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Letter of Transmittal

To: HQ AFCEE/ERB
3300 Sidney Brooks Road
Brooks City-Base, TX 78235-5112

Date: January 18, 2005
File No. 744194.01100
Subject: Griffiss Projects – Final Building 100 Dry Well PCB Remedial Action Work Plan

Attn: Mr. Howard Mathews

Project No. JREZ-2004-7010

We are sending you XX Enclosed __Under Separate Cover the following items:

- 1 copy of the Final Building 100 Dry Well PCB Remedial Action Work Plan (printed copy and CD) along with cover letter from Michael McDermott, AFRPA/DA - Griffiss

These are transmitted as checked below:

XX For Your Information XX For Your Use XX Approved as Noted
_ As Requested ___ For Approval ___For Review and Comment

Signed: Craig F Butler
Craig F. Butler, P.E.

cc: C. Jerrard (AFRPA) – 1 copy
R. Petkovsek (AFCEE) – 1 copy
H. Mathews (AFCEE) – 1 copy
Y. Walseman (Parsons) – 1 copy
D. Hoffner (Parsons)- 1 copy
J. Lanier (Parsons) – transmittal only
Project File (Parsons)
Distribution list (see attached):
Heather Bishop, NYSDEC, Albany (2 hard copies with 3 CDs)
Douglas Pocze, USEPA, Region II, New York City , NY (1 copy)
Phil Rosewicz, US Army COE; Kansas City, MO (1 copy)
Robert Myers, Ecology & Environment, Lancaster, NY (1 copy)

DEPARTMENT OF THE AIR FORCE
AIR FORCE REAL PROPERTY AGENCY

JAN - 8 2005

MEMORANDUM FOR SEE DISTRIBUTION LIST

FROM: AFRPA/DA-Griffiss
Environmental Section
153 Brooks Road
Rome, NY 13441-4105

SUBJECT: Building 100 Drywell PCB Remedial Action Work Plan

1. Attached is a copy of the Building 100 Drywell PCB Remedial Action Final Work Plan (dated January 2005). Responses to USEPA comments on the December 2004 draft version of the Report are also included.

2. If you have any questions please contact Cathy Jerrard, 315-330-2275.

MICHAEL F. MCDERMOTT
BRAC Environmental Coordinator

Attachment: As Noted

DISTRIBUTION:

Ms. Heather L. Bishop
NYSDEC
Division of Hazardous Waste Remediation
625 Broadway, 11th Floor
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290 Broadway, 18th Floor
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New York City, NY 10007-1866 (1 copy)

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Ecology and Environment, Inc.
Buffalo Corporate Center
368 Pleasantview Drive
Lancaster, NY 14086 (1 copy)

Mr. Richard Petkovsek
AFCEE - Griffiss
153 Brooks Road
Rome, NY 13441-4105 (1 copy)

Review comments for: Building 100 PCB Remedial Action Draft Final Work Plan [December 2004] Comments provided by Douglas Pocze, USEPA, Region 2
Contract # F41624-01-D-8544
Submitted by: Cathy Jerrard, AFRPA/DA-Griffiss, Phone: 315-330-3371

Reference	Comment No.	Comment
Pg 3-3, Section 3.4	1	Please change the following sentence to read, "Soil excavation will continue until either the (confirmatory) grab soil samples...."
	1	**The sentence has been changed as indicated.**
Pg 3-4, Section 3.5.2	2	I was just wondering why the changes in structure of various items like the window to a louvered vent. Are these changes in agreement with the current tenant?
	2	**The building structural changes were proposed to accommodate the relocation of the emergency generators and associated equipment (e.g engine exhausts/intake units). The addition of the roll-up door will also serve to enhance future maintenance and servicing of the generators. The current tenant is in agreement with the proposed modifications.**
Pg 3-6, Section 3.8.1	3	I'm not sure if this section belongs here under the Health and Safety Section or if perhaps it should go under Section 3.4.2, Excavation Shoring and Bracing?
	3	**Section 3.8.1 regards the special safety requirements associated with the excavation shoring and bracing, whereas Section 3.4.2 is primarily concerned with the structural/engineering aspects. It is recommended that these sections remain as is.**
Pg 4-2, Section 4.2	4	Please describe what odors you might expect to find during your field screening, especially for PCBs.
	4	**The section has been revised to describe the odors that might be expected during field screening. It is anticipated that any odors observed during the field screening would primarily be related to organic contaminants (such as semi-volatile organic compounds) that have previously been observed in the Building 100 area. Observation of organic contaminants may also indicate the presence of other contaminants, such as PCB compounds.**
Pg 4-2, Section 4.4	5	If I understand the sampling correctly, the AF intends to take at least 8 confirmatory samples in total. Please confirm.
	5	**The intention of the preliminary investigation described in Section 4.4 is to collect a minimum of 8 confirmatory samples. Additional samples will be collected if the screening results are not within the established concentration range.**

Pg. 5.1	6	Is the Remedial Action Report (RAR) to be submitted at the end of the project after all the work at the drywell has been completed? And, if so, isn't that the same thing as a close-out report? Please confirm.
	6	**The RAR is to be submitted at the end of the project after all the work at the drywell is completed. As such, the RAR will serve as a close-out report for regulatory reporting purposes.**
Pg 6-1	7	Please note that the timeframe for "Preparation and approval of project work plans – November through December" should probably be changed to "November through January" since we just received this Remedial Action Work Plan.
	7	**The timeframe for preparation and approval of project work plans has been revised to November through January to provide sufficient time for regulatory review and response to comments.**
Attachment I, Pg I-5, 5th PP	8	It is my understanding that this paragraph is referring to field screening. Therefore, please change the sentence as follows, "In the event that the initial soil boring sample analytical results indicate PCB concentrations of less than 10 mg/kg, the proposed excavation area will be used (during the sampling for confirmatory analysis.)
	8	**The sentence in the fifth paragraph on Pg I-5 has been revised as indicated.**
////////////////////	////////// //////	////////////////////LAST COMMENT//

BUILDING 100 DRY WELL PCB
REMEDIAL ACTION WORK PLAN
PROJECT NO. JREZ 2004-7010
FORMER GRIFFISS AIR FORCE BASE
ROME, NEW YORK

CONTRACT: FA8903-04-D-8675
TASK ORDER: 0008

PREPARED FOR:

HQ AFCEE/BCE

3300 Sidney Brooks
Brooks City-Base, Texas 78235-5112

PREPARED BY:

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JANUARY 2005

PARSONS

BUILDING 100 DRY WELL PCB
REMEDIAL ACTION WORK PLAN
PROJECT NO. JREZ 2004-7010
FORMER GRIFFISS AIR FORCE BASE
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REVIEWED AND APPROVED BY:

Project Manager: John H. Lanier 1/18/05
Date

Technical Manager: Craig F. Burtis 01/18/05
Date

JANUARY 2005

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LIST OF ACRONYMS

AFCEE	Air Force Center for Environmental Excellence
AOC	Area of Concern
bgs	Below Ground Surface
C&D	Construction and Demolition (debris)
CDRL	Contract Data Requirements List
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COR	Contracting Officer Representative
CY	cubic yards
DoD	Department of Defense
E&E	Ecology and Environment, Inc.
EE/CA	Engineering Evaluation/Cost Analysis
ERPIMS	Environmental Resources Program Information Management System
FAA	Federal Aviation Administration
FFS	Focused Feasibility Study
GAFB	Griffiss Air Force Base
GUSC	Griffiss Utility Services Corporation
HASP	Health and Safety Plan
IRA	Interim Removal Action
IRP	Installation Restoration Program
NFA	No Further Action
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
PCB	Polychlorinated biphenyl
PID	Photoionization Detector
PPE	Personal Protective Equipment
SAP	Sampling and Analysis Plan
SSO	Site Safety Officer
STARS	Spill Technology and Remediation Series
SVOC	Semivolatile Organic Compound
TAGM	Technical and Administrative Guidance Memorandum

LIST OF ACRONYMS - CONTINUED

TCLP	Toxicity Characterization Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TSDF	Treatment, Storage and/or Disposal Facility
USAF	United States Air Force
VOC	Volatile Organic Compound

SECTION 1

INTRODUCTION

1.1 INTRODUCTION / OVERVIEW

Building 100 Dry Well (B-100 Dry Well) is an Area of Concern (AOC) at the former Griffiss Air Force Base (GAFB) and is subject to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This polychlorinated biphenyls (PCB) removal action is part of the United States Air Force (USAF) Installation Restoration Program (IRP), which is the Department of Defense (DoD)'s primary mechanism for response actions on United States Air Force (USAF) installations. The B-100 Dry Well PCB site is located in the southeast side of the emergency generator room within B-100, an inactive airplane maintenance hangar, located adjacent to the flight line at the former GAFB (Figure B-1). This work plan describes the technical approach and tasks required to relocate the existing stand-by generators, excavate and remove PCB contaminated soils, and restore the building to its former condition including the installation of some new appurtenances.

Parsons has been contracted by the Air Force Center for Environmental Excellence (AFCEE) under Contract # FA8903-04-8675, Task Order 0008, to perform this remedial action.

1.2 WORK PLAN CONTENTS AND REFERENCED DOCUMENTS

This plan has been prepared in accordance with the AFCEE Contract No. FA8903-04-8675, Task Order 0008 requirements. The Task Order requirements include completion of a Contract Data Requirements List (CDRL), consisting of various technical plans and reports. The Project Activities Work Plan (CDRL A004, this document) is the primary work plan describing the specific work tasks that are associated with this Task Order. This work plan includes the following subsections herein, or as incorporated by reference from previously approved work plans that were prepared for prior task orders completed by Parsons at the former GAFB:

- Site Security Plan
- Excavation Plan
- Spill and Discharge Control Plan
- Asbestos Management Plan
- Air Modeling and Monitoring Plan
- Erosion Control Plan
- Emission Control Plan
- Transportation Plan
- Remediation Management Plan
- Site Preparation Plan
- Demobilization and Closure Plan

1.3 CLEANUP GOALS AND OBJECTIVES

The following is the established cleanup goals for the confirmatory soil sampling following removal of the PCB contaminated soil:

- PCB in soil; <10 mg/kg for subsurface soil (as per NYSDEC TAGM 4046)
- Surficial PCB; <10 µg/100cm^2 for concrete surfaces by wipe sample (as defined by USEPA 40 Code of Federal Regulations (CFR) 761.125)

Confirmation samples will also be analyzed for VOC's, SVOC's, and metals. The results will be compared to TAGM 4046 standards. The objective of this project is to achieve No Further Action (NFA) status from the applicable regulatory agencies including NYSDEC and the USEPA. This will be accomplished by completing the soil removal activity and demonstrating that the site conditions are within allowable NYSDEC TAGM 4046 and USEPA CERCLA guidelines. NYSDEC and USEPA will grant NFA status upon satisfaction of site conditions that they establish, based on regulatory standards and evaluation of site-specific factors.

SECTION 2

SUMMARY OF PREVIOUS ACTIVITIES

B-100 Dry Well was a perforated 55-gallon drum installed below ground surface (bgs) circa 1961, which was connected to a floor drain inside the emergency generator room between the two generators. Electrical switches formerly used in this area contained dielectric fluids with PCBs.

During a site investigation by Ecology & Environment, Inc. (E&E) in 1998, PCBs, metals, semivolatile organic compounds (SVOCs) and volatile organic compounds (VOCs) were detected in a sludge sample collected from the bottom of the B-100 Dry Well at concentrations higher than the New York State Department of Environmental Conservation (NYSDEC) New York State Technical and Administrative Guidance Memorandum (TAGM) 4046 criteria (E&E, July 1998).

Previous work at the B-100 Dry Well site included an Interim Removal Action (IRA) performed by OHM Remediation Services in July 2000. This work involved the removal of the B-100 Dry Well and some readily accessible PCB contaminated soils from the immediate area. Analytical results from samples collected from the walls and bottom of the excavation indicated the presence of PCBs at levels exceeding the regulatory standard of 10 mg/kg. Further excavation was not undertaken due to the proximity of two existing generators situated west and east of the B-100 Dry Well area. The lateral and vertical extent of PCB contamination in the area is unknown. The concrete floor was decontaminated and wipe samples were collected to verify that PCBs were less than 10 µg/100cm^2. Soil and groundwater samples taken adjacent to B-100 (south wall) indicated no PCBs at 12 to 15 feet bgs (Final Removal Action report for Drywell and Miscellaneous Sites, OHM Remediation Services Corp., June 2001).

A Focused Feasibility Study (FFS) was prepared by E&E (Focused Feasibility Study for Dry Well 100 – Ecology and Environment, Inc., 2002) that identified three general response actions for evaluation to address soil contamination at the former Griffiss AFB. An Engineering Evaluation/Cost Analysis (EE/CA) was prepared to evaluate the three response actions identified in the FFS for the site and found that the preferred remedial action was excavation and off-site disposal of contaminated soil (EE/CA for Dry Well 100, E&E, October 2003).

SECTION 3

EXCAVATION / REMEDIATION OPERATIONS

3.1 INTRODUCTION

This Section of the Work Plan describes the preliminary activities, including pre-construction and site preparation tasks, followed by excavation, site sampling/analyses, backfill and surface restoration, waste handling and disposal, and demobilization.

3.2 PRE CONSTRUCTION ACTIVITIES

3.2.1 Pre-Construction Meeting

A pre-construction meeting will be held between Parsons and Air Force personnel to discuss the construction process. This meeting will review the construction schedule and establish the lines of communication to coordinate demolition/construction activities with existing tenants and affected parties including Federal Aviation Administration (FAA) and Oneida County representatives.

3.2.2 Equipment Staging and Decontamination Areas

Parsons will establish equipment staging and decontamination (decon) areas (the specific locations of these areas are shown on Figures B-1 and B-1a). A steel conex type storage container to secure tools and small equipment will be placed in the staging area, as shown on Figure B-1a. It is anticipated that compact equipment (i.e., equipment that will be able to operate within the limited space conditions inside the B-100 work area) will be used to support this effort. For example, a skidsteer loader (a.k.a. Bobcat machine) will be used to handle excavated material inside the building (instead of a full-size loader). The compact equipment will be stored inside the generator room when not in use. The equipment will have all necessary safety equipment in place including back up alarms, warning lights and rollover protection systems. Decon areas will be established and equipped as needed for PCB decontamination procedures in accordance with the Health and Safety Plan (HASP) addendum, provided in Attachment H.

3.2.3 Health and Safety Plan Review

Prior to the start of field operations, an extensive health and safety review will be provided to all workers. Site specific topics such as demolition, excavation safety, dust control, air monitoring, PCB exposure, electrical/utility hazards, decon procedures, personal protective equipment (PPE) and other pertinent items will be covered in accordance with the HASP for GAFB work with amendments pertaining to this work incorporated. Copies of the existing HASP, including the map showing the route to Rome Memorial Hospital, will be provided to all workers prior to the start of field operations. The existing program HASP for GAFB, has been amended (included as Attachment H) to include each of the specific hazards that will be encountered. This addendum includes activity hazard analyses for the project-specific conditions that will be encountered, such as PCB exposure hazards, underground utility hazards, electrical hazards, excavation hazards, and confined space entry permit conditions. Parsons will have trained health and safety personnel present during the PCB removal.

3.3 SITE PREPARATION

3.3.1 Site Layout/Utility Location

In order to facilitate the movement of small construction equipment inside the generator room for the concrete removal and excavation, the exterior window and knee wall located at the southeastern corner of the building will be removed. A temporary wall consisting of a wood frame with clear polyethylene (poly) sheeting attached will be built on three sides beyond the excavation limits to protect the building and equipment from cross-contamination. The southern limit of excavation will remain open temporarily for access to the area with a clear polyethylene curtain as a barrier. The site layout for construction/demolition activities, equipment staging, decon area, tool storage, dumpsters and other pertinent activities will be established, as shown on Figure B-1a. Underground piping and utilities will be located.

3.3.2 Generator Relocation

There are currently two standby emergency generators for emergency lighting and power generation. A certified electrician will provide the electrical services and equipment necessary for Parsons to relocate the two generators thus allowing access to the excavation area. There will be no backup power for up to 36 hours during the relocation of the generators. All electrical service issues will be coordinated with Air Force personnel and affected tenants before any work begins. This includes coordination with FAA and Oneida County staff to provide a standby generator(s) and to be prepared to connect the generator into the existing building power system on short notice. The work will be planned to minimize the timeframe that the existing backup generators will be disconnected and taken off-line to accommodate project requirements. In the event that either the FAA or Oneida County will not be able to provide a secondary backup generator during the "down time", Parsons will provide a suitable backup generator.

The west generator will be moved west of its current location and the smaller east generator will be moved north, as shown on Figure B-3, to provide working room for the proposed excavation activities. Concrete generator pedestals will be installed at the new locations prior to moving the generators. The specifications and requirements for the electrical and mechanical equipment modifications will be submitted for review and approval to Griffiss Utility Services Corporation (GUSC) prior to relocation of the generators.

3.3.3 Decontamination Area

A personnel decon area will be established and clearly marked for workers to pass through upon exiting the work zone. The personnel decon area will include a boot wash and separate rinse basin, a respirator sanitation station and separate drums for disposing of used PPE and rinse water. An area will be built up and covered with two layers of 10 mil poly to be used for the equipment decon procedures at the conclusion of the excavation.

3.3.4 Site Security

The airfield and building are secured from the general public by a chain link fence with a secured gate access. Construction/demolition, exclusion zone, decon and staging areas will be secured with orange construction fence and appropriate barricade materials to prohibit unauthorized personnel from entering the area for the duration of the work. Warning signs will

also be placed to alert personnel to maintain a safe distance from the work zone and to be aware of potential hazards.

3.4 EXCAVATION

An initial soil boring investigation will be conducted to establish clean (<10 mg/kg PCB) boundaries of contamination. Soil excavation will continue until either the (confirmatory) grab soil samples analyses results indicate that the contaminants of concern are below regulatory standards or groundwater is encountered.

Parsons will coordinate with AFRPA staff to secure an excavation permit associated with the work activities. The permit will describe the nature of the work and will include a description of the measures that will be taken to ensure safety to construction personnel and site workers in B-100. The permit will also include provisions that will be taken to prevent structural damage to the building and associated structures.

Special precautions will be taken prior to excavation to address concerns regarding underground electrical circuits and subsurface utilities. Utility clearance probing will be completed to a minimum depth of five feet below grade in the proposed excavation area. Identified utilities will be clearly marked and protective measures will be taken to ensure that worker safety is not compromised and exposed utilities are not damaged. Additional details regarding the excavation activities and pre-excavation area reconnaissance are described in the HASP addendum (Attachment H).

3.4.1 Excavation

Based on reports from the July 2000 IRA, the presumed area to be excavated is 8.5 by 9.5 feet to a depth just above the groundwater of approximately 12.5 feet deep. After the boundaries of contamination are defined and the generators are relocated, the concrete floor will be marked, saw cut and the concrete will be removed and disposed of off-site with the contaminated soil (Figures B-2 and B-3). Once the concrete has been removed, Parsons will excavate soil and field screen grab samples from the four sidewalls and bottom of the excavation in vertical increments of two feet until grab sample screening results indicate that PCB concentrations are lower than 10 mg/kg, or the groundwater level is reached, whichever is encountered first. Excavation will be conducted using a compact excavator, and the excavation sides will be shored, as described in the following paragraphs. These soil samples will be analyzed using a PCB field screening test kit and the analytical results will be compared to the regulatory standards to determine how far and in what direction to expand the excavation. The excavated soil and concrete will be placed into rolloff boxes or stockpiled on poly sheeting and covered at a temporary staging area adjacent to B-100 (Figure B-1a) pending final soil characterization.

3.4.2 Excavation Shoring and Bracing

To avoid undermining the structural integrity of the building, shoring and bracing will be implemented as needed in the event that the excavation extends either vertically more than 4 feet or horizontally beneath the wall footing. A licensed professional engineer will define safe excavation limits and appropriate procedures. See Section 3.8.1 for more details. The

requirements for shoring and bracing will be included in the conditions for the site excavation permit.

3.4.3 Collection of Confirmation Samples

Prior to backfilling, confirmation soil samples will be collected from the sidewalls and bottom, where applicable, of the excavation and analyzed to confirm the effectiveness of the removal action. Sample collection, handling, transportation and analyses will be completed in accordance with the project-specific Sampling and Analysis Plan (SAP) addendum, included as Attachment I. The number of samples collected, along with the specific laboratory analytical parameters, will be based on NYSDEC TAGM 4046 guidelines. NYSDEC and USEPA representatives will review the proposed sampling plan addendum, and will be responsible for granting final approval of sample locations, analytical parameters, and contaminant concentrations that will be required to achieve regulatory closure of the B-100 Dry Well site.

3.4.4 Transportation and Disposal

Transportation for off-site disposal of excavated soil will be subcontracted to Earthwatch Waste Systems. Excavated material (45 cy anticipated) will be shipped in dump trailers to Seneca Meadows Landfill in Waterloo, NY providing that the analytical results indicate non-hazardous levels contaminants. New York State Hazardous Waste and Toxic Substance Control Act regulations indicate that material containing PCB concentrations at or above 50 mg/kg is considered hazardous. If waste material is considered hazardous in accordance with this regulation, it will be shipped to a Resource Conservation and Recovery Act permitted Treatment, Storage, or Disposal Facility (TSDF) such as Chemical Waste Management – Model City, NY. AFRPA is the generator and will review and sign off on disposal documentation for both hazardous and non-hazardous material.

3.5 BACKFILL AND SITE RESTORATION

3.5.1 Backfilling Excavation

After the confirmation sample analyses results indicate that the contaminants of concern are below regulatory standards, the excavation will be backfilled and compacted in 2-foot lifts with clean material to sub-grade. Backfill material used to restore the floor area will be well-graded granular material that is structurally sound and free of organic or other deleterious objects. The specifications of the proposed backfill material will be submitted for review and approval by the AFCEE Field Engineer prior to the start of restoration activities. It is anticipated that the backfill material will consist of clean crushed stone and other granular material that will be purchased from a local supplier.

3.5.2 Building Reconstruction

In order to accommodate the project activities, several modifications of Building 100 will be required. These modifications are necessary for relocating the existing emergency generators, and will also enhance future operation and maintenance (O&M) activities associated with the generators. The double doors on the east wall will be replaced with one 3-foot by 6-foot steel insulated door and one 3-foot x 3-foot louver. On the south wall, the existing single pane window will be replaced with a 10-foot by 8-foot overhead door, and an additional 3-foot by 3-foot louvered vent will be installed in the space between the existing double doors and 3-foot by

3-foot louver. The quality of the new building components will match other existing similar components. The remaining openings will be restored with block and brick to match the existing surfaces. Figures B-6 and B-7 illustrate the existing building and proposed upgrades.

3.5.3 Concrete Replacement

The disturbed concrete floor area will be replaced with 4,000 psi fiber reinforced concrete, installed at a thickness of 8 inches. The concrete will be broom finished and sealed/painted to match pre-construction conditions. The subbase will be prepared to serve as an adequate structural support of the generators and associated equipment. This includes providing concrete with the applicable reinforcement and thickness in the areas underneath the generator installations that will provide equivalent structural support as provided underneath the existing generator locations.

3.5.4 Surface Wipe Sampling

Wipe sampling will be done in the B-100 area to confirm that the excavation activities did not contaminate the adjoining areas of the building. Additional details regarding wipe sampling are provided in the SAP Addendum (Attachment I).

3.6 WASTE DISPOSAL

Waste materials will be characterized prior to disposal, as described in Section 4 of this plan, and be disposed of off-site at an appropriate facility

3.6.1 Soil, Concrete and PPE Disposal

Soil and concrete accumulated during this removal action will be stockpiled at designated locations adjacent to B-100, and in a supplemental staging area (if required) on Apron 1, as shown on Figure B-1, for subsequent off site disposal. The solid waste materials will be placed into rolloff boxes or stockpiled on poly sheeting and covered, until approval for off-site disposal has been received from the applicable treatment, storage and/or disposal facility (TSDF). Representative soil waste characterization samples will be collected and analyzed according to the parameters required by the receiving TSDF as described in detail in Section 4 of this plan prior to being shipped off-site.

Used PPE such as disposable gloves and boots, Tyvek suits and respirator cartridges will be consolidated in 4 mil poly bags and shipped off-site with soil. All rinse water associated with equipment and personnel decon will be collected, containerized and sampled prior to disposal.

3.6.2 Non Contaminated Debris Disposal

Rubble and debris not associated with the PCB excavation that has no evidence of staining or contamination will be designated as clean for disposal purposes. Building components and miscellaneous non-contaminated debris will be disposed of as construction and demolition (C & D) debris material.

3.6.3 Handling and Disposal of Decon Water

Water used to decontaminate equipment and tools will be containerized and sampled prior to disposal. The analytical results will determine the appropriate means for disposal of the decon water.

3.7 DEMOBILIZATION

At the conclusion of construction activities, all equipment and tools will be removed from the site. Any debris and/or trash will be consolidated and disposed of off-site. Excess materials and government property will be secured at a location to be determined by the contracting officer representative (COR).

3.8 HEALTH AND SAFETY

Work will be done in accordance with the approved site Health and Safety Plan (HASP) (Parsons, February 2002). It is anticipated that all work will be done in Level D protection. A project-specific HASP addendum (Attachment H) has been developed to address the conditions that may be encountered during this project. Specific provisions of the HASP addendum include PCB exposure hazards, respiratory protection, confined space entry conditions, excavation hazards, electrical hazards, and use of proper PPE for various site tasks.

3.8.1 Special Provisions for Excavating in the Electrical Room

After the concrete floor has been removed, a mini excavator will be used to excavate the soil. The excavator will work from the south using the opening created by installation of the new rollup door. The first three to four feet (depth) will be excavated with no shoring and the wall stability will be assessed. Shoring, constructed of wooden sheathing and held by excavation braces will be installed as the excavation proceeds below four feet. The shoring system will be installed concurrently with the excavation. Excavated soil will be removed from the building through the newly installed rollup door opening and placed into a rolloff box located outside the building. If personnel are required to enter this area, confined space entry procedures will be followed.

3.8.2 Task Hazards

There are physical and chemical hazards associated with this work. Task hazard analysis is discussed in Section 2.4 of the HASP. Chemical hazard analysis, specifically for PCB's is discussed in Table 2.1 of the HASP. Physical task hazards related to this work are defined in Section 2.4 of the HASP as follows:

Excavation	Section 2.4.3
Confined Space	Section 2.4.4
Soil Movement	Section 2.4.5
Heavy Equipment	Section 2.4.6
Backfilling	Section 2.4.7
Fire Prevention	Section 2.4.8
Electrical Safety	Section 2.4.14

Additional site-specific hazards not addressed in the existing site HASP, are included in the HASP addendum provided in Attachment H.

SECTION 4

SITE SAMPLING AND ANALYTICAL ACTIVITIES

4.1 INTRODUCTION

Site sampling and analysis techniques will be used to fulfill several project objectives. These techniques will consist of in-field and analytical laboratory methods to collect and analyze environmental samples from various media. PCB contamination is the primary concern of the site sampling activities, but there are several additional concerns that will be addressed by the project sampling program. A summary of the site sampling and analyses techniques to be utilized on this project is as follows:

- An initial site investigation will be conducted using field test kits to determine the limits of the proposed excavation. The site investigation will consist of a series of soil borings completed adjacent to the proposed generator relocation areas, and the excavation area, as shown in Figure B-8, to determine the appropriate "footprint" for the excavation. Each soil boring will be installed to a depth of twelve feet bgs, or until the groundwater table is encountered, whichever is first. A drill rig outfitted for low clearance sampling will be used to collect each of the soil boring samples. The samples will be collected using continuous split-spoon samplers, and a soil sample will be analyzed from each discrete 2-foot sampling interval. It is anticipated that two sets of soil borings will be collected, as shown on Figure B-8. The initial set will be completed in the proposed generator relocation area to confirm that the subsurface soil in these areas is non-contaminated. The second set of borings will be completed in the perimeter of the proposed excavation area, to confirm that subsurface contamination has not migrated beyond this area. The footprint will be based on the area determined to be non-contaminated, as determined by analyses of soil samples with PCB field test kits. Results of the field test kits will be completed on the same day that soil samples are collected. As such, the two sets of soil borings can be collected and analyzed on successive days. The excavation footprint will also be based on the required area of the concrete support bases that will be used to relocate each generator. The excavation footprint will be used to establish the conditions for the project excavation permit, that will be prepared as discussed in Section 3.4
- Field test kits will be used to monitor the soil excavation process, and determine when endpoint samples should be collected for laboratory analysis
- Confirmation (endpoint) samples will be collected for laboratory analysis to verify that soil left in place meets NYSDEC TAGM 4046 standards, along with NYSDEC and USEPA approved sampling and analytical requirements.
- Field instruments will be used to conduct real-time air monitoring during work activities in B-100
- Sampling and analyses of the various waste generated during the project will be conducted to determine the appropriate disposal methods

- Surface wipe sampling will be conducted inside B-100 to confirm that cross-contamination did not occur as a result of the project activities

Additional details regarding these sampling and analytical procedures are provided in the paragraphs that follow.

4.2 FIELD SCREENING METHODS

Field screening will be conducted by characterizing soil via visual and odor inspection. It is anticipated that any odors generated during the soil boring and excavation activities would be related to SVOCs that have been present in previous sampling events at B100. Evidence of SVOC contamination may also indicate the presence of PCB contamination. Odor control measures will be employed, as required, to ensure that on-site workers are not exposed to elevated concentrations of airborne contaminants. Where contamination is suspected, a PCB field sampling kit will be used to detect the PCB concentrations. A value of less than 10 mg/kg for PCBs measured via the field screening method will determine potentially clean soil from contaminated soil with regards to PCBs.

The onsite contamination screening methods for PCBs will provide a basis for determining how far and in what direction to continue excavating. As described in the SAP Addendum (Attachment I), soil samples will be collected from four soil borings at the corners of the proposed excavation area. A minimum of two samples from each boring will be analyzed, if no staining or odors are observed. In the event that results of the immunoassay samples indicate that PCB concentrations are less than 10 mg/kg for all samples, the proposed excavation area will be used.

4.3 WASTE SAMPLING

Prior to off-site disposal of excavated soil, one composite sample will be collected/ analyzed to determine final soil disposition. Analytical testing will be performed in order to properly characterize the material as hazardous or non-hazardous and to meet the permit requirements of the designated TSDF. Soil samples will be analyzed for VOCs/SVOCs via EPA Methods 8260 and 8270 respectively, PCBs by Method 8081, and Toxicity Characterization Leaching Procedure (TCLP) for metals by Method 6010. Additional disposal characterization will be performed if required by the waste characterization profile requirements of the receiving disposal facility.

4.4 CONFIRMATION SAMPLING

After field screening methods indicate that contaminants are below regulatory levels, confirmatory soil samples will be collected and laboratory analyzed.

Confirmation samples will be collected, handled, and transported in accordance with the SAP Addendum (Attachment I). Analytical procedures to be used for the samples include total PCBs, SVOCs, VOCs, and metals.

One grab soil sample will be collected from each sidewall of the excavation and four samples will be collected from the bottom of the excavation where applicable. Thus, a minimum of 8 samples will be collected and analyzed for the confirmation sampling phase. Samples will be collected using decontaminated sampling equipment, and will be placed into appropriate

sample containers. Sample labeling and preservation will be completed as described in the SAP Addendum.

If analytical results indicate that contaminant concentrations in the soil exceed the cleanup criteria, additional soil will be removed and the excavation will be re-sampled until the cleanup criteria are met. In the event that groundwater is encountered before the excavation is considered clean (below action levels based upon onsite detection methods), final soil samples will be collected just above the groundwater level.

Results of the confirmatory sampling will be compared to TAGM 4046 and reviewed by AFPRA, USEPA and NYSDEC.

4.5 AIR MONITORING

Air monitoring will be conducted during excavation activities. A MiniRAM real time meter will be used to screen the air in and around the site for dust particles and a multi-gas meter will be used to screen air for carbon dioxide resulting from equipment and mechanical tools operations. During these activities, engineering controls will be implemented to control airborne dust and emissions as needed.

4.6 PCB WIPE SAMPLING

Two wipe samples will be collected from the floor of the generator room beyond the temporary polyethylene barriers and one sample will be collected from each sidewall. Analytical results will be used to confirm that all work areas are below regulatory cleanup standards of 10 µg/100cm^2, as defined by USEPA (40 CFR 761.125).

The collection of wipe samples will be in accordance with procedures that are specified under the Toxic Substance Control Act regulations [40 CFR § 761.123].

Wipe samples will be analyzed for TCL polychlorinated biphenyls (PCBs). All sample analyses will be conducted by a laboratory that is certified by the NYSDOH, and will be performed in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, Appendix 19 of 6NYCRR Part 371; or an equivalent method approved by the NYSDEC.

4.7 QUALITY ASSURANCE AND DATA VALIDATION

The analytical laboratory data package will be prepared using a Level III + deliverable data package, in accordance with CERCLA requirements.

SECTION 5

REPORTING REQUIREMENTS

5.1 INTRODUCTION

A Remedial Action Report (RAR) will document the work of the B-100 Dry Well PCB remediation. The primary objective of the RAR is to serve as a close-out report for regulatory approval purposes, since the report will document that the proposed remedial actions were successfully completed. The RAR will include a narrative description of the work activities, along with supporting appendices, as follows:

- Analytical Data Report Package (CDRL A0012) - this will include analytical laboratory data results, field test kit data sheets, and field logs of air monitoring instruments. The Analytical Data Report Package will also include the complete QA/QC backup data, and will be completed in accordance with AFCEE ERPIMS (Environmental Resources Program Information Management System) requirements.
- Technical Field Report (CDRL A011) – This report will consist of daily field reports, including digital photos of project activities
- Closure Report (CDRL A001) – This report will provide the basis for seeking regulatory closure following the completion of site remedial activities
- Integrated Solid Waste Report – This report provides documentation of all waste disposal activities, including the Hazardous Waste and/or Hazardous Material Disposal Report (CDRL A001E), if applicable.
- As built drawings of building alterations with any manufacturer's warrantees and operating instructions for new components, and relocation of generators and associated appurtenances.

SECTION 6

ANTICIPATED PROJECT SCHEDULE

6.1 INTRODUCTION

The anticipated project schedule is depicted on Figure 6.1. This schedule is consistent with the Task Order requirements specified by AFCEE. Significant project milestones are summarized as follows:

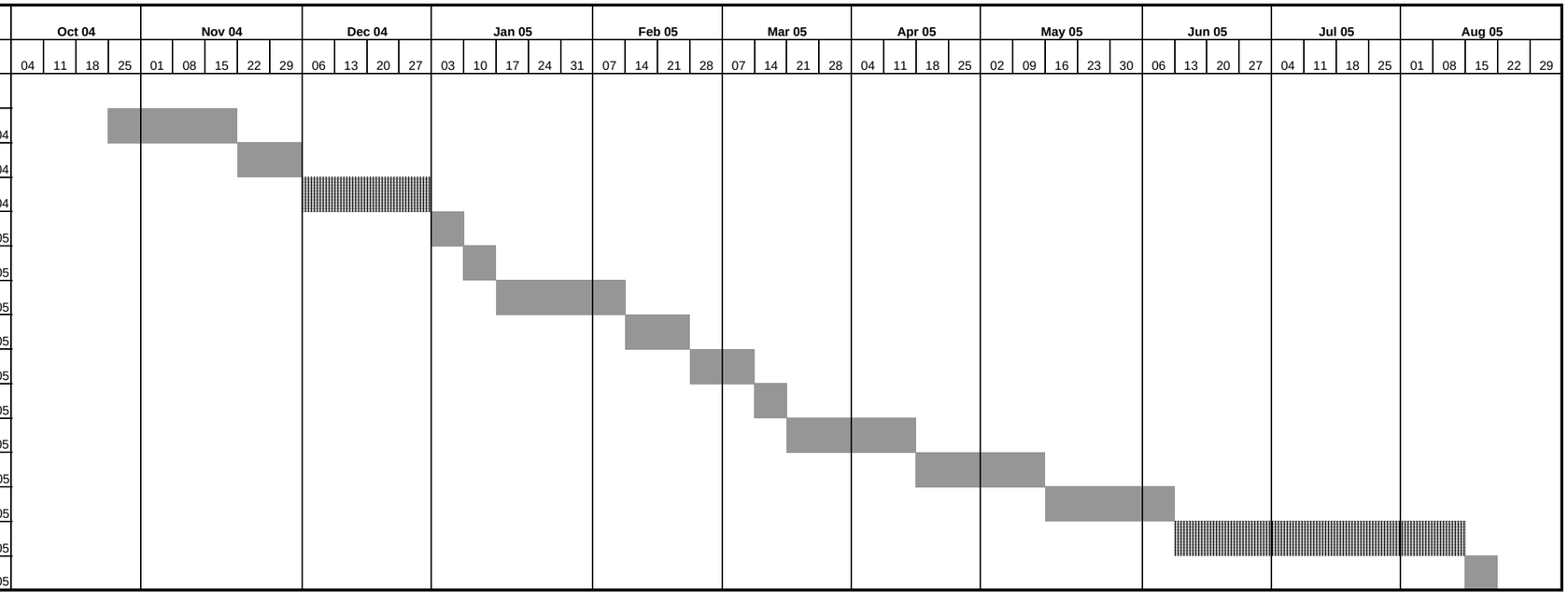
- Preparation and approval of project work plans – November 2004 through January 2005
- B-100 PCB Remediation activities – January through April 2005
- Completion and submittal of Draft and Final RAR – April through August 2005

Former Griffiss Air Force Base - Rome, NY

Building 100 Dry Well PCB Remediation - Proposed Project Schedule

Figure 6-1

Task	Description	Duration	Start	Finish
01	Prepare Draft Work Plan	20d	25-Oct-04	19-Nov-04
02	AF Review/Comment Draft Work Plan	10d	22-Nov-04	29-Nov-04
03	NYSDEC Review/Comment Work Plan	30d	6-Dec-04	31-Dec-04
04	Perform Preliminary Investigation /PCB Sampling	5d	3-Jan-05	8-Jan-05
05	Mobilization for Bldg 100 Site Work	5d	10-Jan-05	15-Jan-05
06	Relocate Bldg. 100 generators	20d	17-Jan-05	12-Feb-05
07	Remove concrete / excavate soil	10d	14-Feb-05	25-Feb-05
08	Confirmation sampling	10d	28-Feb-05	11-Mar-05
09	Backfill area/ repair concrete	5d	14-Mar-05	18-Mar-05
10	Complete building repairs	20d	21-Mar-05	15-Apr-05
11	Prepare Draft Final Report Bldg 100	20d	18-Apr-05	13-May-05
12	AF Review/Comment Draft Final Report	20d	16-May-05	10-Jun-05
13	NYSDEC Review/Comment Draft Final Report	30d	13-Jun-05	12-Aug-05
14	Issue Final Report	5d	15-Aug-05	19-Aug-05



SECTION 7

FIGURES

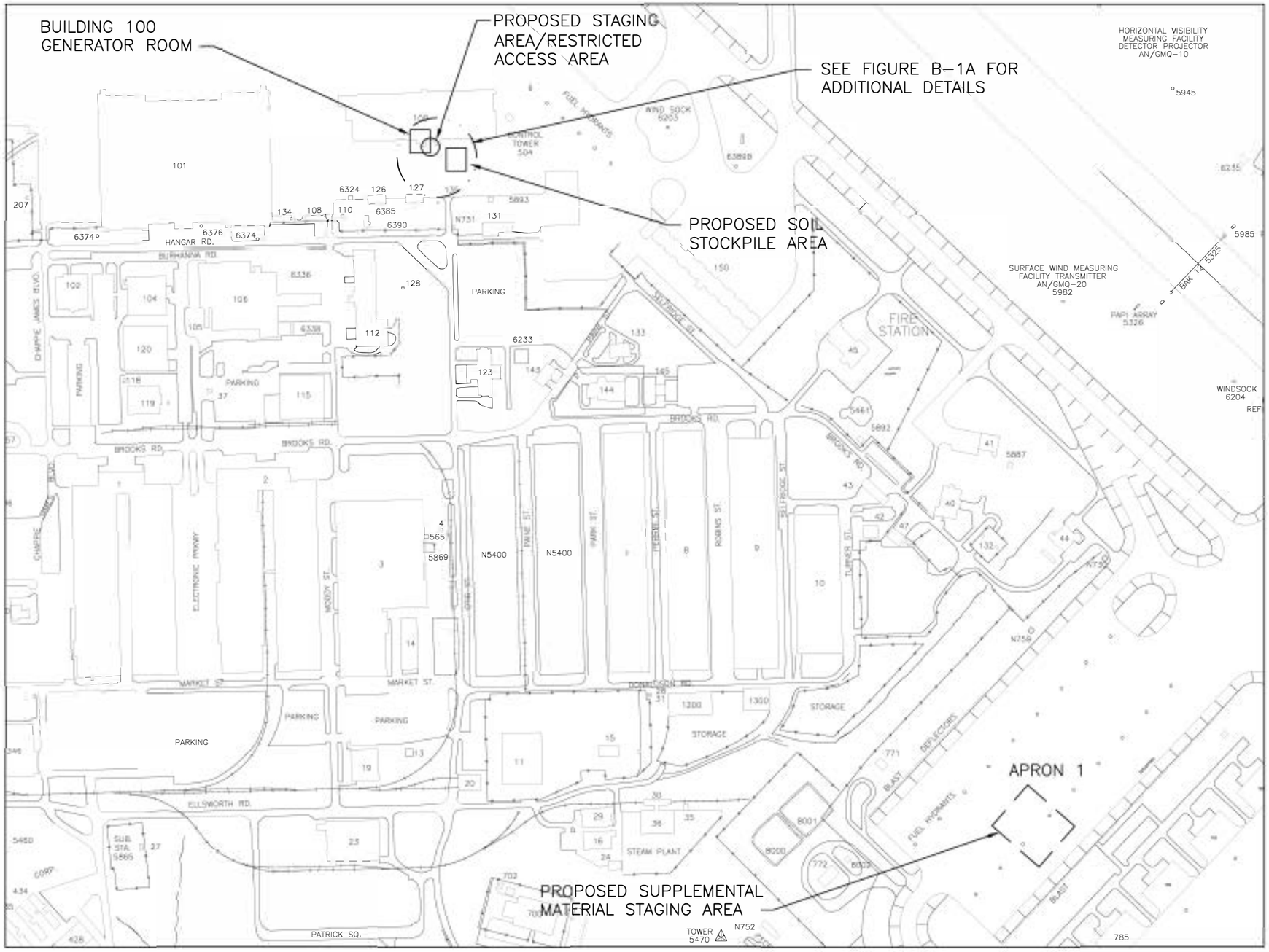
B-1	Site Location
B-1	Existing Site Layout
B-1a	Proposed Project Staging Area Adjacent to B-100
B-2	Existing Plan View
B-3	Proposed Building Alteration Plan View
B-4	Existing South & East Elevations
B-5	Proposed Building Alterations South & East Elevation
B-6	Existing Building 3D View
B-7	Proposed Alterations to Building 3D View
B-8	Proposed Preliminary Investigation Soil Borings



QUADRANGLE LOCATION
NEW YORK



REGIONAL MAP
SCALE: 1 INCH=3 MILES
SOURCE: offroute.com



500 250 0 500 1000

SCALE: 1"=500'

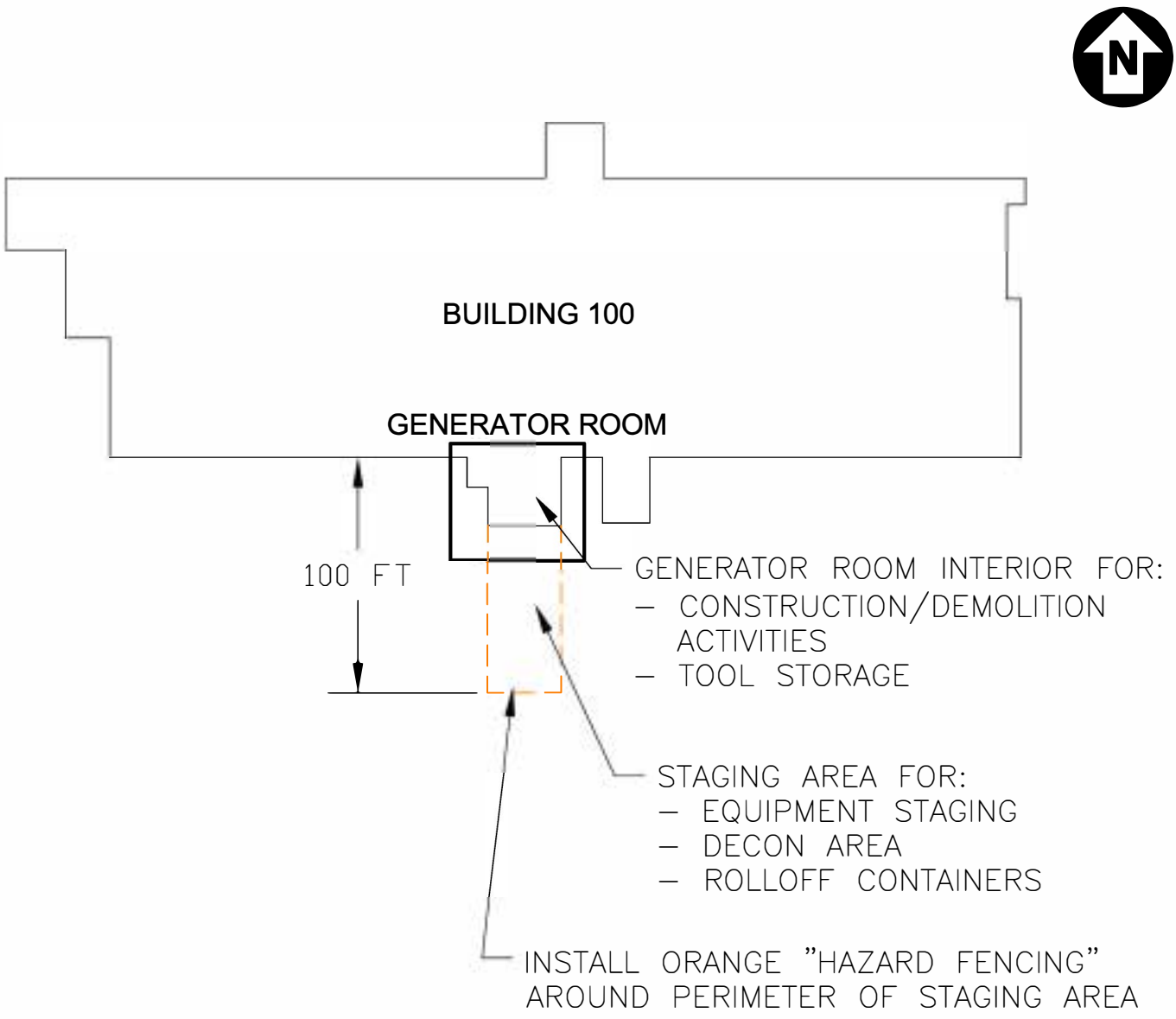
FIGURE B–1

FORMER GRIFFISS AIR FORCE BASE
ROME, NEW YORK

SITE LOCATION MAP

PARSONS
290 ELWOOD DAVIS ROAD, SUITE 312, LIVERPOOL, N.Y. 13088, PHONE: 315–451–9560

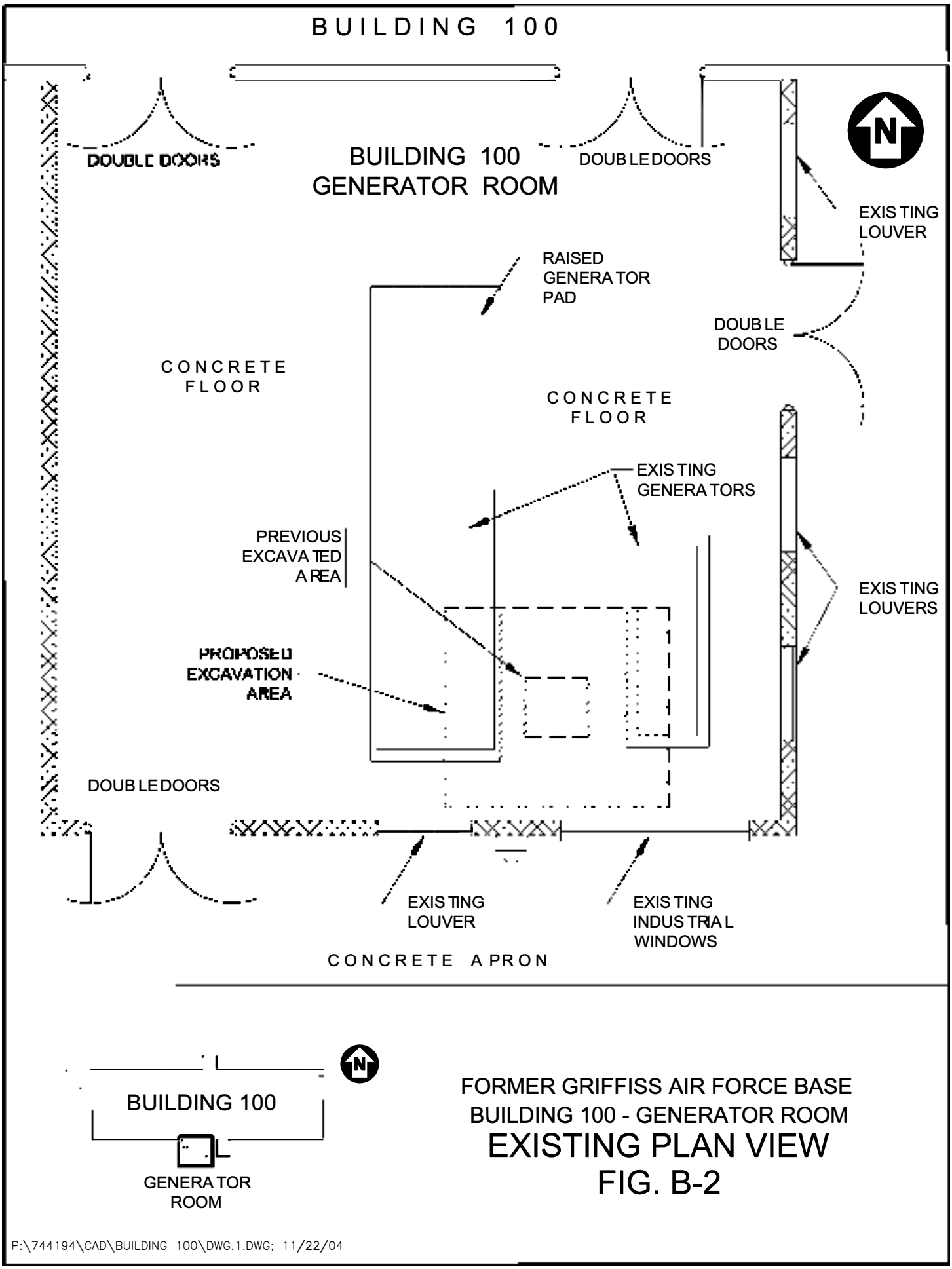
No XREFs
P:\744194\CAD\BUILDING 100\FIG B–1.DWG; 11/30/04



FORMER GRIFFISS AIR FORCE BASE
BUILDING 100 - GENERATOR ROOM

EXISTING PLAN VIEW
FIG. B-1A

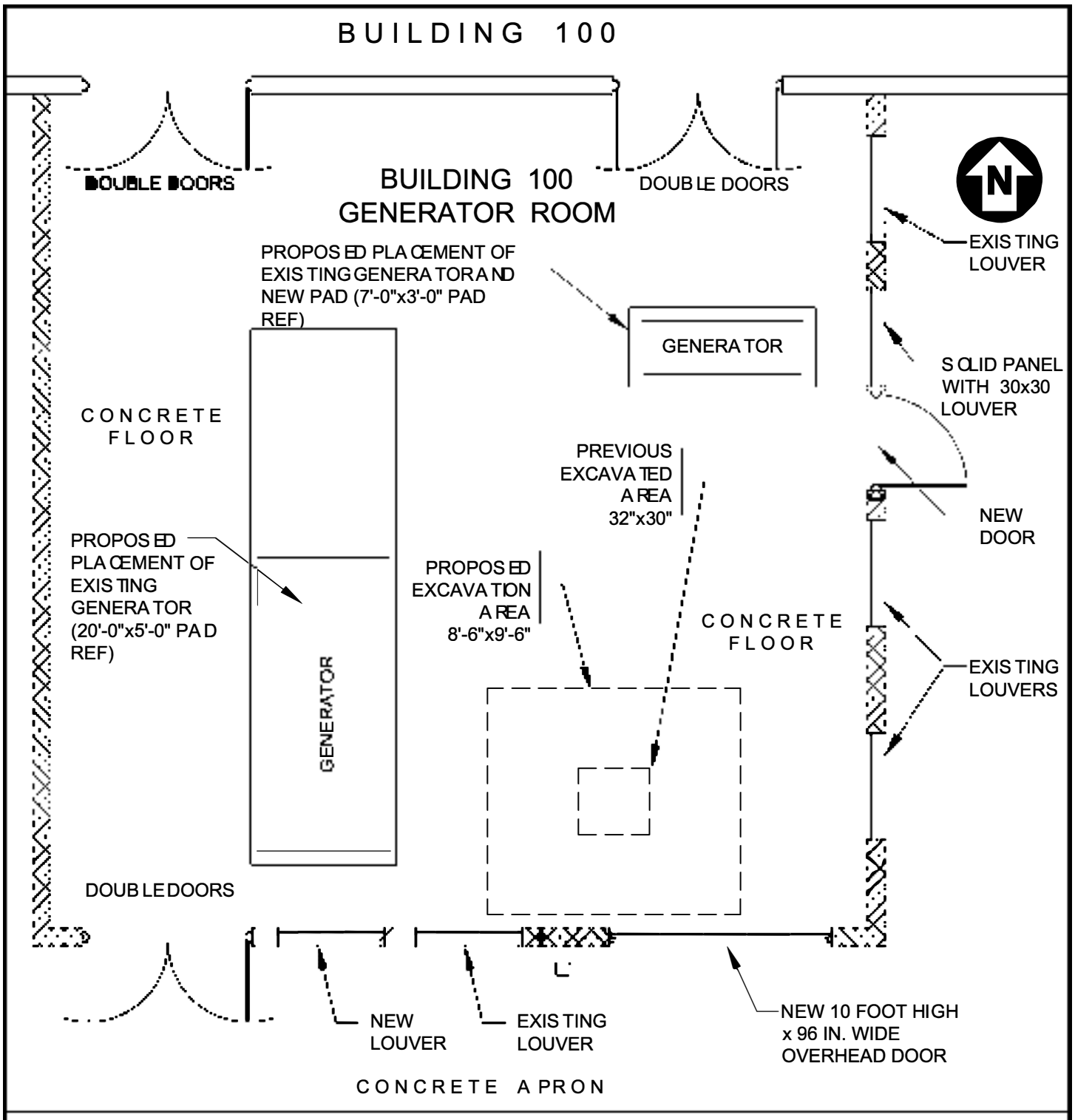
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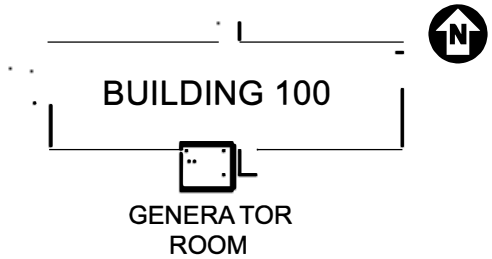
FORMER GRIFFISS AIR FORCE BASE
BUILDING 100 - GENERATOR ROOM

EXISTING PLAN VIEW
FIG. B-2

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REF: EE/CA REPORT FOR DRY WELL 100 AT THE FORMER GRIFFISS AIR FORCE BASE, OCTOBER 2003, ECOLOGY AND ENVIRONMENT, INC.



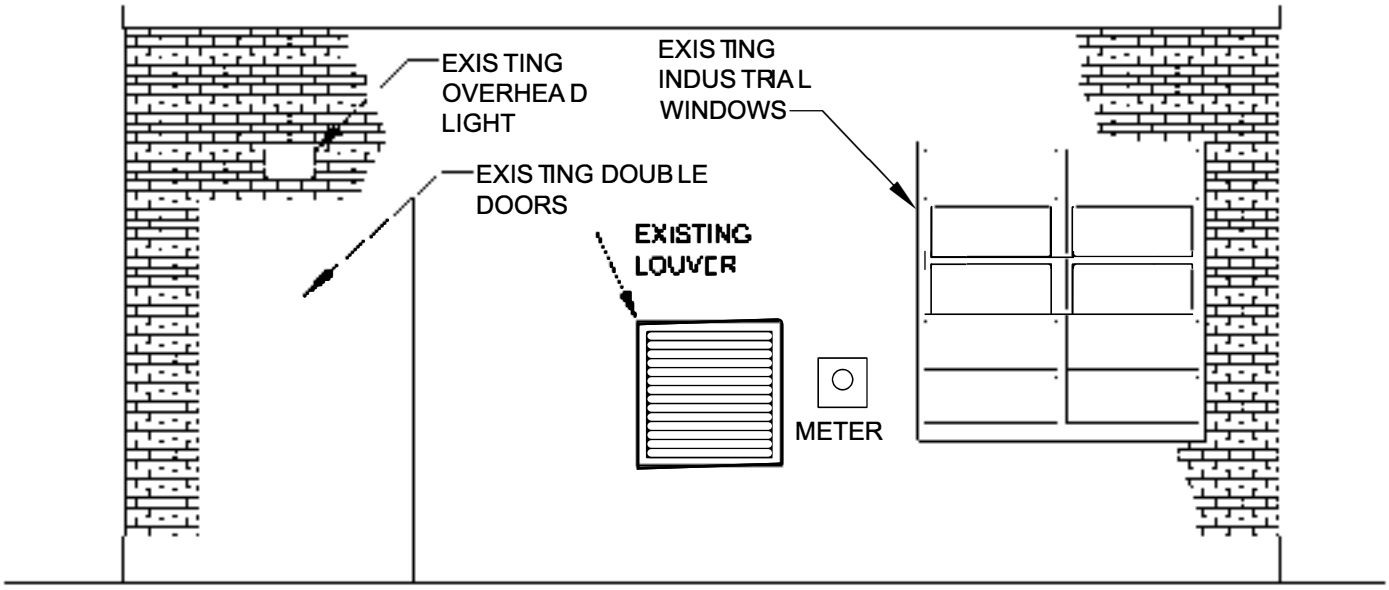
FORMER GRIFFISS AIR FORCE BASE

BUILDING 100 - GENERATOR ROOM

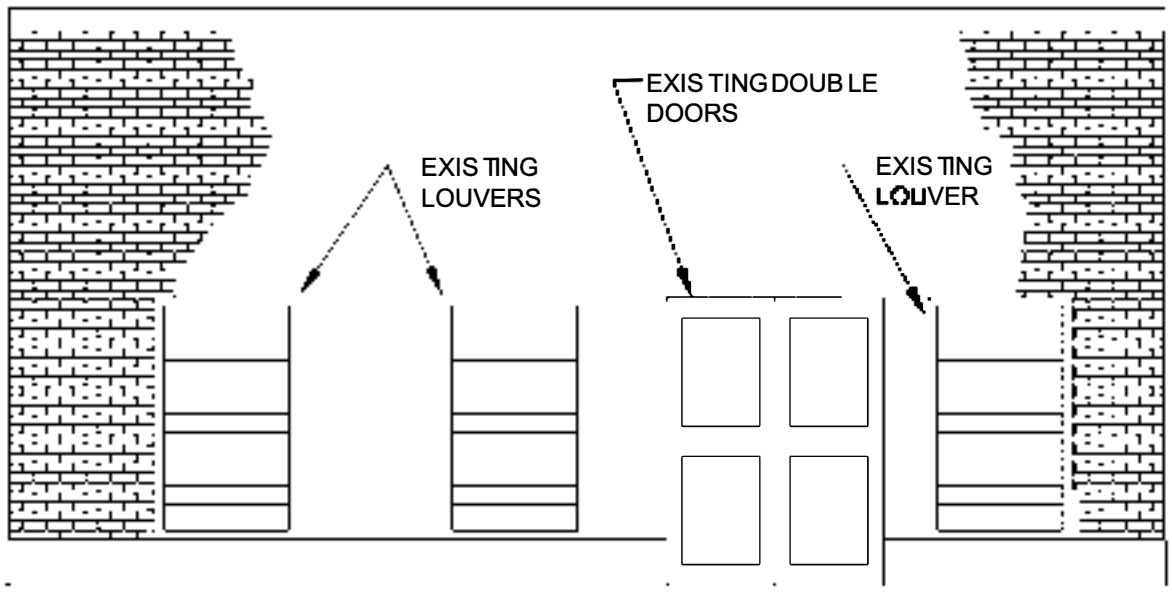
PROPOSED BUILDING ALTERATION PLAN VIEW

FIG. B-3

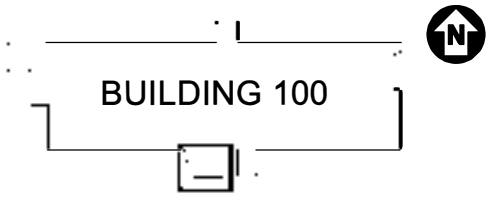
P:\744194\CAD\BUILDING 100\DWG.1.DWG; 11/22/04



EXISTING SOUTH FACE OF GENERATOR BUILDING

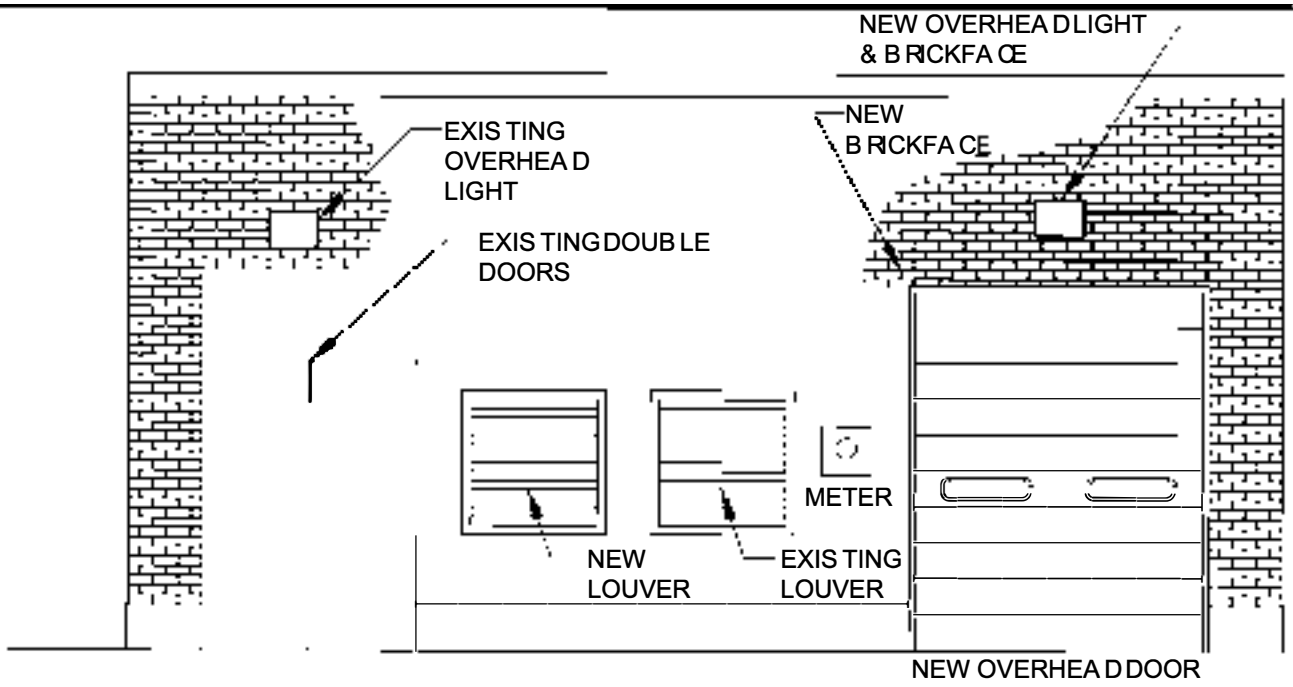


EXISTING EAST FACE OF GENERATOR BUILDING

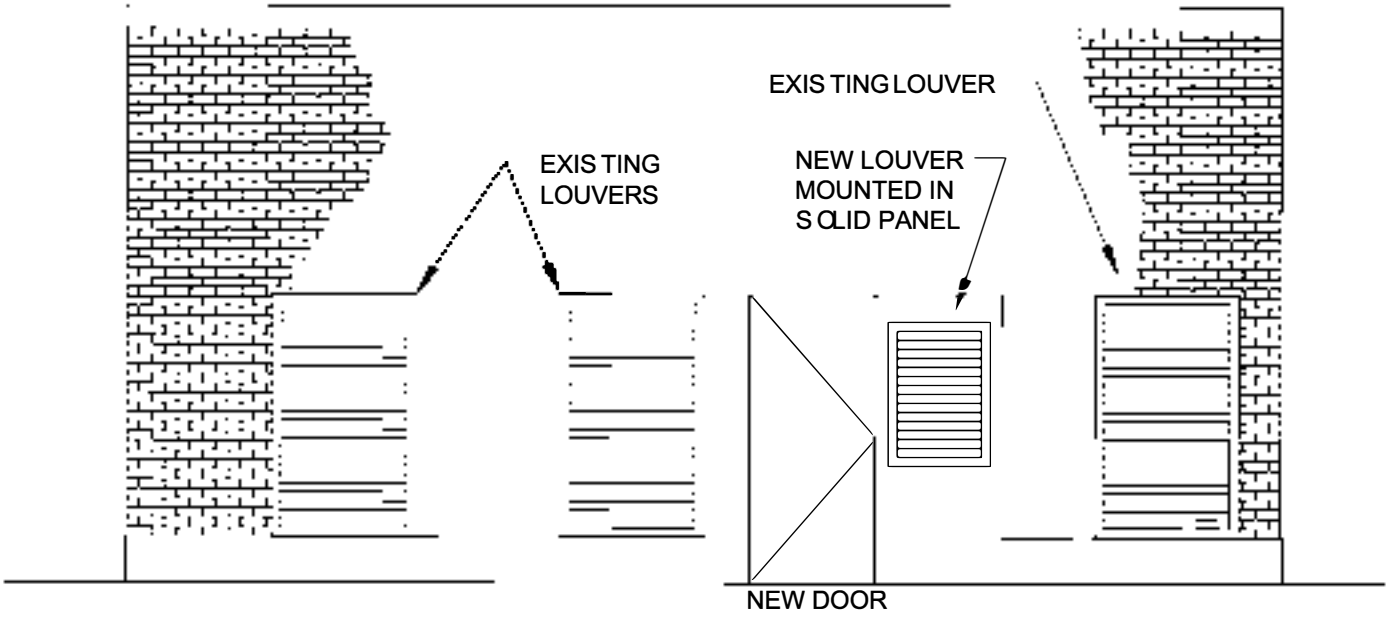


FORMER GRIFFISS AIR FORCE BASE
BUILDING 100 - GENERATOR ROOM
EXISTING SOUTH & EAST ELEVATIONS
FIG. B-4

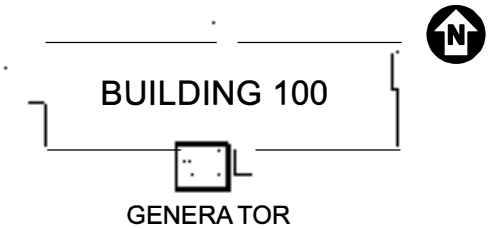
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PROPOSED NEW DOORS AND LOUVER ON THE SOUTH FACE OF GENERATOR BUILDING

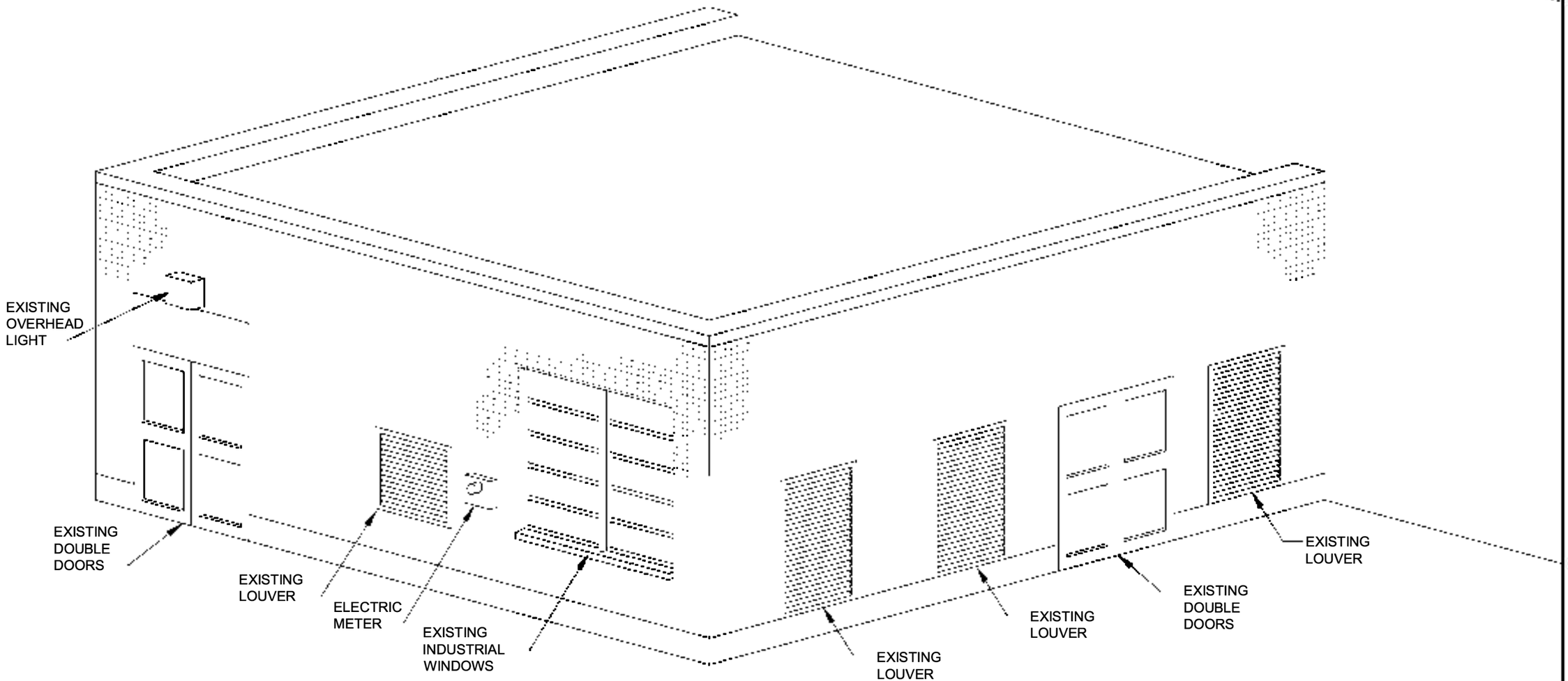


PROPOSED NEW LOUVER FOR THE EAST FACE OF GENERATOR BUILDING



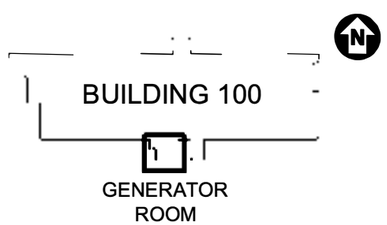
FORMER GRIFFISS AIR FORCE BASE
BUILDING 100 - GENERATOR ROOM
PROPOSED BUILDING ALTERATIONS SOUTH & EAST ELEVATIONS
FIG. B-5

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SOUTH FACE

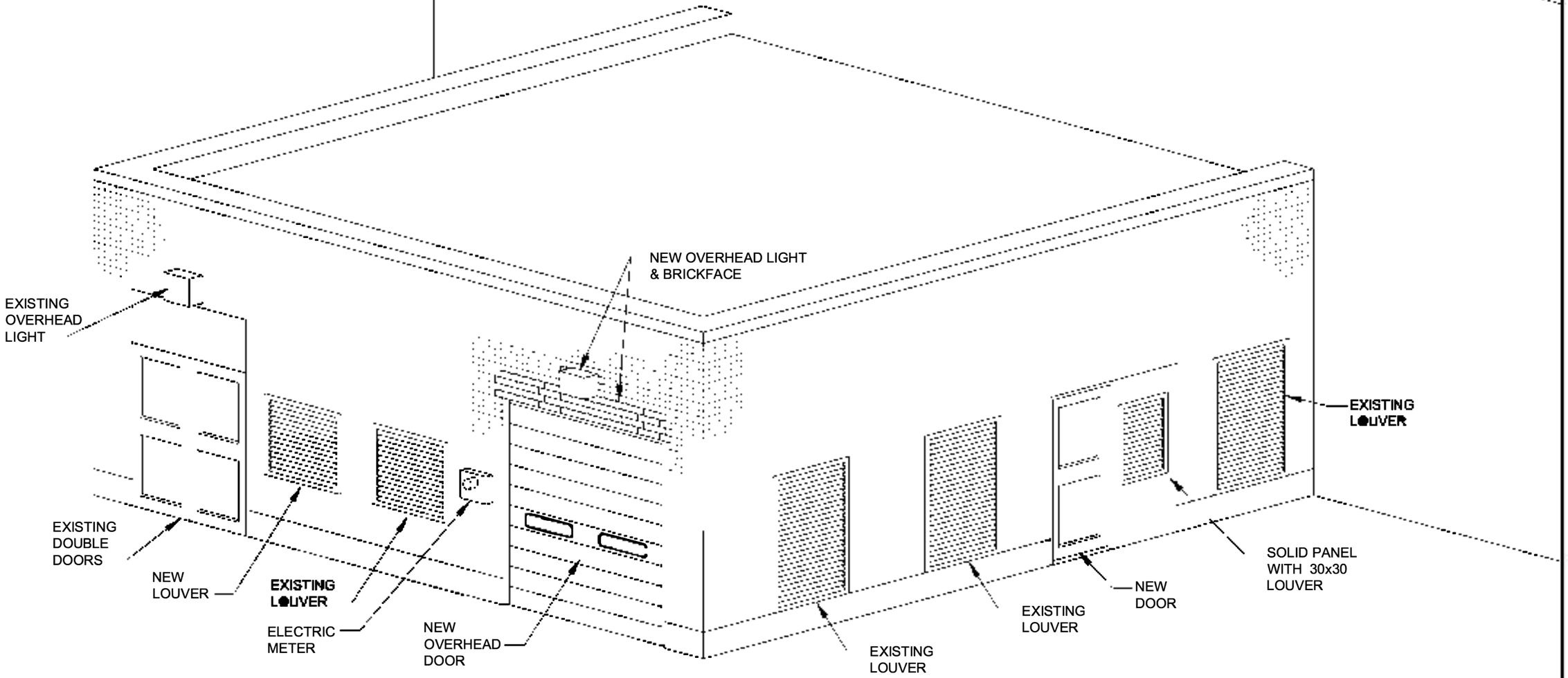
EAST FACE



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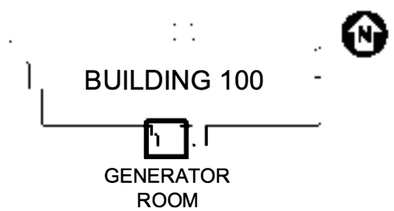
FORMER GRIFFISS AIR FORCE BASE
BUILDING 100 - GENERATOR ROOM

EXISTING BUILDING
3D VIEW
FIG. B-6



SOUTH FACE

EAST FACE

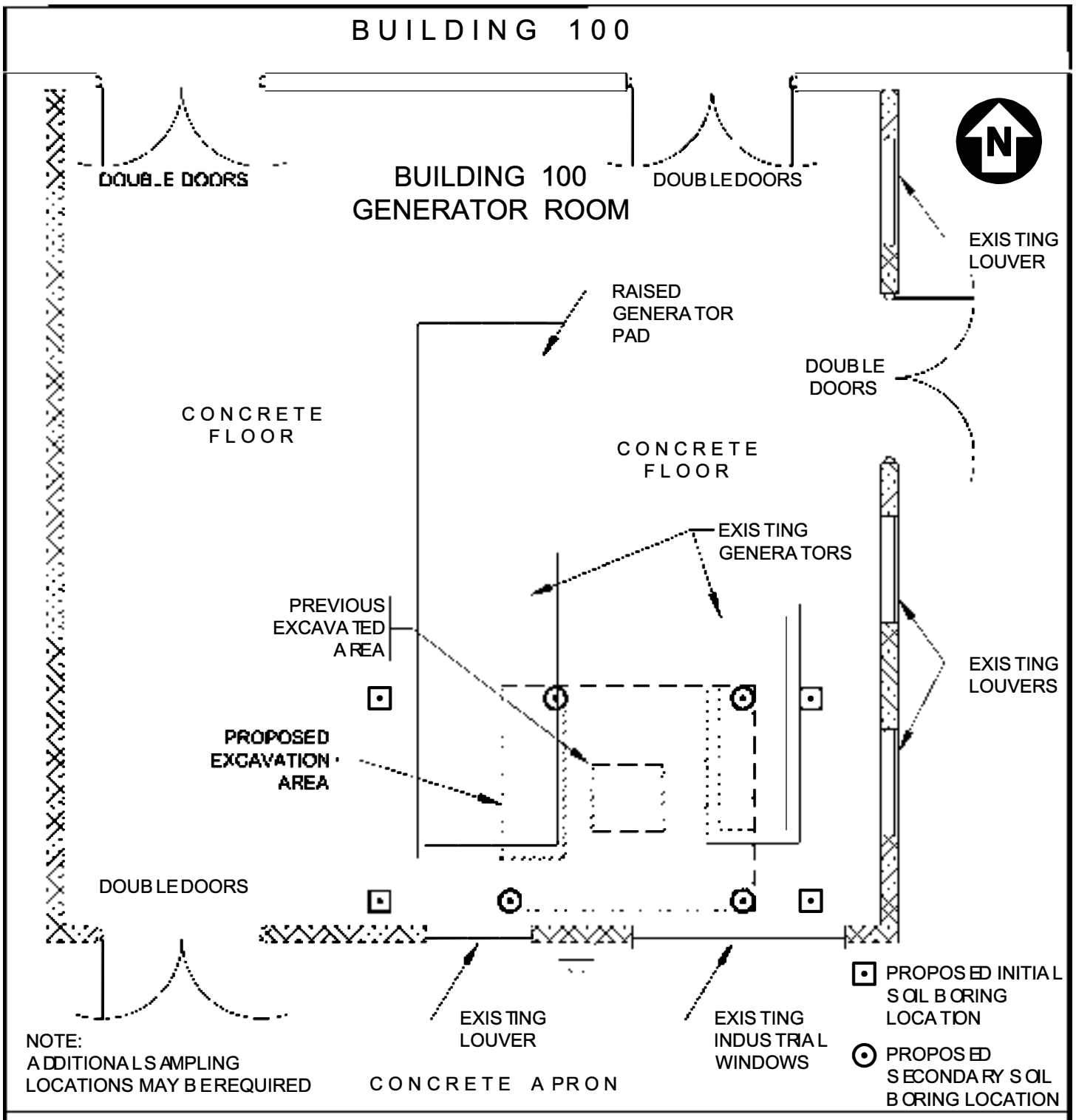


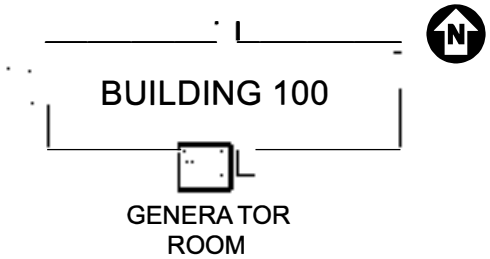
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FORMER GRIFFISS AIR FORCE BASE
BUILDING 100 - GENERATOR ROOM

PROPOSED ALTERATIONS TO BUILDING 3D VIEW

FIG. B-7





FORMER GRIFFISS AIR FORCE BASE
BUILDING 100 - GENERATOR ROOM

EXISTING PLAN VIEW PROPOSED SOIL BORING LOCATIONS

FIG. B-8

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ATTACHMENT H

HASP ADDENDUM
BUILDING 100 DRY WELL PCB
REMEDIAL ACTION WORK PLAN

This addendum covers additional health and safety issues not currently covered in the Project Health and Safety Plan (HASP) prepared for the Air Force Center of Environmental Excellence (AFCEE) by Parsons in February 2002. Parsons has been issued a task order under the Worldwide Environmental Restoration Contract (WERC), FA8903-04-D-8675 for demolition and remediation of excess facilities at the former Griffiss Air Force Base, Rome, NY. This scope of work requires removal of PCB-contaminated soil from underneath the interior floor of a generator room adjacent to an inactive aircraft maintenance hangar (Building 100).

The existing HASP includes descriptions of risk analyses, personal protective equipment (PPE), personnel protection and monitoring, work zones and decontamination, environmental sample shipment, and accident prevention/contingency planning. This HASP addendum includes information specific to the work being performed at the Building 100 Dry Well site, and includes the following supplemental information:

- Precautions for sampling activities for soil and groundwater sample collection in Building 100
- Precautions associated with excavation and handling of PCB-contaminated soil
- Precautions associated with electrical hazards present in the Building 100 area, including hazards associated with underground utilities in the area
- Excavation shoring / stabilization requirements
- Monitoring requirements for organic vapors
- Required levels of personal protective equipment for anticipated site activities

SAMPLING

Hazards of handling soil/sediment or groundwater while sampling include potential exposure to chemicals listed in Section 2 of the Remedial Action Work Plan. Other hazards include risk of slip, trip and fall, lacerations and contusions, and noise-induced hearing loss from exposure to excessive noise from a drill rig or generator. Employees shall keep clothing dry with adequate rain gear. Use proper personal protective clothing, to include splash protection if baling by hand during sampling. Inspect equipment to ensure that it is in proper working order. All handling of potentially contaminated soils or groundwater will begin in Level D with careful monitoring of the sampler's breathing zone using the PID as needed. Outer nitrile and inner latex gloves will be included in standard Level D requirements whenever handling samples.

Employees may be working next to an active drill rig, so drilling safety applies to their activities. Refer to the drilling safety guide in Appendix E of the HASP. Upgrades from

Level D PPE will follow protocols established in Section 3 of the HASP. Outer nitrile and inner latex gloves will be included in standard Level D requirements whenever handling samples.

EXCAVATION, CONFINED SPACE, AND SOIL HANDLING HAZARDS

Site excavations greater than 4 feet must be shored or sloped as appropriate to prevent accidental collapse in accordance with Subpart P of 29 CFR Part 1926, if it is necessary for personnel to enter the excavation such as for sampling or testing. A Competent Person must be on-site for any excavation work. If the excavation is at least four feet deep, sloping must follow these guidelines:

Type	Angle (degrees)	Max. Depth (feet)
Solid rock, cemented sand or gravel	90	20
Compact angular gravel	63	20
Compact sharp sand	33	20
Rounded loose sand	26	20

Excavations deeper than 20 feet must be designed by a Professional Engineer. Prior to any excavation activity, efforts will be made to determine whether underground installations will be encountered and, if so, where these installations are located. Hard hats and safety boots must, as a minimum, be worn within the work area at all times. The excavation equipment cannot be generally operated within 10 feet of power lines. Work within 10 feet is possible provided proper procedures are followed. These procedures include warning signs on the electrical hazard, barricades or caution tapes around live wires, and access to the live wires only by qualified personnel. Excavations will be kept fully barricaded except as needed to progress the work. Excavations that are not backfilled at the day's end must be barricaded. The SSO will monitor the excavation to ensure that they are meeting the H&S requirements. If deficiencies are noted, work will be stopped by the Site Safety Officer (SSO) and corrective action taken (i.e.; retrain, purchase additional safety equipment etc.). Reports of H&S deficiencies and the corrective action taken will be forwarded to the Project Manager. Equipment will not be placed on unstable ground or ground not capable of supporting heavy equipment.

If site personnel enter an excavation of four feet or greater, it will be considered confined space entry, which will require a team of three people. The entrant, attendant, and supervisor must be trained on the hazards that they will face upon entering into a confined space. They must be trained on the equipment they will be employing for air monitoring prior to and during entry. They must be trained on non-entry rescue procedures to be used at the site, such as retrieval equipment, fall protection devices, and proper personal protective equipment requirements. Briefly, hazards include: breathing a hazardous atmosphere, becoming trapped in a confined space, falling objects striking entrants, injury during entry or exit to the confined space, and exposure to toxic chemicals or physical hazards associated with entry into the space. The confined space entry team will become familiar with all of the hazards they face prior to entering into the confined space in question. Site H&S personnel shall brief affected employees on the known hazards associated with each space to be entered. All work will be performed in compliance with OSHA's Confined Space Entry Standard 29 CFR 1910.146.

Soil/sediment handling will involve numerous activities such as heavy equipment operations and on-site hauling of the excavated materials. Each activity may require a different level of protection, dependent on the risk of exposure to constituents. Excavation procedures shall be used that minimize the generation of dust including covering of stockpiles, wetting of the work area, slowing down or temporarily stopping the work, and careful soil handling. Excavation of soil/sediment will potentially expose workers to both contaminated soil and contaminated groundwater. This work will, at a minimum, require all personnel to wear Level D H&S protection.

Materials such as imported fill (soil), topsoil, select backfill, sheeting, and equipment will be delivered during the course of the project. This work will, at a minimum, require all personnel to wear Level D H&S protection. Vehicles coming into contact with contaminated material shall be decontaminated. Vehicles that did not come in contact with contaminated materials will not require decontamination. Truck drivers shall not leave their vehicles during the entire time that the vehicle is within a contaminated area.

ELECTRICAL HAZARDS

Workers on this project must be aware of the potential electrical hazards associated with equipment installed in Building 100, along with potential hazards associated with subsurface utilities in the area. Parsons will coordinate with AFRPA and Griffiss Utility Services Corporation (GUSC) staff to identify potential electrical hazards in Building 100, including the generators, switches, controls and other equipment. Proper lockout/tagout procedures will be used to verify that electrical equipment is de-energized prior to any work being performed in proximity to the equipment. Prior to any excavation or subsurface investigation work being performed in the B100 area, an underground utility clearance will be performed. Utilities that are identified will be clearly marked, and the appropriate precautions taken to maintain safe clearance during all subsurface activities. Workers will also be advised that access to electrical room adjacent to the B100 generator room, will not be allowed. In addition, provisions will be made to prevent contact with extremely dangerous electrical equipment, such as high voltage switches. These provisions will include barricades or other means to prevent human contact or contact by machines (e.g. excavators or drill rigs) working inside the building.

MONITORING REQUIREMENTS

ORGANIC VAPORS

Organic vapors in the breathing zone (4 to 6 feet above ground) will be monitored by the SSO with a PID. See Appendix A for further information on equipment handling.

Readings will be taken upwind and downwind of potential contaminant sources on-site. Readings exceeding background and the locations of such readings will be noted. Readings will be taken while intrusive work is proceeding. Readings will be conducted upwind and downwind of excavation activities at least once per hour on the site in order to monitor for the release of airborne contaminants from the exclusion zone. If downwind levels of organic vapors exceed upwind levels by more than 1 ppm (for a sustained time of 2 minutes) then steps will be taken in the exclusion zone to control vapor levels. This may include, but not be limited to wetting down

of open soil piles, covering soil with tarps, or other effective means of controlling vapor release or visible dust.

Readings will also be taken under the following circumstances:

- When weather conditions change.
- When work begins on another portion of the site.

Protective equipment will be selected, based on monitoring, as provided in Section 3.4.

During on-site field activities PID readings will be taken in the breathing zone. In the event that readings taken in the breathing zone exceed 5 ppm (for a sustained time of 2 minutes), personnel must monitor at the site boundary to determine whether contamination is spreading off site. IN THE EVENT THAT READINGS TAKEN AT THE PERIMETER OF THE SITE EQUAL OR EXCEED 5 ppm (for a sustained time of 2 minutes), WORK AT THE SITE MUST STOP, AND THE SSO MUST BE NOTIFIED.

By controlling dust levels to below visible dust clouds through actions such as wetting down of site soils during open excavation and site grading work, exposure to PCBs by inhalation will be minimized. Skin exposure and ingestion will be controlled through PPE and standard work practices as outlined in this Plan.

PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

LEVEL D

Level D protection will be worn for initial entry on-site and initially for all activities. Level D protection will consist of:

- Standard Work Clothes.
- Steel-toe safety boots.
- Nitrile outer and PVC or nitrile inner gloves (must be worn only during sampling activities).
- Hard hat (must be worn during intrusive activities).
- Splash goggles or safety glasses (where splash hazard is present).
- Orange vest (for traffic areas only).

Modified Level D, which will include Tyvek coveralls, will be worn when conducting activities involving soils or sediments where PCB concentrations are equal to or exceed 50 mg/kg.

LEVEL C

The level of personal protection will be upgraded to Level C if the concentration of volatile organic compounds that can be detected with the PID in the breathing zone equals or exceeds 1 ppm.

It is not possible to directly monitor the concentrations of airborne PCBs that might be generated as a result of wind erosion of soils. However, to avoid any potential exposure, workers will wet down the surrounding area with water if visible dust clouds are generated during soil excavation activities. If the SSO or any member of the field team does not feel that

these measures are sufficient, then workers may don a full-face air-purifying respirator equipped with HEPA cartridges.

Level C protection will consist of Level D equipment and the following additional or upgrade of equipment:

- Full-face air-purifying respirator.
- Combination dust/organic vapor cartridges.
- Tyvek coverall suit.
- PVC or Nitrile inner and Nitrile outer gloves.

Cartridges will be disposed at the end of each day's use. If the concentration of volatile organics which can be detected with a PID equals or exceeds 5 ppm, all field personnel will immediately retreat from the area and consult with the SSO.

DECONTAMINATION OF PERSONNEL

Decontamination of personnel will be necessary if Level C protection is used. Decontamination will not be necessary if only Level D protection is used. However, disposable gloves used during sampling activities should be removed and bagged. Disposable gloves, Tyveks, etc. used during remedial activities at the site should be drummed and disposed of at a secure location offsite. Wash water used for decontamination activities will be drummed for sampling and disposed offsite.

The following OSHA-specified procedures include steps necessary for complete decontamination prior to entry into the support zone, and steps necessary if a worker only needs to change a respirator or respirator canister. Modification can be made to the twelve station decontamination process by the SSO depending upon the extent of contamination.

CHEMICAL EXPOSURE

If a member of the field crew demonstrates symptoms of chemical exposure the procedures outlined below should be followed:

- Another team member (buddy) should remove the individual from the immediate area of contamination. The buddy should communicate to the SSO (via voice and hand signals) of the chemical exposure. The SSO should contact the appropriate emergency response agency.
- Precautions should be taken to avoid exposure of other individuals to the chemical.
- If the chemical is on the individual's clothing, the chemical should be neutralized or removed if it is safe to do so.
- If the chemical has contacted the skin, the skin should be washed with copious amounts of water.
- In case of eye contact, an emergency eye wash should be used. Eyes should be washed for at least 15 minutes.

All chemical exposure incidents must be reported in writing to the SSO. The SSO is responsible for completing the accident report (See Appendix B of this Section)

ATTACHMENT I

SAP ADDENDUM
BUILDING 100 DRY WELL PCB
REMEDIAL ACTION WORK PLAN

This addendum covers additional health and safety issues not currently covered in the Project Sampling and Analysis Plan (SAP) prepared for the Air Force Center of Environmental Excellence (AFCEE) by Parsons in February 2002. Parsons has been issued a task order under the Worldwide Environmental Restoration Contract (WERC), FA8903-04-D-8675 for demolition and remediation of excess facilities at the former Griffiss Air Force Base, Rome, NY. This scope of work requires removal of PCB-contaminated soil from underneath the interior floor of a generator room adjacent to an inactive aircraft maintenance hangar (Building 100).

The existing SAP includes descriptions for sampling equipment and procedures for field equipment decontamination, waste management, and equipment calibration. It also includes provisions for use of field equipment for field measurements and monitoring. Additional sections of the SAP provide descriptions for field sample collection, sample handling and analyses, and sampling quality assurance (QA) issues. This SAP addendum includes information specific to the work being performed at the Building 100 Dry Well site, and includes the following supplemental information:

- Procedures for using on-site immunoassay test kits for PCB analyses
- Procedures for collecting wipe samples of surface areas
- Sampling methodology for closure confirmation
- Requirements for project-specific QA sampling and analyses, including use of Level III + analytical laboratory data package preparation, including data validation requirements

Procedures for using on-site field test kits for PCB analyses

1. Personnel who use immunoassay kits must be qualified and should receive formal training including an explanation of immunoassay theory, how the specific method works, quality assurance/quality control requirements and methods, and how to interpret the results. The immunoassay test kit vendors typically offer this type of training upon request. The performance of users should be evaluated by correlation of the analyst's results from the quality assurance/quality control (QA/QC) analyses (described in item number 3 below) to the acceptance criteria developed in the data quality objectives (DQOs).
2. To obtain reliable results, users should carefully follow the manufacturer's instructions - the sequence and timing of steps is critical for the technology to work properly. In addition, the following QA/QC measures should be undertaken, at a minimum:
   - Calibration standards with each run (typically supplied in the kit)
   - Blanks (methanol, lab-prepared matrix blank, and if possible, a field blank) at the beginning and end of each day
   - Spikes (methanol and lab-prepared matrix spike) at the beginning and end of each day

- Performance evaluation sample once a day
- Duplicates at one every ten samples
- Laboratory confirmation on at least ten percent of samples by EPA Method 8000 Series, or another appropriate EPA-approved method.

3. Users are expected to record the results of the QA/QC samples and evaluate them daily to ensure that the analyses and QA/QC checks are performing according to the criteria established in the vendor literature and the project DQOs.

- Immunoassay kits must not be used in direct sunlight. When the kits are used, the temperature should be between 13-27^{o}C (55-80^{o}F).
- Immunoassay kits have defined shelf-lives and storage condition requirements. Kits should be ordered from the manufacturer as they are needed.
- Soil samples should be handled following standard procedures to promote consistency and comparability of results and to minimize volatilization.
- The presence of certain compounds, particularly at high concentrations can interfere with the performance of certain immunoassay tests. The user should be aware of possible cross-reactions and matrix effects and test kit vendors can typically provide the necessary information during the planning stage.
- When used properly, some immunoassay tests can give good estimates of the range in which the true concentration lies. Personnel should not rely on the specific result generated by a quantitative immunoassay test kit. If a soil sample is silt/clay, is heterogeneous, has a high total organic carbon content, has a high moisture content and/or contains a high percent of volatile compounds, the sources of variation (error) become much greater (with both an immunoassay test and laboratory analysis). For water samples, factors such as turbidity, pH, salinity and color can interfere with the immunoassay test itself and/or the user's ability to interpret the results.
- Immunoassay tests are designed to have a bias towards false positives. Users should not be surprised if immunoassay results exceed laboratory results.

Wipe Sample Procedures

The following is a step-by-step sampling procedure for collecting wipe samples for polychlorinated biphenyls (PCBs) from non-porous surfaces.

1. Assemble all equipment necessary for wipe sample collection prior to leaving the office.
2. Identify and mark and exclusion zone with yellow ribbon to keep unauthorized personnel from entering the area where the work will be performed.
3. Identify and mark an external limited access zone where sampling equipment can be placed, once it has been used, pending decontamination and recycle. If field decontamination of sampling equipment is a planned event, necessary decontamination reagents and supplies should be placed in this area prior to sample collection. If field decontamination is not planned, used sampling equipment should be placed into a polyethylene bag and a transport container after it is used.
4. Identify and record specific descriptive details for one or more locations that will be used as reference points for positioning all wipe samples. Suitable locations may include lower right hand corner of an entry doorway, the northeastern corner of the enclosure or pad. Photograph each reference point, and record sufficient pertinent

information within field sampling documentation that will allow future reviewers to recreate the sampling event.

5. Locate the approximate area of the proposed sampling points using a tape measure and facility map. Mask off an area that is larger than the proposed sampling area (10 centimeters (cm) by 10 cm – 100 cm^2) and annotate the sample site identification on a piece of tape that is placed outside of the area to be sampled. Photograph each sampling location and the overall sampling grid and record details of the site within the field documentation.

6. Don protective gloves and prepare needed 3-inch by 3-inch cotton gauze pads. The gauze pad should only be touched using a decontaminated pair of tweezers or forceps. Do not touch the gauze with bare or gloved hands as dirt and oils from your skin or the surface of the gloves may contaminate the samples. Similarly, do not let the gauze pad touch any surfaces that may be contaminated. Place the gauze pad in a clean, resealable sample vial. The sample vial should be constructed of inert materials (i.e., Teflon, stainless steel, or glass) and contain no materials (e.g., waxed sealing lids) that could contaminate the sample.

7. Soak each needed 3-inch by 3-inch cotton gauze pads with 15 to 20 milliliters each of a pesticide-grade or better, solvent. The preferred solvent is hexane, but if the wipe sample will be collected from a waxed or non-epoxy based paint, painted surface, either methanol, isopropyl alcohol, or distilled and deionized water should be used as hexane will remove paint and wax. Reseal the sample vial and place in a secure stand or container pending use.

8. Assemble all equipment (e.g., field log, sealed sample vial containing soaked gauze pad, forceps, decontaminated sampling template, adhesive or duct tape, sample labels, pens, sample container, trash bag, storage container for contaminated sampling equipment) needed for the collection of a wipe sample at one location and move it to the first sampling location.

9. Don a new pair of disposable gloves. Use a respirator equipped with an organic vapor cartridge if the sample collection and preparation will be completed in an area that is not well ventilated.

10. Inspect the area to be wiped and select a location where the wipe template will be placed. Place and tape an inert, decontaminated, wipe template over the selected sampling site. The tape must be kept exterior to the surface that will be wiped. Adhesive from the tape should not contact the surface within the wiping area as it may contaminate the sample. Do not touch the surface to be wiped with gloved hands. Tape and gloving materials can be a significant source of organic compounds such as phthalates which will contaminate the samples.

11. Open the sealed sample vial containing the pre-soaked gauze pad, and remove the pad using a decontaminated pair of forceps. All subsequent wiping motions should be done in a manner that ensures that all chemical materials recovered from the surface are concentrated on one side of the gauze.

12. Collect the sample by applying uniform pressure to the wipe pad as it is drawn with straight, even strokes, over the area to be wiped. Successive strokes used should overlap slightly to ensure that the entire are is wiped. The first sequence of strokes should conducted from left to right, moving from the top of the sampling square to the bottom of the sampling square.

13. Once the first sequence of wiping repetitions is completed, the entire square must be wiped a second time with the same pad in a direction that is perpendicular to the first wiping pattern. Therefore, start at the upper left hand corner of the sampling square and wipe moving towards the right. Start each subsequent pass at the left side of the sampling template at a location below but overlapping the previous pass and move successively to the right and down until the entire square is wiped a second time.
14. Let the gauze air dry.
15. Fold the dry gauze so the sampling side is inwards and place it in the pre-cleaned sample vial using the forceps. Again, gloved hands and tape should not be allowed to contact the gauze as they will contaminate the sample.
16. Inspect the area just wiped. If the surface still appears to contain residue, use additional pre-soaked gauze pads to complete additional repetitions of steps 11 through 15, above. Each selected surface must be wiped until no residue is observed to remain at the site. Each successive gauze pad should be used for only one vertical and horizontal wiping sequence as is described above. Place all additional gauze pads used at one sampling location in the same initial sampling vial.
17. Cap the sample vial containing the used gauze pads.
18. Label the sample vial with a unique sample code, information on the sampling site, the date/time of collection and the personnel responsible for the sample collection.
19. Affix a yellow TSCA PCB mark on the sample vial and place the sample vial in an ice chest that is packed with ice. A sample temperature of 4°C ± 2°C must be achieved and maintained during storage.
20. Remove the template and the tape from the surface and remove all tape. Place tape in a trash bag that will subsequently be designated for disposal as PCB-contaminated materials. Place all used sampling equipment in a container that will be used to transport it to the point of decontamination.
21. Remove and discard gloves in the trash bag.
22. Label the sample vial and document the sample collection process in the field book.
23. Decontaminate all sampling equipment before reuse at another site. All sampling equipment should be decontaminated using pesticide grade hexane. Let equipment air dry and wrap securely in clean aluminum foil pending use at another site.
24. Complete chain-of-custody forms and pack samples for shipment to the laboratory. The samples should be pack on ice and maintained at 4°C ± 2°C until delivered to the laboratory.

Quality Assurance and Quality Control Samples for wipe samples

Field/Ambient Blank - Prepare gauze with solvent as described in procedure above, but do not use to wipe a surface. Allow to air dry, fold, and place in sample vial. Label, record collection details in field book and enter on chain of custody. Ship to laboratory for analysis.

Duplicate - Wipe two adjacent areas at the same sampling location following procedures defined above. Separate equipment must be used. The sample and duplicate pair should be collected from areas that appear to be identical. During sample collection operations, ensure that the sampling activities completed for the first sample do not contaminate the area designated for the collection of the duplicate. Ensure that tape and discarded materials do not impact the adjacent sites.

Trip Blank - To be collected for all media. Trip blank to be supplied by the analytical laboratory and be shipped to and returned to the laboratory with the sampling equipment.

One sample duplicate and a field blank must be collected for each lot of eighteen (18) field samples or less. A trip blank should accompany each shipment of field samples sent to the laboratory. All sampling equipment and samples should be stored and packaged in an equivalent manner during their time in the field.

Sampling Methodology for closure confirmation

The overall objective of the site sampling program at B100 is to obtain valid and representative data that supports a request for regulatory closure (i.e., no further action required) associated with the subsurface PCB contamination. The proposed sampling program, as summarized on Table S.1, consists of four categories of samples for regulatory closure purposes, along with an additional sampling category related to disposal of solid and liquid waste streams that are generated.

The first sampling category consists of investigation (pre-closure) soil samples that will be collected and analyzed to determine the lateral and vertical extent of subsurface PCB contamination in the B100 area. An initial series of four soil borings will be taken at approximately the corners of the 8.5' by 9.5' excavation area that was proposed in the EE/CA. The concrete floor in the sampling locations will be core drilled and a limited headspace clearance drill rig will collect continuous soil samples to a depth of approximately 12.5 feet below ground surface (bgs), or at the groundwater table depth, depending on which is encountered first. The samples will be collected using split spoon sampling techniques, and a soil sample will be analyzed from each discrete 2-foot interval.

Soil samples collected from each boring will be analyzed for PCB concentrations using the field immunoassay test kits, as described in the previous section. The test kits will be calibrated for a targeted PCB concentration of 10 mg/kg. In the event that the initial soil boring sample analytical results indicate PCB concentrations of less than 10 mg/kg, the proposed excavation area will be used (during the sampling for confirmatory analysis). If any of the soil boring samples indicate PCB concentrations greater than 10 mg/kg, the excavation area will be expanded, and a secondary series of soil borings will be completed at the corners of the area, as shown in Figure B-8. These samples will also be analyzed to determine if the PCB soil concentration is below the 10 mg/kg guideline value.

Additional soil samples may be required until a targeted excavation boundary is established. It is anticipated that the excavation boundary will not be significantly larger than the proposed 8.5 feet by 9.5 feet area. The concrete floor in the B100 area will be saw cut to the dimensions determined by the investigation soil sampling results. The concrete floor will be removed, and an excavator will be used to remove subsurface soil. Once soil has been removed to approximately 3 feet bgs, a set of soil samples will be collected at the bottom and sides of the excavation. Once again, these samples will be analyzed for PCB concentrations using the field immunoassay test kits.

Soil excavation, removal, sampling and analyses will continue until sample testing results indicate that PCB concentrations are below 10 mg/kg for all locations at a given sampling depth. At this point, confirmatory soil and groundwater samples will be collected, and analyzed for the parameters listed on Table S.2. The analytical results of these samples will be compared with the concentrations established by the USEPA and NYSDEC, to verify that the conditions for in-place soil have been satisfied. Should the analytical results indicate that conditions for

acceptable contaminant concentrations for in-place soil have not been satisfied, additional soil will be excavated, and the sampling/analyses activities will be repeated until satisfactory results are achieved.

Once the analytical results of the confirmatory soil samples indicate that in-place concentrations are within acceptable limits, the excavation can be backfilled to grade, and the concrete floor restored to match the adjacent finished floor elevation. At this point, surface wipe samples will be collected on the walls and floor in the B100 area, following the procedures previously described for wipe samples. The analytical results of the surface wipe samples will be compared to the 10 µg/100 cm^2 standard to confirm that remediation activities did not result in contamination of the B100 area.

Representative samples from solid and liquid waste streams generated during the B100 remediation activities will be analyzed for the parameters listed on Table S.2. The results of these analyses will be used to determine the disposal options for the various wastes, as well as to obtain disposal approval from the disposal facilities..

Requirements for project-specific QA sampling and analyses

Samples will be collected and analyzed to meet QA/QC objectives for each of the sampling categories listed in Table S.2. Specific QA samples for these categories are as follows:

- 1 equipment blank sample will be collected and analyzed for every set of 20 samples
- 1 trip blank sample will be handled and analyzed for every sample cooler used to transport the samples from the site to the analytical laboratory
- 1 matrix spike (MS) sample will be prepared and analyzed for every set of 20 samples
- 1 matrix spike duplicate (MD) sample will be prepared and analyzed for every set of 20 samples

The analytical data reports will be prepared in accordance with the requirements for a Level III + data deliverable package, in accordance with CERCLA regulatory requirements. Data validation will be completed for each data package, and a data validation report will be prepared to document that the data generated by the project activities was collected and analyzed in accordance with the approved procedures.

TABLE S.1

SAMPLING OBJECTIVES AND DATA USES

Sampling/ Monitoring Activity	Objective	Intended Data Usage
Investigation Soil Sampling	Determine lateral and vertical extent of PCB soil contamination inside B100 to establish boundaries for soil excavation and removal	Data will be compared with NYSDEC TAGM 4046 guidelines for screening purposes to determine boundaries for soil excavation/removal
Confirmation Soil Sampling	Confirm that NYSDEC, USEPA and site objectives have been met following soil excavation/removal in B100	Data will be used to confirm these areas have been cleaned to the site objectives, and that remaining soils are acceptable to be left in place.
Confirmation Surface Wipe Sampling	Confirmation that floor and wall surfaces inside B100 were not impacted by soil excavation and handling activities	Data will be used to confirm that soil excavation and handling activities inside B100 did not contaminate the building
Waste Stream Sampling	Sampling and analyses of solid and liquid waste streams generated during the project will establish the basis for disposal options.	Data will be used to classify the waste streams and obtain disposal approval by the disposal facility

TABLE S.2
SUMMARY OF SAMPLES AND ANALYSES

Sample Description	Parameters	Analytical Method
Soil		
B100 Investigation Soil Sampling	PCBs	SW4020 (PCBs by Immunoassay)
B100 Confirmation Soil Sampling	PCBs, VOCs, SVOCs, Metals	SW8081 (PCBs), SW8021 (VOCs), SW8270C (SVOCs), SW6010 (Metals)
Surface Wipes		
B100 Wall and Floor Surface Wipe Samples	PCBs	SW8081 (PCBs)
Waste Streams *		
B100 Solid and Liquid Waste Streams	PCBs, VOCs, SVOCs, Metals	SW8081 (PCBs), SW8021 (VOCs), SW8270C (SVOCs), SW6010 (Metals)

* Note: the disposal facility may require additional sampling and analyses