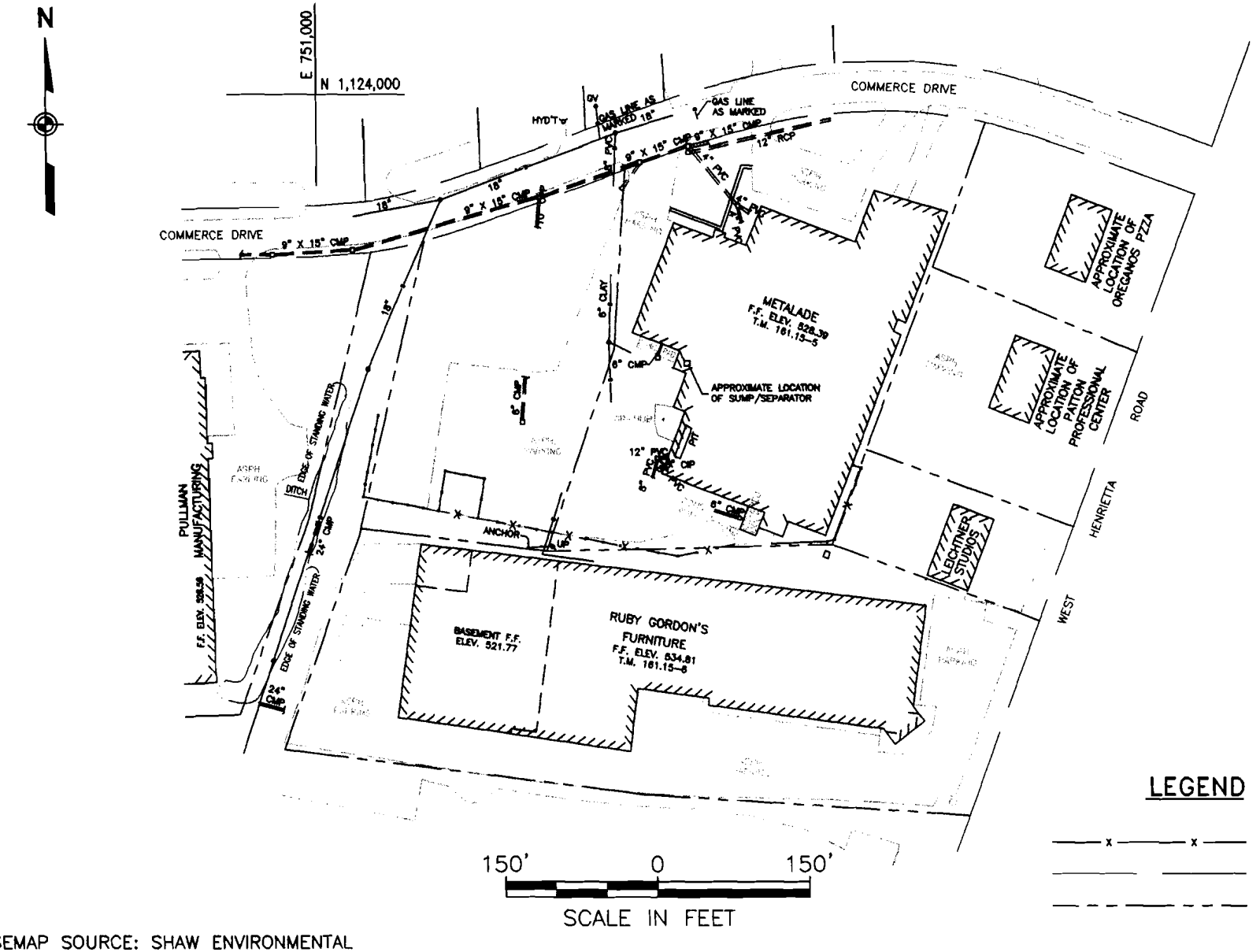


URS

SITE LOCATION
STUART-OLVER-HOLTZ SITE

FIGURE 1

J:\11174465.00000\DB\GIS\SITE_LOCATION_TOPO.MXD
4/17/2006

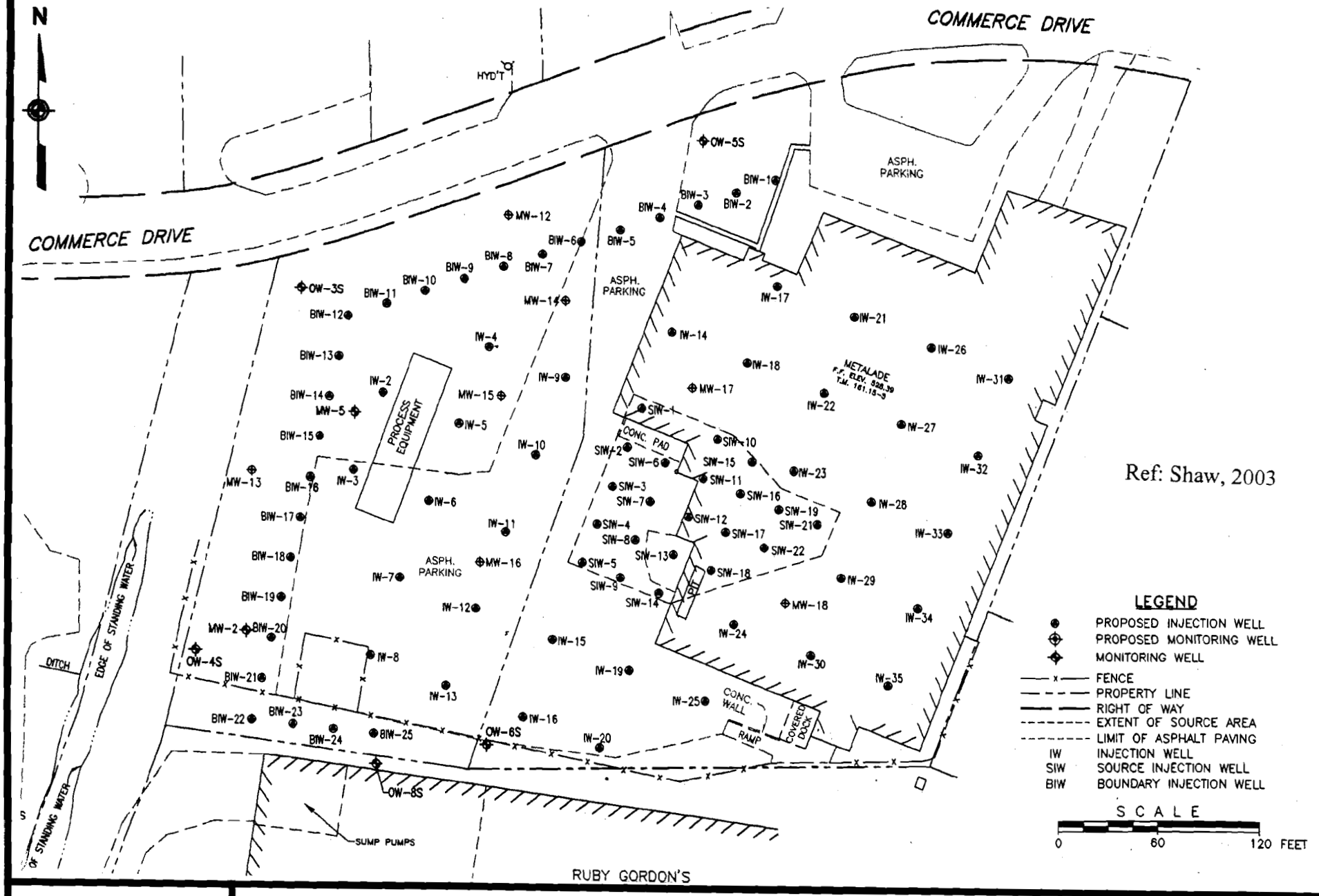


BASEMAP SOURCE: SHAW ENVIRONMENTAL

URS

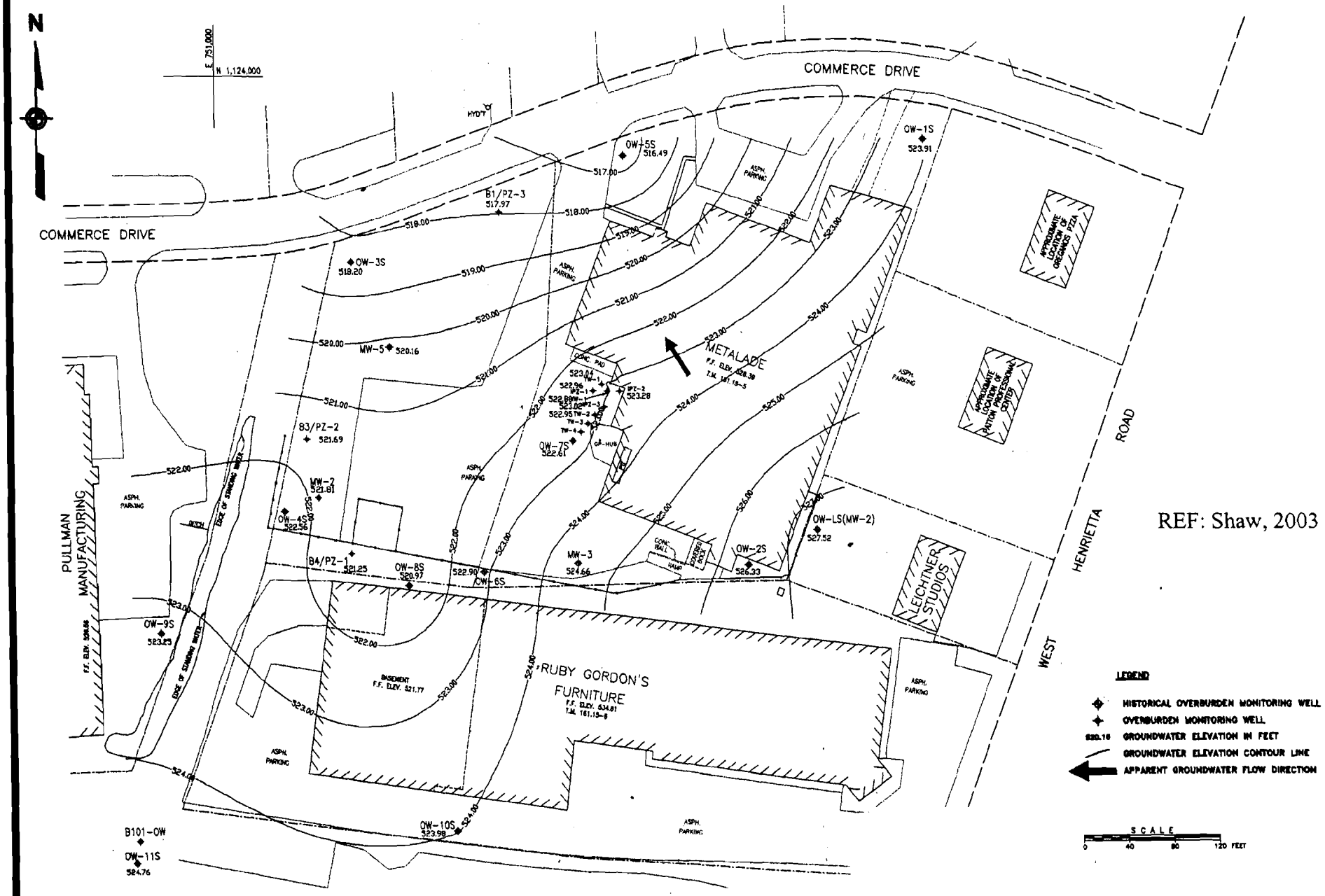
EXISTING SITE FEATURES
STUART OLVER HOLTZ SITE

FIGURE 2



Ref: Shaw, 2003

URS	INJECTION WELL AND MONITORING WELL LOCATION PLAN STUART OLVER HOLTZ SITE	FIGURE 3



REF: Shaw, 2003

URS	EXISTING MONITORING WELLS AND PIEZOMETERS STUART OLVER HOLTZ SITE	FIGURE 4

TABLE 3-1

PROJECT SCHEDULE

To be provided with final Work Plan

TABLE 4-1

DRAWING LIST

Drawing	Title
1	Cover Sheet
2	Legend and General Notes
3	Existing Site Plan
4	Remediation Site Plan for Excavation and Disposal and In-Situ Chemical Oxidation
5	Injection Well Details
6	Piping and Instrumentation and Process Flow Diagram for In-Situ Chemical Oxidation
7	Mechanical Layout for In-Situ Chemical Oxidation
8	Mechanical Details for In-Situ Chemical Oxidation
9	Electrical Plan and Details for In-Situ Chemical Oxidation
10	Miscellaneous Details and Site Security