Includes Work Plan for Vapor Intrusion ICM.

ARCADIS
Infrastructure, environment, facilities

ARCADIS G&M, Inc.
441 New Karner Road
Suite 4
Albany
New York 12205
Tel 518 452 7826
Fax 518 452 4398
www.arcadis-us.com

ENVIRONMENT

Larry Rosenmann
New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials
Bureau of Hazardous Waste and Radiation Management, 9th Floor
625 Broadway
Albany, New York 12233-7258

Subject:
Work Plan for Corrective Measures Study, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date:
25 August 2006

Contact:
Jeffrey Bonsteel

Phone:
518.452.7826

Email:
jbonsteel@arcadis-us.com

Our reference:
AY000265.00014

Dear Mr. Rosenmann:

On behalf of Lockheed Martin Corporation (LMC), ARCADIS has prepared this work plan for a Corrective Measures Study (CMS) for the Solvent Dock area (Site) at the former General Electric Company (GE) French Road facility in Utica, New York. The site location is shown on Figure 1. The scope of work outlined below addresses the 26 June 2006 New York State Department of Environmental Conservation (NYSDEC) letter to LMC requiring a work plan within 60 days to develop a CMS which would evaluate remedies for chlorinated volatile organic compounds in groundwater at the Site.

A work plan for an interim corrective measure (ICM) to address potential vapor intrusion at the Site is attached to this letter work plan. The ICM work plan was prepared by ARCADIS at the request of NYSDEC.

1. Site History and Conceptual Site Model

In the early 1950s, GE acquired approximately 55 acres of undeveloped land on French Road in Utica, New York and constructed a 500,000-square foot manufacturing facility (Figure 1). Production operations conducted by GE included manufacturing, assembly, and testing of electrical components for the defense and aerospace industries. These production operations were conducted by GE until April 1993, when the facility was acquired by Martin Marietta Corporation (MMC). In March 1995, MMC merged with Lockheed Corporation to form Lockheed Martin Corporation (LMC). In March 1996, LMC sold the property to Pinnacle Park, Inc., which subsequently sold the property to the Oneida County Industrial Development Agency (OCIDA), the current owner. ConMed Inc., a company that manufactures and distributes medical supplies, now occupies the facility. ConMed leases the facility from the current property owner, the Oneida County Development Agency. Although LMC no longer owns the property, LMC has retained responsibility for environmental cleanup activities related to past releases at the Solvent Dock area.

Contains 3/2006 plumemap.

Groundwater in the northeast corner of the main manufacturing building in an area known as the Solvent Dock and the area along the northern perimeter ditch (Figure 2) has been impacted by volatile organic compounds (VOCs). Since 1991, GE, MMC, and LMC have completed groundwater investigations in these areas. In November 1994, Blasland, Bouck & Lee, Inc. (BBL) completed an investigation of the facility storm sewer in the Solvent Dock area. The investigation determined that VOCs detected in the storm sewer were attributable to the discharge of VOC-impacted groundwater into the northern perimeter ditch and infiltration of VOC-impacted groundwater from the Solvent Dock area into the storm sewer beneath the building.

In May 1995, BBL completed a *Storm Sewer Investigation Report*, which recommended that the impacted portion of the storm sewer flow be collected, treated, and discharged to meet proposed State Pollutant Discharge Elimination System (SPDES) VOC effluent limitations. An evaluation of remedial design alternatives to address the source of VOCs entering the storm sewer that would remediate the impacted groundwater was completed by BBL (in accordance with NYSDEC recommendations). The results of this evaluation were presented in the *Storm Sewer Basis of Design Report* (BBL, 1995).

Based on this report, BBL completed the final design of the *French Road Facility Ground-water Collection and Treatment System* in October 1995. Construction of the system was completed in June 1996. The system collects groundwater from the Solvent Dock area and the northern perimeter ditch area; conveys the collected groundwater to a treatment building for removal of VOCs by a low-profile air stripper; and discharges the treated effluent to the municipal storm water system. Note that in 2002, the treatment system was upgraded to also treat groundwater from the adjacent West Lot site, where a groundwater recovery well (pumping well PW-1) had been installed.

A hydraulic and chemical groundwater monitoring program to evaluate the effectiveness of the groundwater collection and treatment system for the Solvent Dock area was developed. This program, as presented in the *Ground-Water Sampling and Analysis Work Plan* (BBL, 1998) has been modified through monthly and quarterly correspondence with the NYSDEC to accommodate the changing conditions over the life of the project.

The geologic materials encountered in the Solvent Dock area were generally described as brown fine to coarse sand with minor silt and gravel (possible glacial kame) to a depth of approximately 10 feet below land surface (bls), overlying a dense unit composed of silt and fine sand with minor gravel (likely glacial till). This stratigraphy is similar to the regional geology noted for the site area. Prior to installation and operation of the groundwater collection and treatment system,

groundwater elevation data indicated that the water table was approximately 3 to 5 feet bls, and the inferred direction of groundwater flow was southwesterly with a hydraulic gradient of approximately 0.014 feet per foot. The shallow water table facilitated the infiltration of groundwater into the storm sewer (with eventual discharge to Nail Creek). Operation of the system has controlled the movement of groundwater and modified the direction of groundwater flow in the immediate vicinity of the Solvent Dock area to a northeasterly direction.

Groundwater elevation data (most recently presented in ARCADIS' *2006 Annual Monitoring Report for Solvent Dock Area Groundwater Treatment System*) indicate that the water table currently ranges from 5 to 10 feet bls. This lower groundwater table (as compared to historical, "pre-system" elevations) is a direct result of the influence of the groundwater collection and treatment system. Hydraulic conductivity values calculated for monitoring wells across the Solvent Dock area (from data generated as part of historical aquifer testing) indicate a mean value of 5.1×10^{-4} centimeters per second (cm/sec) or 1.5 feet per day (ft/day). The hydrogeologic conditions at the Site (relatively low hydraulic conductivity coupled with groundwater containment via the active collection system) have controlled the distribution of dissolved-phase groundwater constituents. Historic and current water quality data show that VOCs are not present in groundwater beyond the immediate Solvent Dock area (as presented in previous quarterly monitoring reports, ARCADIS 1999-2005). The plume extends approximately 125 to 150 feet downgradient of the presumed VOC source. Recent groundwater analytical data for the site (collected in March 2006) indicates that the plume does not extend beyond the building footprint. The groundwater plume is shown on Figure 2.

An evaluation of site conditions (including biogeochemical characterization of the groundwater at the Solvent Dock area) to determine potential application of in-situ remediation technologies for groundwater was completed in 2003. This evaluation coupled with the data to be generated upon implementation of this CMS work plan will be described in detail within the CMS.

2. Interim Corrective Measures

In response to the presence of chlorinated volatile organic compounds (CVOCs) in groundwater, interim corrective measures have been implemented in the Solvent Dock area. Operation of the groundwater collection and treatment system has continued over the past 10 years. Previous investigations indicated that groundwater impacted with CVOCs infiltrated into the storm sewer, eventually flowing to Nail Creek. The groundwater collection and treatment system has successfully addressed these infiltration issues and system operation continues to be in compliance with the SPDES permit for the facility.

Sub-slab vapor sampling conducted in the Solvent Dock area has shown that VOCs are present in soil vapor beneath the northeastern end of the ConMed manufacturing building (as presented within the May 1, 2006 EarthTech *Vapor Intrusion Study, ConMed Facility*). An interim vapor mitigation system (as described below) has been designed and will be installed to address the soil vapor and minimize or prevent potential vapor migration into indoor air. (Note that indoor air sampling results, presented as part of EarthTech's vapor intrusion study, were determined to be inconclusive because ConMed employees were using CVOC-containing products during sampling). However, independent of conclusive indoor air sampling results, concentrations of CVOCs in sub-slab vapor samples warrant installation of mitigation measures, per the Draft NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH, 2005).. The mitigation measures planned for the Site are described in the Vapor Mitigation sections of this CMS work plan and in the *Work Plan for Interim Corrective Measure* included as Attachment A.

3. Scope of Work

This work plan proposes the scope of work for the CMS, including several pre-CMS tasks. LMC will conduct several tasks in advance of the CMS that will provide information to refine the conceptual site model and support selection of remedial/mitigation measures for the Site. The work planned for the pre-CMS tasks has been designed to supplement the existing data and close associated data gaps. The location of supplemental groundwater and sub-slab vapor monitoring points have been selected based on the existing information. The site plan is shown on Figure 3.

3.1 Pre-CMS Tasks

There are six proposed pre-CMS tasks. Each task is described below. Prior to the implementation of these tasks, the site-specific Health and Safety Plan (HASP) will be updated to account for the work.

3.2 Piezometer Installation

Three piezometers are proposed for installation inside the current ConMed facility building (Figure 3). These piezometers are intended to supplement existing piezometers located within the building (PZ-5, PZ-6, and PZ-7).

Piezometers will be installed using Geoprobe™ drilling techniques. At the selected piezometer locations, the Geoprobe™ drill rig will direct-push sampling equipment to the desired depth and a one-inch diameter monitoring well will be installed. Soils will be logged and screened for the presence of VOCs using a photoionization detector (PID) by an ARCADIS scientist. Piezometers will be constructed with up to 10-foot

long sections of one-inch schedule 40 PVC 0.010-inch slot screen and one-inch diameter PVC riser. Piezometers will be constructed to be screened across the water table. Clean filter pack sand will be poured into the annular space between the borehole and piezometer. The filter pack will extend approximately two feet above the top of the screened interval, if feasible. Approximately one-foot of bentonite pellets will be placed on top of the filter pack. The bentonite pellets will then be hydrated using potable water. After allowing sufficient time for the bentonite to hydrate, the remainder of the annulus will be tremie grouted to the surface. A flush mount curb box will then be set into the grout and a concrete pad will be installed at the surface.

Following installation, each piezometer will be permitted to set for a minimum of 48 hours prior to development. Each piezometer will then be developed by bailing and/or pumping and surging to remove fine materials and ensure good hydraulic connection with the surrounding formation. In general, piezometer development will be continued until the discharge water is visually free of sediment.

3.3 Groundwater Sampling

Groundwater samples will be collected from each new piezometer and from the piezometers and monitoring wells that are part of the regularly scheduled annual groundwater sampling (PZ-5, MW-1, and MW-10). Monitoring wells MW-7 and MW-11 (located to the south and east of the ConMed facility, respectively) will also be sampled. Sampling methodology and analytical protocols will be consistent with the existing groundwater monitoring program (and in accordance with the *Quality Assurance Project Plan*, ARCADIS 2006), which includes analysis of groundwater for a reduced suite of VOCs.

It is anticipated that two (2) rounds of groundwater samples will be collected. The second round will be conducted approximately 3 months after the first round. Prior to collecting groundwater samples, a round of water level measurements from all existing and newly-installed groundwater monitoring points will be collected.

In accordance with the existing *Solvent Dock and Northern Perimeter Ditch Area, Ground-Water Sampling and Analysis Work Plan* (BBL 1995), groundwater samples will be collected using polyethylene disposable bailers with disposable polypropylene rope. Samples will be collected following three purged well volumes or sufficient recharge following well dewatering. Groundwater sample bottles will be directly filled and immediately packed on ice in laboratory supplied coolers. The samples will then be submitted to Severn Trent Laboratories Inc. (STL) for the analysis of select VOCs by EPA Method 8260. All samples will be iced and packed in coolers while shipped under chain of custody documentation via overnight courier.

3.4 Surveying

Piezometer locations will be surveyed to the nearest 0.1 foot horizontally relative to the North American Datum (NAD) 1983. Monitoring well measuring point elevations will be surveyed to the nearest 0.01 foot relative to the North American Vertical Datum (NAVD) 1988.

3.5 Vapor Mitigation System Installation

As previously discussed and outlined within the *Work Plan for Interim Corrective Measure* included as Attachment A, ARCADIS has developed the design for a vapor mitigation system (or vapor depressurization system) to address the presence of CVOCs in sub-slab vapor as reported in EarthTech's *Vapor Intrusion Study* (May 2006). This system has been designed to actively remove sub-slab vapors using a blower and associated piping, and subsequent dispersion discharge to the atmosphere. Operation of the system will result in a "negative pressure" below the building slab relative to the pressure above the slab, thus mitigating migration of vapor into the building. The vapor mitigation system is anticipated to be installed within the next 3 months (and upon approval of the *Work Plan for Interim Corrective Measure* by the NYSDEC).

3.6 Vapor Mitigation System Performance Monitoring

During system installation, start-up, and full-scale operations, data will be collected to evaluate the efficiency and effectiveness of the system. This data will include pressure differential measurements (i.e., measurements from below and above the slab) and vapor monitoring. Additionally, four supplemental sub-slab vapor samples will be collected during system installation to further define the extent of the soil vapor "plume" (Figure 4). These vapor samples will supplement the vapor intrusion study completed by EarthTech.

Piezometers installed as part of the pre-CMS tasks will additionally be used in the performance monitoring of the vapor mitigation system. The piezometers are intended to be screened across the water table. The unsaturated portion of the well screen should experience the effects of the depressurization system. Therefore, the piezometers will be monitored for negative pressure.

Details of the approach, methods, and criteria for performance monitoring of the vapor mitigation system are presented in the *Work Plan for Interim Corrective Measure* (included as Attachment A).

Data collected during ICM operation will be used in the evaluation presented within the CMS. The intent of the ICM is to provide short-term mitigation in response to the presence of sub-slab vapors. The ICM may be modified and/or included within the CMS as a component of the final site remedy, pending performance evaluations.

3.7 Sewer Bedding Investigation

The sewer bedding investigation will be completed in accordance with the NYSDEC-approved *Work Plan for Sewer Bedding Investigation* (ARCADIS 2005). Data generated as part of the investigation, in addition to achieving the original goal of the investigation, will be used to support selection of remedial/mitigation measures for the Site.

4. Corrective Measures Study

Following completion of the pre-CMS tasks, and consistent with recent conversations with NYSDEC, a "focused" Corrective Measures Study will be completed and submitted to NYSDEC for review and approval. The CMS will include the following components:

- Summary presentation and evaluation of historical data and the data from the pre-CMS tasks.
- Conceptual site model and existing site conditions (including a review of the effectiveness of the existing Groundwater Collection and Treatment System).
- Evaluation of remedial/mitigative measures.
- Recommendation of remedial/mitigative measures.

5. Schedule

The pre-CMS tasks are anticipated to be completed within six months. Upon evaluation of the task results, the need for additional work will be determined and, if needed, will be implemented upon approval by NYSDEC. If needed, an addendum to this work plan will be submitted to the NYSDEC summarizing the results and proposing additional work.

The CMS report will be prepared and submitted to the NYSDEC within four months after completion of the pre-CMS tasks.

6. References

Blasland, Bouck & Lee, Inc. *Solvent Dock and Northern Perimeter Ditch Area, Ground-Water Sampling and Analysis Work Plan*. June 1996, Revised February 1998.

ARCADIS G&M. *Quarterly Monitoring Reports for Solvent Dock Area Groundwater Treatment System.* 1999-2005

ARCADIS G&M. *Work Plan for Storm Sewer Bedding Investigation*. December 2005.

ARCADIS G&M. *2005 Annual Monitoring Report For Solvent Dock Area Groundwater Treatment System.* April 2006.

ARCADIS G&M. *Quality Assurance Project Plan*, July 2006.

ARCADIS G&M. *Work Plan for Interim Corrective Measures*. August 2006.

New York State Department of Health. *Public Comment Draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York*. February 2005.

O'Brien & Gere Engineers, Inc. *Ground Water Investigations, French Road Facility*. June 1993.

If there are any questions or comments regarding this work plan, please do not hesitate to contact us.

Sincerely,

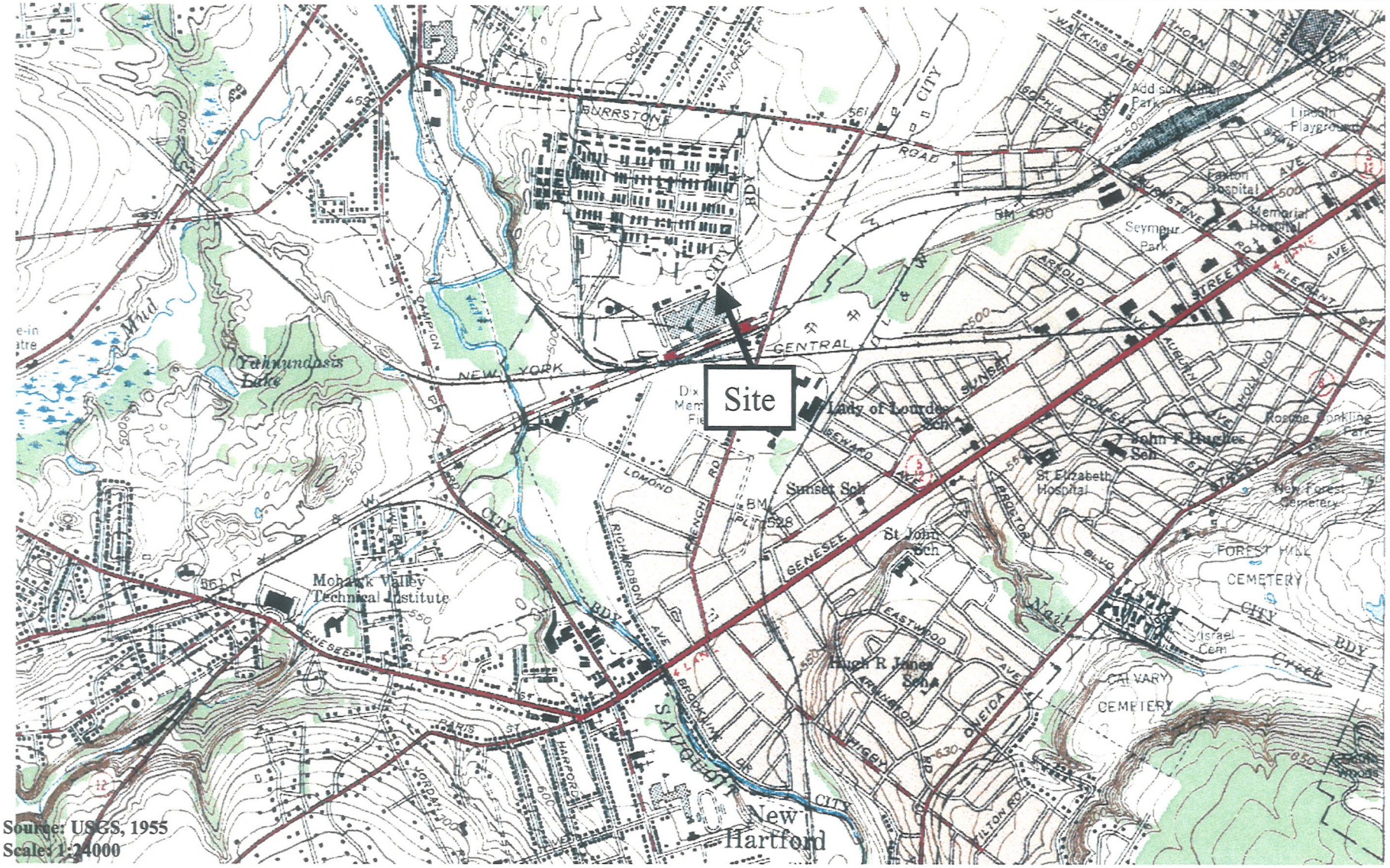
ARCADIS G&M, Inc.

Jeffrey Bonsteel
Project Scientist

Christopher J. Motta, CPG
Project Manager

Copies:

Greg Rys (NYSDOH Herkimer)
Tina Armstrong (LMC)
File



ARCADIS

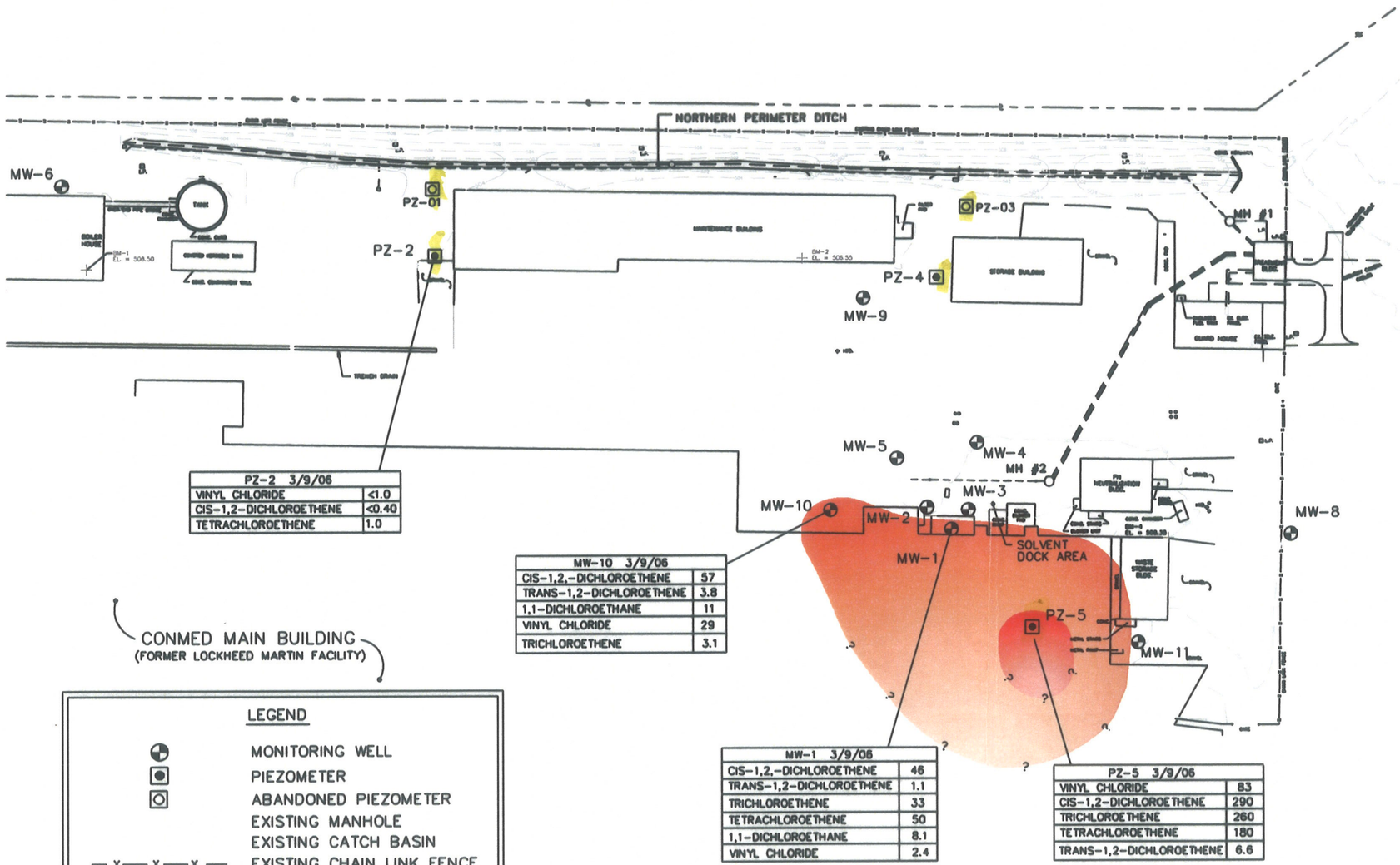
441 New Karner Rd. Suite 4
Albany, New York, 12205
Tel: 518/452-7826 Fax: 518/452-4398

Site Location

Solvent Dock Area

UTICA, NEW YORK

PROJECT MANAGER	DRAWING NUMBER
M. Sanford	
CHECKED BY	PROJECT NUMBER
J. Bonsteel	AY000265.0014
DATE DRAWN	FIGURE NUMBER
July 27, 2005	1



PZ-2 3/9/06	
VINYL CHLORIDE	<1.0
CIS-1,2-DICHLOROETHENE	<0.40
TETRACHLOROETHENE	1.0

MW-10 3/9/06	
CIS-1,2,-DICHLOROETHENE	57
TRANS-1,2-DICHLOROETHENE	3.8
1,1-DICHLOROETHANE	11
VINYL CHLORIDE	29
TRICHLOROETHENE	3.1

MW-1 3/9/06	
CIS-1,2,-DICHLOROETHENE	46
TRANS-1,2-DICHLOROETHENE	1.1
TRICHLOROETHENE	33
TETRACHLOROETHENE	50
1,1-DICHLOROETHANE	8.1
VINYL CHLORIDE	2.4

PZ-5 3/9/06	
VINYL CHLORIDE	83
CIS-1,2-DICHLOROETHENE	290
TRICHLOROETHENE	260
TETRACHLOROETHENE	180
TRANS-1,2-DICHLOROETHENE	6.6

CONMED MAIN BUILDING
(FORMER LOCKHEED MARTIN FACILITY)

LEGEND

- MONITORING WELL
- PIEZOMETER
- ABANDONED PIEZOMETER
- EXISTING MANHOLE
- EXISTING CATCH BASIN
- — x — x — x — EXISTING CHAIN LINK FENCE
- ——— -PL- ——— EXISTING PROPERTY LINE

ALL UNITS REPORTED IN PARTS PER BILLION

- 100 – 800 ppb
- 800 – 900 ppb

GROUND-WATER SAMPLE ANALYTICAL RESULTS

SAMPLE I.D. — SAMPLE DATE

MW-1 3/31/05	
TETRACHLOROETHENE	62

VOC PARAMETER DETECTED — CONCENTRATION IN ug/l

0 80' 160'
SCALE IN FEET

SITE PLAN

NOTE:
1. BASE MAP MODIFIED FROM BB&L DRAWING ENTITLED "SITE PLAN WITH OUTFALL LOCATIONS", SEPTEMBER 1992.

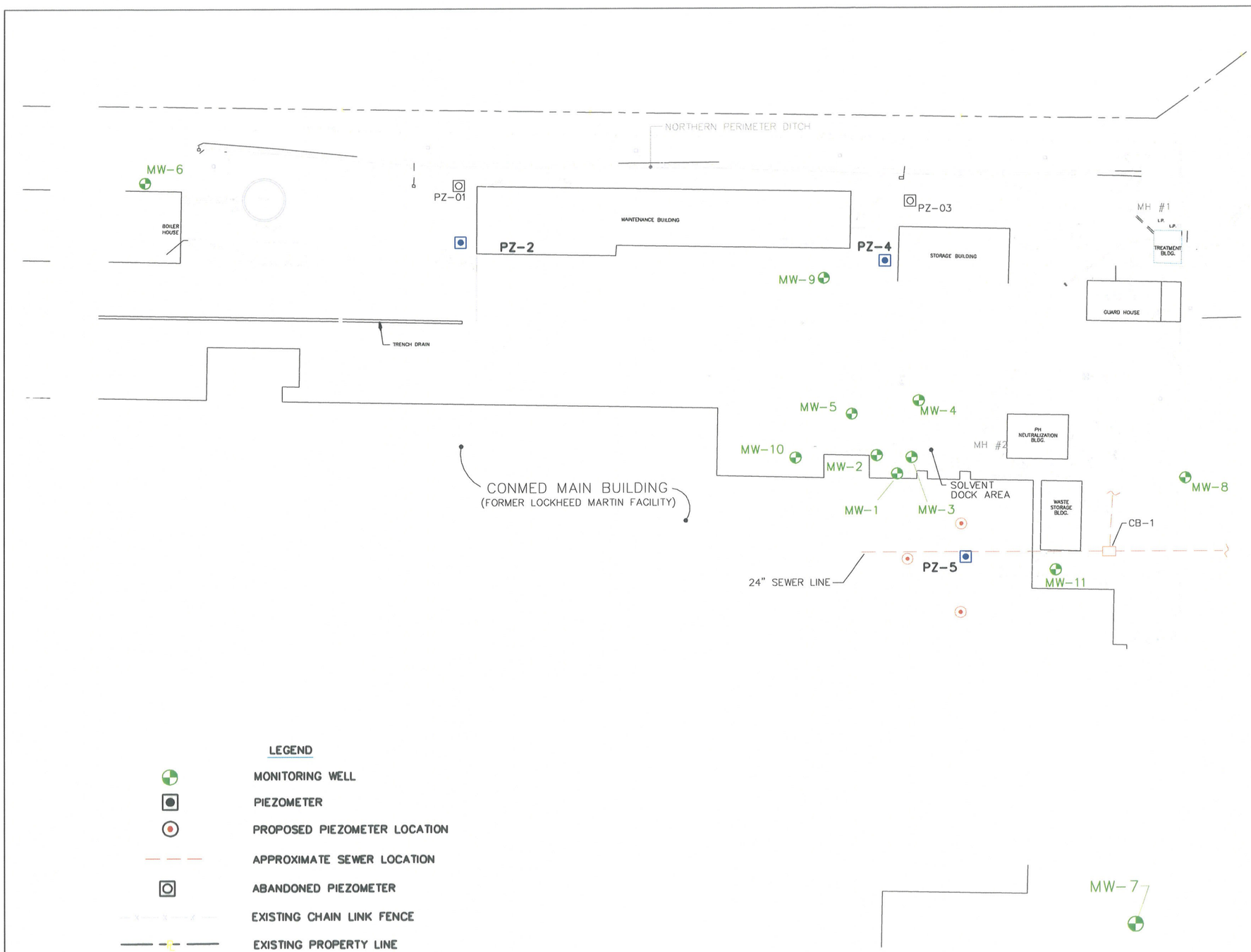
Project Director	Area Manager
C. MOTTA	R. GAN
Task Manager	Technical Review
J. BONSTEEL	J. BONSTEEL
Drawing Date	Drawn By
04-03-06	FJF-G274M16

ARCADIS
ARCADIS G&M Inc.
441 NEW KARNER RD., SUITE 4
ALBANY, NY 12205
Tel: 518-452-7826 Fax: 518-452-4398
www.arcadis-us.com

FORMER LOCKHEED MARTIN FACILITY
UTICA, NEW YORK

GROUNDWATER VOC CONCENTRATIONS MARCH 2006

Project Number	Figure
AY000265012	2



LEGEND

- MONITORING WELL
- PIEZOMETER
- PROPOSED PIEZOMETER LOCATION
- APPROXIMATE SEWER LOCATION
- ABANDONED PIEZOMETER
- EXISTING CHAIN LINK FENCE
- EXISTING PROPERTY LINE

NOTES:

1. BASE MAP MODIFIED FROM BB&L DRAWING ENTITLED "SITE PLAN WITH OUTFALL LOCATIONS", SEPTEMBER 1992.

0 80' 160'

SCALE IN FEET

Project Director C. MOTTA	Area Manager R. GAN
Task Manager J. BONSTEEL	Technical Review J. BONSTEEL
Drawing Date 08-11-06	Drawn By FJF-G274L24_2

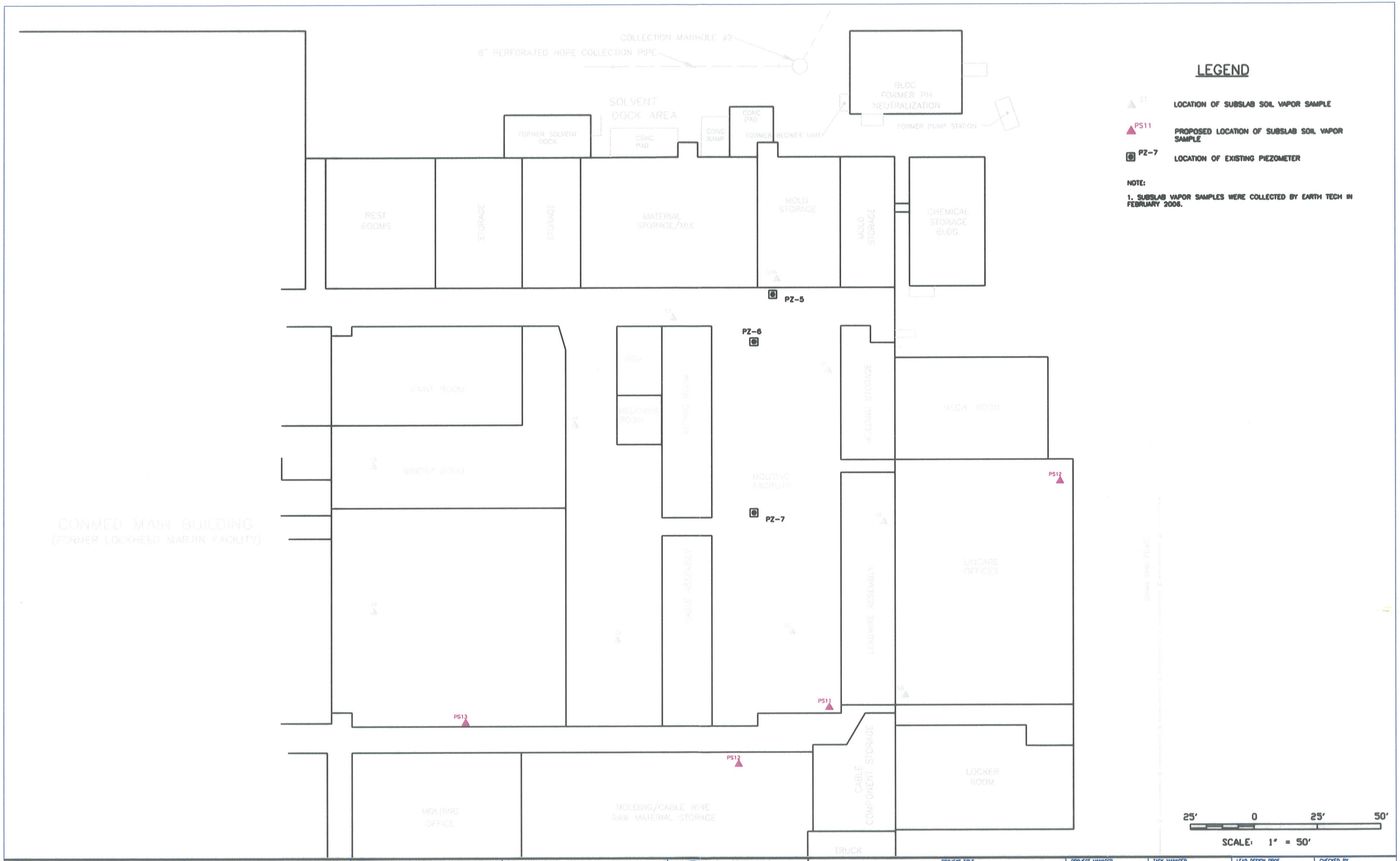
ARCADIS

ARCADIS G&M Inc.
441 NEW KARNER RD., SUITE 4
ALBANY, NY 12205
Tel: 518-452-7826 Fax: 518-452-4398
www.arcadis-us.com

FORMER LOCKHEED MARTIN FACILITY
UTICA, NEW YORK

PROPOSED PIEZOMETER LOCATIONS SOLVENT DOCK AREA

Project Number AY0002650014	Figure 3



DRAFT
FOR INTERNAL USE ONLY

REV.	ISSUED DATE	DESCRIPTION
1	8/14/06	DRAFT

KEYPLAN

ARCADIS
Arcadis G&M of New York Architectural and Engineering Services, P.C.
441 New Karner Road, Suite 4
Albany, NY 12205
Tel: 518-452-7826 Fax: 518-452-4398
www.arcadis-us.com

PROJECT TITLE
FORMER LOCKHEED MARTIN FACILITY
UTICA, NEW YORK

PROJECT MANAGER	TASK MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. MOTTA	J. BONSTEEL	J. BONSTEEL	J. BONSTEEL
		TASK/PHASE NUMBER: 00001	DRAWN BY: T.CARIGNAN
		PROJECT NUMBER: AY000265.0014	FIGURE NUMBER: 4

SHEET TITLE
PROPOSED LOCATIONS OF SUBSLAB VAPOR SAMPLES

LOCKHEED MARTIN

Attachment A

Work Plan for the Interim Corrective Measure

Solvent Dock Area, Former Lockheed Martin
French Road Facility, Utica, New York

25 August 2006

ARCADIS

Jeffrey Bonsteel
Project Scientist

Edward W. Roberts
Senior Engineer

Christopher J. Motta, CPG
Project Manager

Work Plan for the Interim Corrective Measure

Solvent Dock Area
Former Lockheed Martin French Road Facility
Utica, New York

Prepared for:
Lockheed Martin Corporation

Prepared by:
ARCADIS G&M, Inc.
441 New Karner Road
Suite 4
Albany
New York 12205
Tel 518 452 7826
Fax 518 452 4398

Our reference:
AY000265.0014

Date:
25 August 2006

Table of Contents

1. Introduction

On behalf of Lockheed Martin Corporation (LMC), ARCADIS has prepared this work plan for the proposed Interim Corrective Measure (ICM) to be conducted at the Solvent Dock area at the at the former General Electric Company (GE) French Road facility (Site) in Utica, New York. The site location is shown on Figure 1. This work plan outlines the ICM scope and approach to address known chlorinated volatile organic compounds (CVOCs) detected below the concrete slab of the building in the northeast corner of the main manufacturing building, as requested by the New York State Department of Environmental Conservation (NYSDEC) on June 26, 2006.

2. Site Background and Conditions

Previous investigations conducted at the Site during the 1990s indicated that groundwater impacted with CVOCs infiltrated the Site storm sewer and eventually discharged to Nail Creek. In response to the presence of CVOCs in the Site groundwater, and to prevent the continued infiltration of the impacted groundwater into the site storm sewer, a groundwater interim corrective measure (i.e., a groundwater collection and treatment system with discharge to the sewer via a State Pollutant Discharge Elimination System (SPDES) permit) was implemented and has been operational since 1996. The groundwater collection and treatment system has successfully addressed these infiltration issues and system operations continue to be in compliance with the SPDES permit for the facility.

In response to the groundwater plume and potentially-related vapors beneath the concrete slab of the eastern end of the ConMed manufacturing building at the Site, a vapor intrusion study was conducted by Earth Tech in May 2006. The study consisted primarily of collecting sub-slab soil vapor samples at multiple locations within the interior of the building, and above the area of known impacted groundwater. Analytical results from this sampling event indicated the presence of CVOCs in the soil vapor beneath the ConMed building, as presented within the *Vapor Intrusion Study Report* (Earth Tech, May 2006). The indoor air sampling results, presented as part of EarthTech's vapor intrusion study, were determined to be inconclusive because ConMed employees were using VOC-containing materials inside the building concurrently with the performance of the vapor sampling program during the study. A second attempt at collecting indoor air samples (to be completed by Earth Tech) was cancelled due to the continued use of these VOC-containing materials by ConMed employees (as relayed to the NYSDEC via e-mail on July 14, 2006). However, independent of conclusive indoor air sampling results, concentrations of CVOCs in

sub-slab vapor samples warrant consideration of mitigation measures (in accordance with the New York State Department of Health [NYSDOH] Public Comment Draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York, February 2005). A general discussion of the ICM system design (i.e., vapor mitigation system, or vapor depressurization system) and approach to address the vapors detected below the concrete slab of the building is provided in the following section.

3. ICM Scope of Work

ARCADIS has designed (90% design) a vapor mitigation system (or vapor depressurization system) to address the presence of CVOCs in sub-slab vapor as documented in the *Vapor Intrusion Study Report* (Earth Tech, May 2006). The primary operational objective of the vapor mitigation system during the implementation of the ICM phase is to create a "negative pressure" below the building slab relative to the pressure above the slab, thus mitigating the migration (intrusion) of vapors into the building. Upon establishing an effective negative gradient across the concrete slab of the building (i.e., depressurize the zone beneath the slab), soil vapors from the vadose zone beneath the slab will be actively removed from the subsurface through the use of a blower and associated sump and piping network, with subsequent dispersion discharge to the atmosphere.

As the primary goal of the ICM system is to establish a negative gradient across the slab and prevent vapor intrusion into the building, the concentrations (mass) of vapors extracted from the subsurface is not anticipated to be significant (based on analytical data results collected as part of the *Vapor Intrusion Study* [Earth Tech, 2006]). As such, an air discharge permit will not be required for the exhaust stack of the system (per the NYSDEC Air Guide 1 Guidelines and correspondence with the NYSDEC Division of Environmental Remediation, NYSDEC Division of Air Resources, and NYSDOH). Flexibility has been designed into the system to allow for modifications to the 90% design in the field (design-build approach) during initial ICM system construction and following the start-up (shake-down) period. The final design (100% design) of the system, incorporating all modifications, will be represented in final as-built drawings for the system.

3.1 Vapor Mitigation System Components

The 90% design drawings (Drawing No. 1, 2, 3, 4, 5) as presented in Appendix A provide the overall layout of the vapor mitigation system, including general

specifications and details. The primary components of the system include the following:

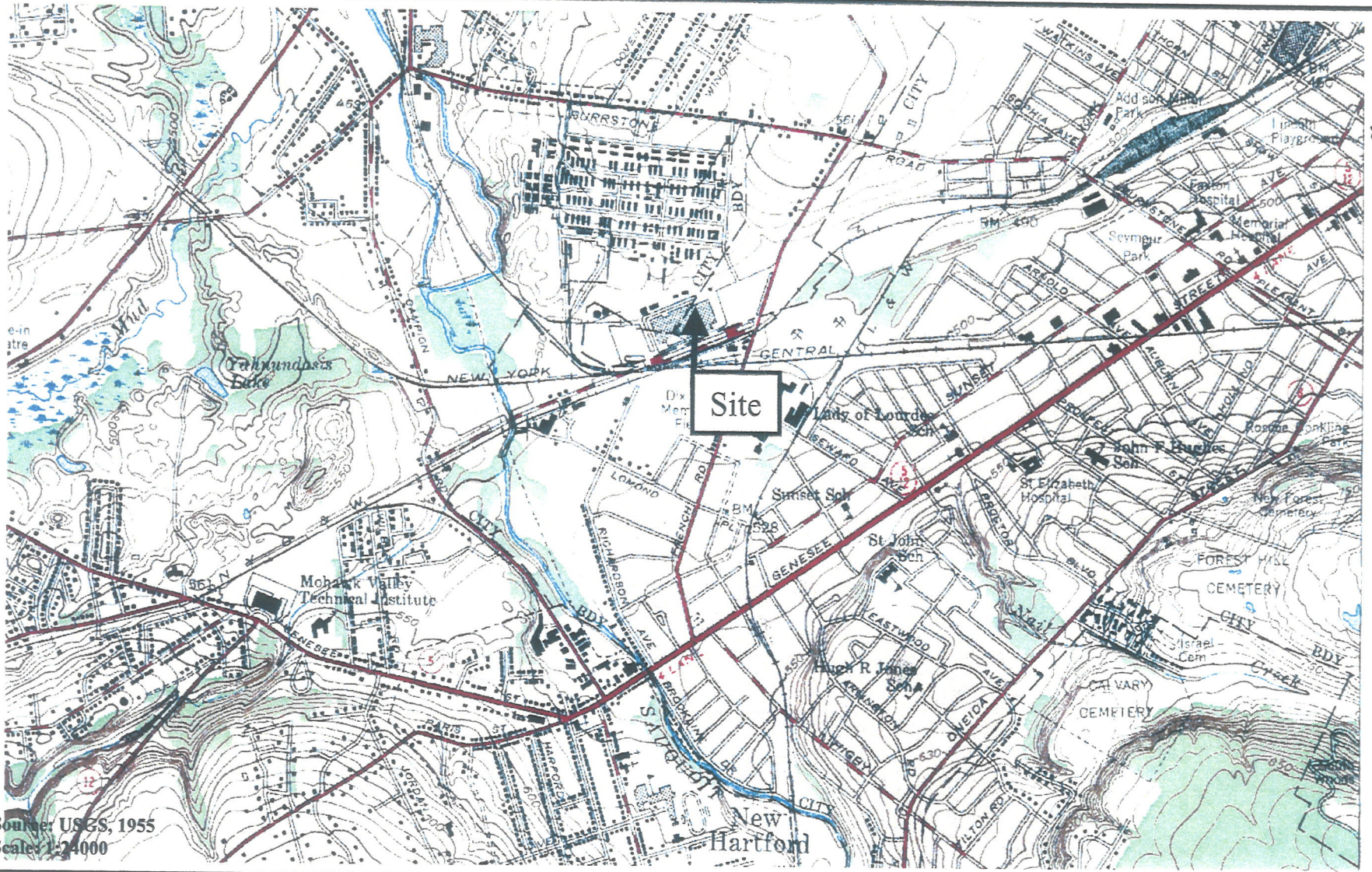
- Blower to create the negative pressure gradient across the building slab;
- Electrical control panel to energize and operate the system;
- System extraction/collection point(s) consisting of the depressurization sump;
- Piping network to convey the extracted air/vapors from the subsurface to the system exhaust stack with dispersion to the atmosphere; and
- Piezometers and vapor points to monitor system performance through vacuum and pressure measurements with field gauges and instrumentation.

3.2 Vapor Mitigation System Performance Monitoring

During system installation, start-up, and ICM operations, data will be collected to evaluate the efficiency and effectiveness of the system. This data will include pressure differential measurements (i.e., measurements from below and above the slab). The goal for the ICM is to establish a negative pressure gradient across the slab and prevent vapor intrusion into the building, therefore, the primary element of the performance monitoring during the implementation of the ICM is to track pressure differentials across the slab through pressure measurements at the monitoring points as indicated on Drawing 1. To assist in delineation of the soil vapor "plume" beneath the concrete slab, four supplemental sub-slab vapor samples will be collected during the system installation. These additional vapor samples will supplement the data obtained during the vapor intrusion study completed by EarthTech. Further description on the location of these supplemental vapor samples is provided within the *Work Plan for Corrective Measures Study* (ARCADIS August 2006). Based on the results of these supplemental sub-slab vapor samples, the ICM may be modified in order to address additional areas of the sub-slab soil vapor "plume."

3.3 ICM Schedule

The vapor mitigation system components are currently being ordered, fabricated, and shipped to the project Site. The schedule of the system installation is projected to commence within the next three (3) months following the approval of this work plan by the NYSDEC and pending scheduling access to the facility through the current occupants (ConMed Corporation). Implementation and operation of the ICM is scheduled to be initiated immediately following the completion of system construction.



ARCADIS

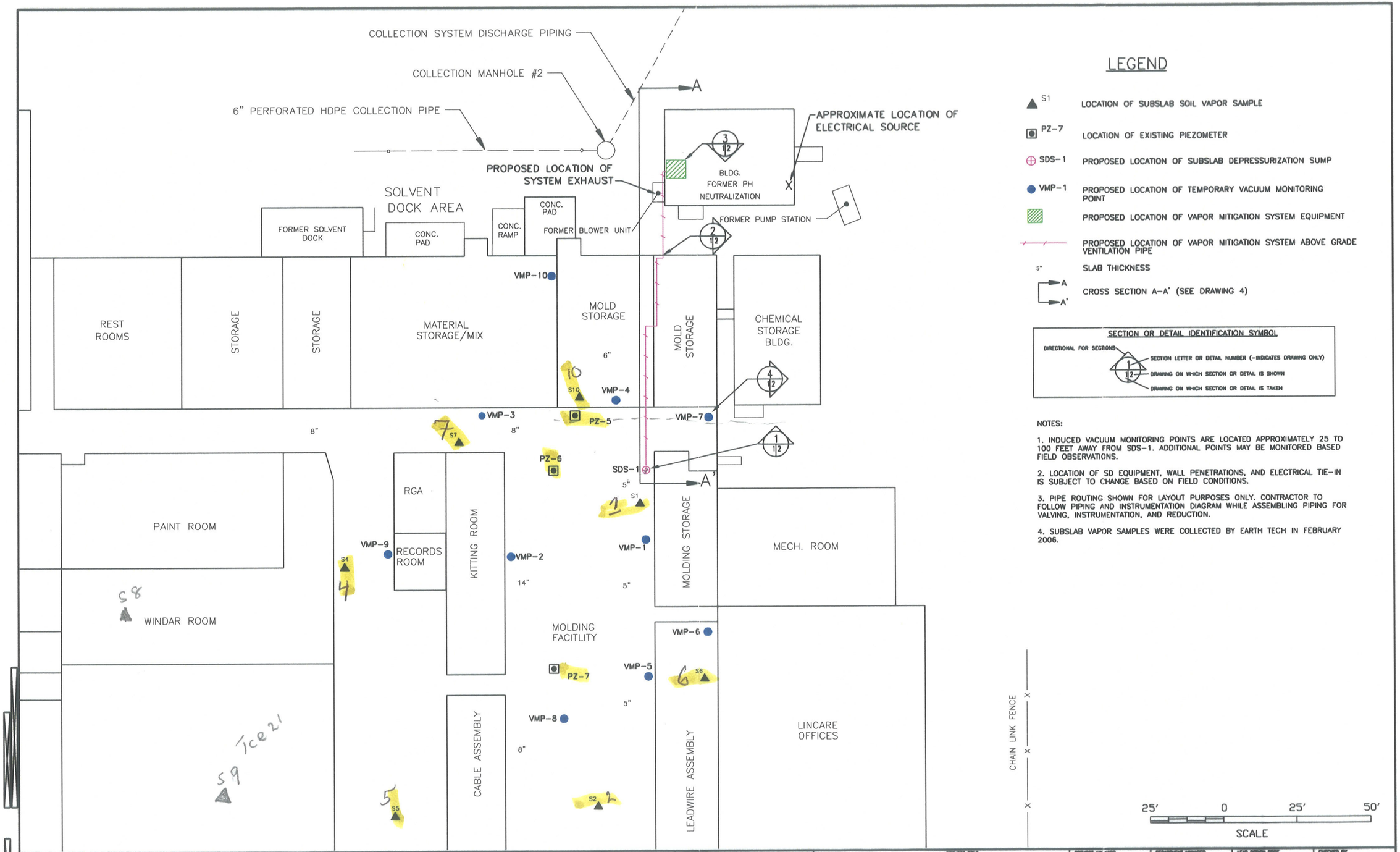
441 New Karner Rd. Suite 4
Albany, New York, 12205
Tel: 518/452-7826 Fax: 518/452-4398

Site Location

Solvent Dock Area

UTICA, NEW YORK

PROJECT MANAGER	DRAWING NUMBER
C. Motta	
CHECKED BY	PROJECT NUMBER
J. Bonsteel	AY000265.0012
DATE DRAWN	FIGURE NUMBER
April 5, 2005	1



LEGEND

- ▲ S1 — LOCATION OF SUBSLAB SOIL VAPOR SAMPLE
- ▣ PZ-7 — LOCATION OF EXISTING PIEZOMETER
- ⊕ SDS-1 — PROPOSED LOCATION OF SUBSLAB DEPRESSURIZATION SUMP
- ● VMP-1 — PROPOSED LOCATION OF TEMPORARY VACUUM MONITORING POINT
- PROPOSED LOCATION OF VAPOR MITIGATION SYSTEM EQUIPMENT
- PROPOSED LOCATION OF VAPOR MITIGATION SYSTEM ABOVE GRADE VENTILATION PIPE
- 5" — SLAB THICKNESS
- A / A' — CROSS SECTION A-A' (SEE DRAWING 4)

SECTION OR DETAIL IDENTIFICATION SYMBOL

DIRECTIONAL FOR SECTIONS

1 — SECTION LETTER OR DETAIL NUMBER (- INDICATES DRAWING ONLY)

1/2 — DRAWING ON WHICH SECTION OR DETAIL IS SHOWN

DRAWING ON WHICH SECTION OR DETAIL IS TAKEN

NOTES:

1. INDUCED VACUUM MONITORING POINTS ARE LOCATED APPROXIMATELY 25 TO 100 FEET AWAY FROM SDS-1. ADDITIONAL POINTS MAY BE MONITORED BASED FIELD OBSERVATIONS.

2. LOCATION OF SD EQUIPMENT, WALL PENETRATIONS, AND ELECTRICAL TIE-IN IS SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.

3. PIPE ROUTING SHOWN FOR LAYOUT PURPOSES ONLY. CONTRACTOR TO FOLLOW PIPING AND INSTRUMENTATION DIAGRAM WHILE ASSEMBLING PIPING FOR VALVING, INSTRUMENTATION, AND REDUCTION.

4. SUBSLAB VAPOR SAMPLES WERE COLLECTED BY EARTH TECH IN FEBRUARY 2006.

REV.	ISSUED DATE	DESCRIPTION
3	8/25/06	SUBMITTAL TO NYSDEC
2	7/25/06	90% DESIGN
1	7/7/06	DRAFT

REVISION

ENGINEERING DESIGN:
ALL PROFESSIONAL ENGINEERING SERVICES ON THIS DRAWING HAVE BEEN PERFORMED FOR ARCADIS G&M OF NEW YORK ARCHITECTURAL AND ENGINEERING SERVICES, P.C. A PROFESSIONAL CORPORATION QUALIFIED TO PERFORM SUCH SERVICES IN THE STATE OF NEW YORK.

SEAL

SEAL

ARCADIS
Arcadis G&M of New York Architectural and Engineering Services, P.C.
441 New Karner Road, Suite 4
Albany, NY 12205
Tel: 518-452-7826 Fax: 518-452-4369
www.arcadis-us.com

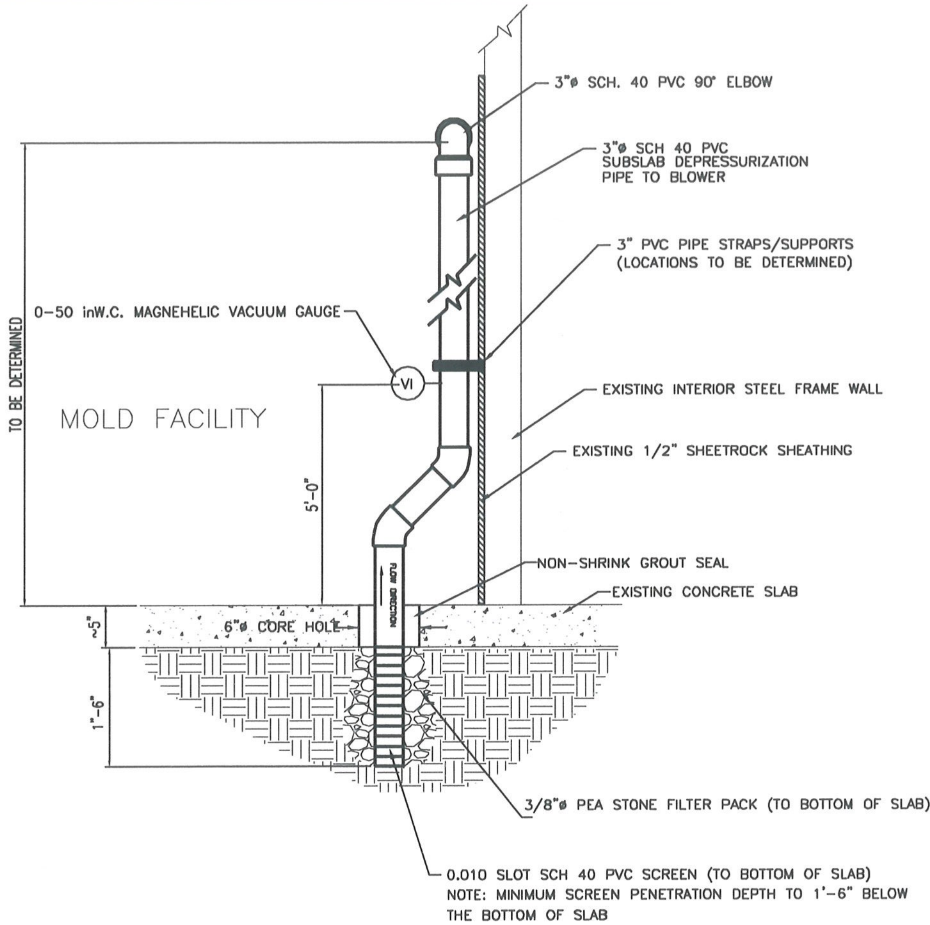
PROJECT TITLE

FORMER LOCKHEED MARTIN FACILITY
UTICA, NEW YORK

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. MOTTA	M. MONSEEN	E. ROBERTS	E. ROBERTS
TASK/PHASE MANAGER		DRAWN BY	
0001		T.CARLSON	
PROJECT NUMBER		DRAWING NUMBER	
AY000265.0014		1	

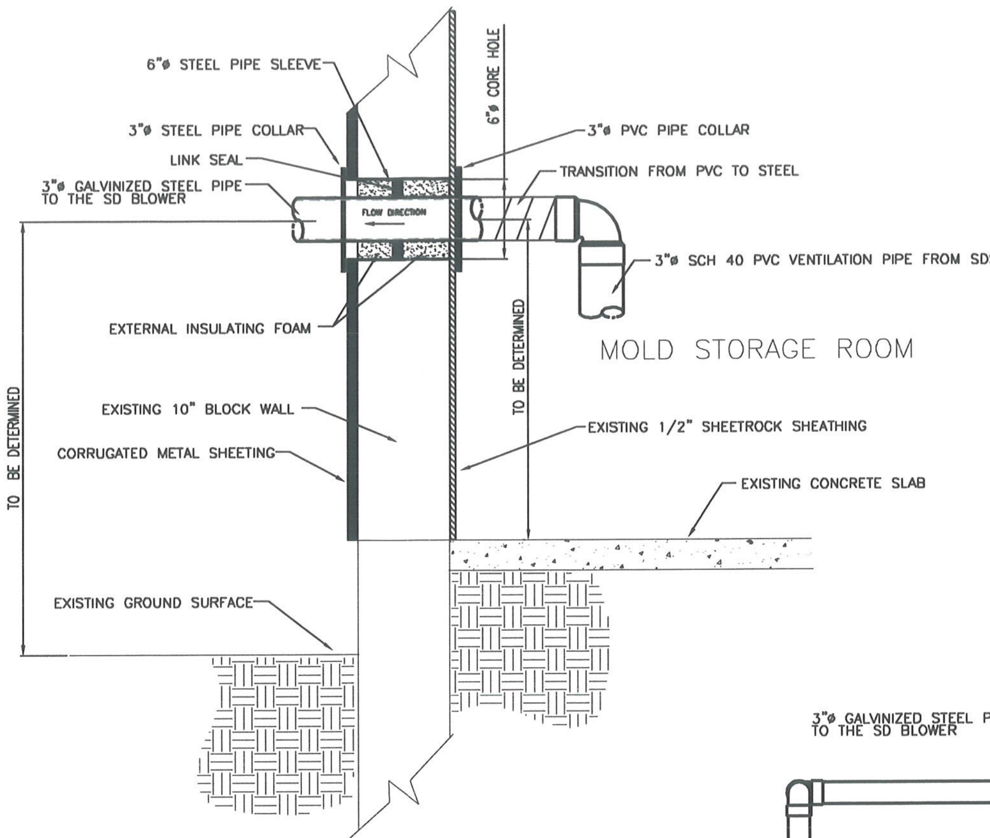
SHEET TITLE

SITE PLAN/
PROPOSED VAPOR MITIGATION SYSTEM LAYOUT



1/2 SUBSLAB DEPRESSURIZATION SUMP DETAIL

N.T.S.



2/2 TYPICAL EXTERIOR WALL PENETRATION

NOT TO SCALE

GENERAL CONSTRUCTION NOTES:

1. PLACEMENT OF VALVES TO BE SUCH THAT THEY ARE ACCESSIBLE AND OPERATE WITH EASE.

2. PLACEMENT OF INSTRUMENTATION TO BE SUCH THAT THEY ARE VISIBLE WITH GAGES AND READOUTS CLEARLY IN VIEW AND ORIENTATED CORRECTLY.

3. ALL INSTRUMENTS, EQUIPMENT, AND VALVING TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.

4. CONTRACTOR TO PROVIDE PIPE SUPPORTS AS REQUIRED. TYPE, PLACEMENT, AND NUMBER OF SUPPORTS ARE SUBJECT TO ENGINEER'S APPROVAL.

5. ALL EQUIPMENT, ELECTRICAL PANELS, AND PIPING OF CONSIDERABLE WEIGHT LOADING TO BE MOUNTED AND SUPPORTED AS FREESTANDING OR TO HAVE ADEQUATE FLOOR SUPPORTS.

6. INTERIOR PIPES SHALL BE LABELED WITH APPROPRIATE STICKERS INDICATING FLOW DIRECTION AND CONTENTS OF PIPE.

7. EQUIPMENT SHOULD BE PLACED IN LOCATIONS SPECIFIED, UNLESS APPROVED BY ENGINEER. ALL EQUIPMENT SHALL BE POSITIONED PRIOR TO MOUNTING (BOLTING) EQUIPMENT TO FLOOR. EXACT EQUIPMENT LOCATIONS MAY BE MODIFIED TO ALLOW FOR EASE OF MOVEMENT AND ACCESS BUT IS SUBJECT TO FIELD ENGINEERS APPROVAL.

8. ALL PIPING\ELECTRICAL CONDUITS SHALL BE ROUTED ALONG WALLS AND/OR OVERHEAD TO ALLOW EQUIPMENT ACCESS AND PREVENT TRIPPING HAZARDS. PIPING \ELECTRICAL CONDUITS SHALL NOT BE INSTALLED ALONG FLOORS UNLESS APPROVED BY THE ENGINEER.

9. ALL INTERIOR WALL PENETRATIONS THROUGH SHEETROCK SHALL BE FINISHED AND CLOSED OFF WITH JOINT COMPOUND AND PAINTED APPROPRIATELY OR FITTED PVC PIPE COLLARS.

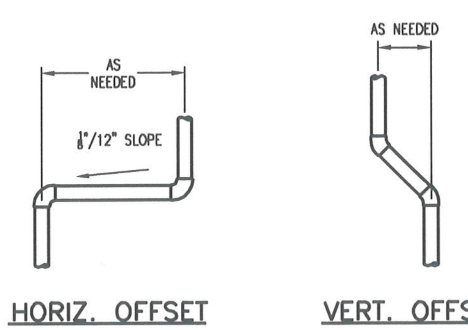
SUMP CONSTRUCTION NOTES:

1. UPON CORING THROUGH CONCRETE FLOOR CONTRACTOR SHALL MAKE EVERY EFFORT TO COMPLETE SUBSLAB DEPRESSURIZATION SUMP TO FLOOR SURFACE AND MINIMIZE ANY POTENTIAL SOIL VAPORS FROM INFILTRATING THE BUILDING.

2. NON-SHRINK GROUT IS TO BE USED TO FILL ALL VOIDS AROUND PIPE PENETRATIONS IN EXISTING CONCRETE SLAB AND SHALL BE TROWELED FLUSH WITH THE SLAB.

3. IF DURING THE SUBSLAB DEPRESSURIZATION SUMP INSTALLTION GROUNDWATER IS ENCOUNTERD THE DEPTH OF THE SUMP WILL BE ADJUSTED PER ENGINEERS APPROVAL.

4. EVERY EFFORT SHALL BE MADE BY THE CONTRACTOR TO CAPTURE ALL WATER AND/OR DUST DURING ALL WORK ACTIVITIES.



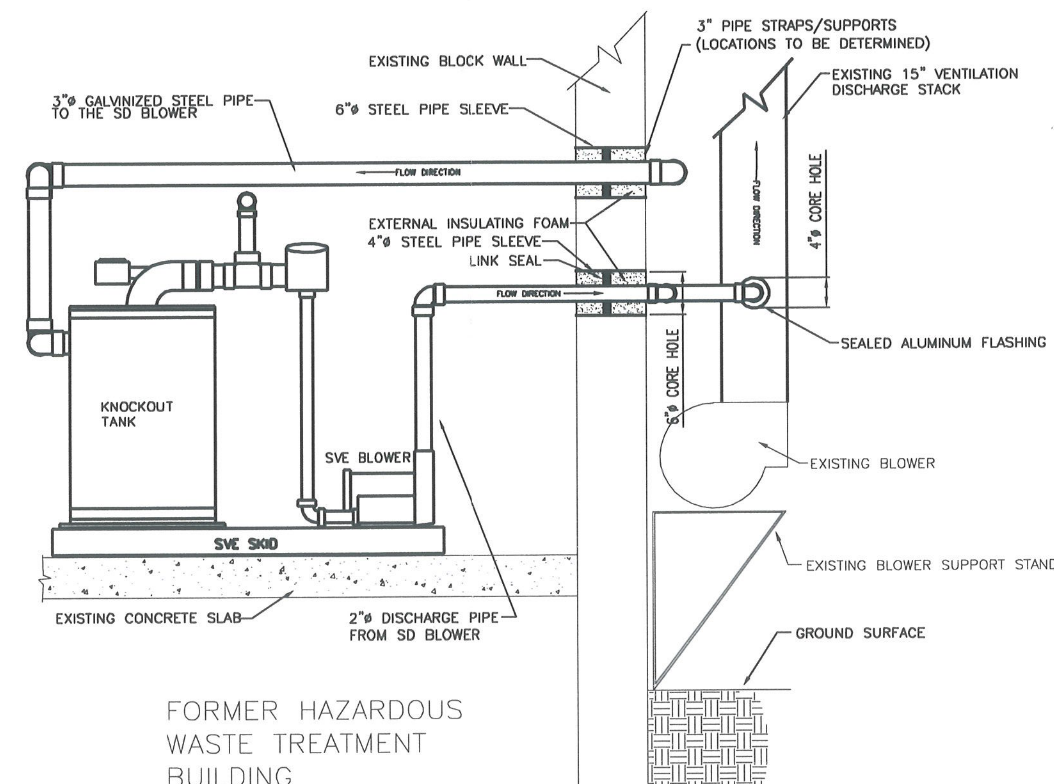
TYPICAL VENT RISOR OFFSET

N.T.S.

VENTILATION PIPE CONSTRUCTION NOTES:

1. VENT PIPES LOCATED WITHIN THE BUILDING LIMITS OF THE CONMED BUILDING SHALL FREELY DRAIN BACK INTO THE SUBSLAB DEPRESSURIZATION SUMP.

2. VENT PIPES LOCATED OUTSIDE OF BOTH BUILDING LIMITS SHALL FREELY DRAIN TOWARDS THE AIR/WATER SEPARATOR.



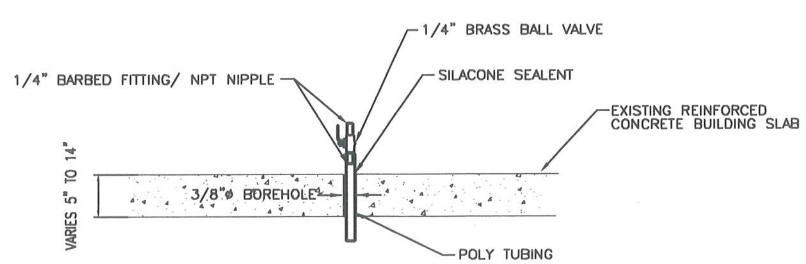
3/2 DISCHARGE STACK TIE-IN DETAIL

N.T.S.

VENTILATION PIPE CONSTRUCTION NOTES:

1. VAPOR DISCHARGE PIPE FROM BLOWER MAY BE RELOCTED IN FIELD TO PENETRATED EXISTING VENTILATION STACK WITHIN LIMITS OF THE BUILDING.

2. EXISTING VENTILATION PIPE WILL BE SEALED TO PREVENT ANY VAPORS FROM SD SYSTEM TO BACKFLOW INTO THE BUILDING.



4/2 TEMPORARY VACUUM MONITORING POINT DETAIL

N.T.S.

REV.	ISSUED DATE	DESCRIPTION
3	8/25/06	SUBMITTED TO NYSDEC
2	7/25/06	90% DESIGN
1	7/7/06	DRAFT

KEYPLAN

ENGINEERING DESIGN:
ALL PROFESSIONAL ENGINEERING SERVICES ON THIS DRAWING HAVE BEEN PERFORMED FOR ARCADIS G&M OF NEW YORK ARCHITECTURAL AND ENGINEERING SERVICES, P.C. A PROFESSIONAL CORPORATION QUALIFIED TO PERFORM SUCH SERVICES IN THE STATE OF NEW YORK.

SEAL

SEAL

ARCADIS

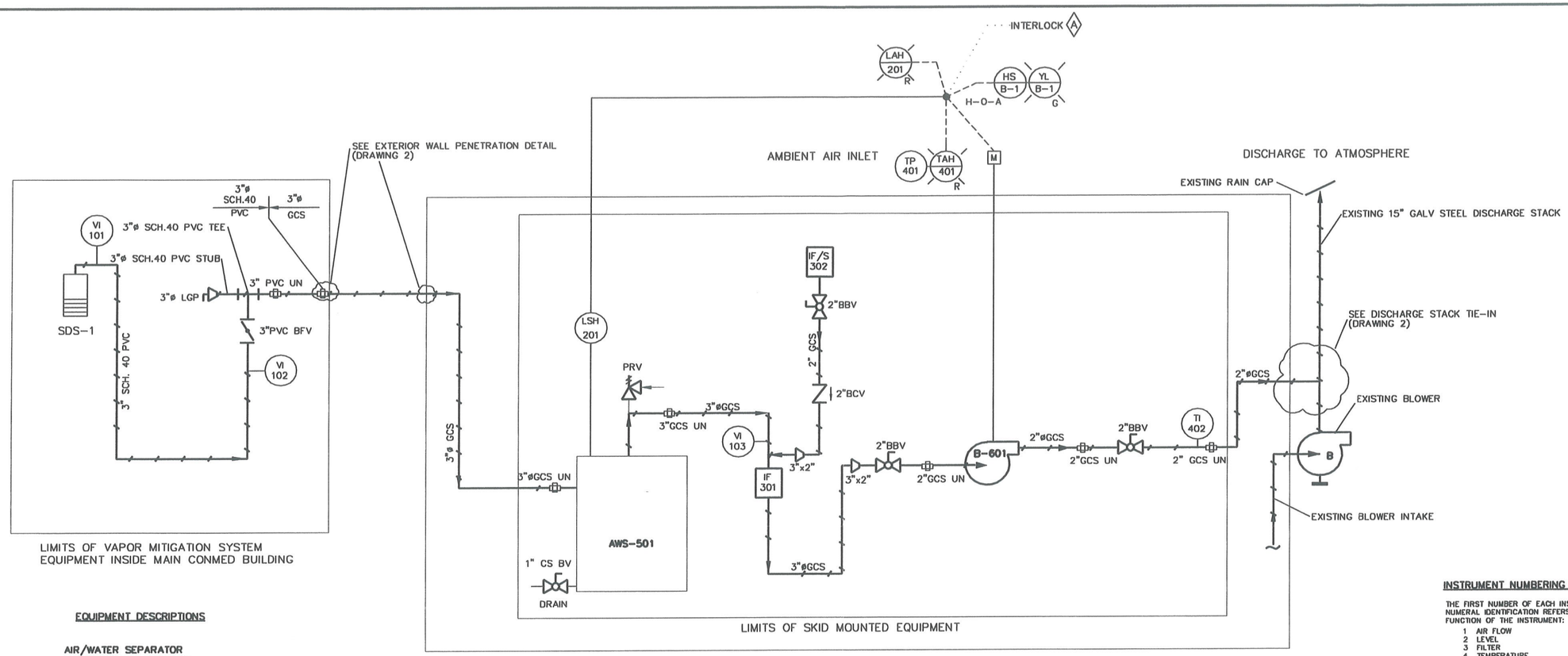
Arcadis G&M of New York Architectural and Engineering Services, P.C.
441 New Karner Road, Suite 4
Albany, NY 12205
Tel: 518-452-7826 Fax: 518-452-4398
www.arcadis-us.com

PROJECT TITLE
FORMER LOCKHEED MARTIN FACILITY
UTICA, NEW YORK

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. MOTTA	M. MOHIUDDIN	E. ROBERTS	E. ROBERTS

SHEET TITLE: VAPOR MITIGATION SYSTEM CONSTRUCTION DETAILS

TASK/PHASE NUMBER: 00001
DRAWN BY: T.CARIGNAN
PROJECT NUMBER: AY000265.0014
DRAWING NUMBER: 2



EQUIPMENT DESCRIPTIONS

AIR/WATER SEPARATOR
DESIGNATION: AWS-501
TYPE: HIGH EFFICIENCY CYCLONIC
RATING: 300 CFM MAX.
CAPACITY: 60 GALLONS
MANUFACTURER: GASHO
MODEL: GX-60

BLOWER
DESIGNATION: B-601
TYPE: REGENERATIVE
RATING: 3 HP, 208V, 3Ph
MANUFACTURER: ROTRON
MODEL: EN656M72XL

PVC VALVES AND UNIONS
DESIGNATION: PVC BFV/PVC BV/PVC UN
MANUFACTURER: HAYWARD

CS VALVES
DESIGNATION: CS BV
TYPE: BRASS

GAUGES
DESIGNATION: VI-101 - VI-103
MANUFACTURER: DWYER
TYPE: MAGNEHELIC
MODEL: 2080, 0-80 IN.W.C.

DESIGNATION: TI-402
MANUFACTURER: DWYER
TYPE: TEMPERATURE 0-150°C

INTERLOCK DESCRIPTIONS

THE SYSTEM BLOWER CAN BE OPERATED EITHER IN AN AUTOMATIC OR MANUAL MODE. THE BLOWER WILL OPERATE CONTINUOUSLY, IN THE AUTOMATIC MODE, UNLESS ANY OF THE FOLLOWING OPERATING CONDITION(S) DEVELOP:

- WATER LEVEL IN AIR/WATER SEPARATOR (AWS-1) RISES ABOVE THE HIGH SET POINT WHICH WILL TRIP LEVEL SWITCH HIGH (LSH-201).
- TEMPERATURE AT BLOWER (B-601) RISES ABOVE THE HIGH SET POINT WHICH WILL TRIP TEMPERATURE INDICATOR SWITCH HIGH (TAH-201).

IF THIS CONDITION DEVELOPS, THE BLOWER WILL BE AUTOMATICALLY SHUT DOWN AND WILL NOT RESTART UNLESS THE ALARM CONDITION HAS BEEN MANUALLY CLEARED.

NOTES

SDS-1 VENTILATION PIPE TO BE TAGGED AND LABELLED WITH WELL NUMBER TO AID IN INDENTIFICATION, REPLACEMENT, AND/OR REPAIR.

PIPING SYMBOLS/INSTRUMENTATION LEGEND

- SOIL VAPOR EXTRACTION PROCESS LINE
- LIMITS OF STRUCTURES/ENCLOSURES/EQUIPMENT
- ELECTRICAL FIELD MOUNTED
- ELECTRICAL PANEL MOUNTED
- LOGIC CONNECTION
- BALL VALVE
- BUTTERFLY VALVE
- PRESSURE RELIEF VALVE
- CHECK VALVE
- 3"x2" INDICATES LINE SIZE REDUCTION
- LOCKING GRIPPER PLUG
- FIELD MOUNTED
- PRIMARY PANEL MOUNTED
- M MOTOR
- BLOWER

INSTRUMENT NUMBERING SYSTEM

THE FIRST NUMBER OF EACH INSTRUMENT NUMERAL IDENTIFICATION REFERS TO THE FUNCTION OF THE INSTRUMENT:

1 AIR FLOW
2 LEVEL
3 FILTER
4 TEMPERATURE
5 TANK
6 BLOWER

ABBREVIATIONS

AWS	AIR/WATER SEPARATOR
B	BLOWER
BFV	FLANGED BUTTERFLY VALVE
BV	BALL VALVE
BBV	BRASS BALL VALVE
G.C.S.	GALVINIZED CARBON STEEL
HS	HAND SWITCH
H-O-A	HAND-OFF-AUTO
IF	INLINE FILTER
LAH	LEVEL ALARM HIGH
LSH	LEVEL SWITCH HIGH
LGP	LOCKING MALE GRIPPER PLUG
M	MOTOR
CV	CHECK VALVE
PVC	POLYVINYL CHLORIDE
PVC BV	POLYVINYL CHLORIDE BALL VALVE
PSH	PRESSURE SWITCH HIGH
PRV	PRESSURE RELIEF VALVE
SCH	SCHEDULE
SDS	SUBSLAB DEPRESSURIZATION SUMP
S	SILENCER
TAH	TEMPERATURE ALARM HIGH
TI	TEMPERATURE INDICATOR
TP	THERMAL PROTECTION
VI	VACUUM INDICATOR
YL	RUN LIGHT

REV.	ISSUED DATE	DESCRIPTION
3	8/25/06	SUBMITTED TO NYSDEC
2	7/25/06	90% DESIGN
1	7/7/06	DRAFT

KEYPLAN

ENGINEERING DESIGN:
ALL PROFESSIONAL ENGINEERING SERVICES ON THIS DRAWING HAVE BEEN PERFORMED FOR ARCADIS G&M OF NEW YORK ARCHITECTURAL AND ENGINEERING SERVICES, P.C. A PROFESSIONAL CORPORATION QUALIFIED TO PERFORM SUCH SERVICES IN THE STATE OF NEW YORK.

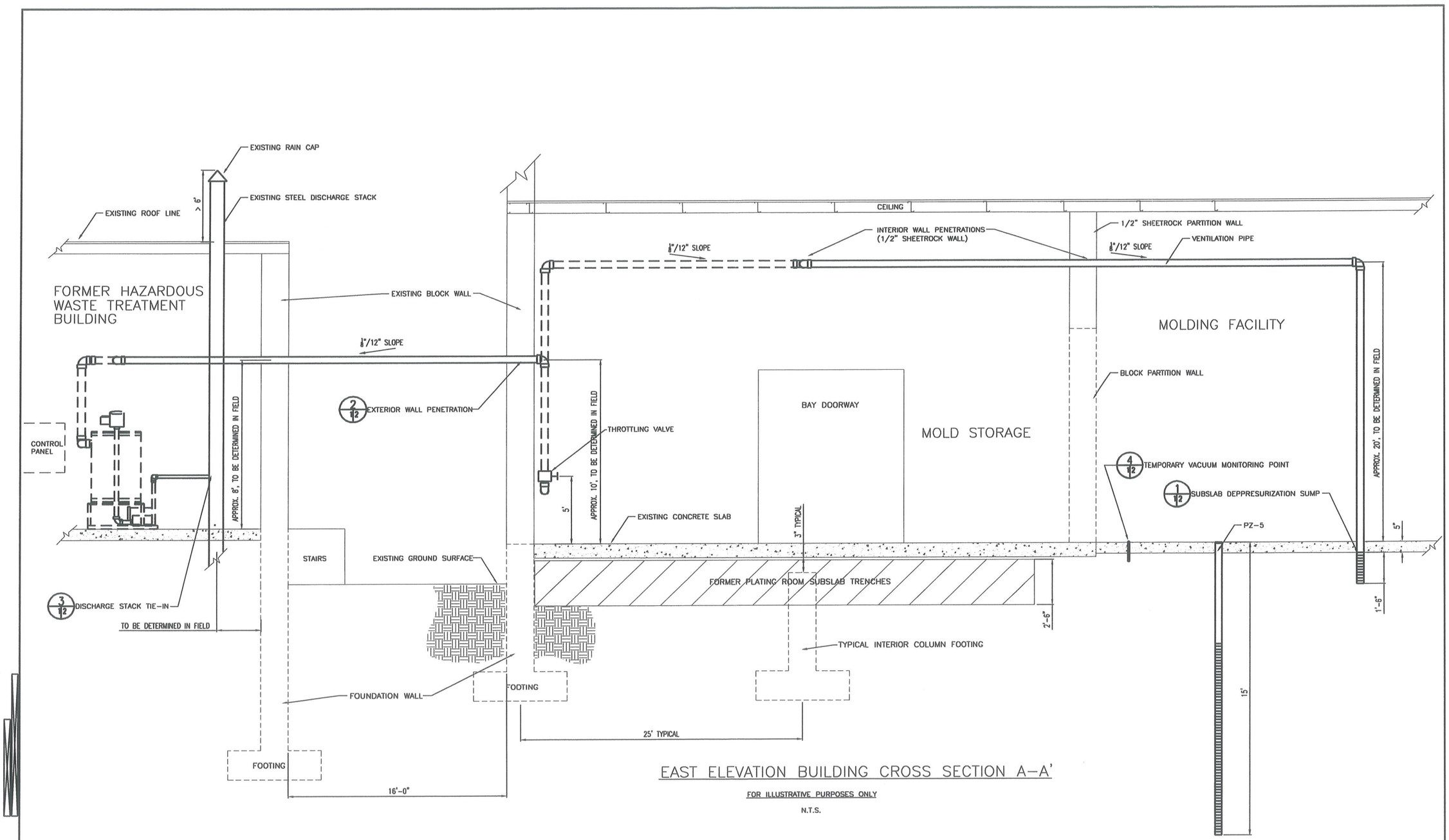
SEAL

SEAL

ARCADIS
Arcadis G&M of New York Architectural and Engineering Services, P.C.
441 New Karner Road, Suite 4
Albany, NY 12205
Tel: 518-452-7826 Fax: 518-452-4368
www.arcadis-us.com

PROJECT TITLE
FORMER LOCKHEED MARTIN FACILITY
UTICA, NEW YORK

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. MOTTA	M. MOHIUDDIN	E. ROBERTS	E. ROBERTS
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
PROCESS & INSTRUMENTATION DIAGRAM		00001	T.CARIGNAN
		PROJECT NUMBER	DRAWING NUMBER
		AY000265.0014	3



EAST ELEVATION BUILDING CROSS SECTION A–A'

FOR ILLUSTRATIVE PURPOSES ONLY

N.T.S.

REV.	ISSUED DATE	DESCRIPTION
3	8/23/06	SUBMITTAL TO NYSDEC
2	7/25/06	90% DESIGN
1	7/7/06	DRAFT

KEYPLAN

ENGINEERING DESIGN:
ALL PROFESSIONAL ENGINEERING SERVICES ON THIS DRAWING HAVE BEEN PERFORMED FOR ARCADIS G&M OF NEW YORK ARCHITECTURAL AND ENGINEERING SERVICES, P.C. A PROFESSIONAL CORPORATION QUALIFIED TO PERFORM SUCH SERVICES IN THE STATE OF NEW YORK.

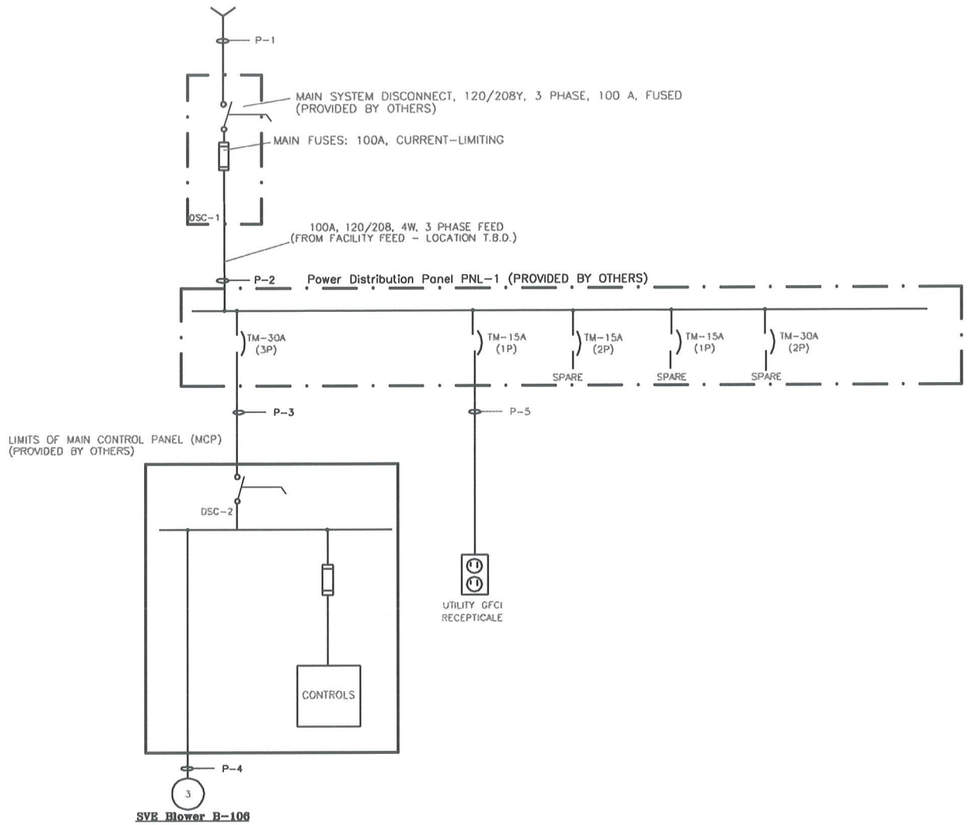
SEAL

SEAL

ARCADIS
Arcadis G&M of New York Architectural and Engineering Services, P.C.
441 New Karner Road, Suite 4
Albany, NY 12205
Tel: 518-452-7826 Fax: 518-452-4398
www.arcadis-us.com

PROJECT TITLE
FORMER LOCKHEED MARTIN FACILITY
UTICA, NEW YORK

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. MOTTA	M. MONMOUDH	E. ROBERTS	E. ROBERTS
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
VAPOR MITIGATION SYSTEM AND BUILDING CROSS SECTION A–A'		00001	T.CARNAHAN
		PROJECT NUMBER	DRAWING NUMBER
		AY000265.0014	4



ELECTRICAL SINGLE - LINE DIAGRAM (N.T.S.)

LEGEND:

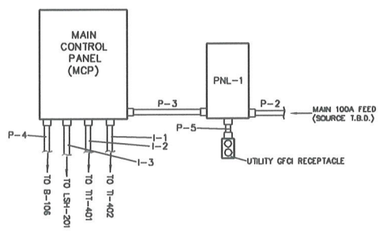
- FUSE, SIZE INDICATED
- DISCONNECTING MEANS, MECHANICAL/LOCKING
- TEMPERATURE SWITCH, ADJUSTABLE
- MOTOR CONTROLLER, FULL VOLTAGE, NON-REVERSING
- (3) MOTOR, HORSE POWER INDICATED
- PROVISIONAL WIRING (NOT INCLUDED IN SCOPE)

Notes

1. Disconnect DSC-2 shall be incorporated into the Main Control Panel (MCP) enclosure, and shall be equipped with a latching mechanism to prohibit access while energized.. It shall be 250 V, 60A rated.
2. All conductors shall be THHN/THWN unless otherwise noted. All conductors shall be UL Listed.
3. All conduits shall enter sheet metal enclosures and junction boxes via threaded, liquidtight hubs.
4. All enclosures shall have a minimum environmental rating of NEMA 3R, and all materials and methods shall be suitable for deployment of process equipment in wet process areas.
5. Panel PNL-1 shall have a minimum of (3) 3-pole, (2) 2-pole, and (3) 1-pole unused breaker positions available for future upgrade or expansion.
6. Heating, Ventilation, & Lighting specifications to be determined later as needed.
7. Motor disconnecting means and overcurrent protection devices are located inside Main Control Panel (MCP) enclosure.
8. Please see MCP wiring diagram for field control device and motor wiring connections.
9. Level switch shall be connected to MCP using liquidtight flexible conduit.
10. Contractor shall install grounding lug for B-106 blower inside of MCP for grounding of 3 HP extraction blower and MCP chassis.

CONDUIT #	SIZE	TYPE	# & SIZE OF CONDUCTORS	ORIGINATION	TERMINATION	COMMENTS
P-1	NA	NA	NA	PLANT FEED	PNL-1	MAIN PLANT POWER FEED
P-2	3/4"	R.G.S.	(4) #4 AWG THHN	DSC-1	PNL-1	POWER FEED TO PNL-1
P-3	3/4"	R.G.S.	(4) #12 AWG THHN	PNL-1	MCP	POWER FEED TO MCP
P-4	3/4"	R.G.S.	(4) #12 AWG THHN	MCP-1	B-601	POWER HOMERUN TO B-601
P-5	1"	R.G.S./LIQUID TIGHT FLEX	(4) #6 AWG THHN	PNL-1	RECEPTACLE	POWER TO OUTLET
I-1	3/4"	R.G.S./LIQUID TIGHT FLEX	(1) 18 G SHIELDED TWISTER PR.	MCP	TI-402	TEMP. TRANSMITTER INSTRUMENT
I-2	3/4"	R.G.S./LIQUID TIGHT FLEX	(1) 18 G SHIELDED TWISTER PR.	MCP	TIT-401	TEMP. TRANSMITTER INSTRUMENT
I-3	3/4"	R.G.S./LIQUID TIGHT FLEX	(1) 18 G SHIELDED TWISTER PR.	MCP	LSH-201	LEVEL SWITCH INSTRUMENT

CONDUIT AND CONDUCTOR SCHEDULE (N.T.S.)



ELECTRICAL EQUIPMENT LAYOUT DETAIL (N.T.S.)

REV.	ISSUED DATE	DESCRIPTION
3	8/25/06	SUBMITTAL TO NYSDEC
2	7/17/06	90% DESIGN
1	7/7/06	DRAFT

KEYPLAN

ENGINEERING DESIGN:
ALL PROFESSIONAL ENGINEERING SERVICES ON THIS DRAWING HAVE BEEN PERFORMED FOR ARCADIS G&M OF NEW YORK ARCHITECTURAL AND ENGINEERING SERVICES, P.C. A PROFESSIONAL CORPORATION QUALIFIED TO PERFORM SUCH SERVICES IN THE STATE OF NEW YORK.

SEAL

mike simpkins, PhD, PE, QEP
NY PE LICENSE NO. 094819

SEAL

ARCADIS
Arcadis G&M of New York Architectural and Engineering Services, P.C.
441 New Karner Road, Suite 4
Albany, NY 12205
Tel: 518-452-7826 Fax: 518-452-4368
www.arcadis-us.com

PROJECT TITLE

FORMER LOCKHEED MARTIN FACILITY
UTICA, NEW YORK

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
C. MORTA	M. MOHIUDDIN	C.MICHALE	C. MICHALE
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
SINGLE-LINE ELECTRICAL DIAGRAM		00001	C.MICHALE/T.CARIGNAN
		PROJECT NUMBER	DRAWING NUMBER
		AY000265.0014	5