Interim Site Management Plan

300 Enterprise Drive Kingston NY Site
Town of Ulster, Ulster County, New York

NYSDEC Site Number: 356002

Submitted to:

IBM Corporation

8976 Wellington Road
Manassas, VA 20109

GL19133924

July 2023

Revisions to Approved Interim Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

ISMP UPDATE TABLE

The table below will be used to track minor administrative updates/changes to the ISMP and its Appendices. Examples include contact information updates, approved changes to monitoring, inspection, or reporting provisions, etc. Major revisions will be recorded and summarized on the Cover Sheet

Date	Page No. (Note Appendix if Applicable)	Description of Update/Change	DEC Approval Date

CERTIFICATION STATEMENT

I _____certify that I am currently a [NYS registered professional engineer or Qualified Environmental Professional as defined in 6 NYCRR Part 375] and that this Interim Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ [P.E., QEP]

_____DATE

Executive Summary

The following provides a brief general summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance, and reporting activities required by this Interim Site Management Plan:

Site Identification: 300 Enterprise Drive Kingston NY Site

NYSDEC Site Number 356002

Institutional Controls	
Institutional Controls (IC)	**Affected Operable Unit (OU)**
1. May be used for restricted-residential, commercial, and industrial use.	OU 4.
2. May be used for commercial, and industrial use.	OU 1, 2, 3, 3a, 4a, 5, 6, 7, and 8.
3. All ECs must be operated and maintained as specified in this ISMP.	OU 1, 3, 3a, 4, 4a, 5, 6, 7, and 8.
4. All ECs must be inspected at a frequency and in a manner defined in this ISMP.	OU 1, 3, 3a, 4, 4a, 5, 6, 7, and 8.
5. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the NYSDEC.	OU 1, 2, 3, 3a, 4, 4a, 5, 6, 7, and 8 (All OUs).
6. Groundwater and other environmental or public health monitoring must be performed as defined in this ISMP.	OU 1, 2, 3, 3a, 4, 4a, 5, 6, 7, and 8 (All OUs).
7. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this ISMP.	OU 1, 2, 3, 3a, 4, 4a, 5, 6, 7, and 8 (All OUs).
8. All future activities that will disturb remaining contaminated and potentially contaminated material must be conducted in accordance with this ISMP.	OU 1, 2, 3, 3a, 4, 4a, 5, 6, 7, and 8 (All OUs).
9. Monitoring to assess the performance and effectiveness of the ECs must be performed as defined in this ISMP.	OU 1, 3, 3a, 4, 4a, 5, 6, 7, and 8.
10. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this ISMP.	OU 1, 3, 3a, 4, 4a, 5, 6, 7, and 8.
11. Access to the site must be provided to agents, employees, or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.	OU 1, 2, 3, 3a, 4, 4a, 5, 6, 7, and 8 (All OUs).
12. The potential for vapor intrusion must be evaluated for any existing buildings deemed necessary within the IC boundaries prior to reoccupation, and any potential impacts that are identified must be monitored or mitigated.	OU 1, 3, 4, 4a, 6, and 7.

13. The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries, and any potential impacts that are identified must be monitored or mitigated.	OU 1, 2, 3, 3a, 4a, 6, and 7.
14. Vapor intrusion mitigation system such as a vapor barrier and passive sub-slab depressurization system capable of being converted to an active system must be installed as an element of any new building and VI evaluation shall be performed prior to occupation of new buildings.	OU 4.
15. Vegetable gardens and farming on the Site are prohibited.	OU 1, 2, 3, 3a, 4, 4a, 5, 6, 7, and 8 (All OUs).

Engineering Controls

Engineering Controls (EC)	Affected Operable Unit (OU)	Responsible Party
1. Soil/Surface Cover System	Portions of OU 1, 4, and 6. All of OU 3, 3a, and 7.	Property Owner(s)
2. Groundwater Monitoring Well System	OU 1, 3, 3a, 4, 4a, 5, 6, and 7.	IBM
3. Groundwater Collection System (GWCS) • Groundwater cutoff trenches, • Groundwater treatment facility (GTF), • Pump stations PS-1 and PS-2, and • GWCS NPLA System	OU 3a, 3 and 7.	IBM
4. Utility Trench Barrier Wall	OU 3a and 3.	IBM
5. Storm Water Sewers • 42-inch • 60-inch • Sewer receiving GWCS discharge	OU 1, 3, 3a, 4, 6, 7, and 8.	Property Owner(s)
6. Building B202 Elevator Shaft Cover	OU 1.	Property Owner(s)
7. Industrial Waste Sludge Lagoon (IWSL) Closed Surface Impoundment	OU 5.	IBM
8. IWSL Surface Impoundment Security Fence	OU 5.	IBM

Inspections, Monitoring, Maintenance, and Reporting

Action	Frequency	Affected Operable Unit (OU)	Responsible Party
1. **Inspection** of Soil/Surface Cover System	Annually	Portions of OU 1, 4, and 6. All of OU 3, 3a, and 7.	Property Owner(s)
2. **Inspection** of Groundwater Monitoring Well System	Annually	OU 1, 3, 3a, 4, 4a, 5, 6, and 7.	IBM
3. **Inspection** Groundwater Collection System (GWCS)	Annually	OU 3a, 3, and 7.	IBM
4. **Inspection** of Utility Trench Barrier Wall	As needed	OU 3a and 3.	IBM
5. **Inspection** of Storm Water Sewers	Annually	OU 1, 3, 3a, 4, 6, 7, and 8.	Property Owner(s)

6. **Inspection** of Building B202 Elevator Shaft Cover	Annually	OU 1.	Property Owner
7. **Inspection** of Industrial Waste Sludge Lagoon (IWSL) Closed Surface Impoundment	Annually	OU 5.	IBM
8. **Inspection** of IWSL Surface Impoundment Security Fence	Annually	OU 5.	IBM
9. **Monitoring/**Soil Sampling of Soil/Surface Cover System	As Needed	Portions of OU 1, 4, and 6. All of OU 3, 3a, and 7.	Property Owner(s)
10. **Monitoring** Groundwater	Annually	OU 1, 3, 3a, 4, 4a, 5, 6, and 7.	IBM
11. **Monitoring** Groundwater Treatment Facility	As Needed	OU 3a.	IBM
12. **Monitoring** and Evaluation of Soil Vapor Intrusion for Existing Buildings	As Needed	OU 1, 3, 4, 4a, 6, and 7.	Property Owner(s)
13. **Monitoring** and Evaluation of Soil Vapor Intrusion Evaluation for New Buildings	As Needed	OU 1, 2, 3, 3a, 4, 4a, 6, and 7.	Property Owner(s)
14. **Maintenance** of Soil/Surface Cover System	As needed	Portions of OU 1, 4, and 6. All of OU 3, 3a, and 7.	Property Owner(s)
15. **Maintenance** Groundwater Monitoring Well System	As Needed	OU 1, 3, 3a, 4, 4a, 5, 6, and 7.	IBM
16. **Maintenance** of Groundwater Collection System (GWCS) • Groundwater cutoff trenches, • Groundwater treatment facility (GTF), • Pump stations PS-1 and PS-2, and • GWCS NPLA System	As Needed	OU 3a, 3, 7	IBM
17. **Maintenance** of Utility Trench Barrier Wall	As Needed	OU 3a and 3.	IBM
18. **Maintenance** of Storm Water Sewers	As Needed	OU 1, 3, 3a, 4, 6, 7, and 8.	Property Owner(s)
19. **Maintenance** of Building B202 Elevator Shaft Cover	As Needed	OU 1.	Property Owner(s)
20. **Maintenance** of Industrial Waste Sludge Lagoon (IWSL) Closed Surface Impoundment	As Needed	OU 5.	IBM
21. **Maintenance** of IWSL Surface Impoundment Security Fence	As Needed	OU 5.	IBM
22. **Reporting** Groundwater Monitoring Data	Annually	OU 1, 3, 3a, 4, 4a, 5, 6, and 7.	IBM
23. **Reporting** Groundwater Treatment Facility Data	Annually	OU 3a	IBM
24. **Reporting** Soil Vapor Intrusion Monitoring Data	As Needed	OU 1, 2, 3, 3a, 4, 4a, 6, and 7.	Property Owner(s)

25. **Reporting** Soil Sampling Data	As Needed	OU 1, 2, 3, 3a, 4, 4a, 6, 7, and 8 (All OUs).	Property Owner(s)
26. **Reporting** Periodic Review Report	Annually	OU 1, 2, 3, 3a, 4, 4a, 5, 6, 7, and 8 (All OUs).	All Parties

Further descriptions of the above requirements, as applicable to each OU, are provided in detail in the following sections of this ISMP.

List of Acronyms

TCA	1,1,1-trichloroethane
1,1-DCE	1,1-dichloroethene
1,1-DCA	1,1-dichloroethane
1,2-DCE	1,2-dichloroethene
AOC	Area of Concern
Class 4 Site	Class 4 Inactive Hazardous Waste Disposal (IHWD) Site No.356002
CAMP	Community Air Monitoring Plan
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
ECs	Engineering Controls
bgs	below ground surface
GWCS	Groundwater Collection System
GMP	Groundwater Monitoring Plan
GTF	Groundwater Treatment Facility
Permit	Hazardous Waste Management Permit No.3-5154-00067/00090 6 NYCRR Part 373
HASP	Health and Safety Plan
IAWP	Intrusive Activity Work Plan
IW	Industrial Waste
IWSL	Industrial Waste Sludge Lagoon
IWTF	Industrial Waste Treatment Facility
ICs	Institutional Controls
iPark	iPark collectively refers to all iPark Kingston entities unless a specific iPark entity is referenced in the text or other documents associated with this ISMP
ISMP	Interim Site Management Plan
IBM	International Business Machines Corporation
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSGWQS	New York State Groundwater Quality Standards 6 NYCRR Part 703
NFA	No Further Action
NPLA	North Parking Lot Area
OM&M	Operations, Maintenance and Monitoring
OU	Operable Units
Order	Order on Consent Index No. D3-10023-6-11
PRR	Periodic Review Reports
PAH	Polycyclic aromatic hydrocarbons
PS	Pump Station
QA/QC Plan	Quality Assurance/Quality Control Plan
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RCRA	Resource Conservation and Recovery Act
SCO	Soil Cleanup Objectives
SWMU	Solid Waste Management Unit
SPDES	State Pollutant Discharge Elimination System
PCE	Tetrachloroethene
TPA	Triangle Plume Area
TCE	Trichloroethene
TechCity	Ulster Business Complex, LLC and AG Properties of Kingston, LLC (collectively)
UST	Underground Storage Tanks
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
VI	Vapor Intrusion

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APPENDICES

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 Introduction

This interim Site Management Plan (ISMP) has been prepared as an element of the remedial program for the property located at 300 Enterprise Drive, Kingston, New York (hereinafter referred to as the "Site"), under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program administered by the New York State Department of Environmental Conservation (NYSDEC). The approximately 258-acre Site located in the Town of Ulster, Ulster County, New York (Figure 1-1) is being remediated by the Respondents to the Order on Consent Index No. D3-10023-6-11 (Order) executed on July 8, 2011. A copy of the Order on Consent is included as Appendix A.

This ISMP specifies additional detail of: (a) the Order's requirements on the Respondents and the current and future Property Owners to plan, maintain, monitor, document and fund the implementation and operation of engineering and/or institutional controls with NYSDEC and New York State Department of Health (NYSDOH) oversight; and (b) to manage future redevelopment activities in areas where residual and/or potential residual impacts have been identified. This document serves as the Site Management Plan until such time that additional supplemental remedial investigations and supplemental Site characterizations required by the Order are completed or, in the case of requirements intended to survive termination of the Order, enforceable easements have been recorded. At that time, a comprehensive Site Management Plan will be developed based on the results of those additional investigations and characterizations and will replace the ISMP.

1.1.1 General

The entire Site was previously listed as a Class 4 Site Inactive Hazardous Waste Disposal Site (Site No.356002) in the Registry of Inactive Hazardous Waste Disposal Sites in New York State and was previously managed in compliance with an October 4, 1996 Hazardous Waste Management Permit No.3-5154-00067/00090 (6 NYCRR Part 373) (Permit) that included Ulster Business Complex, LLC and AG Properties of Kingston, LLC (collectively TechCity), and International Business Machines Corporation (IBM) as co-permittees.

TechCity was the name of the Site under previous ownership and as such, has been used in historical reports to describe the Site. The name TechCity has also been used to describe the multiple entities that owned different parcels on the Site and were collectively referred to as TechCity in multiple reports, correspondences and NYSDEC documents. The former TechCity entities have since sold the properties that comprise the Site to several new property owners. The current majority property owner of the Site is iPark 87, LLC (iPark). Several property owners in addition to iPark currently own portions of the Site, as described in Attachment 1. iPark 87, LLC has contracted with Ulster County to assume TechCity's responsibilities at the Site.

The Permit established corrective action, closure, and post-closure requirements for portions of the Site identified as solid waste management units (SWMUs) under the Resource Conservation and Recovery Act (RCRA) Corrective Action Program administered by NYSDEC.

The Order, executed on July 8, 2011, supersedes and terminates the Permit and delineates the responsibilities of the remedial parties for the completion of near-term supplemental Site characterization, supplemental remedial investigations and additional remedial actions, if necessary, and stipulates the requirements and framework for management of the residual impacts associated with the Site.

The Order divides the Site into ten Operable Units (OUs), which reduces the size of the Class 4 Site to three of the ten OUs (i.e., OU-3, OU-3a, and OU-5). The Order also stipulates that supplemental investigation activities required by the Order be performed in accordance with Work Plans prepared as specified in the Order.

Table 1-1 presents a summary of the OUs established under the Order, including the proposed OU use and the SWMUs and investigation areas associated with each OU. The Site layout and individual OU boundaries, including those OUs that now constitute the Class 4 Site, are depicted on Figure 1-2 and are more fully described in the metes and bounds Site descriptions contained in Appendix B.

This Interim Site Management Plan includes an obligation to adhere to intrusive activity requirements in those OUs where the Intrusive Activity Work Plan (IAWP) is applicable, continued operation of groundwater extraction and treatment systems, and the implementation and maintenance of any remedial measures initiated after approval of the ISMP. A generic IAWP, including a generic Community Air Monitoring Plan, is attached to this ISMP as Appendix C.

This ISMP was prepared on behalf of IBM, Order Respondents, and other property owners at the Site, in accordance with the requirements of NYSDEC's Division of Environmental Remediation (DER)-10 *Technical Guidance for Site Investigation and Remediation*, dated May 2010. Reports associated with the Site can be viewed at the Site document repository located at the Town of Ulster Public Library or by contacting NYSDEC or its successor agency managing environmental issues in New York State.

1.1.2 Purpose

Impacted media will remain at the Site after completion of the remedial actions. Institutional Controls (ICs) and Engineering Controls (ECs) have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to residual impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site. ICs are non-physical means of enforcing a restriction on the use of a real property that limits human or environmental exposure, restricts the use groundwater, provides notice to potential Property Owners, operators or members of the public or prevents actions that would interfere with the effectiveness of a remedial program and/or the integrity of Site management activities. ECs provide physical barriers or engineered methods to actively or passively contain, stabilize or monitor impacted media, restrict the movement of impacted media or eliminate potential exposure pathways to impacted media. The ICs/ECs place restrictions on Site use and mandate operation, maintenance, monitoring, and reporting measures for ICs/ECs. The Environmental Easements for each OU that will be granted to NYSDEC and recorded with the Ulster County Clerk are currently under development and will require compliance with this ISMP and all ICs and ECs placed on the Site.

This ISMP specifies the methods necessary to assure compliance with ICs and ECs required by the Environmental Easements that will be established for each OU and provides a description of the procedures for implementation and management of ICs and ECs, including media monitoring; operation and maintenance of existing treatment, collection, and recovery systems; performance of periodic inspections; and certification of results through the submittal of Periodic Review Reports (PRRs). This plan has been approved by NYSDEC and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assignees. This ISMP may only be revised with the approval of NYSDEC.

This ISMP has been organized into sections that describe the specific requirements for each OU with respect to implementation and management of ICs and ECs; implementation of Site media monitoring; and operation and maintenance requirements for collection, containment, treatment, and recovery systems, as appropriate. This ISMP also includes a description of PRR notification and reporting requirements for the submittal of data, information, recommendations, and certifications to NYSDEC.

This ISMP details the Site-specific implementation procedures that will be required by the Environmental Easements. Failure to properly implement the ISMP will be a violation of the Environmental Easements. Failure

to comply with this ISMP is a violation of Environmental Conservation Law 6NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to NYSDEC. In accordance with the Environmental Easements for the Site, NYSDEC will provide a notice of approved changes to this ISMP and append said notices to the ISMP that is retained in its files.

1.2 Site Background

The Site was first developed by IBM from farmland during the 1950s. The primary activities included the manufacturing of electric typewriters and the development, manufacture and testing of computer systems and related components and technologies. IBM ceased operations during the early 1990s and the property was subsequently subdivided into multiple parcels. In 1998, IBM sold the Site to AG Properties of Kingston, LLC and Ulster Business Complex, LLC, collectively referred to as TechCity, which subsequently sold portions of the Site to several entities, including iPark.

1.2.1 Site Location and Description

The Site is located north of the City of Kingston in the Town of Ulster, Ulster County, New York and is bounded by John M. Clarke Drive and Route 9W to the east, Old Neighborhood Road and Route 209 to the north, Esopus Creek to the west and Boices Lane to the south (see Figure 1-2). The portion of the Site located east of Enterprise Drive is referred to as the East Campus and includes the majority of the buildings at the Site. The portion located west of Enterprise Drive is referred to as the West Campus and includes the Building B201, B202 and B203 complex; a large parking area to the south and west; and generally undeveloped land further to the southwest and north.

1.2.2 Site Investigation and Remedial History

Investigations and monitoring to characterize soil quality and groundwater flow and quality beneath the Site have been ongoing since 1978. Results of these investigations in the early 1980s indicated that groundwater containing volatile organic compounds (VOCs) might be migrating to the north and northwest from the North Parking Lot Area (NPLA, i.e., OU-3a) and that VOC impacts to groundwater at the Site appeared to be associated with the degraded condition of the Industrial Waste (IW) sewer lines. The IW sewer line system was subsequently slip-lined and/or upgraded with pipe-in-pipe systems in the early to mid-1980s, as discussed further in Section 1.3.5.

A Groundwater Collection System (GWCS), consisting of a series of groundwater cut-off trenches installed parallel to Enterprise Drive and Old Neighborhood Road, was installed in 1985 and began operating in 1986 to control the off-Site migration of VOC-impacted groundwater. Water recovered from the GWCS was transferred to the on-Site Industrial Waste Treatment Facility (IWTF) for removal of VOCs via air stripping until June 1994. Upgrades to the GWCS, including the extension of the cutoff-trenches, construction of a new treatment building and the installation of tray aerator units, were completed in 1994. Beginning in 1994, groundwater collected by the GWCS was conveyed to the treatment building, subjected to tray aeration and discharged to the storm water sewer system under a State Pollutant Discharge Elimination System (SPDES) permit issued to IBM.

In addition, the North Parking Lot Area System (NPLA System) has operated at the Site since late 1997 and was installed to mitigate groundwater infiltration to the storm sewer system. The NPLA System, located near former Building B003 and Building B005N in OU-3, OU-3a and OU-7, consists of the re-use of old, abandoned storm water sewers that collect infiltrating groundwater that is conveyed to pump stations PS-1 and PS-2, and then

pumped through approximately 1,500 feet of fusion-welded HDPE piping to the on-site groundwater treatment facility (GTF) for treatment.

A groundwater extraction well, MW-504S, was installed at the southern end of Building B005S and began operation in 1987 in response to the detections of concentrations of VOCs in groundwater in this area. The increase in VOC concentrations was later determined to be associated with a discrete release of PCE associated with an overfill of the Former PCE tank (SWMU G).

Collected groundwater from MW-504S was initially conveyed to the IWTF for the removal of VOCs via air stripping. Following closure of the IWTF, collected groundwater was conveyed to a tray aeration treatment system installed in B005S and discharged to the sanitary sewer until 1999 when it was discharged to the storm water sewer system under the Site SPDES permit.

On December 14, 1988, the Site received a Part 373 permit for the storage of hazardous waste in Building B029. This permit also contained requirements for a formalized groundwater monitoring and reporting program and mandated continued operation of the groundwater extraction and treatment activities. In addition, this permit addressed post-closure monitoring for a closed former Industrial Waste Sludge Lagoon (IWSL) surface impoundment (SWMU L).

The Part 373 permit also called for the preparation of RCRA facility investigation (RFI) work plans for various areas of the Site. In response to this requirement, multiple Site investigations were subsequently conducted under New York State's RCRA program. Initially, a *RCRA Facility Investigation Scope of Work*, dated July 30, 1993 was prepared and submitted to NYSDEC. A RCRA Facility Assessment (RFA) was completed at four SWMUs identified during these investigations and the results were presented in a report entitled *RCRA Facility Assessment, Four Recently Identified Solid Waste Management Units*, dated January 16, 1995.

An RFI Work Plan entitled *Newly Identified Solid Waste Management Units, Corrective Action RCRA Facility Investigation Scope of Work*, dated December 27, 1994, included notification to NYSDEC of the identification of ten additional SWMUs. Implementation of the RFI culminated in the presentation of additional assessment results for the IW sewer line system and several other SWMUs in the report entitled *RCRA Facility Investigations, Soil Gas Surveys and Sewer Systems Sampling,* dated April 12, 1996.

The NYSDEC-approved RFIs were implemented for the additional SWMUs during the early summer 1996. The results of these investigations and the results of the concurrent RFA activities were submitted in two companion reports entitled *RCRA Facility Investigation: Groundwater Plumes and Sources* and *RCRA Facility Assessments of Newly Identified Solid Waste Management Units*, both dated March 14, 1997.

On October 4, 1996, a post-closure care Permit (i.e., the previously referenced Hazardous Waste Management Permit No.3-5154-00067/00090) was issued for the IWSL (i.e., SWMU L), portions of the Site considered as a closed hazardous waste disposal facility, and for continued implementation of ongoing corrective measures at the Site.

The 1997 Annual Groundwater Monitoring Report, dated March 31, 1998, included the first annual evaluation of concentrations of constituents detected in the IWSL compliance monitoring well system. Exceedances of New York State Groundwater Quality (6 NYCRR Part 703) Standards (NYSGWQS) resulted in the submittal of a RFI Work Plan for further investigation of groundwater in the vicinity of SWMU L. The work plan, entitled *IBM Kingston RCRA Facility Investigation Work Plan, Former Industrial Waste Sludge Lagoon* was submitted to NYSDEC on May 22, 1998 and approved by NYSDEC in a letter dated July 10, 1998. Results of this RFI were

compiled and presented in a report entitled *Former Industrial Waste Sludge Lagoon RCRA Facility Investigation* (IWSL RFI), dated April 16, 1999.

The SWMU L RFI led to submittal of a proposed modification to the Groundwater Monitoring Plan (GMP) to NYSDEC on September 29, 1999 and a work plan to address arsenic and VOC detections in the SWMU L area was prepared and submitted December 9, 1999 (*Expanded RCRA Facility Investigation Work Plan, Former Industrial Waste Sludge Lagoon Area, Arsenic and VOC Plume Source Investigation*). The GMP revisions were approved on October 29, 1999 and were implemented during the first quarter of 2000. On April 3, 2000, NYSDEC provided approval to proceed with the RFI for the deep bedrock and the expanded RFI for SWMU L. A final report on the findings of the RFI for the deep bedrock and the Expanded RFI for SWMU L was submitted to NYSDEC on February 26, 2002.

On February 12, 2007, NYSDEC was notified that pumping was discontinued in MW-504S due to infrastructure issues associated with freezing conditions due to the termination of utility services to Building B005S. A review of groundwater data in the vicinity of MW-504S in 2007 indicated that the occurrence and concentrations of VOCs in this area had decreased significantly to levels asymptotically approaching or below NYSGWQS. Groundwater containing residual VOCs continues to be intercepted by the perimeter control system downgradient of MW-504S. Based on this information, a request to permanently shut-down MW-504S submitted in 2007 was approved by NYSDEC.

As a result of TechCity's increased redevelopment activities at the Site in 2009, including plans to decommission and/or demolish select buildings, certain SWMUs previously determined to be inaccessible in the RCRA Permit become partially accessible as of September 2010. As such, five RFI Work Plans for four inaccessible SWMUs and one area of concern (AOC), the Triangle Plume Area in OU-1, were submitted in March 2009 and subsequently approved by NYSDEC in April 2009.

The April 2009 Work Plans describe supplemental assessment activities recommended to better define the nature and extent of soil and groundwater impacts in the vicinity of the proposed investigation areas (i.e., AOC Triangle Plume Area, SWMU AB, SWMU G, SWMU M and SWMU V) and evaluate whether additional remedial actions are warranted and/or appropriate. Subsequent to issuance of the Order, additional supplemental Site characterization and remedial investigations were completed for each of these former SWMUs and investigation areas. In addition, supplemental investigations at SWMU S, SWMU T, and SWMU Y, a surface soil characterization, sanitary sewer assessment and Sitewide vapor intrusion evaluation required by the Order have been completed. The results of these investigations have been submitted in the following reports:

- Triangle Plume Area Investigation Report, dated September 16, 2009
- Supplemental Triangle Plume Area Investigation Report, dated February 9, 2010
- SWMU G Investigation Report, dated March 31, 2011
- Supplemental Site Characterization Report: Surface Soils, February 15, 2012
- Supplemental Remedial Investigation Report: Solid Waste management Unit T: Former B003 Waste Oil Tank, April 5, 2012
- Supplemental Site Characterization Report: Former Fluoride Ejector Tank (SWMU Y), June 29, 2012
- Supplemental Remedial Investigation Report: Solid Waste management Unit AB: Former B001 Waste TCA Tanks, October 31, 2012

- Supplemental Remedial Investigation Report: Solid Waste management Unit S: Former B001 Waste TCA Recovery Unit, October 26, 2012
- Supplemental Site Characterization Report: Sanitary Sewer Evaluation, December 7, 2012
- Supplemental Feasibility Study: Solid Waste management Unit S: Former B001 Waste TCA Recovery Unit, March 27, 2013
- Vapor Intrusion Investigation Report: Building B005N, September 13, 2013
- Vapor Intrusion Investigation Report: Building B021, September 13, 2013
- Vapor Intrusion Investigation Report: Building B022, September 13, 2013
- Vapor Intrusion Investigation Report: Building B023, September 13, 2013
- Vapor Intrusion Investigation Report: Building B024, September 13, 2013
- Vapor Intrusion Investigation Report: Building B021, June 30, 2014
- Vapor Intrusion Investigation Report: Building B022, June 30, 2014
- Vapor Intrusion Investigation Report: Building B024, June 30, 2014
- Interim Corrective Measures Work Plan – SWMU S: Former B001 Waste TCA Tanks, September 8, 2014
- Vapor Intrusion Investigation Report: Building B021, June 30, 2015
- Vapor Intrusion Investigation Report: Building B022, June 30, 2015
- Vapor Intrusion Investigation Report: Building B024, June 30, 2015
- Vapor Intrusion Investigation Report: Building B021, June 30, 2016
- Vapor Intrusion Investigation Report: Building B022, June 30, 2016
- Vapor Intrusion Investigation Report: Building B024, June 30, 2016
- Interim Corrective Measure Construction Completion Report – SWMU S: Former B001 Waste TCA Tanks, August 15, 2016
- Supplemental Remedial Investigation Report: SWMU M, June 18, 2018
- Vapor Intrusion Investigation Report: Building B021, December 21, 2018
- Supplemental SWMU M Investigation Data Report, March 31, 2020
- Emerging Contaminants Sampling Report, January 29, 2021
- Vapor Intrusion Investigation Report: Building B021, June 21, 2021
- Alternatives Analysis Report – SWMU M, May 5, 2023

The findings of the Statement of Basis for the Site, published by NYSDEC in February 2013, which finalized the administrative record regarding the status of each AOC and SWMU, is summarized in Table 1-2 and included with the Order on Consent in Appendix A.

Ongoing remedial actions include the operation and maintenance of a perimeter control system that intercepts groundwater exhibiting concentrations of VOCs above NYSGWQS. Perimeter control system elements include two storm water sewer systems, an unsaturated portion of the surficial sand unit that underlies the Site, a utility trench barrier wall and the GWCS, as described further in Section 1.4.3.

Groundwater quality monitoring continues to be conducted at the Site to evaluate the effectiveness of the corrective measures under a NYSDEC approved GMP (Appendix D). The monitoring program includes collection of groundwater quality data and groundwater elevations during each monitoring event.

Additional Site background information is provided in the historical reports summarized in Table 1-3.

1.2.3 Geologic and Hydrogeologic Conditions

The Site is located within the Hudson-Mohawk Lowland Physiographic Province. The bedrock underlying the western portion of the Site consists of siltstone and shale of the Middle Devonian Age Lower Hamilton Group. The eastern portion of the Site is underlain by both the Lower Hamilton Group and the Lower Devonian Age Onondaga Limestone. The exact location and nature of the contact between these units is not known. The Lower Hamilton Group forms a north-northwest trending bedrock high approximately coincident with Enterprise Drive and is described as a calcareous shale in boring logs completed during previous Site investigations.

Literature on regional geologic conditions indicate that a glacially-derived sand and gravel unit directly overlies the bedrock west of Enterprise Drive and a glacial till unit overlies the bedrock east of Enterprise Drive. These unconsolidated units are overlain by a Varved Clay Unit that is interpreted to be of lacustrine origin, with a thickness of zero feet in an area where it is absent proximate to the bedrock high, to over 180 feet in the central portion of East Campus as determined by previous Site borings. The Varved Clay Unit serves as an aquitard throughout most the Site, except in the localized area in the vicinity of the bedrock high where it is absent.

A well sorted, fine to coarse-grained sand of lacustrine origin, with intermittent, thin, silty-clay zones, overlies the Varved Clay (or bedrock where the Varved Clay Unit is absent in the vicinity of the bedrock high). This Surficial Sand Unit ranges in thickness across the Site from approximately 0 feet in the area of the bedrock ridge to greater than 30 feet in the central portion of the East Campus. A discontinuous Transition Zone of relatively fine-grained materials is present at the base of the Surficial Sand Unit in some areas of the Site. An interpreted geologic cross-section is presented on Figure 1-3.

Generalized descriptions of the near-surface lithologic units encountered at the Site are as follows:

- Surficial SAND Unit: Consists of a light brown, fine to medium grained sand containing variable amounts of finer-grained silt and clay. This unit is typically saturated below a depth of approximately 6 to 7 feet below ground surface (feet bgs).
- SILTY-SAND and CLAY Transition Unit (Transition Zone): Consists of variable amounts of reddish-brown to gray silt, sand, and clay. Typical appearance in a soil core is a silty-sand matrix containing thin lenses of silt and sandy clay. This unit, if present, is generally encountered between 12 to 25 feet bgs.
- Varved CLAY Unit: Consists of red-brown and gray, plastic, cohesive, wet clay with intermittent silt zones. Typical appearance in a soil core is clay with laminae of silt and sometimes very fine-grained sand. This unit is typically encountered between approximately 15 to 25 feet bgs with greater or lesser depths of first occurrence in localized areas.

The Varved Clay Unit serves as an aquitard throughout most of the Site. Therefore, groundwater in the bedrock and in the deep sand and gravel and glacial till units that underlie the Varved Clay Unit is under confined

conditions. Groundwater within the Surficial Sand Unit that overlies the Varved Clay Unit is unconfined. The Surficial Sand Unit is typically unsaturated in the area of the bedrock high along Enterprise Drive.

An east-west trending groundwater divide has been identified at the Site underlying Buildings B001, B002, B003, B004 and B005. Groundwater to the north of the divide flows west and northwest. Groundwater to the south of the divide flows west and southwest (Figure 1-4). The water table gradient in the eastern portion of the Site and in the vicinity of the GWCS is higher than the water table gradient in the southern and central portion of the Site. Estimated horizontal groundwater flow velocities range from approximately 0.8 feet per day (feet/day) to 2 feet/day. Groundwater flow is significantly influenced by the presence of the perimeter control system.

1.3 Summary of Remedial Investigation Findings

As described in Section 1.2.2, RFIs were performed beginning in the 1990s to assess various SWMU areas and characterize the nature and extent of soil and groundwater contamination at the Site in accordance with RCRA facility investigation requirements. The results of the RFIs were described in detail in various reports with accompanying recommendations and the current status of each of these SWMU areas.

Table 1-1 summarizes the SWMU regulatory status (as grouped by OU) at the time the Order was executed and identifies which OUs will remain listed as a Class 4 Site. Figure 1-5 shows the location and regulatory status of each SWMU at the time the Order was executed.

1.3.1 Site Related Soil

Investigation and monitoring of Site soil quality has been ongoing since the late 1970s in accordance with the requirements of the Permit. Historical soil sampling at the Site consisted primarily of the following:

- Sample collection during the installation of monitoring wells
- Sample collection during RCRA tank closure activities
- Sample collection during closure of the IWSL
- Sample collection during RFIs and Supplemental RFIs
- Sample collection in accordance with the Order

Figure 1-6 shows the locations of historical soil and monitoring well boring locations.

The analytical results of historical soil samples indicate that unsaturated soil is generally not impacted by VOCs and no source areas of VOCs in soil have been identified. Further, Site soils generally do not contain concentrations of constituents above applicable NYSDEC 6NYCRR Part 375 soil cleanup objectives (SCOs), with the following exceptions:

- Soil containing trace amounts of residual constituents remain within the former IWSL (SWMU L) located in OU-5. The remedy for this area has been implemented.
- Soil from one sample containing low-level concentrations of metals (i.e., chromium, copper, lead, nickel, selenium, and zinc) exceeds unrestricted SCOs at the former C&D Landfill (SWMU N) located in OU-6.
- Soil containing low-level PCBs was identified with the Building B202 Elevator No. 2 Shaft (SWMU AE) located in OU-1.

- Soil containing low-level polycyclic aromatic hydrocarbons (PAHs), including benzo(a)pyrene (1,200 parts per billion [ppb]), benzo(a)anthracene (1,300 ppb), benzo(b)fluoranthene (1,500 ppb), and chrysene (1,200 ppb) slightly above the unrestricted use SCO (1,000 ppb) for these compounds were identified in one sample at the Building 031 Septic Area (SWMU AA) located in OU-3.

Management of areas containing residual soils with concentrations of VOCs above SCOs which will remain on Site are described further in the sections of this ISMP specific to the OUs in which these areas are located.

1.3.2 Site-Related Groundwater

Investigation and monitoring of Site groundwater quality has been ongoing since 1978. Identified compounds of concern in the surficial sand aquifer include the following chlorinated VOCs: 1,1,1-trichloroethane [TCA], trichloroethene [TCE], tetrachloroethene [PCE], and related degradation products (i.e., 1,1- dichloroethene [1,1-DCE], 1,1-dichloroethane [1,1-DCA] and 1,2-dichloroethene [1,2-DCE]). Other VOCs have been detected in groundwater, including petroleum hydrocarbons; however, concentrations of these VOCs are generally lower and less extensive than the chlorinated compounds.

Three groundwater plumes have been identified at the Site, including:

- The NPLA Plume (located to the north of Buildings B001 and B003) primarily comprises TCE and TCA, and to a lesser degree PCE. Based on historical groundwater quality sampling and soil vapor screening investigations, the source areas for this plume are likely associated with historical manufacturing activities in Buildings B001, B002, B003, B004 and B005S. Based on previous investigatory work, concentrations of PCE, TCE, and TCA in groundwater originate in the vicinity of the industrial waste sewer lines located north of Building B001 and Building B003 associated with SWMU T, and beneath Building B003.
- The Building B005S Plume Area, located beneath Buildings B001, B002, B003, B004 and B005S, is primarily composed of TCE and TCA. Based on historical groundwater quality sampling and soil vapor screening investigations, this plume is interpreted to have originated from activities in Buildings B001, B003, B004 and B005S. The primary source area appears to be the IW sewer lines located in Building B003 and a discrete source of TCA associated with SWMU S.
- The IWTF Plume, located in the vicinity of the former IWTF, near B036. The impacted groundwater in this area is not likely to have originated from the IWTF but is believed to have migrated from the eastern campus plume along the underground utility pipes prior to the installation of the utility trench barrier wall.

Figure 1-6 shows the locations of historical groundwater monitoring well locations. Additional information regarding historical groundwater monitoring results is available in the documents summarized in Table 1-3. Recent groundwater monitoring analytical results are summarized in Table 1-4b.

On June 5, 2018, IBM received a request from NYSDEC to complete sampling at the Site for emerging contaminants, including specific poly- and perfluoroalkyl substances (PFAS) and 1,4 Dioxane. In response to NYSDEC's request, an Emerging Contaminant, PFAS and 1,4-Dioxane, Sampling Work Plan (EC Sampling Work Plan) was prepared by Groundwater Sciences, P.C. (GSPC) and submitted to NYSDEC on July 31, 2018. NYSDEC approved the EC Sampling Work Plan in September 2020. The results of the EC investigation summarized in Table 1-4b were provided in a report prepared by GSPC and submitted to NYSDEC on January 29, 2021.

1.3.3 Site-Related Soil Vapor Intrusion

The former property owner first conducted vapor intrusion (VI) investigations at the Site in 2009 in Buildings B201, B202 and B203 in OU-1; Buildings B042, B043, B052 in OU-4a; and Building B005N in OU-7. The investigation work included collection of sub-slab and indoor air samples within the buildings. The results of the investigations, reported to NYSDEC in the TechCity Property Inc. *Draft Parcels 1 and 4a Investigation Report,* dated July 2009, indicated that the indoor air quality in the investigated buildings was not affected by VI related to existing groundwater impacts.

The 2011 Order required additional assessment of the VI pathway. In response, IBM submitted VI Assessment Work Plans to NYSDEC in September 2011 and evaluation of the VI pathway was completed during the 2011/2012 heating season for the following buildings:

- Buildings B021, B022, B023 and B024 (OU-3)
- Building B025 (OU-4)
- Building B005N (OU-7)

Assessment activities, documented in separate reports for each building, were presented in the Vapor Intrusion Investigation Reports submitted in September 2013 (see report list in Section 1.2.2). In general, these reports documented that no indoor air exceedances were reported for either the NYSDOH indoor air guideline values or the Site-specific minimum recommended action levels for specific compounds (i.e., Freon 12) in Buildings B005N, B022, B023, B024 and B025. A slight exceedance of the NYSDOH minimum recommended action level provided in NYSDOH Guidance was reported for 1,1,1-trichloroethane in one sample collected in Building B021. However, based on significant attenuation of concentrations between sub-slab and indoor air samples, and the negative pressurization of the building, no further investigation was recommended. Indoor air monitoring has been conducted annually when Building B021 is occupied.

This section of the ISMP will be updated accordingly following completion of the assessments.

1.3.4 Underground Storage Tanks

Underground storage tanks (USTs) were used at the Site for bulk storage of chemicals and petroleum fuels. The majority of petroleum and chemical USTs were removed or closed in place in the 1980s by IBM as part of a proactive program to mitigate potential future releases from these USTs.

Manufacturing activities ceased in Building B005S in 1987, eliminating the need for several USTs used to store process-related liquid waste material, including the following:

- Former Waste Acetone Tank (SWMU D)
- Former Waste Isopropyl Tank (SWMU E)
- East Side Waste Tanks (SWMU F)
- Former Waste PCE Tank (SWMU G)
- Former East Solvent Recovery Process Tank (SWMU H)
- Former West Solvent Recovery Process Tank SWMU (I)

The United States Environmental Protection Agency (USEPA) was notified of the closure of these RCRA-regulated tanks in April 1987. A permit modification was also requested in 1987 to allow sampled concrete associated with the USTs to be left in place. NYSDEC and USEPA approved this request in June 1989 and the USTs were removed in July 1989.

There are no known documented releases from these USTs, with the exception of the former Waste PCE tank (SWMU G) where a tank overfill release occurred in 1986. A letter from NYSDEC dated May 1, 1990 formally accepted closure certifications for all of these USTs except the former waste PCE tank (SWMU G).

Closed UST areas that were assessed during the RFIs include:

- Former Building B005S Waste TCA Tank (SWMU R)
- Former Building B004 Separator Tank (SWMU W)
- Former Building B031 Separator Tank (SWMU X)
- Former Fire Training Area Holding Tank (SWMU AD)

The results of the RFIs did not indicate evidence of impact related to these USTs and these SWMUs subsequently received no further action (NFA) status. Additional information regarding UST assessment and closure activities is available in the documents summarized in Table 1-3.

The Order required supplemental assessment of the following closed UST SWMUs:

- Former Building B001 Waste TCA Tank (SWMU S)
- Former Waste Oil Tank (SWMU T)
- Former Fluoride Wastewater Ejector Tank (SWMU Y)

Supplemental assessments of these UST SWMUs resulted in no further action status in SWMU Y. Remedial investigations for SWMU S and SWMU T were completed in 2012. An interim remedial measure was completed in 2016 at SWMU S.

1.3.5 Industrial Waste Sewers

The IW sewer was originally composed of four primary IW sewer line systems including: a waste oil line that carried wastes to the Former Waste Oil Tank (SWMU T); a general rinse line; and two plating rinse lines (i.e., chrome and cyanide), each of which carried waste to the IWTF. These former industrial waste sewer lines, which were installed beneath and adjacent to former Buildings B001, B003, and B004, comprise SWMU M.

The IW sewer lines were initially constructed of 6-inch to 10-inch diameter vitreous clay piping placed adjacent and parallel to each other on native materials in subsurface trenches. Initial IW sewer line investigations conducted in 1979 indicated that portions of the piping were broken and disjointed. Some areas exhibited evidence of sand and groundwater infiltration, particularly in the northern Building B003 area.

As a result of this investigation, the plating lines were slip-lined circa 1980 and the main carrier lines and plating lines were replaced with pipe-in-pipe systems during the early 1980s. The majority of the IW sewer lines were inactive during the 1980s and use of the IW sewer line system ceased completely in 1994 with the closing of the IWTF.

IW sewer line investigations were initially conducted during the mid-1990s. The investigations comprised soil gas surveys and groundwater monitoring well installation and sampling. The investigation results suggested that the NPLA Plume originates in the vicinity of the IW sewer lines beneath Building B003.

A *RCRA Facility Investigation Work Plan for SWMU M: Portions of the Industrial Waste Sewer Lines* was approved by NYSDEC in April 2009. Due to access restrictions within former buildings B001, B003, and B004, SWMU M investigation activities were implemented through a series of investigations conducted in July 2010, April 2011, April 2012, April 2013, and October 2017. Activities performed during the SWMU M investigations were presented in the *Supplemental Remedial Investigation Report: SWMU M,* dated June 18, 2018 and the associated *Supplemental SWMU M Investigation Data Report*, dated March 31, 2020. The results of these investigations concluded that the industrial waste sewer lines beneath former Buildings B001, B003, and B004 are not continuing sources of impacts to groundwater. No areas of residual impacts to soil and groundwater beneath former Building B001 were observed during the investigations.

In the vicinity of former Building B003, residual concentrations of VOCs in soil and groundwater are associated with lenses of shallow, fine-grained sediments that occur more frequently in the upper portion of the Surficial Sand Unit near B003 than at other portions of the Site. Historical releases from the spare waste oil IW line associated with SWMU T in the northern portion of B003, from the B003 / B004 IW sewer line junction area are hypothesized as the historical sources of residual VOCs that have been retained in these shallow, finer grained materials (where present), and continue to provide a source to groundwater that contributes to the dissolved phase NPLA plume.

NYSDEC approved the *Supplemental Solid Waste Management Unit (SWMU) M Investigation Data Report,* in a letter dated January 6, 2023 and requested an alternatives analysis / feasibility study report to evaluate potential additional remedial technologies that could be considered to address the residual soil and groundwater impacts in the northern former Building B003 area, if appropriate. The SWMU M Alternatives Analysis Report was submitted to NYSDEC in May 2023 and concluded that implementation of additional remedial alternatives in SWMU M is not warranted.

1.4 Summary of Remedial Actions

Previous Site investigations indicate that groundwater and limited, discrete areas of soil have been impacted by historical manufacturing activities. The following summarizes remedial actions implemented at the Site in response to these findings:

1.4.1 Removal of Impacted Materials from the Site

With the exception of the areas referenced in Section 1.3.1, historical soil sampling results indicate vadose zone soils meet applicable commercial or restricted residential SCOs. As such, with the exception of the IWSL closure activities, no large-scale removal of impacted soil material has been required at the Site.

As part of the final closure activities of the former IWSL (SWMU L) in 1984, approximately 182,000 gallons of sludge containing VOCs and metals was removed from the lagoon and transported off-Site to Envirite Corporation of Thomaston, Connecticut, and Stablex Corporation of Canada. In addition, a total of 97 cubic yards of soils associated with the rim of the lagoon were sent to the Waste Management Inc.'s Model City, New York disposal facility.

Groundwater impacted with VOCs has been collected and treated at the Site via the GWCS since 1985. During this time, over 600 million gallons of water has been treated, resulting in the removal of approximately 3,000 pounds of VOCs from groundwater.

1.4.2 Remedial Actions

Various remedial actions, including both voluntary (e.g., UST removals and closures) and RCRA corrective measures (i.e., installation and operation of the GWCS) have been implemented at the Site since the 1980s to mitigate the impact of historical releases and minimize the potential for future releases, including:

- Replacement of IW sewer lines with double-contained, slip-lined systems
- Removal of USTs previously used to store chemicals and process wastes
- Sealing of sewer line trenches containing sewer pipes that terminate at the former IWTF (i.e., utility trench barrier wall)
- Operation and subsequent shut-down of a groundwater extraction well to address the Building B005S PCE tank release
- Installation of the GWCS in 1985 to address the NPLA Plume, including an extension and upgrade completed in 1995
- Operation, maintenance, and monitoring of a perimeter control system

Information regarding these remedial actions is provided in the documents summarized in Table 1-3.

1.4.3 Site Related Treatment Systems

Ongoing remedial actions include the operation, maintenance, and monitoring of a perimeter control system that intercepts the groundwater plume. The perimeter control system consists of the following components:

- A 42-inch diameter[1] storm water sewer pipe that extends to the south of Buildings B001 through B005, and then transects Enterprise Drive to the south of Building B201.
- A 60-inch diameter storm water sewer pipe that intersects the GWCS and extends along the northern portion of the NPLA.
- An unsaturated portion of the surficial sand unit that intersects the 42-inch storm water sewer south of Building B021, transects east across Enterprise Drive, and then continues toward the north portion of the Site near Old Neighborhood Road.
- The GWCS, which intersects the unsaturated portion of the surficial sand unit near Old Neighborhood Road and extends along the western and northern perimeter of the NPLA. The GWCS comprises a set of groundwater cut-off trenches. Water collected in the trenches is treated and then discharged to the storm water sewer system. In addition, the North Parking Lot Area (NPLA) System has operated at the Site since late 1997 and was installed to mitigate groundwater infiltration to the storm sewer system. The NPLA System, located near former Building B003 and Building B005N in OU-3, OU-3a and OU-7, consists of the re-use of old, abandoned storm water sewers that collect infiltrating groundwater that is conveyed to pump stations PS-1 and PS-2, and then pumped through approximately 1,500 feet of fusion-welded HDPE piping to the on-site GTF for treatment.

[1] The diameter of this storm water sewer decreases as it progresses upstream. Throughout this document, the storm water sewer system comprising the variable diameter pipes is referred to as the “42-inch storm water sewer”.

- A utility trench barrier wall, consisting of an approximately 250-foot-long trench backfilled with clay with the base keyed into the Varved Clay Unit and the top of the barrier wall completed a minimum of two feet above the recorded high-water table. This barrier wall was installed to mitigate the potential for groundwater migration along the underground utility pipes that ultimately terminate at the former IWTF.

The locations of these perimeter control system components are shown on Figure 1-2. Groundwater collected through the storm water sewer system is discharged to the Esopus Creek pursuant to a SPDES Permit issued to the property owner (formerly TechCity).

Active treatment elements of the perimeter control system are limited to the GWCS. The GWCS was installed to mitigate the potential for off-Site migration of impacted groundwater from the NPLA and consists of a set of groundwater cutoff trenches parallel to Enterprise Drive and Old Neighborhood Road. Recovered groundwater was conveyed from December 1986 through the end of June 1994 to the then-active IWTF for removal of VOCs using air stripping towers.

Upgrades to the GWCS completed in 1994 included extension of the northwest leg, the installation of new pumps in the associated trench manholes, the construction of a new treatment building and the installation of new aerator units. In 1994, these units were put on-line and collected groundwater was conveyed to the treatment building, subjected to aeration, and discharged to sanitary sewer. The northwest leg of the GWCS was extended approximately 240 feet and included installation of three additional trench manholes and one pump station in May 1995.

Currently, treated effluent is discharged through the storm water sewer system to the Esopus Creek pursuant to Site SPDES Permit. Additional information regarding this system is included in Appendix E.

1.4.4 Remaining Areas of Impacted Media

Remaining areas of impact to soil and groundwater include:

- Discrete soil areas (i.e., SWMU L, SWMU N, SWMU AA, and SWMU AE) that exhibit low-level concentrations of residual constituents above applicable SCOs as described in Section 1.3.1
- Groundwater containing VOCs in excess of NYSGWQS as described in Section 1.3.2, summarized on Table 1-4, and shown on Figure 1-7

1.5 Contingency Plan

1.5.1 Emergency Telephone Numbers

In the event of an environmental related situation or unplanned occurrence requiring assistance, the Property Owner or Property Owner's representative(s) should contact the appropriate party from the contact list presented in Table 1-5. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to IBM.

1.5.2 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is included as Table 1-5 as referenced in Section 1.5.1. The list will also be posted prominently at the Site and made readily available to personnel.

1.5.3 Directions to Nearest Health Facility

Site Location: 300 Enterprise Drive, Kingston, NY 12401

Name of Nearest Hospital: HealthAlliance (Kingston) Hospital, Mary's Avenue Campus

Hospital Location:105 Mary's Avenue Kingston NY 12401

Hospital Telephone: 845-338-2500

Directions to the Hospital:

1. Turn left on Boices Lane
2. Turn right onto Morton Blvd. (Stewarts on corner)
3. Turn right onto Ulster Avenue/Albany Avenue.
4. Take the third exit at the roundabout
5. Keep straight onto Broadway
6. Turn right on W O'Reilly Street
7. **Turn Left onto Mary's Avenue, Turn Right onto Webster Street**
8. Hospital is straight ahead

Total Distance: 4.7 miles

Total Estimated Travel Time: 14 minutes

2.0 OPERABLE UNIT 1

For any emergencies encountered during activities in OU-1, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that will be required by the Environmental Easement for OU-1. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing the activities of OU-1 are the Order on Consent (Appendix A), the requested Environmental Easement for OU-1 (Appendix B), and this ISMP. A list of acronyms is located between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site**. If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs and/or ECs for OU-1 or the ECs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays.**

This section of the ISMP lists the components of the remedy present in OU-1 and the Property Owner's responsibilities for the protection of the remedy and the associated monitoring system. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-1.

The Property Owner's responsibilities can be summarized as follows:

- Adhere to and maintain the ICs established for OU-1.
- Ensure that the activities of the Property Owner and its representatives:
  - Do not impede the effectiveness of the Site-wide ECs, and
  - Protect the integrity of the ECs in OU-1.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-1 governed by this ISMP.
- Inspect and/or maintain remedial components owned by the Property Owner.
- Provide the OU-1 certification report to NYSDEC through IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-1 include, but are not limited to:

- Commercial use restriction (Section 2.2).
- Groundwater use restriction (Section 2.2).
- 42-inch storm water sewer (Section 2.3
- Activities within the vicinity of any monitoring well (Section 2.3).
- For any soil disturbance (Section 2.2):

- Sampling and approval from NYSDEC are required before soils are imported from an off-Site source for use in OU-1, or exported from OU-1 for either use off-Site or reuse elsewhere on-Site (i.e., in another OU), in accordance with DER-10 (Section 2.2),
- Contingency Plan if grossly contaminated soils are encountered (Section 2.2),
- Protection and maintenance of the integrity of the monitoring wells.

- Application of Intrusive Activity Work Plan (IAWP) to specific areas of OU-1 (Section 2.2), including:
  - Building B202 elevator shaft (Section 2.3) and
  - Triangle Plume Area (TPA) (Section 2.3).
- Vapor intrusion sampling and/or mitigation measures for existing buildings and new construction (Section 2.6).
- Characterization of previously unexposed soils, after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner (Section 2.2, 2.4, and 2.8).
- Environmental and public health monitoring (Sections 2.2, 2.3, and 2.5).
- Inspection/status/data reports and maintenance of remedial components owned by the Property Owner (Sections 2.2 and 2.7).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

2.1 Introduction

Operable Unit 1 (OU-1) is a 26.3-acre area within the Site that is bounded to the north and to the west by Operable Unit 6 (with Esopus Creek located approximately 0.33-miles to the west), to the east by Enterprise Drive and to the south by the Site boundary and Boices Lane (refer to Figure 2-1). OU-1 contains the Buildings B201, B202 and B203. These buildings were formerly used by IBM for electrical and material laboratories, office administration, computer programming and engineering staff office space. OU-1 was not used for manufacturing activities and is not part of the Class 4 Site (IHWDS Registry No. 356002).

Previous investigations have identified areas within the vicinity of the Building B202 Elevator Shaft and the Triangle Plume Area (TPA) where the potential to contact residual contamination in the soil and/or groundwater exists. A summary of each SWMU is presented in Table 1-2. IC and/or EC requirements and associated Property Owner responsibilities for OU-1 (and Site-wide) are described in the following sections.

2.2 Institutional Controls

The ICs for OU-1 shall include:

- Compliance with the OU-1 Environmental Easement by the Property Owner and the Property Owner's successors and assigns
  - **Land Use Restriction:** Land use in OU-1 is restricted to commercial or industrial use.
  - **Groundwater Use Restriction:** The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal

from beneath OU-1 will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not adversely impact the existing groundwater flow geometry in the surficial sand unit and/or the bedrock unit in the vicinity of the Building B202 Elevator Shaft in OU-1.

- **Compliance with the ISMP.**

These ICs may not be discontinued without an amendment to, or extinguishment of, the Environmental Easement for OU-1 and/or the ISMP. A copy of the OU-1 Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

Specific restrictions apply to any soil disturbance in OU-1, to areas of OU-1 subject to the IAWP, and new building construction and sampling for vapor intrusion mitigation as noted in Sections 2.4, 2.5, and 2.6, respectively.

2.3 Engineering Controls

The ECs for OU-1 include:

- **42-inch Storm Water Sewer:** This storm water sewer, shown on Figure 2-1, is an extension of the storm water sewer that forms a portion of the groundwater perimeter control system that is integral to the overall containment strategy for the B005 groundwater plume originating in OU-3. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Historical groundwater monitoring data indicates that the sewer also functions as a passive hydraulic barrier to downgradient groundwater migration due to the sewer design and hydraulic characteristics of the subsurface soils in the vicinity of the storm water sewer. Ongoing interception and collection of groundwater by the storm water sewer remains an important component of the overall perimeter control system. Therefore, the Property Owner's maintenance of the integrity and function of the 42-inch storm water sewer in OU-1 is required.
- **Building B202 Elevator Shaft Cover:** The results of previous investigations identified localized low-level PCB impacts associated with hydraulic oil beneath the subsurface elevator shaft located near the center of Building B202. Based on the location of the potentially impacted media and their confinement beneath the Building B202, soil cover provisions are not applicable to this location. However, the existing building serves as an EC cover to mitigate the direct contact pathway for this localized area. As such, intrusive activities that require exposure of soil or groundwater due to maintenance, repair, or demolition activities at the subsurface portion of the elevator shaft are subject to the requirements of the IAWP.
- **Soil/Surface Cover Over Areas Within the Vicinity of the Triangle Plume Area:** Results of previous investigations have established that surficial soil within one foot of ground surface in OU-1 meets the Part 375 unrestricted-use soil cleanup objectives and is therefore suitable for commercial use. NYSDEC requires that the existing soil/surface cover be maintained for a portion of OU-1 due to the potential for impacted soil and/or groundwater located below the soil/surface cover system in the vicinity of the Triangle Plume Area. Soil disturbance activities performed in this area shall be managed and implemented in accordance with the IAWP in Appendix C, including the requirement to segregate the top foot of soil from those soils located at depths greater than one foot below ground surface.
- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance

of the groundwater monitoring well system EC is required for OU-1. Any activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well.

The following ECs require protection, inspection, maintenance, and/or repair, as necessary, by the Property Owner, except in those instances when the need for repair or replacement is the direct result of activities conducted by IBM or its representatives:

- 42-inch storm water sewer,
- Building B202 elevator shaft, and
- Soil/surface cover system within the vicinity of the TPA.

Property Owner inspection and maintenance requirements for these three ECs are described in Section 2.7. In addition, the Property Owner will ensure that activities performed by the Property Owner or its representatives will not interfere with, or otherwise impair or compromise, any of the ECs located in OU-1.

The following EC requires protection, inspection, maintenance, and repair, as necessary by IBM, except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives:

- Groundwater Monitoring Well System

IBM inspection and maintenance requirements for these ECs are further described in Section 2.12 and in Section 12.0.

2.4 Soil Disturbance

This section describes the criteria required for any intrusive activity (disturbance of soil) within OU-1. Section 2.5 includes additional IAWP requirements for the areas within the vicinity of the Building B202 elevator shaft and within the vicinity of the TPA.

In general, except for the areas designated in Section 2.5 (Building B202 elevator shaft and TPA), the soils in OU-1 may be disturbed without the need to segregate surface soils from subsurface soils into separate piles. These soils may be backfilled into the excavated area in any sequence deemed appropriate by the Property Owner or its representatives.

The following restrictions apply to any disturbance of soil in OU-1:

- **Groundwater Monitoring Well System:** Any intrusive activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well.
- **Materials Transport and Disposal Off-Site:** All material excavated and removed from OU-1 shall be properly characterized and approved by NYSDEC for transport to a facility appropriately permitted to receive such material.
- **Materials Import from Off-Site Sources:** All materials proposed for import onto the Site for use as backfill shall be in compliance with the provisions of the IAWP prior to receipt at the Site. All materials imported for use in OU-1 shall be from a NYSDEC-approved source and meet NYSDEC approved backfill or cover soil quality standards for OU-1. The NYSDEC-approved backfill or cover soil quality standards are listed in 6 NYCRR Part 375 Table 375-6.8(b) and shall be the lower of the Protection of Groundwater (PGW) SCOs and

Commercial Use SCOs (as summarized in DER-10, Appendix 5). Please refer to Section 12.0 of the IAWP (Appendix C) for additional details regarding the import of backfill materials from off-Site sources.

- **Materials Reuse On-Site:** Any materials proposed for reuse on-Site must be pre-approved by NYSDEC. Please refer to Section 9.0 of the IAWP (Appendix C) for details regarding materials reuse on-Site.
- **Contingency for Grossly Contaminated Media (GCM):** As defined by NYSDEC DER-10 Section 1.3(b)(23), GCM is soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is readily detectable without laboratory analysis. If GCM is encountered at any time during intrusive activities in OU-1, NYSDEC will be notified, and the contingency plan identified in of the IAWP (Appendix C) will be implemented. These conditions may warrant implementing environmental, worker, and/or community air monitoring and/or mitigation measures.
- **Characterization of the top foot of exposed soil** shall be required following any activity that includes reworking of the soil.
- **Characterization of previously unexposed soils** shall be conducted after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner.
- **Protection of Existing Infrastructure:** Identification of existing historical industrial infrastructure and active utilities, and protection of the structural integrity of existing buildings and utilities.
- **Construction measures** to control dust and off-Site migration of soil to roadways.
- **Dewatering procedures** must be pre-approved by NYSDEC.

The Property Owner or its authorized representative is solely responsible for any intrusive work they perform. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner will ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise, the ECs and ICs in OU-1. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM. Notification requirements for these activities are listed in Section 2.9.

2.5 Intrusive Activities Work Plan

The Property Owner is required to follow all of the requirements specified in Section 2.4 for any intrusive work (disturbance of soil) performed by the Property Owner in OU-1. Additional intrusive activity requirements summarized in this section apply to areas within the vicinity of Building B202 and within the vicinity of the TPA.

OU-1 has been designated for commercial use (and includes industrial use). 6NYCRR Part 375 requires the maintenance of a one-foot soil cover for portions of this OU. In compliance with this requirement, intrusive activities performed within the vicinity of the soil/surface cover system at Building B202 or the TPA in OU-1 shall be performed in compliance with the IAWP included as Appendix C.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any activity in OU-1 within the vicinity of Building B202 and within the vicinity of the TPA. This includes initial Site

redevelopment and build-out activities as well as post redevelopment intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where intrusive activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention.

Intrusive activities must protect and maintain the integrity of the ECs in OU-1, including:

- **Building B202 Elevator Shaft:** Previous investigations identified low-level PCB impacts as a result of historical subsurface hydraulic fluid releases associated with the operation of elevators in Building B202. Based on the location of the potentially impacted media, IAWP cover soil replacement provisions are not applicable. However due to the potential for PCB impacts, intrusive activities associated with the maintenance or future demolition of the hydraulic lift where soil, bedrock or groundwater may be encountered as part of the work performed is subject to the requirements of the IAWP.
- **Soil/Surface Cover over Areas Within the Vicinity of the Triangle Plume Area:** The potential for exposure to soil and/or groundwater impacted with residual contamination at the Site is addressed by a soil/surface cover system, which is comprised of a one-foot-thick soil cover over exposed soil and/or by concrete building slabs, asphalt covered roads and concrete covered sidewalks that overlie areas above impacted soil and/or groundwater. Although ongoing interception and collection of groundwater by the 42-inch Storm Water Sewer continues to be an important EC component of the overall perimeter control system, it has not been fully effective in the vicinity of Enterprise Drive in OU-1 in the "Triangle Plume Area" indicated on Figure 2-1 where localized low-level detections of VOCs in groundwater have been observed in a discrete area immediately down gradient of the 42-inch storm water sewer line. Recent investigations indicate that detected VOCs attenuate rapidly to levels below NYSGWQS within a short distance from the perimeter control system. The IAWP will be implemented for intrusive activities conducted within this area in OU-1 (see Figure 2-1). The IAWP also requires segregation of the top foot of soils from the soils below one foot in vicinity of the Triangle Plume Area.
- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system is required as an EC for OU-1. Any activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well. Monitoring wells that will not be required for long-term groundwater monitoring in OU-1, as approved by NYSDEC, shall be decommissioned by IBM in accordance with NYSDEC requirements.

Environmental and/or public health monitoring will be performed as part of the IAWP. Work conducted pursuant to the IAWP will be in accordance with procedures defined in activity-specific Health and Safety Plans (HASPs) and Community Air Monitoring Plans (CAMPs) prepared for the work in specified areas of OU-1. A sample HASP is attached as Appendix F to this ISMP. HASPs and CAMPs must be prepared by the selected general contractor and approved by NYSDEC and NYSDOH or other designated entity prior to any intrusive work. The HASPs and CAMPs are the responsibility of the Property Owner and shall be prepared in compliance with DER-10 Technical Guidance, 29 CFR 1910 and 1926, and all other applicable Federal, State and local requirements. Intrusive construction work within the applicable areas will be performed in compliance with the IAWP and the contractor's activity-specific HASP and the CAMP. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM.

As with any soil disturbance in OU-1, the Property Owner or its authorized representative is solely responsible for any intrusive work they perform during implementation of the IAWP. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner will ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise, the ECs and ICs described for OU-1 in this ISMP. Criteria for notifications and for documentation of compliance with the IAWP are further noted in Section 1 of the IAWP (Appendix C) and in Section 2.8.

2.6 Vapor Intrusion Mitigation Measures for New Building Construction and Reoccupation of Existing Buildings

Prior to the construction of any enclosed structures or reoccupation of existing structures within the boundaries of OU-1 (Figure 2-1), a VI evaluation will be performed to determine whether monitoring or mitigation measures are necessary to eliminate potential exposure to vapors in the existing and/or proposed structures in accordance with the most recent NYSDOH Guidance Document "Guidance for Evaluating Vapor Intrusion in the State of New York". Alternatively, a VI mitigation system such as a vapor barrier and/or passive sub-slab depressurization system capable of being converted to an active system may be installed as an element of a new building foundation without first conducting an investigation; however, a VI evaluation shall be performed prior to occupation of new buildings. Alternate building specific monitoring or mitigation provisions may be proposed for NYSDEC and NYSDOH review and approval depending on the characteristics of the remaining impacts, the design features of the structure and the proposed use and occupancy of the structure.

2.7 Inspection and Maintenance Plan

An inspection report is required for any activity regulated by this ISMP. The ECs in OU-1 that require protection, inspection, maintenance, and/or repair, as necessary, by the Property Owner[2] are:

- 42-inch storm water sewer,
- Building B202 elevator shaft, and
- Soil/surface cover system within the vicinity of the TPA.

Inspections of these ECs by the Property Owner shall be conducted annually, at a minimum, and will evaluate and document that:

- The Engineering Controls the Property Owner is responsible to inspect and maintain continue to perform as designed.
- The requirements of this ISMP and the Environmental Easement, for which the Property Owner is responsible, have been complied with by the owner and/or its representatives.
- The Site records, for which the owner is responsible, are complete and up to date.

[2] The current groundwater monitoring well system EC in OU-1 includes monitoring wells owned by IBM. Except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives, the inspection, maintenance, repair, replacement, and/or decommissioning of monitoring wells in OU-1 is the responsibility of IBM.

Example inspection forms are provided in Appendix G. These forms are subject to revision with NYSDEC approval. Applicable inspection forms and other records (including media sampling data, if any sampling has been conducted in OU-1 during the reporting period) will be provided in the certification report in electronic format or other reporting format as approved by NYSDEC.

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, the Property Owner or its representative will notify NYSDEC and IBM within 24 hours of the observations/actions. Within five (5) days of the event, the Property Owner or its representative will conduct an inspection of the Site to assess the effectiveness of the ECs implemented at the Site by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Inspection forms and other reporting records will be in a format approved by NYSDEC. If necessary, a corrective action plan, with a schedule for implementation, will be submitted by the Property Owner or its representative to NYSDEC.

Intrusive activities associated with the soil/surface cover in OU-1 in the vicinity of the TPA and the Building B202 elevator shaft shall be subject to the requirements of the IAWP (see Section 2.5 and Appendix C). A list of the specific IBM responsibilities for the protection, inspection, monitoring, and maintenance of ECs in OU-1 is provided in Section 2.12. Detailed specifications of IBM's Site-wide responsibilities are provided in Section 12.0. Specific Property Owner responsibilities for the inspection and/or maintenance of the ECs identified herein are described in the following sections.

2.7.1 42-Inch Storm Water Sewer

The integrity of the portions of the 42-inch storm water sewer located within OU-1 will be inspected and maintained by the Property Owner.

The storm water sewer functions as a passive hydraulic barrier to downgradient groundwater migration. Routine maintenance associated with the storm water sewer shall be limited to the catch basins, drop inlets, and associated structures that are accessible from the surface. Maintenance of these structures may include sediment removal or repairs to the sewer to address reduced flow capacity, failure or unacceptable deterioration due to normal wear and tear from erosion, physical impact, etc. Routine repairs will be made to these structures as necessary to maintain their integrity and function. Localized repair or replacement of the storm water sewer piping will be performed if the integrity and functionality of the conveyance system has been compromised to address conditions that result in loss of sewer flow capacity or imminent failure/collapse of the piping or any other damage to the storm water drainage system that impairs the effectiveness of the perimeter control system.

Results of the inspection and any associated maintenance and repairs, if necessary, shall be included in the periodic certification report submitted by the Property Owner of OU-1.

2.7.2 Soil/Surface Cover Within the Vicinity of the Triangle Plume Area

The integrity of the soil/surface cover system located within the TPA in OU-1 shall be inspected and maintained by the Property Owner. Any intrusive activities associated with this soil/surface cover in OU-1 shall be subject to the requirements of the IAWP (see Appendix C).

Potential exposure to low-level groundwater impacts located within OU-1 is mitigated by the existing soil/surface cover system at the Site (see Figure 2-1). Monitoring of the soil/surface cover system in OU-1 includes annual inspections of the cover materials by the Property Owner. This inspection frequency is subject to change by NYSDEC and NYSDOH. Unscheduled inspections and/or sampling may take place when a suspected failure of any part of the cover system has been reported or an emergency occurs that results in a breach of the

soil/surface cover system, leaving the soils below the cover permanently exposed or with significantly less than one foot of soil cover. Maintenance/repair of the soil/surface cover system, if necessary, shall be performed based upon assessments of structural integrity and overall performance. Results of the inspection and a description of any associated maintenance and repair, if necessary, shall be included in the periodic certification report submitted by the Property Owner of OU-1 to IBM.

2.7.3 Building B202 Elevator Shaft Cover

The integrity of the surface cover for the Building B202 elevator shaft located within OU-1 will be inspected and maintained by the Property Owner. Intrusive activities associated with the soil/surface cover in OU-1 will be subject to the requirements of the IAWP (see Appendix C).

Potential exposure to low-level PCB impacts in soil associated with hydraulic oil beneath the subsurface elevator shaft located near the center of Building B202 in OU-1 is mitigated by the existing cover system at the Site. Monitoring of the surface cover system in OU-1 includes annual inspections of the cover materials by the Property Owner. This inspection frequency is subject to change by NYSDEC and NYSDOH. Unscheduled inspections and/or sampling may take place when a suspected failure of any part of the cover system has been reported or an emergency occurs that is deemed likely to have resulted in the potential exposure of the public or Site workers and/or tenants to low-level soil impacts. Results of the inspections and any associated maintenance and repair will be included in the periodic certification report submitted by the Property Owner of OU-1. If repairs are needed, a schedule for the repair will also be included.

2.7.4 Groundwater Monitoring Well System

The portion of the groundwater monitoring well system in OU-1 will be inspected and maintained by IBM. In those instances where the need for repair, replacement and/or decommissioning of any monitoring wells in OU-1 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner will be responsible for the expense of the repair, replacement, and/or decommissioning of any damaged well. Repairs and/or replacement of monitoring wells will be performed based upon assessments of structural integrity and overall performance. A description of the completion of any of these repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-1. If these repairs have not been completed, a schedule for the repairs will also be included.

NYSDEC shall be notified prior to decommissioning of monitoring wells to assess whether a replacement monitoring well is required. Well decommissioning without replacement will be conducted only with prior approval from NYSDEC. The repair, decommissioning and/or replacement of monitoring wells will be documented in the annual inspection reports and in the subsequent periodic review report. Well decommissioning will be performed in accordance with *NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Procedures,* dated November 2009.

2.8 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial systems (i.e., corrective measures) are considered complete when monitoring indicates that the corrective measure has achieved the remedial action objectives. At that time, a request to modify the continued applicability of one or more ICs and/or the continued operation and maintenance of one or more ECs can be submitted to NYSDEC.

Protection, inspection, maintenance and operation of the 42-inch storm water sewer system, Building B202 elevator shafts, and the soil/surface cover system will not be discontinued unless prior written approval is granted

by NYSDEC. In the event that monitoring data indicates that one or more of these ECs are no longer required, a proposal to eliminate these protection requirements may be submitted to NYSDEC.

2.9 Notifications

Notifications will be submitted by the Property Owner directly to NYSDEC (with copy to IBM) as needed at the frequencies identified below for the following reasons:

- 15-day advance notice of proposed intrusive activities in OU-1 which are subject to the requirements of the IAWP and/or result in the following:
  - Import of materials from off-Site sources for use in OU-1,
  - Export of materials from OU-1 for off-Site disposal,
  - Reuse of materials in OU-1 from elsewhere on-Site,
  - Sampling and analysis of soil in OU-1 as required because of a significant reworking of the soil,
  - Sampling and analysis of soil in OU-1 as required due to the expected extended exposure of soils previously covered by the existing surface cover (i.e., asphalt, cement, or a building), and
  - Excavation dewatering, with prior approval from NYSDEC.
- 60-day advance notice of proposed changes in OU-1 use that are required under the terms of the Order, 6 NYCRR Part 375, and/or Environmental Conservation Law. Please note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). A change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of an emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the ECs in OU-1, with written confirmation within seven (7) days that includes a summary of actions, if any, taken by the Property Owner and/or emergency response personnel.
- Verbal notice within 24 hours of any action of the Property Owner or its representatives which affects the integrity and/or effectiveness of the remedial or monitoring system in OU-1 or Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule shall be submitted directly to NYSDEC with a copy to IBM.
- In those instances which are a direct result of activities by the Property Owner or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of OU-1 or the responsibility for implementing this ISMP will include the following notifications:

- NYSDEC will be notified in writing of the proposed change at least 60 days prior to the change. This will include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-1, the new Property Owner's name, contact representative, and contact information will be confirmed in writing.

2.10 Property Owner Certification Report to IBM

The Property Owner will maintain records for OU-1 which will include but not be limited to this ISMP, inspection reports, certification reports and other written communications with NYSDEC and NYSDOH.

The Property Owner will submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that, with respect to activities of the Property Owner or its representatives:

- ICs and/or ECs employed in OU-1 are unchanged, through the actions of the Property Owner or its representatives, from the previous certification or that changes to the ICs and/or ECs were approved by NYSDEC; and
- Nothing has occurred, through the actions of the Property Owner or its representatives, that impairs the ability of the ICs and/or ECs to protect public health and environment or that constitute a violation or failure to comply with the ISMP.

NYSDEC retains the right to access OU-1 to evaluate the continued maintenance of ICs and/or ECs. This certification shall be submitted annually to NYSDEC through IBM, or at an alternate frequency that NYSDEC may allow and will be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR will be prepared with OU-specific modules that address each of the OUs as defined in the Order. In the event that OU-1 is subdivided into separate parcels with different ownership, a certification form will be prepared addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) will be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives will also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form will be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 Office; and a PRR in electronic format to NYSDEC's Central and Region 3 Offices and the NYSDOH Bureau of Environmental Exposure Investigation.

The Property Owner certification report for OU-1 or its subdivisions will include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy for OU-1.
- Results of required annual OU-1 inspections and, if applicable, severe condition inspections.
- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-1 during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples

collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports will include the following certification language:

"For each institutional or engineering control identified for OU-1, I certify that all of the following statements are true:

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional and engineering controls required by the remedial program.
- The institutional control employed at OU-1 is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect public health and the environment.
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-1 interim site management plan for this control.
- Access to OU-1 will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-1 is compliant with the OU-1 environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-1]."

A SPDES Permit (Permit No. NY0260134) regulates the discharge of the 42-inch storm water sewer into OU-6. Discharge from the 42-inch storm water sewer includes surface drainage and subsurface infiltration from OU-1, OU-3, and OU-4. This ISMP has no reporting requirements or oversight responsibilities for this discharge permit. The NYSDEC Division of Water oversees the reporting**,** monitoring**,** and discharge requirements for this SPDES permit.

2.11 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

2.12 Summary of IBM Requirements

IBM will be responsible for performing the following activities in OU-1:

- Inspection and maintenance of the integrity of monitoring wells.

- Collection of groundwater samples for analysis and submittal of a summary report to NYSDEC.
- Collection of groundwater elevation data and submittal of potentiometric surface maps to NYSDEC.
- Receipt of the Property Owner's OU-1 certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Include, in the Site-wide compiled PRR, any inspections, repairs, maintenance, or remedies implemented by IBM in OU-1.
- Protection of the structural integrity of the existing components of ECs in OU-1 during activities performed by IBM in OU-1.
- Protection of the structural integrity of buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during activities performed by IBM in OU-1.
- If IBM is required to perform intrusive work in the vicinity of Building B202 or within the vicinity of the TPA in OU-1, such work will be conducted in accordance with the IAWP.
- IBM or its authorized representatives are solely responsible for any intrusive work it performs. This includes, but is not limited to, the structural integrity of excavations, proper handling and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and activities in, on, under, or in proximity to structures that may be affected by excavations (such as building foundations).
- Upon request, IBM will provide a copy of the Site-wide certification to the OU-1 Property Owner.

IBM requirements for these activities are further described in Section 12.0.

3.0 OPERABLE UNIT 2

For any emergencies encountered during activities in OU-2, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that shall be required by the Environmental Easement for OU-2. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing activities in OU-2 are the Order on Consent (Appendix A), the Environmental Easement for OU-2 (Appendix B), and this ISMP. A list of acronyms is located between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site. There are no ECs in OU-2. If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs for OU-2 or the ICs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays.

This section of the ISMP lists the institutional controls in place for OU-2 and the Property Owner's responsibilities for the protection of the Site-wide remedy and associated monitoring systems. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-2.

The Property Owner's responsibilities can be summarized as follows:

- Adhere to and maintain the ICs established for OU-2.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-2 governed by this ISMP.
- Provide the OU-2 certification report to NYSDEC through IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-2 include, but are not limited to:

- Commercial use restriction. (Section 3.2).
- Groundwater use restriction (Section 3.2).
- For any soil disturbance (Sections 3.2, 3.4, and 3.7):
  - Sampling and approval from NYSDEC are required before soils are imported from an off-Site source for use in OU-2 or exported from OU-2 for either use off-Site or reuse elsewhere on-Site (i.e., in another OU), in accordance with DER-10 (Section 3.2).
  - Contingency Plan if grossly contaminated soils are encountered (Section 3.2),
- Inspection/status/data reports (Sections 3.2, 3.4, 3.5, 3.7, and 3.8).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

3.1 Introduction

Operable Unit 2 (OU-2) is a 57.5-acre area at the southwestern part of the Site. OU-2 is bounded by off-Site private properties with a small portion along the east side of the OU abutting Boices Lane, a public road (an

easement with the Town of Ulster allows unrestricted access across Boices Lane by the Property Owner). OU-2 has historically been lightly developed or open space and currently remains largely vacant with only one small unoccupied structure, Building B070 (refer to Figure 3-1). OU-2 is not part of the Class 4 Site (IHWDS Registry No. 356002).

Previous investigations in OU-2 have resulted in the closure of two former SWMUs located in OU-2. Portions of OU-2 were historically used for storage of road salt and miscellaneous disposal of construction and demolition debris. A summary of each SWMU is presented in Table 1-2. There are no active SWMUs in OU-2. IC requirements and associated Property Owner responsibilities are described in the following sections.

3.2 Institutional Controls

The ICs for OU-2 include:

- Compliance with the OU-2 Environmental Easement by the Property Owner and the Property Owner's successors and assigns
  - **Land Use Restriction: Land use in** OU-2 is restricted to commercial or industrial use.
  - **Groundwater Use Restriction:** The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal from beneath OU-2 will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not adversely impact the existing groundwater flow geometry in the surficial sand unit or the bedrock unit in the vicinity of the Building B202 Elevator shaft in OU-1.
  - **Compliance with the ISMP.**

These ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement for OU-2 and/or the ISMP. A copy of the OU-2 Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

Specific restrictions apply to any soil disturbance in OU-2, and new building construction and sampling for vapor intrusion mitigation as noted in Sections 3.4 and 3.5, respectively.

3.3 Engineering Controls

There are no ECs located in OU-2.

3.4 Soil Disturbance

This section describes the criteria required for any intrusive activity (disturbance of soil) within OU-2.

In general, the soils in OU-2 may be disturbed without the need to segregate surface soils from subsurface soils into separate piles. Analytical results from previous surface soil characterization sampling indicate the top one foot of soil in OU-2 meets unrestricted-use SCOs. These soils may be backfilled into the excavated area in any sequence deemed appropriate by the Property Owner or its representatives.

The following restrictions apply to any disturbance of soil in OU-2:

- **Materials Transport and Disposal Off-Site:** All material excavated and removed from OU-2 shall be properly characterized and approved by NYSDEC for transport to a facility appropriately permitted to receive such material.
- **Materials Import from Off-Site Sources:** All materials proposed for import onto the Site for use as backfill shall be in compliance with the provisions of the IAWP prior to receipt at the Site. All materials imported for use in OU-2 shall be from a NYSDEC-approved source and meet NYSDEC approved backfill or cover soil quality standards for OU-2. The NYSDEC-approved backfill or cover soil quality standards are listed in 6 NYCRR Part 375 Table 375-6.8(b), and shall be the lower of the Protection of Groundwater (PGW) SCOs and Commercial Use SCOs (as summarized in DER-10, Appendix 5). Please refer to Section 12.0 of the IAWP (Appendix C) for additional details regarding the import of backfill materials from off-Site sources.
- **Materials Reuse On-Site:** Any materials proposed for reuse on-Site must be pre-approved by NYSDEC. Please refer to Section 9.0 of the IAWP (Appendix C) for details regarding materials reuse on-Site.
- **Contingency for Grossly Contaminated Media (GCM):** As defined by NYSDEC DER-10 Section 1.3(b)(23), GCM is soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is readily detectable without laboratory analysis**.** If GCM is encountered at any time during intrusive activities in OU-2, NYSDEC will be notified and the contingency plan identified in the IAWP (Appendix C) will be implemented. These conditions may warrant implementing additional environmental, worker, and/or community air monitoring and mitigation measures**.**
- **Protection of Existing Infrastructure:** Identification of existing historical industrial infrastructure and active utilities, and protection of the structural integrity of existing buildings and utilities is required.
- **Construction measures** to control dust and off-Site migration of soil to roadways.
- **Dewatering procedures** must be preapproved by NYSDEC.
- **Certification and reporting** of data and information at the frequency and manner defined in this ISMP for OU-2.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any soil disturbance activity in OU-2. This includes initial Site redevelopment and post redevelopment intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where soil disturbance activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention.

Since OU-2 is currently undeveloped, the Property Owner or its authorized representative is solely responsible for any intrusive work they perform. In general, the Property Owner responsibilities include but are not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner will ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise the ICs described for OU-2 in this ISMP or the Site-wide IC/ECs. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM.

Notification requirements for these activities are noted in Section 3.8.

3.5 New Building Construction Measures for Vapor Intrusion Mitigation

Prior to the construction of any enclosed structures within the boundaries of OU-2 (Figure 3-1), a VI evaluation will be performed to determine whether monitoring or mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure in accordance with the most recent NYSDOH Guidance Document "Guidance for Evaluating Vapor Intrusion in the State of New York". Alternatively, a VI mitigation system such as a vapor barrier and/or passive sub-slab depressurization system capable of being converted to an active system may be installed as an element of a new building foundation without first conducting an investigation; however, a VI evaluation shall be performed prior to occupation of new buildings. Alternate building specific monitoring or mitigation provisions may be proposed for NYSDEC and NYSDOH review and approval depending on the characteristics of the remaining impacts, the design features of the structure and the proposed use and occupancy of the structure.

3.6 Inspection and Maintenance Plan

An inspection report is required for any activity regulated by this ISMP.

OU-2 contains no ECs which require protection, inspection, maintenance, and/or repair by the Property Owner.

At a minimum, the property owner will evaluate and document the following:

- The requirements of this ISMP and the Environmental Easement, for which the Property Owner is responsible, have been complied with by the Property Owner and/or its representatives.
- The Site records, for which the owner is responsible, are complete and up to date.

Example inspection forms are provided in Appendix G. These forms are subject to revision with NYSDEC approval. Applicable inspection forms and other records (including media sampling data, if any sampling has been conducted by the property owner in OU-2 during the reporting period) will be provided in electronic format (or other reporting format as approved by NYSDEC) in the certification report.

A list of the specific IBM responsibilities in OU-2 is provided in Section 3.11. Detailed specifications of IBM's Site-wide responsibilities are provided in Section 12.0.

3.7 Criteria for Cessation of ISMP Requirements

This OU is approved for commercial use. The requirements for activities governed by this ISMP will continue until data demonstrates that this OU may be used for unrestricted use. At that time (or at such time that data justifies a less restrictive use than commercial), a request to modify the continued applicability of one or more ICs can be submitted to NYSDEC.

The requirements for activities governed by this ISMP will not be discontinued unless prior written approval is granted by NYSDEC. If new data indicate that the ISMP requirements are no longer necessary, a proposal to eliminate these requirements may be submitted to NYSDEC.

3.8 Notifications

Notifications will be submitted by the Property Owner directly to NYSDEC (with copy to IBM) as needed at the frequencies identified below for the following reasons:

- 15-day notice for any soil disturbance, including that which could result in any of the following:

  - Import of soil into OU-2 from an off-Site source;
  - Export of soil out from OU-2; and
  - Reuse of materials in OU-2 from elsewhere on-Site.
- 15-day notice whenever construction activities expect to dewater an excavation.
- 60-day advance notice of proposed changes in OU-2 use that are required under the terms of the Order, 6NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). A change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- In those instances which the activities by the Property Owner or its representatives have adversely impacted the Site-wide remedy and/or its associated monitoring system, follow-up status reports on actions taken to remedy the adverse impact shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of OU-2 or the responsibility for implementing this ISMP will include the following notifications:

- NYSDEC will be notified in writing of the proposed change at least 60 days prior to the change. This will include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-2, the new Property Owner's name, contact representative, and contact information will be confirmed in writing.

3.9 Property Owner Certification Report to IBM

The Property Owner will maintain records for OU-2 which will include but not be limited to this ISMP, inspection reports, certification reports and other written communications with NYSDEC and NYSDOH.

The Property Owner will submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that, with respect to activities of the Property Owner or its representatives:

- ICs employed at the OU are unchanged through the actions of the Property Owner or its representatives from the previous certification or that changes to the ICs were approved by NYSDEC; and,
- Nothing has occurred, through the actions of the Property Owner or its representatives, that impairs the ability of the ICs to protect public health and environment or that constitute a violation or failure to comply with the ISMP.

This certification shall be submitted annually to NYSDEC through IBM and will be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

NYSDEC retains the right to access OU-2 to evaluate the continued maintenance of ICs. Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single report will be prepared with OU-specific modules that address each of the OUs as defined in the Order. If OU-2 is further subdivided into separate parcels with different ownership, a certification form will be prepared by the Property Owner of each

parcel (as legally described by a revised metes and bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) will be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives will also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form will be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 Office; and a PRR in electronic format to NYSDEC's Central and Region 3 Offices and the NYSDOH Bureau of Environmental Exposure Investigation Office.

The Property Owner certification report for OU-2 or its subdivisions will include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of ICs required for OU-2.
- Results of required annual OU-2 inspections and, if applicable, severe condition inspections.
- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-2 during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports will include the following certification language:

"For each institutional control identified for OU-2, I certify that all of the following statements are true:

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional controls required by the remedial program.
- The institutional control employed at OU-2 is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect the public health and environment.
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-2 interim site management plan for this control.
- Access to OU-2 will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-2 is compliant with the OU-2 environmental easement.
- The information presented in this report is accurate and complete.

- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner’s Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-2].”

3.10 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, the periodic certification cannot be provided due to the failure of an institutional control (e.g., land use, groundwater use, etc.), a corrective measures plan will be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

3.11 Summary of IBM Requirements

IBM will be responsible for performing the following activities in OU-2:

- Receipt of the Property Owner’s OU-2 certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Protection of the structural integrity of buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during any activities performed by IBM in OU-2.
- IBM or its authorized representatives are solely responsible for the intrusive work they perform. This includes, but is not limited to, the structural integrity of excavations, proper handling and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and activities in, on, under, or in proximity to structures that may be affected by excavations (such as building foundations).
- Upon request, IBM will provide a copy of the Site-wide certification to the OU-2 Property Owner.

IBM requirements for these activities are further described in Section 12.0.

4.0 OPERABLE UNIT 3

For any emergencies encountered during activities in OU-3, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that will be required by the Environmental Easement for OU-3. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing activities in OU-3 are the Order on Consent (Appendix A), the Environmental Easement for OU-3 (Appendix B), and this ISMP. A list of acronyms is located between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2 have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site. **If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs and/or ECs for OU-3 or the ICs and/or ECs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays.**

This section of the ISMP lists the components of the remedy currently present in OU-3 and the Property Owner's responsibilities for the protection of the remedy and the associated monitoring system. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-3.

The Property Owner's responsibilities can be summarized as follows:

- Adhere to and maintain the ICs established for OU-3.
- Ensure that the activities of the Property Owner and its representatives:
  - Do not impede the effectiveness of the Site-wide ECs, and
  - Protect the integrity of ECs in OU-3.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-3 governed by this ISMP.
- Inspect and/or maintain remedial components owned by the Property Owner.
- Provide the OU-3 certification report to NYSDEC through IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-3 include, but are not limited to:

- Commercial use restriction (Section 4.2).
- Groundwater use restriction (Section 4.2).
- 42-inch storm water sewer (Section 4.3).
- Activities within the vicinity of any monitoring well (Section 4.3).
- Application of Intrusive Activity Work Plan (IAWP) to all portions of OU-3 (Section 4.4), including:
  - Segregation of the top foot of soils from the soils below one foot;

- Sampling and approval from NYSDEC are required before soils are imported from an off-Site source for use in OU-3, or exported from OU-3 for either use off-Site or reuse elsewhere on-Site (i.e., in another OU), in accordance with DER-10 (Section 4.2);
- Contingency Plan if grossly contaminated soils are encountered (Section 4.4);
- Environmental and public health monitoring (Section 4.2 and 4.4);
- Recharacterization of the top foot of soil after any development that requires reworking of the soil;
- Construction measures to control dust and off-Site migration of soil to roadways; and
- Protection and maintenance of the integrity of the monitoring wells.

- Characterization of previously unexposed soils, after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner (Section 4.2).
- Vapor intrusion sampling and/or mitigation measures for existing buildings and new construction (Section 4.5).
- Inspection/status/data reports and maintenance of remedial components owned by the Property Owner (Sections 4.2 and 4.6).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

4.1 Introduction

Operable Unit 3 (OU-3) is a 41.8-acre area within the Site that is bounded to the north by OU-3a, to the east by OUs-4, 4a and 7, to the south by OU-4, and to the west by Enterprise Drive. OU-3 was extensively developed as part of the former IBM facility and contained numerous buildings and associated parking and related facilities (refer to Figure 4-1). Buildings B021, B022, B023 and B024 were formerly utilized as office space. Building B001 is being renovated for a future manufacturing tenant. Buildings B002, B003, B004, B005S, B034, and B035 have been demolished with only the concrete slabs remaining. Approximately 10,000 cubic yards of construction and demolition debris remains on the B005S building slab. OU-3 is part of the Class 4 Site (IHWDS Registry No. 356002).

Previous investigations in OU-3 have resulted in the closure of multiple former SWMUs located in OU-3. A summary of each SWMU is presented in Table 1-2. There are currently three active SWMUs in OU-3, as follows:

- SWMU M – Portions of the IW Sewer Lines: upon becoming accessible, supplemental investigations were completed in former Buildings B001 B003, and B004 in 2017. Supplemental investigations were conducted beneath the Building B003 building slab in 2020.
- SWMU S – Former Waste TCA Tanks (B001): An interim corrective measure was implemented to address SWMU S in 2015 as documented in the *Interim Corrective Measure Construction Completion Report* submitted to NYSDEC in October 2015.
- SWMU T – Former Waste Oil Tank: supplemental investigations completed in October 2011 and April 2012.

Previous investigations identified areas where soil and groundwater with residual impacts may remain in OU-3. IBM is responsible for the investigation and remediation of SWMUs M and T and the maintenance of associated remedial components. One of the Property Owner's primary responsibilities is to provide access to IBM to conduct investigation and remediation of SWMUs M and T in OU-3 and refrain from interference with these

activities. IC and/or EC requirements and associated Property Owner responsibilities are more fully described in the following sections.

4.2 Institutional Controls

The ICs for OU-3 shall include:

- Compliance with the OU-3 Environmental Easement by the Property Owner and the Property Owner's successors and assigns
  - **Land Use Restriction: Land use in OU-3 is restricted to commercial or industrial use.**
  - **Groundwater Use Restriction:** The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal from beneath OU-3 will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not adversely impact the existing groundwater flow geometry in the surficial sand unit and/or in the bedrock unit in the vicinity of the Building B202 Elevator Shaft in OU-1.
  - **Compliance with the ISMP.**

These ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement for OU-3 and/or the ISMP. A copy of the OU-3 Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

Specific restrictions apply to areas of OU-3 subject to the IAWP and new building construction/sampling for vapor intrusion mitigation as noted in Sections 4.4, and 4.5, respectively.

4.3 Engineering Controls

The ECs for OU-3 include:

- **42-inch Storm Water Sewer:** This storm water sewer, shown on Figure 4-1, is an extension of the storm water sewer that forms a portion of the groundwater perimeter control system that is integral to the overall containment strategy for the B005 groundwater plume originating in OU-3. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Historical groundwater monitoring data indicates that the sewer also functions as a passive hydraulic barrier to downgradient groundwater migration due to the sewer design and hydraulic characteristics of the subsurface soils in the vicinity of the storm water sewer. Ongoing interception and collection of groundwater by the storm water sewer remains an important component of the overall perimeter control system. Therefore, the Property Owner's maintenance of the integrity and function of the 42-inch storm water sewer in OU-3 is required.
- **Soil/Surface Cover:** Results of previous investigations have established that surficial soil within one foot of ground surface in OU-3 meets NYSDEC unrestricted-use soil cleanup objectives and is therefore suitable for commercial use. NYSDEC requires that the existing soil/surface cover be maintained throughout OU-3 due to the potential for impacted soil and/or groundwater located below the soil/surface cover system. Soil disturbance activities performed in OU-3 shall be managed and implemented in accordance with the IAWP in Appendix C, including the requirement to segregate the top foot of soil from those soils located at depths greater than one foot below the ground surface.

- **Utility Trench Barrier Wall:** The Utility Trench Barrier Wall, illustrated on Figure 4-1, consists of a 250-foot-long trench constructed of compacted clay in an area where impacted groundwater has the potential to migrate off-Site through abandoned and active utility pipeline corridors and is a component of the groundwater perimeter control system. Approximately 150 feet of the Utility Trench Barrier Wall is located in OU-3, with the remaining approximately 100 feet extending northward into OU-3a.
- **GWCS NPLA System**: The NPLA System is a passive portion of the Site GWCS, has operated at the Site since late 1997, and was installed to mitigate groundwater infiltration to the storm sewer system. The NPLA System, located near former Building B003 and Building B005N in OU-3, OU-3a and OU-7, consists of the re-use of old, abandoned storm water sewers that collect infiltrating groundwater that is conveyed to pump stations PS-1 and PS-2, and then pumped through approximately 1,500 feet of fusion-welded HDPE piping to the on-Site GTF for treatment.
- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system EC is required for OU-3. Any activity within the vicinity of a monitoring well shall be performed in a manner that protects and maintains the integrity of the monitoring well.

The following ECs require protection, inspection, and/or maintenance and repair, as necessary, by the Property Owner, except in those instances when the need for repair or replacement is the direct result of activities conducted by IBM or its representatives:

- 42-inch storm water sewer and
- Soil/surface cover system.

Property Owner inspection and maintenance requirements for these two ECs are described in Section 4.6. In addition, the Property Owner will ensure that activities performed by the Property Owner or its representatives will not interfere with, or otherwise impair or compromise, any of the ECs located in OU-3.

Three ECs require protection, inspection, maintenance, and/or repair, as necessary by IBM, except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives:

- GWCS NPLA System,
- Utility Trench Barrier Wall, and
- Groundwater Monitoring Well System.

IBM inspection and maintenance requirements for these ECs are further described in Section 4.11 and in Section 12.0.

4.4 Intrusive Activities Work Plan

OU-3 has been designated for commercial use. 6 NYCRR Part 375 requires the maintenance of a 1-foot soil/surface cover for this OU. Therefore, all intrusive activities performed within OU-3 shall be performed in compliance with the IAWP included as Appendix C.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any intrusive activity in OU-3. This includes initial Site redevelopment and build-out activities as well as post redevelopment

intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where intrusive activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention.

Intrusive activities must protect and maintain the integrity of the ECs in OU-3 (Section 4.3), including:

- **Soil/Surface Cover:** The potential for exposure to soil and/or groundwater impacted with residual contamination at the Site is addressed by a soil/surface cover system, which is comprised of a one-foot-thick soil cover, concrete building slabs, asphalt covered roads, and concrete covered sidewalks that overlie areas above impacted soil and/or groundwater. The IAWP will be implemented for intrusive activities conducted within the boundaries of OU-3 as illustrated on Figure 4-1, including segregation of the top foot of soil.
- **Materials Transport and Disposal Off-Site:** All material excavated and removed from OU-3 shall be properly characterized and approved by NYSDEC for transport to a facility appropriately permitted to receive such material.
- **Materials Import from Off-Site Sources:** All materials proposed for import onto the Site for use as backfill shall be in compliance with the provisions of the IAWP prior to receipt at the Site. All materials imported for use in OU-3 shall be from a NYSDEC-approved source and meet NYSDEC approved backfill or cover soil quality standards for OU-3. The NYSDEC-approved backfill or cover soil quality standards are listed in 6 NYCRR Part 375 Table 375-6.8(b), and shall be the lower of the Protection of Groundwater (PGW) SCOs and Commercial Use SCOs (as summarized in DER-10, Appendix 5). Please refer to Section 12.0 of the IAWP (Appendix C) for additional details regarding the import of backfill materials from off-Site sources.
- **Materials Reuse On-Site:** Any materials proposed for reuse on-Site must be pre-approved by NYSDEC. Please refer to Section 9.0 of the IAWP (Appendix C) for details regarding materials reuse on-Site.
- **Contingency for Grossly Contaminated Media (GCM):** As defined by NYSDEC DER-10 Section 1.3(b)(23), GCM is soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is readily detectable without laboratory analysis. If GCM is encountered at any time during intrusive activities in OU-3, NYSDEC will be notified and the contingency plan identified in the IAWP (Appendix C) will be implemented. These conditions may warrant implementing additional environmental, worker, and/or community air monitoring and/or mitigation measures.
- **Characterization of the top foot of soil** shall be required following any activity that includes significant reworking of the soil.
- **Characterization of previously unexposed soils shall be conducted** after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner.
- **Protection of Existing Infrastructure:** Identification of existing historical industrial infrastructure and active utilities, and protection of the structural integrity of existing buildings and utilities.
- **Construction Measures** to control dust and off-Site migration of soil to roadways.
- **Dewatering Procedures** must be pre-approved by NYSDEC.

Environmental and/or public health monitoring will be performed as part of the IAWP. Work conducted pursuant to the IAWP will be in accordance with procedures defined in activity-specific Health and Safety Plans (HASPs) and Community Air Monitoring Plans (CAMPs) prepared for the work in specified areas of OU-3. A sample HASP is attached as Appendix F to this ISMP. HASPs and CAMPs must be prepared by the selected general contractor and approved by NYSDEC and NYSDOH or other designated entity prior to any intrusive work. The HASPs and CAMPs are the responsibility of the Property Owner and shall be prepared in compliance with DER-10 Technical Guidance, 29 CFR 1910 and 1926, and all other applicable Federal, State and local requirements. Intrusive construction work within the applicable areas will be performed in compliance with the IAWP and the contractor's activity-specific HASP and the CAMP. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM.

The Property Owner or its authorized representative is solely responsible for any intrusive work they perform during implementation of the IAWP. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner will ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise, the ECs and ICs described for OU-3 in this ISMP. Criteria for notifications and for documentation of compliance with the IAWP are further discussed in Section 1 of the IAWP (Appendix C). Notification requirements for these activities are also noted in Section 4.8.

4.5 Vapor Intrusion Mitigation Measures for New Building Construction and Reoccupation of Existing Buildings

Prior to the construction of any enclosed structures or reoccupation of existing structures within the boundaries of OU-3 (Figure 4-1), a VI evaluation will be performed to determine whether monitoring or mitigation measures are necessary to eliminate potential exposure to vapors in the existing and/or proposed structures in accordance with the most recent NYSDOH Guidance Document "Guidance for Evaluating Vapor Intrusion in the State of New York". Alternatively, a VI mitigation system such as a vapor barrier and/or passive sub-slab depressurization system capable of being converted to an active system may be installed as an element of a new building foundation without first investigating the potential VI pathway; however, a VI evaluation shall be performed prior to occupation of new buildings. Alternate building specific monitoring or mitigation provisions may be proposed for NYSDEC and NYSDOH review and approval depending on the characteristics of the remaining impacts, the design features of the structure and the proposed use and occupancy of the structure.

4.6 Inspection and Maintenance Plan

An inspection report is required for any activity regulated by this ISMP. The ECs in OU-3 that will require protection, inspection, maintenance, and repair, as necessary, by the Property Owner[3] are:

- 42-inch storm water sewer and
- Soil/Surface cover system.

[3] The ECs in OU-3 include groundwater monitoring wells and the utility trench barrier wall maintained by IBM. Except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives, the inspection, maintenance, repair, replacement, and/or decommissioning of monitoring wells and the utility trench barrier wall in OU-3 are the responsibility of IBM.

Inspections of these ECs by the Property Owner will be conducted annually, at a minimum, and will evaluate and document that:

- The Engineering Controls the Property Owner is responsible to inspect and maintain continue to perform as designed.
- The requirements of this ISMP and the Environmental Easement, for which the Property Owner is responsible, have been complied with by the Property Owner and/or its representatives.
- The Site records, for which the owner is responsible, are complete and up to date.

Example inspection forms are provided in Appendix G. These forms are subject to revision with NYSDEC approval. Applicable inspection forms and other records (including media sampling data, if any sampling has been conducted in OU-3 during the reporting period) will be provided in the certification report in electronic format or other reporting format as approved by NYSDEC.

If an emergency, such as a natural disaster or an unforeseen failure of any of these ECs occurs, the Property Owner or its representative will notify NYSDEC and IBM within 24 hours of the observations/actions. Within five (5) days of the event, the Property Owner or its representative will have a qualified environmental professional, as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State, conduct an inspection of the Site to assess the effectiveness of the EC implemented at the Site. Inspection forms and other reporting records will be in a format approved by NYSDEC. If necessary, a corrective action plan, with a schedule for implementation, will be submitted by the Property Owner or its representative to NYSDEC and IBM.

Intrusive activities performed in OU-3 are subject to the requirements of the IAWP (see Section 4.4 and Appendix C). A list of the specific IBM responsibilities for the protection, inspection, monitoring, and maintenance of ECs in OU-3 is provided in Section 4.11. Detailed specifications of IBM's Site-wide responsibilities are provided in Section 12.0. Responsibilities for the inspection and maintenance of the ECs identified in Section 4.3 are described in the following sections.

4.6.1 42-Inch Storm Water Sewer

The integrity of the portions of the 42-inch storm water sewer located within OU-3 will be inspected and maintained by the Property Owner.

This storm water sewer functions as a passive hydraulic barrier to downgradient groundwater migration. Routine maintenance associated with the storm water sewer will be limited to the catch basins, drop inlets, and associated structures that are accessible from the surface. Maintenance of these structures may include sediment removal or repairs to the sewer to address reduced flow capacity, failure or unacceptable deterioration due to normal wear and tear from erosion, physical impact, etc. Routine repairs will be made to these structures as necessary to maintain their integrity and function. Localized repair or replacement of the storm water sewer piping will be performed if the integrity and functionality of the conveyance system has been compromised to address conditions that result in loss of sewer flow capacity or imminent failure/collapse of the piping or any other damage to the storm water drainage system that impairs the effectiveness of the perimeter control system.

The Property Owner will conduct an annual inspection of the portion of the 42-inch storm water sewer system located in OU-3 and complete an inspection form (see Appendix G). Results of the inspection and any associated maintenance and repairs, if necessary, will be included in the periodic certification report submitted by the

Property Owner of OU-3. If repairs are needed, a schedule for the repair will also be included in the periodic certification report.

4.6.2 Soil/Surface Cover

The integrity of the soil/surface cover system located within OU-3 will be inspected and maintained by the Property Owner.

Potential exposure to impacted soil and/or groundwater located within OU-3 is mitigated by the existing soil/surface cover system at the Site. All intrusive activities performed within OU-3 will be subject to the requirements of the IAWP (see Appendix C). Monitoring of the soil/surface cover system in OU-3 includes annual inspections of the cover materials. This inspection frequency is subject to change by NYSDEC and NYSDOH. Unscheduled inspections and/or sampling may take place when a suspected failure of any part of the cover system has been reported or an emergency occurs that results in a breach of the soil cover system, leaving the soils below one foot permanently exposed or with significantly less than one foot of soil cover. Results of the inspections and any associated maintenance and repair will be included in the periodic certification report submitted by the Property Owner of OU-3. If repairs are needed, a schedule for the repair will also be included in the periodic certification report.

In those instances where the need for repair of the soil/surface cover in OU-3 is the direct result of activities conducted by IBM or its representatives, IBM will be responsible for the expense of the repair of any damaged component of this cover. Repair of this cover will be performed based upon assessments of structural integrity and overall performance. A description of the completion of any of these repairs will be included in the periodic certification report submitted by IBM. If these repairs have not been completed, a schedule for the repairs will also be included in the periodic certification report.

4.6.3 Utility Trench Barrier Wall

The integrity of the utility trench barrier wall located within OU-3 will be inspected and maintained by IBM.

The utility trench barrier wall in OU-3 was installed to mitigate the potential for groundwater migration along the underground utility pipes that ultimately terminate at the former IWTF. In those instances where the need for repair of the portion of the Utility Trench Barrier Wall in OU-3 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner shall be responsible for the expense of the repair of any damaged portion of the Utility Trench Barrier Wall. A description of the repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-3. If these repairs have not been completed, a schedule for the repairs will also be included in the periodic certification report.

4.6.4 GWCS NPLA System

The GWCS NPLA System is a component of the GWCS. As such, maintaining the integrity and function of the passive collection system in OU-3 as an engineering control as part of the GWCS is required. The GWCS NPLA system in OU-3 will be inspected and maintained by IBM. In those instances where damage to the GWCS NPLA System in OU-3 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner shall be responsible for the expense of the repair, replacement, and/or decommissioning of any damaged portions of the system.

4.6.5 Groundwater Monitoring Well System

The groundwater monitoring well system in OU-3 will be inspected and maintained by IBM. Monitoring wells that will not be required for long-term groundwater monitoring in OU-3, as approved by NYSDEC, shall be decommissioned by IBM in accordance with NYSDEC requirements.

Groundwater monitoring wells in OU-3 are routinely sampled to assess the effectiveness of existing corrective measures. In those instances where the need for repair, replacement and/or decommissioning of any monitoring wells in OU-3 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner will be responsible for the expense of the repair, replacement, and/or decommissioning of any damaged well. A description of the repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-3. If these repairs have not been completed, a schedule for the repairs will also be included in the periodic certification report.

NYSDEC shall be notified prior to decommissioning of a monitoring well to assess whether a replacement monitoring well is required. Well decommissioning without replacement will be conducted only with prior approval from NYSDEC. The repair, decommissioning and/or replacement of monitoring wells will be documented in the annual inspection reports and in the subsequent periodic review report. Well decommissioning will be performed in accordance with *NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Procedures,* dated November 2009.

4.7 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial systems (i.e., corrective measures) are considered complete when monitoring indicates that the corrective measure has achieved the remedial action objectives. At that time, a request to modify the continued applicability of one or more ICs and/or the continued operation and maintenance of one or more ECs can be submitted to NYSDEC.

Protection, inspection, maintenance and operation of the 42-inch storm water sewer system, utility trench barrier wall, groundwater monitoring wells, and the soil/surface cover system will not be discontinued unless prior written approval is granted by NYSDEC. In the event that monitoring data indicate that these ECs are no longer required, a proposal to eliminate these protection requirements may be submitted to NYSDEC.

4.8 Notifications

Notifications will be submitted by the Property Owner directly to NYSDEC (with copy to IBM) as needed at the frequencies identified below for the following reasons:

- 15-day advance notice of proposed intrusive activities in OU-3 which are subject to the requirements of the IAWP and/or result in the following:
  - Import of materials from off-Site sources for use in OU-3,
  - Export of materials from OU-3 for off-Site disposal,
  - Reuse of materials in OU-3 from elsewhere on-Site,
  - Sampling and analysis of soil in OU-3 because of a significant reworking of the soil/surface cover system,

  - Sampling and analysis of soil in OU-3 as required due to the expected extended exposure of soils previously covered by the existing surface cover (i.e., asphalt, cement, or a building), and
  - Excavation dewatering, with prior approval from NYSDEC.
- 60-day advance notice of proposed changes in OU-3 use that are required under the terms of the Order, 6NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). A change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of an emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the ECs in OU-3, with written confirmation within seven (7) days that includes a summary of actions, if any, taken by the Property Owner and/or emergency response personnel.
- Verbal notice within 24 hours of any action of the Property Owner or its representatives which affects the integrity of the effectiveness of the remedial or monitoring system in OU-3 or Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule will be submitted directly to NYSDEC with a copy to IBM.
- In those instances which are a direct result of activities by the Property Owner or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of OU-3 or the responsibility for implementing this ISMP will include the following notifications:

- NYSDEC will be notified in writing of the proposed change at least 60 days prior to the change. This will include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-3, the new Property Owner's name, contact representative, and contact information will be confirmed in writing.

4.9 Property Owner Certification Report to IBM

The Property Owner will maintain records for OU-3 which will include but not be limited to this ISMP, inspection reports and other written communications with NYSDEC and NYSDOH.

The Property Owner will submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that, with respect to activities of the Property Owner or its representatives:

- ICs and/or ECs employed at the OU are unchanged through the actions of the Property Owner or its representatives from the previous certification or that changes to the ICs and/or ECs were approved by NYSDEC; and
- Nothing has occurred, through the actions of the Property Owner or its representatives, that impairs the ability of the ICs and/or ECs to protect public health and environment or that constitute a violation or failure to comply with the ISMP.

NYSDEC retains the right to access OU-3 to evaluate the continued maintenance of ICs and/or ECs. This certification shall be submitted annually to NYSDEC through IBM, or at an alternate frequency that NYSDEC may

allow and will be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR will be prepared with OU-specific modules that address each of the OUs as defined in the Order. In the event that OU-3 is subdivided into separate parcels with different ownership, a certification form will be prepared addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) will be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives will also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form will be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 office; and a PRR in electronic format to NYSDEC's Central and Region 3 offices and the NYSDOH Bureau of Environmental Exposure Investigation office.

The Property Owner certification report for OU-3 or its subdivisions will include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy for OU-3.
- Results of required annual OU-3 inspections and, if applicable, severe condition inspections.
- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-3 during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports will include the following certification language:

"*For each institutional or engineering control identified for OU-3, I certify that all of the following statements are true:*

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional and engineering controls required by the remedial program.
- The institutional control employed at OU-3 is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect the public health and environment.

- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-3 interim site management plan for this control.
- Access to OU-3 will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-3 is compliant with the OU-3 environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner’s Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-3].”

A SPDES Permit that is issued to the Property Owner regulates the discharge of the 42-inch storm water sewer into OU-6. Discharge from the 42-inch water sewer includes surface drainage and subsurface infiltration from OU-1, OU-3, and OU-4. This ISMP has no reporting requirements or oversight responsibilities for this discharge permit. The NYSDEC Division of Water oversees the reporting, monitoring, and discharge requirements for this SPDES permit.

4.10 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

4.11 Summary of IBM Requirements

IBM will be responsible for performing the following activities in OU-3:

- Inspection and maintenance of the integrity of all monitoring wells.
- Collection of groundwater samples for analysis and submittal of a summary report to NYSDEC.
- Collection of groundwater elevation data and submittal of potentiometric surface maps to NYSDEC.
- Receipt of the Property Owner’s OU-3 certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Include, in the Site-wide compiled PRR, any inspections, repairs, maintenance, or remedies implemented by IBM in OU-3.
- Protection of the structural integrity of the existing components of ECs in OU-3 during any activities performed by IBM in OU-3.
- Protection of the structural integrity of all buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during any activities performed by IBM in OU-3.

- If IBM is required to perform intrusive work in OU-3, such work shall be conducted in accordance with the provisions of the IAWP. IBM or its authorized representatives are solely responsible for the intrusive work they perform. This includes, but is not limited to, the structural integrity of excavations, proper handling and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and activities in, on, under, or in proximity to structures that may be affected by excavations (such as building foundations).
- Upon request, IBM shall provide a copy of the Site-wide certification to the OU-3 Property Owner.

IBM requirements for these activities are further described in Section 12.0.

5.0 OPERABLE UNIT 3A

For any emergencies encountered during activities in OU-3a, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that will be required by the Environmental Easement for OU-3a. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing activities in OU-3a are the Order on Consent (Appendix A), the Environmental Easement for OU-3a (Appendix B), and this ISMP. A list of acronyms is located between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site. **If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs and/or ECs for OU-3a or the ICs and/or ECs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays.**

This section of the ISMP lists the components of the remedy present in OU-3a and the Property Owner's responsibilities for the protection of the remedy and the associated monitoring system. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-3a.

The Property Owner's responsibilities can be summarized as follows:

- Adhere to and maintain the ICs established for OU-3a.
- Ensure that the activities of the Property Owner and its representatives:
  - Do not impede the effectiveness of the Site-wide ECs and
  - Protect the integrity of ECs in OU-3a.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-3a governed by this ISMP.
- Inspect and/or maintain remedial components owned by the Property Owner.
- Provide the OU-3a certification report to NYSDEC through IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-3a include, but are not limited to:

- Commercial use restriction (Section 5.2).
- Groundwater use restriction (Section 5.2).
- 60-inch storm water sewer (Section 5.3). The diameter of this storm water sewer decreases as you progress upstream.
- Storm water sewer receiving the Groundwater Collection System discharge (Section 5.3).
- Activities within the vicinity of any monitoring well (Section 5.3).

- Application of Intrusive Activity Work Plan (IAWP) to all portions of OU-3a (Section 5.4), including:
  - Segregation of the top foot of soils from the soils below one foot;
  - Sampling and approval from NYSDEC are required before soils are imported from an off-Site source for use in OU-3a, or exported from OU-3a for either use off-Site or reuse elsewhere on-Site (i.e., in another OU), in accordance with DER-10 (Section 5.2);
  - Contingency Plan if grossly contaminated soils are encountered (Section 5.2);
  - Environmental and public health monitoring (Section 5.2 and 5.4);
  - Recharacterization of the top foot of soil after any major development that requires significant reworking of the soil;
  - Construction measures to control dust and off-Site migration of soil to roadways; and
  - Protection and maintenance of the integrity of the monitoring wells.
- Characterization of previously unexposed soils, after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner (Section 5.2).
- Vapor intrusion sampling and/or mitigation measures for existing buildings and new construction (Section 5.5).
- Inspection/status/data reports and maintenance of remedial components owned by the Property Owner (Sections 5.3 and 5.6).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

5.1 Introduction

Operable Unit 3a (OU-3a) is a 23.9-acre area within the Site that is bounded to the north by OU-8 and privately held properties, to the east by OU-7, to the south by OU-3 and to the west by Enterprise Drive. OU-3a was historically used by IBM to provide vehicle access and parking for the buildings located to the south on OU-3 and access to other buildings located to the west of OU-3a (refer to Figure 5-1). The Site groundwater plume in OU-3 extends into OU-3a. Building B049, the Groundwater Collection System Treatment Building, is the only structure presently located in OU-3a. OU-3a is part of the Class 4 Site (IHWDS Registry No. 356002). The Groundwater Collection System Treatment Building is scheduled for upgrades, including demolition of the current structure, construction of a new building, and installation of groundwater treatment components in 2024.

Previous investigations have identified the nature and extent of the groundwater contamination in OU-3a. All intrusive activities in OU-3a will be subject to the IAWP. IC and/or EC requirements and associated Property Owner responsibilities are described in the following sections.

5.2 Institutional Controls

The ICs for OU-3a include:

- Compliance with the OU-3a Environmental Easement by the Property Owner and the Property Owner's successors and assigns.
  - **Land Use Restriction:** Land use in OU-3a is restricted to commercial or industrial use.

- **Groundwater Use Restriction**: The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal from beneath OU-3a will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not adversely impact the existing groundwater flow geometry in the surficial sand unit and/or in the bedrock unit in the vicinity of the Building B202 Elevator Shaft in OU-1.
- **Compliance with the ISMP.**

These ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement for OU-3a and/or the ISMP. A copy of the OU-3a Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

Specific restrictions apply to the following activities to areas of OU-3a subject to the IAWP, and new building construction/sampling for vapor intrusion mitigation as noted in Sections 5.4 and 5.5, respectively.

5.3 Engineering Controls

The ECs for OU-3a include:

- **60-inch Storm Water Sewer:** This storm water sewer, shown on Figure 5-1, extends from the western portion of OU-7, into OU-3a on through the northern boundary of OU-3a, where it continues into OU-8 and terminates at an exposed outfall structure into a drainage swale. The 60-inch concrete storm water sewer is a component of the groundwater perimeter control system that is integral to the overall containment strategy for the NPLA plume that is interpreted to originate in OU-3. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Historical groundwater monitoring data indicates that the sewer also functions as a passive hydraulic barrier to downgradient groundwater migration due to the sewer design and hydraulic characteristics of the subsurface soils in the vicinity of the storm water sewer. Ongoing interception and collection of groundwater by the storm water sewer remains an important component of the overall perimeter control system. Therefore, maintaining the integrity and functionality of the sewer in OU-3a as an engineering control as part of the groundwater perimeter control system is required.
- **Soil/Surface Cover:** Results of previous investigations have established that surficial soil within one foot of ground surface in OU-3a meets NYSDEC unrestricted-use soil cleanup objectives and is therefore suitable for commercial use. NYSDEC requires that the existing soil/surface cover be maintained throughout OU-3a due to the potential for impacted soil and/or groundwater located below the soil/surface cover system. Soil disturbance activities performed in OU-3a shall be managed and implemented in accordance with the IAWP in Appendix C, including the requirement to segregate the top foot of soil from those soils located at depths greater than one foot below the ground surface.
- **Groundwater Collection System:** The GWCS has operated since 1985 and consists of:
  - **Two groundwater cutoff trenches** totaling approximately 1,900 feet that intersect groundwater in the surficial sand unit near Old Neighborhood Road extending along the western and northern perimeter of the NPLA. The cutoff trenches gravity drain collected groundwater to three manholes equipped with duplex pumps for transfer of groundwater to the treatment facility.

- The NPLA System has operated at the Site since late 1997 and was installed to mitigate groundwater infiltration to the storm sewer system. The NPLA System, located near former Building B003 and Building B005N in OU-3, OU-3a and OU-7, consists of the re-use of old, abandoned storm water sewers that collect infiltrating groundwater that is conveyed to pump stations PS-1 and PS-2, and then pumped through approximately 1,500 feet of fusion-welded HDPE piping to the on-Site GTF for treatment.
- **A groundwater treatment facility (GTF)** consisting of a grit removal tank and two identical tray-type air stripping units designed to treat up to 83 gallons per minute of groundwater. The GTF is scheduled for upgrades in 2024, including demolition of the current structure, construction of a new building, and installation of groundwater treatment components to address ECs.
- **Pump stations PS-1 and PS-2** collect groundwater that infiltrates into the abandoned storm water sewer in OU-3a and pump groundwater through approximately 1,500 feet of fusion welded high-density polyethylene piping to the GTF. The pumps are installed in a 141-inch-deep fiberglass wet well.
- **Storm Water Sewer Receiving the GWCS Discharge:** The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Transport of the GWCS discharge to the storm water sewer's discharge point is a necessary component of the pump and treat remedy for this Site. Therefore, maintaining the integrity and function of this sewer in OU-3a as an engineering control is required.

- **Utility Trench Barrier Wall:** The Utility Trench Barrier Wall, illustrated on Figure 5-1, consists of a 250-foot-long trench constructed of compacted clay in an area where impacted groundwater has the potential to migrate off-Site through abandoned and active utility pipeline corridors and is a component of the groundwater perimeter control system. Approximately 100 feet of the Utility Trench Barrier Wall is located in OU-3a, with the remaining approximately 150 feet extending southward into OU-3.
- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system EC is required for OU-3a. Any activity within the vicinity of a monitoring well shall be performed in a manner that protects and maintains the integrity of the monitoring well.

The following ECs require protection, inspection, and/or maintenance and repair, as necessary, by the Property Owner, except in those instances when the need for repair or replacement is the direct result of activities conducted by IBM or its representatives:

- 60-inch storm water sewer, and
- Soil/surface cover system.

Property Owner inspection and maintenance requirements for these two ECs are described in Section 5.6. In addition, the Property Owner will ensure that activities performed by the Property Owner or its representatives will not interfere with, or otherwise impair or compromise, any of the ECs located in OU-3a.

Three ECs require protection, inspection, maintenance, and/or repair, as necessary by IBM, except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives:

- Groundwater Collection System,

- Utility Trench Barrier Wall, and
- Groundwater Monitoring Well System.

IBM inspection and maintenance requirements for these ECs are further described in Section 5.11 and Section 12.0.

5.4 Intrusive Activities Work Plan

OU-3a has been designated for commercial use. 6 NYCRR Part 375 requires the maintenance of a 1-foot soil/surface cover for this OU. Therefore, all intrusive activities performed within OU-3a shall be performed in compliance with the IAWP included as Appendix C.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any intrusive activity in OU-3a. This includes initial Site redevelopment and build-out activities as well as post redevelopment intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where intrusive activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention.

Intrusive activities must protect and maintain the integrity of the ECs in OU-3a (Section 5.3), including:

- **Soil/Surface Cover:** The potential for exposure to soil and/or groundwater impacted with residual contamination at the Site is addressed by a soil/surface cover system, which is comprised of a one-foot-thick soil cover, asphalt covered roads, and concrete covered sidewalks that overlie areas above impacted groundwater. The IAWP will be implemented for intrusive activities conducted within the boundaries of OU-3a as illustrated on Figure 5-1, including segregation of the top foot of soil.
- **Materials Transport and Disposal Off-Site:** All material excavated and removed from OU-3a shall be properly characterized and approved by NYSDEC for transport to a facility appropriately permitted to receive such material.
- **Materials Import from Off-Site Sources:** All materials proposed for import onto the Site for use as backfill shall be in compliance with the provisions of the IAWP prior to receipt at the Site. All materials imported for use in OU-3a shall be from a NYSDEC-approved source and meet NYSDEC approved backfill or cover soil quality standards for OU-3a. The NYSDEC-approved backfill or cover soil quality standards are listed in 6 NYCRR Part 375 Table 375-6.8(b) and shall be the lower of the Protection of Groundwater (PGW) SCOs and Commercial Use SCOs (as summarized in DER-10, Appendix 5). Please refer to Section 12.0 of the IAWP (Appendix C) for additional details regarding the import of backfill materials from off-Site sources.
- **Materials Reuse On-Site:** Any materials proposed for reuse on-Site must be pre-approved by NYSDEC. Please refer to Section 9.0 of the IAWP (Appendix C) for details regarding materials reuse on-Site.
- **Contingency for Grossly Contaminated Media (GCM):** As defined by NYSDEC DER-10 Section 1.3(b)(23), GCM is soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is readily detectable without laboratory analysis. If GCM is encountered at any time during intrusive activities in OU-3a, NYSDEC will be notified, and the contingency plan identified in the IAWP (Appendix C) will be implemented. These conditions may warrant implementing additional environmental, worker, and/or community air monitoring and/or mitigation measures.

- **Re-characterization of the top foot of soil** shall be required following any activity that includes reworking of the soil.
- **Characterization of previously unexposed soils** shall be conducted after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner.
- **Protection of Existing Infrastructure:** Identification of existing historical industrial infrastructure and active utilities, and protection of the structural integrity of existing buildings and utilities.
- **Construction measures** to control dust and off-Site migration of soil to roadways.
- **Dewatering procedures** must be pre-approved by NYSDEC.

Environmental and/or public health monitoring will be performed as part of the IAWP. Work conducted pursuant to the IAWP will be in accordance with procedures defined in activity-specific Health and Safety Plans (HASPs) and Community Air Monitoring Plans (CAMPs) prepared for the work in specified areas of OU-3a. A sample HASP is attached as Appendix F to this ISMP. HASPs and CAMPs must be prepared by the selected general contractor and approved by NYSDEC and NYSDOH or other designated entity prior to any intrusive work. The HASPs and CAMPs are the responsibility of the Property Owner and shall be prepared in compliance with DER-10 Technical Guidance, 29 CFR 1910 and 1926, and all other applicable Federal, State and local requirements. Intrusive construction work within the applicable areas will be performed in compliance with the IAWP and the contractor's activity-specific HASP and the CAMP. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM.

The Property Owner or its authorized representative is solely responsible for any intrusive work they perform during implementation of the IAWP. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner will ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise, the ECs and ICs described for OU-3a in this ISMP. Criteria for notifications and for documentation of compliance with the IAWP are further discussed in Section 1 of the IAWP (Appendix C). Notification requirements for these activities are also noted in Section 5.8.

5.5 New Building Construction Measures for Vapor Intrusion Mitigation

Prior to the construction of any enclosed structures within the boundaries of OU-3a (Figure 5-1), a VI evaluation will be performed to determine whether monitoring or mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure in accordance with the most recent NYSDOH Guidance Document "Guidance for Evaluating Vapor Intrusion in the State of New York". Alternatively, a VI mitigation system such as a vapor barrier and/or passive sub-slab depressurization system capable of being converted to an active system may be installed as an element of the building foundation without first conducting an investigation; however, a VI evaluation shall be performed prior to occupation of new buildings. Alternate building specific monitoring or mitigation provisions may be proposed for NYSDEC and NYSDOH review and approval depending on the characteristics of the remaining impacts, the design features of the structure and the proposed use and occupancy of the structure.

5.6 Inspection and Maintenance Plan

An inspection report is required for any activity regulated by this ISMP. The ECs in OU-3a that require protection, inspection, maintenance, and repair, as necessary, by the Property Owner[4] are:

- 60-inch storm water sewer and
- Soil/surface cover system.

Inspections of these ECs by the Property Owner shall be conducted annually, at a minimum, and shall evaluate and document that:

- The Engineering Controls the Property Owner is responsible to inspect and maintain continue to perform as designed.
- The requirements of this ISMP and the Environmental Easement, for which the Property Owner is responsible, have been complied with by the owner and/or its representatives.
- The Site records, for which the owner is responsible, are complete and up to date.

Example inspection forms are provided in Appendix G. These forms are subject to revision with NYSDEC approval. Applicable inspection forms and other records (including media sampling data, if any sampling has been conducted in OU-3a during the reporting period) will be provided in the certification report in electronic format or other reporting format as approved by NYSDEC.

If an emergency, such as a natural disaster or an unforeseen failure of any of these ECs occurs, the Property Owner or its representative will notify NYSDEC and IBM within 24 hours of the observations/actions. Within five (5) days of the event, the Property Owner or its representative will have a qualified environmental professional, as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State, conduct an inspection of the Site to assess the effectiveness of the EC implemented at the Site. Inspection forms and other reporting records will be in a format approved by NYSDEC. If necessary, a corrective action plan, with a schedule for implementation, will be submitted by the Property Owner or its representative to NYSDEC and IBM.

Intrusive activities performed in OU-3a are subject to the requirements of the IAWP (see Section 5.4 and Appendix C). A list of the specific IBM responsibilities for the protection, inspection, monitoring, and maintenance of ECs in OU-3a is provided in Section 5.11. Detailed specifications of IBM's Site-wide responsibilities are provided in Section 12.0. Responsibilities for the inspection and maintenance of the ECs identified herein are described in the following sections.

5.6.1 60-Inch Storm Water Sewer

The integrity of the portions of the 60-inch storm water sewer located within OU-3a will be inspected and maintained by the Property Owner.

[4] The ECs in OU-3a also include groundwater monitoring wells, the utility trench barrier wall, and the GWCS that are maintained by IBM. Except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives, the inspection, maintenance, repair, replacement, and/or decommissioning of groundwater monitoring wells, the utility trench barrier wall, and the GWCS in OU-3a are the responsibility of IBM.

This storm water sewer also functions as a passive hydraulic barrier to downgradient groundwater migration. Routine maintenance associated with the storm water sewer will be limited to the catch basins, drop inlets, and associated structures that are accessible from the surface. Maintenance of these structures may include sediment removal or repairs to the sewer to address reduced flow capacity, failure or unacceptable deterioration due to normal wear and tear from erosion, physical impact, etc. Routine repairs will be made to these structures as necessary to maintain their integrity and function. Localized repair or replacement of the storm water sewer piping will be performed if the integrity and functionality of the conveyance system has been compromised to address conditions that result in loss of sewer flow capacity or imminent failure/collapse of the piping or any other damage to the storm water drainage system that impairs the effectiveness of the perimeter control system.

The Property Owner will conduct an annual inspection of the portion of the 60-inch storm water sewer system located in OU-3a and complete an inspection form (see Appendix G). Results of the inspection and any associated maintenance and repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-3a. If repairs are needed, a schedule for the repair will also be included.

5.6.2 Soil/Surface Cover

The integrity of the soil/surface cover system located within OU-3a will be inspected and maintained by the Property Owner.

Potential exposure to impacted soil and/or groundwater located within OU-3a is mitigated by the existing soil/surface cover system at the Site. All intrusive activities performed within OU-3a will be subject to the requirements of the IAWP (see Appendix C). Monitoring of the soil/surface cover system in OU-3a includes annual inspections of the cover materials. This inspection frequency is subject to change by NYSDEC and NYSDOH. Unscheduled inspections and/or sampling may take place when a suspected failure of any part of the cover systems has been reported or an emergency occurs that results in a breach of the soil cover system, leaving the soils below one foot permanently exposed or with significantly less than one foot of soil cover. Results of the inspections and any associated maintenance and repair will be included in the periodic certification report submitted by the Property Owner of OU-3a. If repairs are needed, a schedule for the repair will also be included in the periodic certification report.

In those instances where the need for repair of the soil/surface cover in OU-3a is the direct result of activities conducted by IBM or its representatives, IBM will be responsible for the expense of the repair of any damaged component of this cover. Repair of this cover will be performed based upon assessments of structural integrity and overall performance. A description of the completion of any of these repairs will be included in the periodic certification report submitted by IBM. If these repairs have not been completed, a schedule for the repairs will also be included in the periodic certification report.

5.6.3 Groundwater Collection System

The GWCS in OU-3a will be inspected and maintained by IBM.

The GWCS includes a set of groundwater cut-off trenches, pump stations PS-1 and PS-2, conveyance piping, a portion of the storm sewer, and a GTF that is housed in Building B049. Water collected in the trenches is conveyed to the groundwater treatment facility, treated via air stripping and then discharged to the storm water sewer system under a SPDES Permit (SPDES No. NY0108138). The GTF is scheduled for upgrades in 2024, including demolition of the current structure, construction of a new building, and installation of groundwater treatment components to address ECs.

In addition, the NPLA System has operated at the Site since late 1997 and was installed to mitigate groundwater infiltration to the storm sewer system. The NPLA System, located near former Building B003 and Building B005N in OU-3, OU-3a and OU-7, consists of the re-use of old, abandoned storm water sewers that collect infiltrating groundwater that is conveyed to pump stations PS-1 and PS-2, and then pumped through approximately 1,500 feet of fusion-welded HDPE piping to the on-Site GTF for treatment. Additional groundwater treatment components, including activated carbon, will be implemented in 2024 to address ECs.

In those instances where the need for repair of the GWCS in OU-3a is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner will be responsible for the expense of the repair of any damaged component of the GWCS. Repair of the GWCS will be performed based upon assessments of structural integrity and overall performance. A description of the completion of any of these repairs will be included in the periodic certification report submitted by the Property Owner of OU-3a. If these repairs have not been completed, a schedule for the repairs will also be included.

5.6.4 Utility Trench Barrier Wall

The integrity of the utility trench barrier wall located within OU-3a will be inspected and maintained by IBM.

The utility trench barrier wall in OU-3a was installed to mitigate the potential for groundwater migration along the underground utility pipes that ultimately terminate at the former IWTF. In those instances where the need for repair of the portion of the Utility Trench Barrier Wall in OU-3a is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner will be responsible for the expense of the repair of any damaged portion of the Utility Trench Barrier Wall. Repair of the Utility Trench Barrier Wall will be performed based upon assessments of structural integrity and overall performance. A description of the repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-3a. If these repairs have not been completed, a schedule for the repairs will also be included in the periodic certification report.

5.6.5 Groundwater Monitoring Well System

The groundwater monitoring well system in OU-3a will be inspected and maintained by IBM. Monitoring wells that will not be required for long-term groundwater monitoring in OU-3a, as approved by NYSDEC, shall be decommissioned by IBM in accordance with NYSDEC requirements.

Groundwater monitoring wells in OU-3a are routinely sampled to assess the effectiveness of existing corrective measures. In those instances where the need for repair, replacement and/or decommissioning of any monitoring wells in OU-3a is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner will be responsible for the expense of the repair, replacement, and/or decommissioning of any damaged well. A description of the repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-3a. If these repairs have not been completed, a schedule for the repairs will also be included in the periodic certification report.

NYSDEC shall be notified prior to decommissioning of a monitoring well to assess whether a replacement monitoring well is required. Well decommissioning without replacement will be conducted only with prior approval from NYSDEC. The repair, decommissioning and/or replacement of monitoring wells will be documented in the annual inspection reports and in the subsequent periodic review report. Well decommissioning will be performed in accordance with *NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Procedures,* dated November 2009.

5.7 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial systems (i.e., corrective measures) are considered complete when monitoring indicates that the corrective measure has achieved the remedial action objective(s). At that time, a request to modify the continued applicability of one or more ICs and/or the continued operation and maintenance of one or more ECs can be submitted to NYSDEC.

Protection, inspection, maintenance and/or operation of the GWCS, 60-inch storm water sewer system, utility trench barrier wall, groundwater monitoring wells and the soil cover system will not be discontinued unless prior written approval is granted by NYSDEC. In the event that monitoring data indicate that these ECs are no longer required, a proposal to eliminate these protection requirements may be submitted to NYSDEC.

5.8 Notifications

Notifications will be submitted by the Property Owner directly to NYSDEC (with copy to IBM) as needed at the frequencies identified below for the following reasons:

- 15-day advance notice of proposed intrusive activities in OU-3a which are subject to the requirements of the IAWP and/or result in the following:
  - Import of materials from off-Site sources for use in OU-3a,
  - Export of materials from OU-3a for off-Site disposal,
  - Reuse of materials in OU-3a from elsewhere on-Site,
  - Sampling and analysis of soil in OU-3a as required because of a significant reworking of the soil/surface cover system,
  - Sampling and analysis of soil in OU-3a as required due to the expected extended exposure of soils previously covered by the existing surface cover (i.e., asphalt, cement, or a building), and
  - Excavation dewatering, with prior approval from NYSDEC.
- 60-day advance notice of proposed changes in OU-3a use that are required under the terms of the Order, 6NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). A change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of an emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the ECs in OU-3a, with written confirmation within seven (7) days that includes a summary of actions, if any, taken by the Property Owner and/or emergency response personnel.
- Verbal notice within 24 hours of any action of the Property Owner or its representatives which affects the integrity of the effectiveness of the remedial or monitoring system in OU-3a or Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule will be submitted directly to NYSDEC with a copy to IBM.
- In those instances which are a direct result of activities by the Property Owner or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing

responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of OU-3a or the responsibility for implementing this ISMP will include the following notifications:

- NYSDEC will be notified in writing of the proposed change at least 60 days prior to the change. This will include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-3a, the new Property Owner's name, contact representative, and contact information will be confirmed in writing.

5.9 Property Owner Certification Report to IBM

The Property Owner will maintain records for OU-3a which will include but not be limited to this ISMP, inspection reports, certification reports and other written communications with NYSDEC and NYSDOH.

The Property Owner will submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that, with respect to activities of the Property Owner or its representatives:

- ICs and/or ECs employed at the OU are unchanged through the actions of the Property Owner or its representatives from the previous certification or that changes to the ICs and/or ECs were approved by NYSDEC; and,
- Nothing has occurred, through the actions of the Property Owner or its representatives, that impairs the ability of the ICs and/or ECs to protect public health and environment or that constitute a violation or failure to comply with the ISMP.

NYSDEC retains the right to access OU-3a to evaluate the continued maintenance of ICs and/or ECs. This certification shall be submitted annually to NYSDEC through IBM, or at an alternate frequency that NYSDEC may allow and will be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR will be prepared with OU-specific modules that address each of the OUs as defined in the Order. In the event that OU-3a is subdivided into separate parcels with different ownership, a certification form will be prepared addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) will be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives will also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form will be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 office; and a PRR in electronic format to NYSDEC's Central and Region 3 offices and the NYSDOH Bureau of Environmental Exposure Investigation office.

The Property Owner certification report for OU-3a or its subdivisions will include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy for OU-3a.
- Results of required annual OU-3a inspections and, if applicable, severe condition inspections.
- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-3a during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports will include the following certification language:

"*For each institutional or engineering control identified for OU-3a, I certify that all of the following statements are true:*

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional and engineering controls required by the remedial program.
- The institutional control employed at OU-3a is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect the public health and environment.
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-3a interim site management plan for this control.
- Access to OU-3a will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-3a is compliant with the OU-3a environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-3a]."

The NYSDEC Division of Water oversees the reporting, monitoring, and discharge requirements for two SPDES permits associated with the Site. A SPDES permit that is issued to the Property Owner regulates the discharge of the 60-inch storm water sewer into OU-8. The SPDES permit that was issued to the previous Property Owner, TechCity (SPDES No. NY0260134), expired on June 30, 2019 and was not renewed. The new Property Owner, iPark 87, shall apply to NYSDEC for a new SPDES permit. Discharge from the 60-inch storm water sewer includes surface drainage and subsurface infiltration from OU-3a and OU-7. This ISMP has no reporting requirements or oversight responsibilities for this discharge permit.

A second permit (SPDES No. NY0108138), issued to IBM, regulates the discharge of the GWCS into the storm water sewer located along the southern boundary of OU-3a that ultimately discharges to the 42-inch stormwater sewer in OU-1 and OU-6. This treated effluent discharge from the on-Site GTF is subject to oversight by this ISMP. The Division of Water, however, will retain primary regulatory authority over the reporting, monitoring, and discharge requirements of this permitted discharge.

5.10 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

5.11 Summary of IBM Requirements

IBM will be responsible for performing the following activities in OU-3a:

- Inspection and maintenance of the integrity of all monitoring wells.
- Collection of groundwater samples for analysis and submittal of a summary report to NYSDEC.
- Collection of groundwater elevation data and submittal of potentiometric surface maps to NYSDEC.
- Receipt of the Property Owner's OU-3a certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Include, in the Site-wide compiled PRR, any inspections, repairs, maintenance, or remedies implemented by IBM in OU-3a.
- Protection of the structural integrity of the existing components of ECs in OU-3a during any activities performed by IBM in OU-3a.
- Protection of the structural integrity of all buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during any activities performed by IBM in OU-3a.
- If IBM is required to perform intrusive work in OU-3a, such work shall be conducted in accordance with the provisions of the IAWP. IBM or its authorized representatives are solely responsible for the intrusive work they perform. This includes, but is not limited to, the structural integrity of excavations, proper handling and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and activities in, on, under, or in proximity to structures that may be affected by excavations (such as building foundations).
- Upon request, IBM shall provide a copy of the Site-wide certification to the OU-3a Property Owner.

IBM requirements for these activities are further described in Section 12.0.

6.0 OPERABLE UNIT 4

For any emergencies encountered during activities in OU-4, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that will be required by the Environmental Easement for OU-4. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing activities in OU-4 are the Order on Consent (Appendix A), the Environmental Easement for OU-4 (Appendix B), and this ISMP. A list of acronyms is located between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site**. If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs and/or ECs for OU-4 or the ICs and/or ECs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays.**

This section of the ISMP lists the components of the remedy currently present in OU-4 and the Property Owner's responsibilities for the protection of the remedy and the associated monitoring system. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-4.

The Property Owner's responsibilities can be summarized as follows:

- Adhere to and maintain the ICs established for OU-4.
- Ensure that the activities of the Property Owner and its representatives:
  - Do not impede the effectiveness of the Site-wide ECs, and
  - Protect the integrity of ECs in OU-4.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-4 governed by this ISMP.
- Inspect and/or maintain remedial components owned by the Property Owner (i.e., 42-inch storm sewer line).
- Provide the OU-4 certification report to NYSDEC through IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-4 include, but are not limited to:

- Restricted residential use restriction (Section 6.2).
- Groundwater use restriction (Section 6.2).
- 42-inch storm water sewer (Section 6.3).
- Activities within the vicinity of any monitoring well (Section 6.3).
- For any soil disturbance (Section 6.2):

  - Sampling and approval from NYSDEC are required before soils are imported from an off-Site source for use in OU-4, or exported from OU-4 for either use off-Site or reuse elsewhere on-Site (i.e., in another OU), in accordance with DER-10 (Section 6.2),
  - Contingency Plan if grossly contaminated soils are encountered (Section 6.2),
  - Re-characterization of the top two feet of soil after any major development that requires significant reworking of the soil, and
  - Protection and maintenance of the integrity of the monitoring wells.
- Application of the Intrusive Activity Work Plan (IAWP) to the area in OU-4 within 150 linear feet of the 42-inch storm water sewer (Section 6.5).
- Characterization of previously unexposed soils, after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner (Section 6.2).
- Environmental and public health monitoring (Section 6.2, 6.4, and 6.5).
- Vapor intrusion sampling and/or mitigation measures for existing buildings and new construction (Section 6.6).
- Inspection/status/data reports and/or maintenance of ECs (Sections 6.3 and 6.7).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

6.1 Introduction

Operable Unit 4 (OU-4) is a 47.2-acre area within the Site that is bounded to the north by Operable Units 3 and 4a, to the east by Enterprise Drive, to the south by Boices Lane, and to the west by the Site boundary and John M Clark Road (refer to Figure 6-1). OU-4 contains Buildings B031, B032, B033, and B051 and associated access roads and parking areas that service the buildings. OU-4 is not part of the Class 4 Site (IHWDS Registry No. 356002).

Previous investigations in OU-4 have resulted in the closure of multiple former SWMUs located in OU-4. A summary of each SWMU is presented in Table 1-2. There are no remaining open SWMUs in OU-4, with the exception of SWMU X (B031 oil water separator). As part of the Industrial Waste Treatment Plant Closure, the oil water separator was cleaned by IBM in 1994 but remains in place as part of the overall infrastructure in Building B031. NYSDEC previously required that the oil water separator be removed (by the property owner) for SWMU X to be closed.

Previous investigations have conservatively identified areas where groundwater (i.e., within 150 linear feet of the 42-inch storm water sewer) has the potential to contain residual impacts. This area in OU-4 shall be subject to the IAWP. IC and EC requirements and the existing components of the Site-wide remedy located within OU-4 are described in the following sections. IC and/or EC requirements and associated Property Owner responsibilities for OU-4 are more fully described in the following sections.

6.2 Institutional Controls

The ICs for OU-4 include:

- **Compliance with the OU-4 Environmental Easement** by the Property Owner and the Property Owner's successors and assigns

- **Land Use Restriction:** Land use in OU-4 is restricted to restricted-residential, commercial, or industrial use.
- **Groundwater Use Restriction**: The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal from beneath OU-4 will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not adversely impact the existing groundwater flow geometry in the surficial sand unit and/or in the bedrock unit in the vicinity of the Building B202 Elevator Shaft in OU-1.
- **Compliance with the ISMP.**

These ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement for OU-4 and/or the ISMP. A copy of the OU-4 Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

Specific restrictions apply to any soil disturbance in OU-4, to areas of OU-4 subject to the IAWP, and new building construction/sampling for vapor intrusion mitigation as noted in Sections 6.4, 6.5 and 6.6, respectively.

6.3 Engineering Controls

The ECs for OU-4 include:

- **42-inch Storm Water Sewer:** This storm water sewer, located between OU-3 and OU-4 as shown on Figure 6-1, is an extension of the storm water sewer that forms a portion of the groundwater perimeter control system that is integral to the overall containment strategy for the B005 groundwater plume originating in OU-3. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Historical groundwater monitoring data indicates that the sewer also functions as a passive hydraulic barrier to downgradient groundwater migration due to the sewer design and hydraulic characteristics of the subsurface soils in the vicinity of the storm water sewer. Ongoing interception and collection of groundwater by the storm water sewer remains an important component of the overall perimeter control system. Therefore, the Property Owner's maintenance of the integrity and function of the 42-inch storm water sewer in OU-4 is required.
- **Soil/Surface Cover in Vicinity of the 42-inch Storm Water Sewer:** Results of previous investigations have established that surficial soil within two feet of the ground surface in OU-4 meets Part 375 unrestricted use SCOs and is therefore suitable for restricted residential use. NYSDEC requires that the existing soil/surface cover be maintained in a specific portion of OU-4 due to the potential to encounter impacted soil and/or groundwater below the soil/surface cover system within 150 linear feet of the 42-inch storm water sewer. Therefore, any activities performed in OU-4 within 150 linear feet of the 42-inch storm water sewer that require disturbance of the soil cover shall be managed and implemented in accordance with the IAWP, included as Appendix C. The IAWP requires the top two feet of soil in OU-4 be segregated for reuse from those soils located at depths greater than two feet below ground surface.
- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system EC is required for OU-4. Any activity within the

vicinity of a monitoring well shall be performed in a manner that protects and maintains the integrity of the monitoring well.

The following ECs require protection, inspection, and/or maintenance and repair, as necessary, by the Property Owner, except in those instances when the need for repair or replacement is the direct result of activities conducted by IBM or its representatives:

- 42-inch storm water sewer that extends into the northeast portion of OU-4, and
- Soil/surface cover system within 150 feet of this 42-inch storm water sewer in OU-3 and OU-4.

Property Owner inspection and maintenance requirements for these ECs are described in Section 6.7. In addition, the Property Owner will ensure that activities performed by the Property Owner or its representatives will not interfere with, or otherwise impair or compromise, any of the ECs located in OU-4.

The following EC requires protection, inspection, maintenance, and/or repair, as necessary by IBM, except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives:

- Groundwater Monitoring Well System

IBM inspection and maintenance requirements for this EC is further described in Section 6.12 and in Section 12.0.

6.4 Soil Disturbance

This section describes the criteria required for any intrusive activity (disturbance of soil) within OU-4. Section 6.5 includes additional IAWP requirements for the intrusive activities conducted within 150 linear feet of the 42-inch storm water sewer.

In general, the soils in OU-4 may be disturbed without the need to segregate surface soils from subsurface soils into separate piles. These soils may be backfilled into the excavated area in any sequence deemed appropriate by the Property Owner or its representatives. However, resampling of the top two feet of soil shall be required after extensive reworking of the soil following any major development in OU-4.

As has been previously noted, the following restrictions apply to any disturbance of soil in OU-4:

- **Groundwater Monitoring Well System:** Any intrusive activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well.
- **Materials Transport and Disposal Off-Site:** All material excavated and removed from OU-4 shall be properly characterized and approved by NYSDEC for transport to a facility appropriately permitted to receive such material.
- **Materials Import from Off-Site Sources:** All materials proposed for import onto the Site for use as backfill shall be in compliance with the provisions of the IAWP prior to receipt at the Site. All soils imported for use in OU-4 shall be from a NYSDEC-approved source and meet NYSDEC approved backfill or cover soil quality standards for OU-4. The NYSDEC-approved backfill or cover soil quality standards are listed in 6 NYCRR Part 375 Table 375-6.8(b) and shall be the lower of the Protection of Groundwater (PGW) SCOs and Restricted-Residential Use SCOs (as summarized in DER-10, Appendix 5). Please refer to Section 12.0 of the IAWP (Appendix C) for additional details regarding the import of backfill materials from off-Site sources.

- **Materials Reuse On-Site:** Any materials proposed for reuse on-Site must be pre-approved by NYSDEC. Please refer to Section 9.0 of the IAWP (Appendix C) for details regarding materials reuse on-Site.
- **Contingency for Grossly Contaminated Media (GCM):** As defined by NYSDEC DER-10 Section 1.3(b)(23), GCM is soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is readily detectable without laboratory analysis**.** If GCM is encountered at any time during intrusive activities in OU-4, NYSDEC will be notified and the contingency plan identified in the IAWP (Appendix C) will be implemented. These conditions may warrant implementing additional environmental, worker, and/or community air monitoring and mitigation measures**.**
- **Protection of Existing Infrastructure:** Identification of existing historical industrial infrastructure and active utilities, and protection of the structural integrity of existing buildings and utilities.
- **Construction measures** to control dust and off-Site migration of soil to roadways.
- **Dewatering procedures** must be preapproved by NYSDEC.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any soil disturbance activity in OU-4. This includes initial Site redevelopment and build-out activities as well as post redevelopment intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where soil disturbance activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention.

The Property Owner or its authorized representative is solely responsible for any intrusive work they perform. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner will ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise, the ECs and ICs described for OU-4 in this ISMP or the Site-wide IC/ECs. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM. Notification requirements for these activities are listed in Section 6.9.

6.5 Intrusive Activities Work Plan

The Property Owner is required to follow all of the requirements specified in Section 6.4 for any intrusive work performed in OU-4. Additional intrusive activity requirements summarized in this section apply to areas within 150 linear feet of the 42-inch storm water sewer.

OU-4 has been designated for restricted-residential use (and includes commercial and industrial uses). 6 NYCRR Part 375 requires the maintenance of a 2-foot soil/surface cover in designated areas of OU-4 with potential remaining contamination. In compliance with this requirement, intrusive activities performed in OU-4 which are within 150 linear feet of the 42-inch storm water sewer shall be performed in compliance with the IAWP included as Appendix C.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any intrusive activity in OU-4 conducted within the designated area subject to requirements of the IAWP. This includes initial

Site redevelopment and build-out activities as well as post redevelopment intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where intrusive activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention.

Intrusive activities must protect and maintain the integrity of the ECs in OU-4, including:

- **Soil/Surface Cover within the Vicinity of the 42-inch Storm Water Sewer:** The potential for exposure to groundwater impacted with residual contamination beneath OU-4 is addressed by a soil/surface cover system, which comprises a two-foot-thick soil cover over exposed soil and/or by concrete building slabs, asphalt covered roads and concrete covered sidewalks that overlie areas above impacted soil and/or groundwater. The IAWP will be implemented for intrusive activities conducted in portions of OU-4 which are within 150 linear feet of the 42-inch storm water sewer, as illustrated on Figure 6-1, and includes segregation of the top two feet of soil from the soils below two feet.
- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system in OU-4 is required. Any activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well. Monitoring wells that will not be required for long-term groundwater monitoring in OU-4, as approved by NYSDEC, shall be decommissioned by IBM in accordance with NYSDEC requirements.

Environmental and/or public health monitoring will be performed as part of the IAWP. Work conducted pursuant to the IAWP will be in accordance with procedures defined in activity-specific Health and Safety Plans (HASPs) and Community Air Monitoring Plans (CAMPs) prepared for the work in specified areas of OU-4. A sample HASP is attached as Appendix F to this ISMP. HASPs and CAMPs must be prepared by the selected general contractor and approved by NYSDEC and NYSDOH or other designated entity prior to any intrusive work. The HASPs and CAMPs are the responsibility of the Property Owner and shall be prepared in compliance with DER-10 Technical Guidance, 29 CFR 1910 and 1926, and all other applicable Federal, State and local requirements. Intrusive construction work within the specified area of OU-4 will be performed in compliance with the IAWP and the contractor's activity-specific HASP and the CAMP. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM.

As with any soil disturbance in OU-4, the Property Owner or its authorized representative is solely responsible for any intrusive work they perform during implementation of the IAWP. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner will ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise, the ECs and ICs described for OU-4 in this ISMP. Criteria for notifications and for documentation of compliance with the IAWP are further noted in Section 1 of the IAWP (Appendix C) and in Section 6.9.

6.6 Vapor Intrusion Mitigation Measures for New Building Construction and Reoccupation of Existing Buildings

Prior to the construction of any enclosed structures or reoccupation of existing structures within the boundaries of OU-4 (Figure 6-1), a VI mitigation system such as a vapor barrier and/or passive sub-slab depressurization system capable of being converted to an active system shall be installed as an element of the building foundation. A VI evaluation shall be performed prior to occupation of new buildings. Alternate building specific monitoring or mitigation provisions may be proposed for NYSDEC and NYSDOH review and approval depending on the characteristics of the remaining impacts, the design features of the structure and the proposed use and occupancy of the structure.

6.7 Inspection and Maintenance Plan

An inspection report is required for any activity regulated by this ISMP. The ECs in OU-4 that require protection, inspection, maintenance, and/or repair, as necessary, by the Property Owner[5] are:

- 42-inch storm water sewer; and
- Soil/Surface cover system in portions of OU-4 within 150 feet of the 42-inch storm water sewer.

Inspections of these ECs by the Property Owner shall be conducted annually, at a minimum, and will evaluate and document that:

- The Engineering Controls the Property Owner is responsible to inspect and maintain continue to perform as designed.
- The requirements of this ISMP and the Environmental Easement, for which the Property Owner is responsible, have been complied with by the Property Owner and/or its representatives.
- The Site records, for which the owner is responsible, are complete and up to date.

Example inspection forms are provided in Appendix G. These forms are subject to revision with NYSDEC approval. Applicable inspection forms and other records (including media sampling data, if any sampling has been conducted in OU-4 during the reporting period) will be provided in the certification report in electronic format or other reporting format as approved by NYSDEC.

If an emergency, such as a natural disaster or an unforeseen failure of any of these ECs occurs, the Property Owner or its representative will notify NYSDEC and IBM within 24 hours of the observations/actions. Within five (5) days of the event, the Property Owner or its representative will have a qualified environmental professional, as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State, conduct an inspection of the Site to assess the effectiveness of the EC implemented at the Site. Inspection forms and other reporting records will be in a format approved by NYSDEC. If necessary, a corrective action plan, with a schedule for implementation, will be submitted by the Property Owner or its representative to NYSDEC and IBM.

[5] The current groundwater monitoring well system EC in OU-4 includes monitoring wells owned by IBM. Except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives, the inspection, maintenance, repair, replacement, and/or decommissioning of monitoring wells in OU-4 is the responsibility of IBM.

Intrusive activities associated with the soil/surface cover in OU-4 within 150 feet of the 42-inch storm sewer shall be subject to the requirements of the IAWP (see Section 6.5 and Appendix C). A list of the specific IBM responsibilities for the protection, inspection, monitoring, and maintenance of ECs in OU-4 is provided in Section 6.12. Detailed specifications of IBM's Site-wide responsibilities are provided in Section 12.0. Responsibilities for the inspection and maintenance of the ECs identified herein are described in the following sections.

6.7.1 42-Inch Storm Water Sewer

The integrity of the portions of the 42-inch storm water sewer located within OU-4 will be inspected and maintained by the Property Owner.

The storm water sewer functions as a passive hydraulic barrier to downgradient groundwater migration. Routine maintenance associated with the storm water sewer shall be limited to the catch basins, drop inlets, and associated structures that are accessible from the surface. Maintenance of these structures may include sediment removal or repairs to the sewer to address reduced flow capacity, failure or unacceptable deterioration due to normal wear and tear from erosion, physical impact, etc. Routine repairs will be made to these structures as necessary to maintain their integrity and function. Localized repair or replacement of the storm water sewer piping will be performed if the integrity and functionality of the conveyance system has been compromised to address conditions that result in loss of sewer flow capacity or imminent failure/collapse of the piping or any other damage to the storm water drainage system that impairs the effectiveness of the perimeter control system.

Results of the inspection and any associated maintenance and repairs, if necessary, shall be included in the periodic certification report submitted by the Property Owner of OU-4.

6.7.2 Soil/Surface Cover within the Vicinity of the 42-inch-Sewer

The integrity of the soil/surface cover system materials located within 150 feet of the 42-inch storm water sewer in OU-4 shall be inspected and maintained by the Property Owner. Any intrusive activities performed within 150 linear feet of the 42-inch storm water sewer in OU-4 shall be subject to the requirements of the IAWP (see Appendix C).

Potential exposure to low-level groundwater impacts in the vicinity of the 42-inch storm water sewer located within OU-3 and OU-4 is mitigated by the existing soil/surface cover system at the Site (see Figure 6-1). Monitoring of the soil/surface cover system in OU-4 includes annual inspections of the cover materials by the Property Owner. This inspection frequency is subject to change by NYSDEC and NYSDOH. Unscheduled inspections and/or sampling may take place when a suspected failure of any part of the cover system has been reported or an emergency occurs that results in a breach of the soil/surface cover system, leaving the soils below two feet permanently exposed or with significantly less than one foot of soil cover. Maintenance/repair of the soil/surface cover, if necessary, shall be performed based upon assessments of structural integrity and overall performance. Results of the inspection and any associated maintenance and repair, if necessary, shall be included in the periodic certification report submitted by the Property Owner of OU-4. If repairs are needed, a schedule for the repair will also be included.

6.7.3 Groundwater Monitoring Well System

The portion of the groundwater monitoring well system in OU-4 will be inspected and maintained by IBM.

Groundwater monitoring wells in OU-4 are routinely sampled to assess the effectiveness of existing corrective measures. In those instances where the need for repair, replacement and/or decommissioning of any monitoring wells in OU-4 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner will be responsible for the expense of the repair, replacement, and/or decommissioning of any damaged

well. A description of the repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-4. NYSDEC shall be notified prior to decommissioning of monitoring wells to assess whether a replacement monitoring well is required. Well decommissioning without replacement will be conducted only with prior approval from NYSDEC. The repair, decommissioning and/or replacement of monitoring wells will be documented in the annual inspection reports and in the subsequent periodic review report. Well decommissioning will be performed in accordance with *NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Procedures,* dated November 2009.

6.8 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial systems (i.e., corrective measures) are considered complete when monitoring indicates that the corrective measure has achieved the remedial action objectives. At that time, a request to modify the continued applicability of one or more ICs and/or the continued operation and maintenance of one or more ECs can be submitted to NYSDEC.

Protection, inspection, maintenance and/or operation of the 42-inch storm water sewer system, the groundwater monitoring well system and, the soil/surface cover system in the vicinity of the 42-inch storm sewer shall not be discontinued unless prior written approval is granted by NYSDEC. In the event that monitoring data indicates that one or more of these ECs are no longer required, a proposal to eliminate these protection requirements may be submitted to NYSDEC.

6.9 Notifications

Notifications shall be submitted by the Property Owner directly to NYSDEC (with copy to IBM) as needed at the frequencies identified below for the following reasons:

- 15-day advance notice of proposed intrusive activities in portions of OU-4 which are subject to the requirements of the IAWP and/or result in the following:
  - Import of materials from off-Site sources for use in OU-4,
  - Export of materials from OU-4 for off-Site disposal,
  - Reuse of materials in OU-4 from elsewhere on-Site,
  - Sampling and analysis of soil in OU-4 as required because of a significant reworking of the soil/surface cover system,
  - Sampling and analysis of soil in OU-4 as required due to the expected extended exposure of soils previously covered by the existing surface cover (i.e., asphalt, cement, or a building), and
  - Excavation dewatering, with prior approval from NYSDEC.
- 60-day advance notice of proposed changes in OU-4 use that are required under the terms of the Order, 6NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). A change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of an emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the ECs in OU-4, with written confirmation within seven (7) days that includes a summary of actions, if any, taken by the Property Owner and/or emergency response personnel.

- Verbal notice within 24 hours of any action of the Property Owner or its representatives which affects the integrity of the effectiveness of the remedial or monitoring system in OU-4 or Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule will be submitted directly to NYSDEC with a copy to IBM.
- In those instances which are a direct result of activities by the Property Owner or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of OU-4 or the responsibility for implementing this ISMP shall include the following notifications:

- NYSDEC shall be notified in writing of the proposed change at least 60 days prior to the change. This shall include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-4, the new Property Owner's name, contact representative, and contact information shall be confirmed in writing.

6.10 Property Owner Certification Report to IBM

The Property Owner shall maintain records for OU-4 which shall include but not be limited to this ISMP, inspection reports, certification reports and other written communications with NYSDEC and NYSDOH.

The Property Owner shall submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that, with respect to activities of the Property Owner or its representatives:

- ICs and/or ECs employed in OU-4 are unchanged through the actions of the Property Owner or its representatives from the previous certification or that changes to the ICs and/or ECs were approved by NYSDEC; and,
- Nothing has occurred, through the actions of the Property Owner or its representatives, that impairs the ability of the ICs and/or ECs to protect public health and environment or that constitute a violation or failure to comply with the ISMP.

NYSDEC retains the right to access OU-4 to evaluate the continued maintenance of ICs and/or ECs. This certification shall be submitted annually to NYSDEC through IBM, or at an alternate frequency that NYSDEC may allow and shall be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR shall be prepared with OU-specific modules that address each of the OUs as defined in the Order. In the event that OU-4 is subdivided into separate parcels with different ownership, a certification form shall be prepared addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) shall be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives shall also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form shall

be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 Office; and a PRR in electronic format to NYSDEC's Central and Region 3 Offices and the NYSDOH Bureau of Environmental Exposure Investigation.

The Property Owner certification report for OU-4 or its subdivisions shall include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy for OU-4.
- Results of required annual OU-4 inspections and, if applicable, severe condition inspections.
- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-4 during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports shall include the following certification language:

"*For each institutional or engineering control identified for OU-4, I certify that all of the following statements are true:*

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional and engineering controls required by the remedial program.
- The institutional control employed at OU-4 is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect public health and the environment.
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-4 interim site management plan for this control.
- Access to OU-4 will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-4 is compliant with the OU-4 environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-4]."

A SPDES Permit (Permit No. NY0260134) regulates the discharge of the 42-inch storm sewer into OU-6. Discharge from the 42-inch storm water sewer includes surface drainage and subsurface infiltration from OU-1, OU-3, and OU-4. This ISMP has no reporting requirements or oversight responsibilities for this discharge permit. The NYSDEC Division of Water oversees the reporting, monitoring, and discharge requirements for this SPDES permit.

6.11 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan shall be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan shall explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work shall be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

6.12 Summary of IBM Requirements

IBM shall be responsible for performing the following activities in OU-4:

- Inspection and maintenance of the integrity of all monitoring wells.
- Collection of groundwater samples for analysis and submittal of a summary report to NYSDEC.
- Collection of groundwater elevation data and submittal of potentiometric surface maps to NYSDEC.
- Receipt of the Property Owner's OU-4 certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Include, in the Site-wide compiled PRR, any inspections, repairs, maintenance, or remedies implemented by IBM in OU-4.
- Protection of the structural integrity of the existing components of ECs in OU-4 during any activities performed by IBM in OU-4.
- Protection of the structural integrity of all buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during any activities performed by IBM in OU-4.
- If IBM is required to perform intrusive work in OU-4 within 150 linear feet of the 42-inch storm water sewer, such work shall be conducted in accordance with the provisions of the IAWP.
- IBM or its authorized representatives are solely responsible for the intrusive work they perform. This includes, but is not limited to, the structural integrity of excavations, proper handling and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and activities in, on, under, or in proximity to structures that may be affected by excavations (such as building foundations)
- Upon request, IBM shall provide a copy of the Site-wide certification to the OU-4 Property Owner.

IBM requirements for these activities are further described in Section 12.0.

7.0 OPERABLE UNIT 4A

For any emergencies encountered during activities in OU-4a, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that will be required by the Environmental Easement for OU-4a. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing the activities of OU-4a are the Order on Consent (Appendix A), the Environmental Easement for OU-4a (Appendix B), and this ISMP. A list of acronyms is located between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site. **If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs and/or ECs for OU-4a or the ICs and/or ECs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays**.

This section of the ISMP lists the components of the remedy present in OU-4a and the Property Owner's responsibilities for the protection of the remedy and the associated monitoring system. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-4a.

The Property Owner's responsibilities can be summarized as follows:

- Adhere to and maintain the ICs established for OU-4a.
- Ensure that the activities of the Property Owner and its representatives:
  - Do not impede the effectiveness of the Site-wide ECs and
  - Protect the integrity of ECs in OU-4a.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-4a governed by this ISMP.
- Provide the OU-4a certification report to NYSDEC through IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-4a include, but are not limited to:

- Commercial use restriction (Section 7.2).
- Groundwater use restriction (Section 7.2).
- Activities within the vicinity of any monitoring well (Section 7.3).
- For any soil disturbance (Section 7.4):
  - Sampling and approval from NYSDEC is required before soils are imported from an off-Site source for use in OU-4a, or exported from OU-4a for either disposal off-Site or reuse elsewhere on-Site (i.e., in another OU), in accordance with DER-10;

  - Contingency Plan if grossly contaminated soils are encountered (Section 7.2); and
  - Protection and maintenance of the integrity of the monitoring wells.
- Vapor intrusion sampling and/or mitigation measures for existing buildings and new construction (Section 7.5).
- Inspection/status/data reports (Sections 7.2 and 7.6).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

7.1 Introduction

Operable Unit 4a (OU-4a) is a 17.75-acre area located along the eastern portion of Site that is bounded by to the north by the Site property line and private property, to the east by the Site property line and John M. Clark Road, to the south by OU-4 and to the west by OU-3 and OU-7 (refer to Figure 7-1). OU-4a contains the Buildings B042, B043, B052, and B064 and associated access roads and parking areas that service the buildings. These buildings currently include multiple tenants and property owners as detailed in Attachment 1. OU-4a is not part of the Class 4 Site (IHWDS Registry No. 356002).

Previous investigations have not identified soil or groundwater impacts in OU-4a. There are no identified active SWMUs in OU-4a. IC and/or EC requirements and associated Property Owner responsibilities are described in the following sections.

7.2 Institutional Controls

The ICs for OU-4a include:

- Compliance with the OU-4a Environmental Easement by the Property Owner and the Property Owner's successors and assigns
  - **Land Use Restriction:** Land use in OU-4a is restricted to commercial or industrial use.
  - **Groundwater Use Restriction:** The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal from beneath OU-4a will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not adversely impact the existing groundwater flow geometry in the surficial sand unit and/or in the bedrock unit in the vicinity of the Building B202 Elevator Shaft in OU-1.
  - **Compliance with the ISMP.**

These ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement for OU-4a and/or the ISMP. A copy of the OU-4a Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

Specific restrictions apply to any soil disturbance in OU-4a and new building construction/sampling for vapor intrusion mitigation as noted in Sections 7.4 and 7.5, respectively.

7.3 Engineering Controls

The EC for OU-4a is:

- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. The current groundwater monitoring well system in OU-4a includes monitoring wells owned by IBM that are not currently sampled as part of the GMP, but may be sampled at some time in the future that NYSDEC deems necessary. Long term protection and maintenance of the groundwater monitoring well system EC is required for OU-4a. Any activity within the vicinity of a monitoring well shall be performed in a manner that protects and maintains the integrity of the monitoring well. Monitoring wells that shall not be required for long-term groundwater monitoring in OU-4a, as approved by NYSDEC, shall be decommissioned by IBM in accordance with NYSDEC requirements.

The following EC requires protection, inspection, maintenance, and/or repair, as necessary by IBM, except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives:

- Groundwater Monitoring Well System

IBM inspection and maintenance requirements for the groundwater monitoring well system are further described in Sections 7.6 and 12.0.

7.4 Soil Disturbance

This section describes the criteria required for any intrusive activity (disturbance of soil) within OU-4a. In general, the soils in OU-4a may be disturbed without the need to segregate surface soils from subsurface soils into separate piles. These soils may be backfilled into the excavated area in any sequence deemed appropriate by the Property Owner or its representatives.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any soil disturbance activity in OU-4a. This includes initial Site redevelopment and build-out activities as well as post redevelopment intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where intrusive activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention. Criteria for notifications are further noted in Sections 7.8 and 7.9.

The following restrictions apply to any disturbance of soil in OU-4a:

- **Materials Transport and Disposal Off-Site:** All material excavated and removed from OU-4a shall be properly characterized and approved by NYSDEC for transport to a facility appropriately permitted to receive such material.
- **Materials Import from Off-Site Sources:** All materials proposed for import onto the Site for use as backfill shall be in compliance with the provisions of the IAWP prior to receipt at the Site. All materials imported for use in OU-4a shall be from a NYSDEC-approved source and meet NYSDEC approved backfill or cover soil quality standards for OU-4a. The NYSDEC-approved backfill or cover soil quality standards are listed in 6 NYCRR Part 375 Table 375-6.8(b), and shall be the lower of the Protection of Groundwater (PGW) SCOs and Commercial Use SCOs (as summarized in DER-10, Appendix 5). Please refer to Section 12.0 of the IAWP (Appendix C) for additional details regarding the import of backfill materials from off-Site sources.
- **Materials Reuse On-Site:** Any materials proposed for reuse on-Site must be pre-approved by NYSDEC. Please refer to Section 9.0 of the IAWP (Appendix C) for details regarding materials reuse on-Site.

- **Contingency for Grossly Contaminated Media (GCM):** As defined by NYSDEC DER-10 Section 1.3(b)(23), GCM is soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is readily detectable without laboratory analysis**.** If GCM is encountered at any time during intrusive activities in OU-4a, NYSDEC will be notified and the contingency plan identified in the IAWP (Appendix C) will be implemented. These conditions may warrant implementing additional environmental, worker, and/or community air monitoring and mitigation measures.
- **Protection of Existing Infrastructure:** Identification of existing historical industrial infrastructure and active utilities, and protection of the structural integrity of existing buildings and utilities shall be required.
- **Construction measures** to control dust and off-Site migration of soil to roadways.
- **Dewatering procedures** must be pre-approved by NYSDEC.

The Property Owner or its authorized representative is solely responsible for any intrusive work they perform in OU-4a. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner will ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise, the ECs and ICs described for OU-4a in this ISMP. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM.

7.5 Vapor Intrusion Mitigation Measures for New Building Construction and Reoccupation of Existing Buildings

Prior to the construction of any enclosed structures or reoccupation of existing structures within the boundaries of OU-4a (Figure 7-1), a VI evaluation shall be performed to determine whether monitoring or mitigation measures are necessary to eliminate potential exposure to vapors in the existing and/or proposed structures in accordance with the most recent NYSDOH Guidance Document “Guidance for Evaluating Vapor Intrusion in the State of New York”. Alternatively, a VI mitigation system such as a vapor barrier and/or passive sub-slab depressurization system capable of being converted to an active system may be installed as an element of the building foundation without first conducting a VI evaluation; however, a VI evaluation shall be performed prior to occupation of new buildings. Alternate building specific monitoring or mitigation provisions may be proposed for NYSDEC and NYSDOH review and approval depending on the characteristics of the remaining impacts, the design features of the structure and the proposed use and occupancy of the structure.

7.6 Inspection and Maintenance Plan

There are no inspection, maintenance, repair, and/or operation requirements in OU-4a that are the responsibility of the Property Owner.

The current groundwater monitoring well system EC in OU-4a includes monitoring wells owned by IBM that are not currently sampled as part of the GMP but may become so at such time that NYSDEC deems necessary. The groundwater monitoring well system in OU-4a will be inspected and maintained by IBM. In those instances where the need for repair, replacement and/or decommissioning of any monitoring wells in OU-4a is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner will be responsible for the expense of the repair, replacement, and/or decommissioning of any damaged well. A description of the repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-4a.

NYSDEC shall be notified prior to decommissioning of a monitoring well to assess whether a replacement monitoring well is required. Well decommissioning without replacement will be conducted only with prior approval from NYSDEC. The repair, decommissioning and/or replacement of monitoring wells will be documented in the annual inspection reports and in the subsequent periodic review report. Well decommissioning will be performed in accordance with *NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Procedures,* dated November 2009.

7.7 Criteria for Cessation of ISMP Requirements

This OU is approved for commercial use. The requirements for activities governed by this ISMP will continue until data demonstrate that this OU may be used for unrestricted use. At that time (or at such time that data justify a use less restrictive than commercial), a request to modify the continued applicability of one or more ICs can be submitted to NYSDEC. The requirements for activities governed by this ISMP will not be discontinued unless prior written approval is granted by NYSDEC. In the event that data indicates that these requirements are no longer required, a proposal to eliminate these requirements may be submitted to NYSDEC.

7.8 Notifications

Notifications will be submitted by the Property Owner directly to NYSDEC (with copy to IBM) as needed at the frequencies identified below for the following reasons:

- 15-day advance notice of proposed intrusive activities in OU-4a which are subject to the requirements of the IAWP and/or result in the following:
  - Import of materials from off-Site sources for use in OU-4a,
  - Export of materials from OU-4a for off-Site disposal,
  - Reuse of materials in OU-4a from elsewhere on-Site, and
  - Excavation dewatering, with prior approval from NYSDEC.
- 60-day advance notice of proposed changes in OU-4a use that are required under the terms of the Order, 6 NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). A change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of an emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the ECs in OU-4a, with written confirmation within seven (7) days that includes a summary of actions, if any, taken by the Property Owner and/or emergency response personnel.
- Verbal notice within 24 hours of any action of the Property Owner or its representatives which affects the integrity of the effectiveness of the remedial or monitoring system in OU-4a or Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule will be submitted directly to NYSDEC with a copy to IBM.
- In those instances which are a direct result of activities by the Property Owner or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of OU-4a or the responsibility for implementing this ISMP will include the following notifications:

- NYSDEC will be notified in writing of the proposed change at least 60 days prior to the change. This will include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-4a, the new Property Owner's name, contact representative, and contact information will be confirmed in writing.

7.9 Property Owner Certification Report to IBM

The Property Owner will maintain records for OU-4a which will include but not be limited to this ISMP, inspection reports, certification reports and other written communications with NYSDEC and NYSDOH.

The Property Owner will submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that, with respect to activities of the Property Owner or its representatives:

- ICs and/or ECs employed at the OU are unchanged through the actions of the Property Owner or its representatives from the previous certification or that changes to the ICs and/or ECs were approved by NYSDEC; and,
- Nothing has occurred, through the actions of the Property Owner or its representatives, that impairs the ability of the ICs and/or ECs to protect public health and environment or that constitute a violation or failure to comply with the ISMP.

NYSDEC retains the right to access OU-4a to evaluate the continued maintenance of ICs and/or ECs. This certification shall be submitted annually to NYSDEC through IBM, or at an alternate frequency that NYSDEC may allow and will be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR will be prepared with OU-specific modules that address each of the OUs as defined in the Order. If OU-4a is subdivided into separate parcels with different ownership, a certification form will be prepared addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) will be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives will also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form will be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 office; and a PRR in electronic format to NYSDEC's Central and Region 3 offices and the NYSDOH Bureau of Environmental Exposure Investigation.

The Property Owner certification report for OU-4a or its subdivisions will include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy for OU-4a.
- Results of required annual OU-4a inspections and, if applicable, severe condition inspections.

- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-4a during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports will include the following certification language:

"*For each institutional or engineering control identified for OU-4a, I certify that all of the following statements are true:*

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional and engineering controls required by the remedial program.
- The institutional control employed at OU-4a is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect the public health and environment.
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-4a interim site management plan for this control.
- Access to OU-4a will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-4a is compliant with the OU-4a environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-4a]."

7.10 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

7.11 Summary of IBM Requirements

IBM will be responsible for performing the following activities in OU-4a:

- Inspection and maintenance of the integrity of all monitoring wells.
- Collection of groundwater elevation data and submittal of potentiometric surface maps to NYSDEC.
- Receipt of the Property Owner's OU-4a certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Include, in the Site-wide compiled PRR, any inspections, repairs, maintenance, or remedies implemented by IBM in OU-4a.
- Protection of the structural integrity of the existing components of ECs in OU-4a during any activities performed by IBM in OU-4a.
- Protection of the structural integrity of all buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during any activities performed by IBM in OU-4a.
- IBM or its authorized representatives are solely responsible for the intrusive work they perform. This includes, but is not limited to, the structural integrity of excavations, proper handling and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and activities in, on, under, or in proximity to structures that may be affected by excavations (such as building foundations).
- Upon request, IBM will provide a copy of the Site-wide certification to the OU-4a Property Owner(s).

IBM requirements for these activities are further described in Section 12.

8.0 OPERABLE UNIT 5

For any emergencies encountered during activities in OU-5, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that will be required by the Environmental Easement for OU-5. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing the activities of OU-5 are the Order on Consent (Appendix A), the Environmental Easement for OU-5 (Appendix B), the non-disturbance easement incorporated as part of the deed with the Office of the Ulster County Clerk, and this ISMP. A list of acronyms is located between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site**. If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs and/or ECs for OU-5 or the ICs and/or ECs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays.**

This section of the ISMP lists the components of the remedy present in OU-5 and the Property Owner's responsibilities for the protection of the remedy and the associated monitoring system. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-5.

Property Owner responsibilities can be summarized as follows:

- Adhere to and maintain the ICs established for OU-5.
- Ensure that the activities of the Property Owner and its representatives:
  - Do not impede the effectiveness of the Site-wide ECs and
  - Protect the integrity of ECs in OU-5.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-5 governed by this ISMP.
- Inspect and/or maintain remedial components owned by the Property Owner.
- Provide the OU-5 certification report to NYSDEC and IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-5 include, but are not limited to:

- Non-disturbance easement (Section 8.2),
- Commercial use restriction (Section 8.2),
- Groundwater use restriction (Section 8.2), and
- Activities within the vicinity of any monitoring well (Section 8.3).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

8.1 Introduction

Operable Unit 5 (OU-5) is a 0.6-acre area located west of Enterprise Drive, within Operable Unit 6 (refer to Figure 8-1). OU-5 is part of the Class 4 Site (IHWDS Registry No. 356002). OU-5 consists of SWMU L, the Industrial Waste Sludge Lagoon (IWSL), a closed surface impoundment for which a non-disturbance easement has been recorded with the Office of the Ulster County Clerk, and a portion of the area associated with the former IWTF in OU-6 (Building B036) where historical groundwater migration along the underground utility pipes from OU-3a (now mitigated by the utility trench barrier wall) resulted in low levels of Site COCs in groundwater. The restriction prohibiting disturbance of the IWSL that comprises the majority of the OU is as described and set forth on a map entitled “Map of a Portion of Lands of International Business Machines Corporation showing a 0.582 Acre Non-disturbance Easement” by Brinnier and Larios, P.C. revised March 1, 1994 and filed in the Office of the Ulster County Clerk on May 25, 1994 as Filed Map No. 9970, comprising the former IWSL. A copy of the Non-Disturbance Easement is provided in Appendix H.

Areas where soil with the potential to contain residual impacts (i.e., the former surface impoundment) have been remediated and will remain within the surface impoundment security fence for OU-5. A summary of each SWMU is presented in Table 1-2.

IC and EC requirements and associated Property Owner responsibilities for OU-5 are more fully described in the following sections.

8.2 Institutional Controls

The ICs for OU-5 include:

- **Compliance with the existing Non-Disturbance Easement (Appendix H):** Intrusive activities may not be performed within the IWSL Closed Surface Impoundment without prior approval from NYSDEC.
- **Compliance with the OU-5 Environmental Easement** by the Property Owner and the Property Owner’s successors and assigns:
  - **Land Use Restriction:** Land use in OU-5 is restricted to commercial or industrial use.
  - **Groundwater Use Restriction:** The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal from beneath OU-5 will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not negatively impact the existing groundwater flow geometry in the surficial sand unit and/or in the bedrock unit in the vicinity of the Building B202 Elevator Shaft in OU-1.
  - **Compliance with the ISMP.**

These ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement for OU-5, the Non-Disturbance Easement, and/or the ISMP. A copy of the OU-5 Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

In the case of an emergency, the contingency plan for OU-5 in Appendix C will be followed.

8.3 Engineering Controls

The ECs for OU-5 include:

- **IWSL Closed Surface Impoundment:** The former sludge lagoon was approximately 9,500 square feet (0.22 acres) and was used as a settlement pond for flocculants produced during the treatment of acid/alkali wastes. The lagoon, approximately 158 feet by 60 feet by 10 feet deep, was initially constructed in 1955. Closure of the sludge lagoon commenced on December 1, 1984 in accordance with an approved closure plan. Sludge and solids were removed in addition to the liner. Trace levels of residual constituents were left in place below the liner (i.e., below an elevation of 141 feet mean sea level). Two feet of crushed limestone was placed in the base of the lagoon and the remainder of the lagoon was backfilled with clean sand to within six inches of finished grade and covered with topsoil and seeded. Certification of closure was provided by a licensed engineer on June 12, 1985. Long term protection and maintenance of the surface impoundment is required as an EC for OU-5.
- A restriction prohibiting disturbance of the property is as described and set forth on a map entitled “Map of a Portion of Lands of International Business Machines Corporation showing a 0.582 Acre Non-disturbance Easement” by Brinnier and Larios, P.C. revised March 1, 1994 and filed in the Office of the Ulster County Clerk on May 25, 1994 as Filed Map No. 9970, comprising the former industrial waste sludge lagoon. A copy of the Non-Disturbance Easement is provided in Appendix H.
- **IWSL Surface Impoundment Security Fence:** The former IWSL is enclosed within an 8-foot-high chain-link fence. The fence will remain throughout the post-closure period. All gates remain locked except when in use. Warning signs are posted around the fence and bear the legend “Danger – Unauthorized Personnel Keep Out”. Long term protection and maintenance of the surface impoundment security fence is required as an EC for OU-5.
- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system is required as an EC for OU-5. Any activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well.

Intrusive activities within the closed IWSL are prohibited in accordance with the non-disturbance easement imposed on OU-5 and recorded with the Office of the Ulster County Clerk.

There are no ECs in OU-5 which require the inspection, maintenance, and/or repair by the Property Owner. In general, the Property Owner will ensure that activities performed by the Property Owner or its representatives will not interfere with, or otherwise impair or compromise, the ECs located in OU-5.

The following ECs require protection, inspection, maintenance, and/or repair, as necessary by IBM, except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives:

- IWSL Closed Surface Impoundment,
- IWSL Surface Impoundment Security Fence, and
- Groundwater Monitoring Well System.

8.4 Inspection and Maintenance Plan

There are no inspection, maintenance, repair, and/or operation requirements in OU-5 that are the responsibility of the Property Owner. The inspection, maintenance, repair, replacement, and/or decommissioning of the IWSL

Closed Surface Impoundment, the IWSL Surface Impoundment Security Fence, and/or the monitoring wells in OU-5 is the responsibility of IBM. Furthermore, the integrity of the soil/surface cover system materials overlying the localized area of impacted groundwater within the portion of OU-5 outside of the IWSL Closed Surface Impoundment will be inspected and maintained by IBM.

The groundwater monitoring well system in OU-5 will be inspected and maintained by IBM. In those instances where the need for repair, replacement and/or decommissioning of any monitoring wells in OU-5 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner will be responsible for the expense of the repair, replacement, and/or decommissioning of any damaged well. A description of the repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-5.

NYSDEC shall be notified prior to decommissioning of a monitoring well to assess whether a replacement monitoring well is required. Well decommissioning without replacement will be conducted only with prior approval from NYSDEC. The repair, decommissioning and/or replacement of monitoring wells will be documented in the annual inspection reports and in the subsequent periodic review report. Well decommissioning will be performed in accordance with *NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Procedures,* dated November 2009.

Additional specifications of IBM's responsibilities in this OU are provided in Section 8.10.

8.5 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial systems (i.e., corrective measures) are considered complete when monitoring indicates that the corrective measure has achieved the remedial action objectives identified by the Order. At that time, a request to modify the continued applicability of one or more ICs and/or the continued operation and maintenance of one or more ECs can be submitted to NYSDEC.

Protection of the groundwater monitoring system, the surface impoundment and the surface impoundment security fence will not be discontinued unless prior written approval is granted by NYSDEC. In the event that monitoring data indicate that these ECs are no longer required, a proposal to eliminate these protection requirements may be submitted to NYSDEC.

8.6 Notifications

Notifications will be submitted by the Property Owner directly to NYSDEC (with a copy to IBM) as needed at the frequencies identified below for the following reasons:

- No intrusive activities are allowed by the Property Owner in OU-5 without prior approval by NYSDEC and IBM.
- Unless otherwise noted, 15-day advance notice of activities regulated by this ISMP, including, but not limited to:
  - Transport of soil into OU-5,
  - Transport of soil out of OU-5,
  - Sampling and analysis of soil in OU-5 as required because of a significant reworking of the soil/surface cover system, and
  - Excavation dewatering, with prior approval from NYSDEC.

- 60-day advance notice of proposed changes in OU-5 use that are required under the terms of the Order, 6NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). A change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of an emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the ECs in OU-5, with written confirmation within seven (7) days that includes a summary of actions, if any, taken by the Property Owner and/or emergency response personnel.
- Verbal notice within 24 hours of any action of the Property Owner or its representatives which affects the integrity of the effectiveness of the remedial or monitoring system in OU-5 or Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule will be submitted directly to NYSDEC with a copy to IBM.
- In those instances which are a direct result of activities by the owner or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

No soils may be brought into or taken out of OU-5 without prior approval from NYSDEC.

Any change in the ownership of OU-5 or the responsibility for implementing this ISMP will include the following notifications:

- NYSDEC will be notified in writing of the proposed change at least 60 days prior to the change. This will include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-5, the new Property Owner's name, contact representative, and contact information will be confirmed in writing.

8.7 Property Owner Certification Report to IBM

The Property Owner will maintain records for OU-5 which will include but not be limited to this ISMP, certification reports and other written communications with NYSDEC and NYSDOH.

The Property Owner will submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that with respect to activities of the Property Owner or its representatives:

- ICs and/or ECs employed at the OU are unchanged through the actions of the Property Owner or its representatives from the previous certification or that changes to the ICs and/or ECs were approved by NYSDEC; and,
- Nothing has occurred, through the activities of the Property Owner or its representatives, that impairs the ability of the ICs and/or ECs to protect public health and environment or that constitute a violation or failure to comply with the ISMP.

NYSDEC retains the right to access OU-5 to evaluate the continued maintenance of ICs and/or ECs. This certification shall be submitted annually to NYSDEC through IBM, or at an alternate frequency that NYSDEC may allow and will be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional

Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR shall be prepared with OU-specific modules that address each of the OUs as defined in the Order. In the event that OU-5 is subdivided into separate parcels with different ownership, a certification form shall be prepared addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) shall be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives shall also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form shall be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 office; and a PRR in electronic format to NYSDEC's Central and Region 3 offices and the NYSDOH Bureau of Environmental Exposure Investigation.

The Property Owner certification report for OU-5 or its subdivisions shall include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy for OU-5.
- Results of required annual OU-5 inspections and, if applicable, severe condition inspections.
- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-5 during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports shall include the following certification language:

"*For each institutional or engineering control identified for OU-5, I certify that all of the following statements are true:*

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional and engineering controls required by the remedial program.
- The institutional control employed at OU-5 is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect public health and the environment.
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-5 interim site management plan for this control.

- Access to OU-5 shall continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-5 is compliant with the OU-5 environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-5]."

8.8 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan shall be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan shall explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work shall be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

8.9 Summary of IBM Requirements

IBM shall be responsible for performing the following activities in OU-5:

- Inspection and maintenance of the integrity of all monitoring wells.
- Collection of groundwater samples for analysis and submittal of a summary report to NYSDEC.
- Collection of groundwater elevation data and submittal of potentiometric surface maps to NYSDEC.
- Receipt of the Property Owner's OU-5 certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Include, in the Site-wide compiled PRR, any inspections, repairs, maintenance, or remedies implemented by IBM in OU-5.
- Reseeding and mowing of OU-5.
- Maintenance and repair of the chain-link security fence.
- Receipt of the Property Owner's OU-5 certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Protection of the structural integrity of the existing components of ECs in OU-5 during any activities performed by IBM in OU-5.
- Protection of the structural integrity of all buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during any activities performed by IBM in OU-5.
- Upon request, IBM shall provide a copy of the Site-wide certification to the OU-5 Property Owner.

IBM requirements for these activities are further described in Section 12.0.

9.0 OPERABLE UNIT 6

For any emergencies encountered during activities in OU-6, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that will be required by the Environmental Easement for OU-6. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing the activities of OU-6 are the Order on Consent (Appendix A), the Environmental Easement for OU-6 (Appendix B), and this ISMP. A list of acronyms is located between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site. **If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs and/or ECs for OU-6 or the ICs and/or ECs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays.**

This section of the ISMP lists the components of the remedy present in OU-6 and the Property Owner's responsibilities for the protection of the remedy and the associated monitoring system. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-6.

The Property Owner's responsibilities can be summarized as follows:

- Adhere to and maintain the ICs as established for OU-6.
- Ensure that the activities of the Property Owner and its representatives:
  - Do not impede the effectiveness of the Site-wide ECs and
  - Protect the integrity of the ECs in OU-6.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-6 governed by this ISMP.
- Inspect and maintain remedial components owned by the Property Owner.
- Provide the OU-6 certification report to NYSDEC through IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-6 include, but are not limited to:

- Commercial use restriction (Section 9.2).
- Groundwater use restriction (Section 9.2).
- 42-inch diameter storm sewer line outfall (Section 9.2).
- Activities within the vicinity of any monitoring well (Sections 9.3 and 9.4).
- For any soil disturbance (Section 9.2):

  - Sampling and approval from NYSDEC are required before soils are imported from an off-Site source for use in OU-6, or exported from OU-6 for either disposal off-Site or reuse elsewhere on-Site (i.e., in another OU), in accordance with DER-10 (Sections 9.2, 9.4 and 9.8);
  - Contingency Plan if grossly contaminated soils are encountered (Sections 9.2 and 9.4);
  - Recharacterization of the top foot of soil following any development that requires reworking of the soil (Section 9.2, 9.4, and 9.8); and
  - Protection and maintenance of the integrity of the monitoring wells (Sections 9.3 and 9.4).
- Application of Intrusive Activity Work Plan (IAWP) to the west-central portion of OU-6 located within the boundaries of the former C&D Landfill, identified as SWMU N, and IWTF plume area where groundwater sampling indicates low concentrations of VOCs above NYSGWQS located in proximity to MW-817 and the former IWTF (Section 9.5).
- Environmental and public health monitoring (Sections 9.2, 9.4, and 9.5).
- Characterization of previously unexposed soils, after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner (Section 9.2, 9.4, and 9.8).
- Vapor intrusion sampling and/or mitigation measures for existing buildings and new construction (Sections 9.2 and 9.6).
- Inspection reports and maintenance of remedial components owned by the Property Owner (Sections 9.3 and 9.6).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

9.1 Introduction

Operable Unit 6 (OU-6) is a 35.57-acre area within the Site that is bounded to the north by the Site boundary and Route 209, to the east by Enterprise Drive, to the south by OU-1 and to the west by Boices Lane, private property, and Esopus Creek (refer to Figure 9-1). OU-6 is largely undeveloped with the exception of the remaining structures that were previously operated as the former Industrial Wastewater Treatment Facility (IWTF). OU-6 is not part of the Class 4 Site (IHWDS Registry No. 356002).

Previous investigations in OU-6 have resulted in the closure of the former SWMUs located in OU-6. A summary of each SWMU is presented in Table 1-2. There are no active SWMUs in OU-6.

Previous investigations have identified areas where soil in OU-6 (i.e., the former SWMU N C&D Landfill) has the potential to contain residual impacts. In addition, residual impacts to groundwater have been identified in an area in the southern portion of OU-6 in proximity to MW-817 and the former IWTF. These areas of OU-6 will be subject to the IAWP.

IC and/or EC requirements and associated Property Owner responsibilities are described in the following sections.

9.2 Institutional Controls

The ICs for OU-6 include:

- Compliance with the OU-6 Environmental Easement by the Property Owner and the Property Owner's successors and assigns
  - **Land Use Restriction:** Land use in OU-6 is restricted to commercial or industrial use.
  - **Groundwater Use Restriction:** The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal from beneath OU-6 will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not adversely impact the existing groundwater flow geometry in the surficial sand unit and/or in the bedrock unit in the vicinity of the Building B202 Elevator Shaft in OU-1.
  - **Compliance with the ISMP**

These ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement for OU-6 and/or the ISMP. A copy of the OU-6 Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

Specific restrictions apply to any soil disturbance in OU-6, to areas of OU-6 subject to the IAWP, and new building construction/sampling for vapor intrusion mitigation as noted in Sections 9.4, 9.5 and 9.6, respectively.

9.3 Engineering Controls

The ECs for OU-6 include:

- **42-Inch Storm Water Sewer Outfall:** The outfall for the storm water sewer that forms a portion of the groundwater perimeter control system is located in OU-6. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Historical groundwater monitoring data indicate the sewer also functions as a passive hydraulic barrier to downgradient groundwater migration due to the sewer design and hydraulic characteristics of the subsurface soils in the vicinity of the storm water sewer. Ongoing interception and collection of groundwater by the storm water sewer remains an important component of the overall perimeter control system. Therefore, the Property Owner's maintenance of the integrity and function of the 42-inch storm water sewer outfall in OU-6 is required.
- **Soil/Surface Cover System Over Former C&D Landfill (SWMU N) and IWTF Plume Located in Proximity to MW-817:** The former C&D Landfill is located in the west-central portion of OU-6 and consists of a filled area ranging in width from approximately 100-feet to 300-feet that is approximately 800-feet long and up to 20-feet thick. The former C&D Landfill contains predominantly construction debris in the form of concrete, asphalt, soil and miscellaneous debris. Residual impacts to groundwater have been identified in an area in the southern portion of OU-6 in proximity to MW-817 and the former IWTF. Results of previous investigations have established that surficial soil within one foot of the ground surface in OU-6 meets Part 375 unrestricted-use soil cleanup objectives and is therefore suitable for commercial use. NYSDEC requires that the existing soil/surface cover be maintained for these portions of OU-6 due to the potential for impacted soil and groundwater below the soil/surface cover. Soil disturbance activities performed in these portions of OU-6 shall be managed and implemented in accordance with the IAWP, included as Appendix C. This requires the segregation of the top foot of soils from the soils below one foot.

- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system is required as an EC for OU-6. Any activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well.

The following ECs require protection, inspection, maintenance, and/or repair, as necessary, by the Property Owner, except in those instances when the need for repair or replacement is the direct result of activities conducted by IBM or its representatives:

- 42-Inch Storm Water Sewer Outfall, and
- Soil/Surface Cover System.

Property Owner inspection and maintenance requirements for these ECs are described in Section 9.7. In addition, the Property Owner will ensure that activities performed by the Property Owner or its representatives will not interfere with, or otherwise impair or compromise, any of the ECs located in OU-6.

The following EC requires protection, inspection, maintenance, and/or repair, as necessary by IBM, except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives:

- Groundwater Monitoring Well System

IBM inspection and maintenance requirements for these ECs are further described in Section 9.12 and in Section 12.0.

9.4 Soil Disturbance

This section describes the criteria required for any intrusive activity (disturbance of soil) within OU-6. Section 9.5 includes additional IAWP requirements for the areas within the boundaries of the former C&D Landfill identified as SWMU N.

In general, except for the areas designated in Section 9.5 (former C&D Landfill and residual VOCs in groundwater near MW-817), the soils in OU-6 may be disturbed without the need to segregate surface soils from subsurface soils into separate piles. These soils may be backfilled into the excavated area in any sequence deemed appropriate by the Property Owner or its representatives. However, resampling of the top foot of soil shall be required after extensive reworking of the soil following any major development in OU-6.

The following restrictions apply to any disturbance of soil in OU-6:

- **Groundwater Monitoring Well System:** Any intrusive activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well.
- **Materials Transport and Disposal Off-Site:** All material excavated and removed from OU-6 shall be properly characterized and approved by NYSDEC for transport to a facility appropriately permitted to receive such material.
- **Materials Import from Off-Site Sources:** All materials proposed for import onto the Site for use as backfill shall be in compliance with the provisions of the IAWP prior to receipt at the Site. All soils imported for use in OU-6 shall be from a NYSDEC-approved source and meet NYSDEC-approved backfill or cover soil quality standards for OU-6. The NYSDEC-approved backfill or cover soil quality standards are listed in 6 NYCRR

Part 375 Table 375-6.8(b)and shall be the lower of the Protection of Groundwater (PGW) SCOs and Commercial Use SCOs (as summarized in DER-10, Appendix 5). Please refer to Section 12.0 of the IAWP (Appendix C) for additional details regarding the import of backfill materials from off-Site sources.

- **Materials Reuse On-Site:** Any materials proposed for reuse on-Site must be pre-approved by NYSDEC. Please refer to Section 9.0 of the IAWP (Appendix C) for details regarding materials reuse on-Site.
- **Contingency for Grossly Contaminated Media (GCM):** as defined by NYSDEC DER-10 Section 1.3(b)(23), GCM is soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is readily detectable without laboratory analysis. If GCM is encountered at any time during intrusive activities in OU-6, NYSDEC will be notified and the contingency plan identified in the IAWP (Appendix C) will be implemented. These conditions may warrant implementing environmental, worker, and/or community air monitoring plus mitigation measures.
- **Protection of Existing Infrastructure:** Identification of existing historical industrial infrastructure and active utilities, and protection of the structural integrity of existing buildings and utilities.
- **Reasonable Construction Measures** to control dust and off-Site migration of soil to roadways.
- **Dewatering Procedures** must be pre-approved by NYSDEC.

The Property Owner or its representative shall notify NYSDEC at least 15 days prior to the start of any soil disturbance activity in OU-6. This includes initial Site redevelopment and build-out activities as well as post redevelopment intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where soil disturbance activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention.

The Property Owner or its authorized representative is solely responsible for any intrusive work they perform. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner shall ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise, the ECs and ICs described in OU-6. A summary of these activities shall be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM. Notification requirements for these activities are noted in Section 9.8.

9.5 Intrusive Activities Work Plan

These requirements are in addition to those specified in Section 9.4. These additional requirements only apply to areas within the boundaries of the former C&D Landfill identified as SWMU N and residual VOCs in groundwater near MW-817.

OU-6 has been designated for commercial use (and includes industrial use). 6 NYCRR Part 375 requires the maintenance of a 1-foot soil cover for portions of this OU. In compliance with this requirement, intrusive activities performed within the boundaries of the former C&D Landfill and in proximity of the IWTF plume near MW-817 shall be managed and implemented in accordance with the IAWP included as Appendix C.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any intrusive activity in OU-6 within the boundaries of the former C&D Landfill or in proximity of the IWTF plume near MW-817. This includes initial Site redevelopment and build-out activities as well as post redevelopment intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where intrusive activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention.

Intrusive activities must protect and maintain the integrity of the ECs in OU-6, including:

- **Soil/Surface Cover System Over Former C&D Landfill (SWMU N) and IWTF plume located in proximity to MW-817:** Although a remedy for SWMU N has been implemented, the potential for exposure to soil impacted with low level residual contamination exists at this location. Additionally, residual impacts to groundwater have been identified in an area in the southern portion of OU-6 in proximity to MW-817 and the former IWTF. This residual contamination is addressed by a soil/surface cover system, which comprises a 1-foot-thick soil cover over exposed soil and/or by concrete building slabs, asphalt covered roads and concrete covered sidewalks that overlie areas above impacted soil and/or groundwater. Therefore, the IAWP will be applicable for intrusive activities conducted within these areas (see Figure 9-1) and requires the segregation of the top foot of soil.
- **42-inch Diameter Storm Sewer Outfall:** The outfall for the storm water sewer that forms a portion of the groundwater perimeter control system is located in OU-6. Therefore, the Property Owner's maintenance of the integrity and function of the 42-inch storm water sewer outfall in OU-6 is required.
- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system in OU-6 is required. Any activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well.

Environmental and/or public health monitoring shall be performed as part of the IAWP. Work conducted pursuant to the IAWP shall be in accordance with procedures defined in activity-specific Health and Safety Plans (HASPs) and Community Air Monitoring Plans (CAMPs) prepared for the work in OU-6. A sample HASP is attached as Appendix F to this ISMP. HASPs and CAMPs must be prepared by the selected general contractor and approved by NYSDEC and NYSDOH or other designated entity prior to any intrusive work. The HASPs and CAMPs are the responsibility of the Property Owner and shall be prepared in compliance with DER-10 Technical Guidance, 29 CFR 1910 and 1926, and all other applicable Federal, State and local requirements. Intrusive construction work within the specified areas of OU-6 shall be performed in compliance with the IAWP and the contractor's activity-specific HASP and the CAMP. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM.

As with any soil disturbance in OU-6, the Property Owner or its authorized representative is solely responsible for any intrusive work they perform during the implementation of the IAWP. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner shall ensure that development (or any other) activities shall not interfere with, or otherwise impair or compromise, the ECs and

ICs described for OU-6 in this ISMP. Criteria for notifications and for documentation of compliance with the IAWP are further noted in Section 1 of the IAWP (Appendix C). Notification requirements for these activities are also noted in Section 9.9.

9.6 Vapor Intrusion Mitigation Measures for New Building Construction and Reoccupation of Existing Buildings

Prior to the construction of any enclosed structures or reoccupation of existing structures within the boundaries of OU-6 (Figure 9-1), a VI evaluation shall be performed to determine whether monitoring or mitigation measures are necessary to eliminate potential exposure to vapors in the existing and/or proposed structures in accordance with the most recent NYSDOH Guidance Document "Guidance for Evaluating Vapor Intrusion in the State of New York". Alternatively, a VI mitigation system such as a vapor barrier and/or passive sub-slab depressurization system capable of being converted to an active system may be installed as an element of a new building foundation without first investigating the potential VI pathway; however, VI sampling shall be performed prior to occupation of new buildings. Alternate building specific monitoring or mitigation provisions may be proposed for NYSDEC and NYSDOH review and approval depending on the characteristics of the remaining impacts, the design features of the structure and the proposed use and occupancy of the structure.

9.7 Inspection and Maintenance Plan

An inspection report is required for any activity regulated by this ISMP. The ECs in OU-6 that require protection, inspection, maintenance, and/or repair, as necessary, by the Property Owner[6] are:

- 42-Inch Storm Water Sewer Outfall; and
- Soil/Surface cover system within the vicinity of the Former C&D Landfill **and the IWTF plume located in proximity to MW-817.**

Inspections of the ECs by the Property Owner shall be conducted annually, at a minimum, and will evaluate and document that:

- The Engineering Controls the Property Owner is responsible to inspect and maintain continue to perform as designed.
- The requirements of this ISMP and the Environmental Easement, for which the Property Owner is responsible, have been complied with by the owner and/or its representatives.
- The Site records, for which the owner is responsible, are complete and up to date.

Example inspection forms are provided in Appendix G. These forms are subject to revision with NYSDEC approval. Applicable inspection forms and other records (including media sampling data, if any sampling has been conducted in OU-6 during the reporting period) shall be provided in the certification report in electronic format or other reporting format as approved by NYSDEC.

If an emergency, such as a natural disaster or an unforeseen failure of any of these ECs occurs, the Property Owner or its representative shall notify NYSDEC and IBM within 24 hours of the observations/actions. Within five

[6] The current groundwater monitoring well system EC in OU-6 includes monitoring wells owned by IBM. Except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives, the inspection, maintenance, repair, replacement, and/or decommissioning of monitoring wells in OU-6 is the responsibility of IBM.

(5) days of the event, the Property Owner or its representative shall have a qualified environmental professional, as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State, conduct an inspection of the Site to assess the effectiveness of the ECs implemented at the Site. Inspection forms and other reporting records shall be in a format approved by NYSDEC. If necessary, a corrective action plan, with a schedule for implementation, shall be submitted by the Property Owner or its representative to NYSDEC.

A list of the specific IBM responsibilities for the protection, inspection, monitoring, and maintenance of ECs in OU-6 is provided in Section 9.12. Detailed specifications of IBM's Site-wide responsibilities are provided in Section 12.0. Responsibilities for the inspection and maintenance of the ECs identified herein are described in the following sections.

9.7.1 42-inch Storm Water Sewer Outfall

The 42-inch storm water sewer outfall located in OU-6 will be inspected and maintained by the Property Owner.

In those instances where the need for repair and/or replacement this storm water sewer outfall in OU-6 is the direct result of activities conducted by IBM or its representatives, IBM will be responsible for the expense of the repair and/or replacement of this storm water sewer. Repairs and/or replacement of this storm water sewer will be performed based upon assessments of structural integrity and overall performance. A description of the completion of any of these repairs will be included in the periodic certification report submitted by IBM. If these repairs have not been completed, a schedule for the repairs will also be included.

Routine maintenance associated with the storm water sewer will be limited to the catch basins, drop inlets, and associated structures that are accessible from the surface. Maintenance of these structures may include sediment removal or repairs to the sewer to address reduced flow capacity, failure or unacceptable deterioration due to normal wear and tear from erosion, physical impact, etc. Routine repairs will be made to these structures as necessary to maintain their integrity and function.

Localized repair or replacement of this storm water sewer piping will be performed if the integrity and function of the conveyance system has been compromised. For the purposes of this ISMP, repairs will only be performed to address conditions that result in loss of sewer flow capacity or imminent failure/collapse of the piping or any other damage to the storm water drainage system that impairs the effectiveness of the GWCS.

The Property Owner shall conduct an annual inspection of the portion of this storm water sewer system located in OU-6 and complete an inspection form (see Appendix G). Results of the inspection and any associated maintenance and repairs, if necessary, shall be included in the periodic certification report submitted by the Property Owner of OU-6. If repairs are needed, a schedule for the repair shall also be included.

9.7.2 Soil/Surface Cover System

The soil/surface cover system located in vicinity of the former C&D Landfill (SWMU N) and the IWTF plume located in proximity to MW-817 in OU-6 will be inspected and maintained by the Property Owner.

In those instances where the need for repair of the soil/surface cover in these designated areas of OU-6 is the direct result of activities conducted by IBM or its representatives, IBM will be responsible for the expense of the repair of any damaged component this cover. A description of the completion of any of these repairs will be included in the periodic certification report submitted by IBM. If these repairs have not been completed, a schedule for the repairs will also be included.

Potential exposure to soil impacts located within the boundaries of the former C&D Landfill and residual VOCs in groundwater from the IWTF plume located in proximity to MW-817 and the former IWTF in OU-6 is mitigated by the existing cover system in this OU. Intrusive activities associated with the soil/surface cover in these designated areas of OU-6 shall be subject to the requirements of the IAWP (see Section 9.5 and Appendix C). Monitoring of this soil/surface cover system in OU-6 includes annual inspections of the cover materials by the property owner. This inspection frequency is subject to change by NYSDEC and NYSDOH. Unscheduled inspections and/or sampling may take place when a suspected failure of any part of the cover system has been reported or an emergency occurs that results in a breach of the soil/surface cover system, leaving the soils below one foot permanently exposed or with significantly less than one foot of soil cover. Results of the inspections and any associated maintenance and repairs shall be included in the periodic certification report submitted by the Property Owner of OU-6. If repairs are needed, a schedule for the repairs will also be included.

9.7.3 Groundwater Monitoring Well System

The portion of the groundwater monitoring well system in OU-6 will be inspected and maintained by IBM.

Groundwater monitoring wells in OU-6 are used to assess the effectiveness of existing corrective measures. In those instances where the need for repair, replacement and/or decommissioning of any monitoring wells in OU-6 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner will be held responsible for the expense of the repair, replacement, and/or decommissioning of any damaged well. Repairs and/or replacement of monitoring wells will be performed based on assessments of structural integrity and overall performance. A description of the completion of any of these repairs will be included in the periodic certification report submitted by the Property Owner of OU-6. If these repairs have not been completed, a schedule for the repairs shall also be included.

NYSDEC shall be notified prior to decommissioning of monitoring wells to assess whether a replacement monitoring well is required. Well decommissioning without replacement will be conducted only with prior approval from NYSDEC. The repair, decommissioning, and/or replacement of monitoring wells will be documented in the annual inspection reports and in the subsequent periodic review report. Well decommissioning will be performed in accordance with *NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Procedures,* dated November 2009.

9.8 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial systems (i.e., corrective measures) are considered complete when monitoring indicates that the corrective measure has achieved the remedial action objectives. At that time, a request to modify the continued applicability one or more ICs and the continued operation and maintenance of one or more ECs can be submitted to NYSDEC.

Protection, inspection, maintenance, and/or operation of the 42-inch storm water sewer system, the groundwater monitoring well system, and the soil/surface cover system located in vicinity of the former C&D Landfill (SWMU N) and the VOC plume located in proximity to MW-817 in OU-6 shall not be discontinued unless prior written approval is granted by NYSDEC. In the event that monitoring data indicates that one or more of these ECs are no longer required, a proposal to eliminate these protection requirements may be submitted to NYSDEC.

9.9 Notifications

Notifications shall be submitted by the Property Owner directly to NYSDEC (with a copy to IBM) as needed at the frequencies identified below for the following reasons:

- 15-day advance notice of proposed intrusive activities in OU-6 which are subject to the requirements of the IAWP and/or result in the following:
  - Import of materials from off-Site sources for use in OU-6,
  - Export of materials from OU-6 for off-Site disposal,
  - Reuse of materials in OU-6 from elsewhere on-Site,
  - Sampling and analysis of soil in OU-6 as required because of a significant reworking of the soil/surface cover system,
  - Sampling and analysis of soil in OU-6 as required due to the expected extended exposure of soils previously covered by the existing surface cover (i.e., asphalt, concrete, or a building), and
  - Excavation dewatering, with prior approval from NYSDEC.
- 60-day advance notice of proposed changes in OU-6 use that are required under the terms of the Order, 6NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). Change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of an emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the ECs in OU-6, with written confirmation within seven (7) days that includes a summary of actions, if any, taken by the Property Owner and/or emergency response personnel.
- Verbal notice within 24 hours of any action of the Property Owner or its representatives which affects the integrity and/or effectiveness of the remedial or monitoring system in OU-6 or Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule will be submitted directly to NYSDEC with a copy to IBM.
- In those instances which are a direct result of activities by the Property Owner or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of OU-6 or the responsibility for implementing this ISMP shall include the following notifications:

- NYSDEC shall be notified in writing of the proposed change at least 60 days prior to the change. This shall include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-6, the new Property Owner's name, contact representative, and contact information shall be confirmed in writing.

9.10 Property Owner Certification Report to IBM

The Property Owner shall maintain records for OU-6 which shall include but not be limited to this ISMP, inspection reports, certification reports and other written communications with NYSDEC and NYSDOH.

The Property Owner shall submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that with respect to activities of the Property Owner or its representatives:

- ICs and/or ECs employed in OU-6 are unchanged through the actions of the Property Owner or its representatives from the previous certification or that changes to the ICs and/or ECs were approved by NYSDEC; and
- Nothing has occurred, through the actions of the Property Owner or its representatives, that impairs the ability of the ICs and/or ECs to protect public health and the environment or that constitute a violation or failure to comply with the ISMP.

NYSDEC retains the right to access OU-6 to evaluate the continued maintenance of ICs and/or ECs. This certification shall be submitted annually to NYSDEC through IBM, or at an alternate frequency that NYSDEC may allow, and shall be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR shall be prepared with OU-specific modules that address each of the OUs as defined in the Order. In the event that OU-6 is subdivided into separate parcels with different ownership, a certification form shall be prepared addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) shall be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives shall also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form shall be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 Office; and a PRR in electronic format to NYSDEC's Central and Region 3 Offices and the NYSDOH Bureau of Environmental Exposure Investigation.

The Property Owner certification report for OU-6 or its subdivisions shall include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy for OU-6.
- Results of any required annual OU-6 inspections and, if applicable, severe condition inspections.
- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-6 during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports shall include the following certification language:

"*For each institutional or engineering control identified for OU-6, I certify that all of the following statements are true:*

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional and engineering controls required by the remedial program.
- The institutional control employed at OU-6 is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect public health and the environment.
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-6 interim site management plan for this control.
- Access to OU-6 shall continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-6 is compliant with the OU-6 environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-6]."

The NYSDEC Division of Water oversees the reporting, monitoring, and discharge requirements for two SPDES permits associated with the Site. A SPDES permit that is issued to the Property Owner regulates the discharge of the 42-inch storm water sewer into OU-6. The SPDES permit that was issued to the previous Property Owner, TechCity (SPDES No. NY0260134), expired on June 30, 2019 and was not renewed. The new Property Owner, iPark 87, shall apply to NYSDEC for a new SPDES permit. Discharge from the 42-inch storm sewer includes surface drainage and subsurface infiltration from OU-1, OU-3, and OU-4. This ISMP has no reporting requirements or oversight responsibilities for this discharge permit. The NYSDEC Division of Water oversees the reporting, monitoring, and discharge requirements for this SPDES permit.

A second permit (SPDES No. NY0108138), issued to IBM, regulates the discharge of the GWCS into the storm water sewer along the southern boundary of OU-3a that ultimately discharges to the 42-inch storm water sewer in OU-1 and OU-6. This treated discharge from the GTF is subject to oversight by this ISMP. The Division of Water, however, shall retain primary regulatory authority over the reporting, monitoring, and discharge requirements of this permitted discharge.

9.11 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan shall be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan shall explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work shall be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

9.12 Summary of IBM Requirements

IBM shall be responsible for performing the following activities in OU-6:

- Inspection and maintenance of the integrity of all monitoring wells.
- Collection of groundwater samples for analysis and submittal of a summary report to NYSDEC.
- Collection of groundwater elevation data and submittal of potentiometric surface maps to NYSDEC.
- Receipt of the Property Owner's OU-6 certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Include, in the Site-wide compiled PRR, any inspections, repairs, maintenance, or remedies implemented by IBM in OU-6.
- Protection of the structural integrity of the existing components of ECs in OU-6 during any activities performed by IBM in OU-6.
- Protection of the structural integrity of all buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during any activities performed by IBM in OU-6.
- If IBM is required to perform intrusive work in those areas of OU-6 subject to the IAWP, such work shall be conducted in accordance with applicable provisions of the IAWP.
- IBM or its authorized representatives are solely responsible for the intrusive work they perform. This includes, but is not limited to, the structural integrity of excavations, proper handling and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and activities in, on, under, or in proximity to structures that may be affected by excavations (such as building foundations).
- Upon request, IBM shall provide a copy of the Site-wide certification to the OU-6 Property Owner.

IBM requirements for these activities are further described in Section 12.0.

10.0 OPERABLE UNIT 7

For any emergencies encountered during activities in OU-7, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that will be required by the Environmental Easement for OU-7. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing activities in OU-7 are the Order on Consent (Appendix A), the Environmental Easement for OU-7 (Appendix B), and this ISMP. A list of acronyms is located between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site**. If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs and/or ECs for OU-7 or the ICs and/or ECs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays.**

This section of the ISMP lists the components of the remedy currently present in OU-7 and the Property Owner's responsibilities for the protection of the remedy and the associated monitoring system. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-7.

The Property Owner responsibilities can be summarized as follows:

- Adhere to and maintain the ICs established for OU-7.
- Ensure that the activities of the Property Owner and its representatives:
  - Do not impede the effectiveness of the Site-wide ECs, and
  - Protect the integrity of the ECs in OU-7.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-7 governed by this ISMP.
- Inspect and/or maintain remedial components owned by the Property Owner.
- Provide the OU-7 certification report to NYSDEC through IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-7 include, but are not limited to:

- Commercial use restriction (Section 10.2).
- Groundwater use restriction (Section 10.2).
- 60-inch storm water sewer (Section 10.3). The diameter of this storm water sewer decreases with progression upstream. Throughout this document, the storm water sewer system comprising the variable diameter pipes is referred to as the "60-inch storm water sewer".
- Activities within the vicinity of any monitoring well (Section 10.3).

- Application of Intrusive Activity Work Plan (IAWP) for all intrusive activities in OU-7 (Section 10.2), including:
  - Segregation of the top foot of soil from soil below one foot (Sections 10.1 – 10.4).
  - Sampling and approval from NYSDEC are required before soils are imported from an off-Site source for use in OU-7, or exported from OU-7 for either disposal off-Site or reuse elsewhere on-Site (i.e., in another OU), in accordance with DER-10 (Section 10.2);
  - Contingency Plan if grossly contaminated soils are encountered (Section 10.2).
  - Environmental and public health monitoring (Sections 10.2, 10.4, and 10.5).
  - Recharacterization of the top foot of soil after any development that requires significant reworking of the soil.
  - Construction measures to control dust and off-Site migration of soil to roadways.
  - Protection and maintenance of the integrity of the monitoring wells.
- Characterization of previously unexposed soils, after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner (Section 10.2).
- Vapor intrusion sampling and/or mitigation measures for existing buildings and new construction (Section 10.5).
- Inspection reports and maintenance of remedial components owned by the Property Owner (Sections 10.3 and 10.6).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

10.1 Introduction

Operable Unit 7 (OU-7) is a 6.9-acre area within the Site that is bounded to the north by OU-4a and Old Neighborhood Road, to the east by OU-4a, to the south by OU-3 and OU-4a, and to the west by OU-3 and OU-3a (refer to Figure 10-1). OU-7 contains Buildings B005N and B029 and associated access roads and parking areas that service the buildings. OU-7 is not part of the Class 4 Site (IHWDS Registry No. 356002).

Former SWMU A - Former Building B029 Chemical Storage Building, was assigned no further action status by NYSDEC in 1994 (Table 1-2). Former SWMU W - Former B004 Separator Tank, was assigned no further action status in the Order in 2010.

Previous investigations have identified areas with residual impacts to groundwater related to the NPLA Plume in OU-3. Therefore, intrusive activities in OU-7 will be subject to the IAWP.

IC and EC requirements and associated Property Owner responsibilities for OU-7 are described in the following sections.

10.2 Institutional Controls

The ICs for OU-7 include:

- Compliance with the OU-7 Environmental Easement by the Property Owner and the Property Owner's successors and assigns

- **Land Use Restriction:** Land use in OU-7 is restricted to commercial or industrial use.
- **Groundwater Use Restriction:** The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal from beneath OU-7 will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not adversely impact the existing groundwater flow geometry in the surficial sand unit and/or in the bedrock unit in the vicinity of the Building B202 Elevator shaft in OU-1.
- **Compliance with the ISMP.**

These ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement for OU-7 and/or the ISMP. A copy of the OU-7 Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

Specific restrictions apply to areas of OU-7 subject to the IAWP, and new building construction/sampling for vapor intrusion mitigation as noted in Sections 10.4 and 10.5, respectively.

10.3 Engineering Controls

The ECs for OU-7 include:

- **60-inch Storm Water Sewer:** A portion of this storm water sewer, shown on Figure 10-1, extends from the western portion of OU-7, into and through the northern boundary of OU-3a, where it continues into OU-8 and terminates at an exposed outfall structure into a drainage swale. The 60-inch concrete storm water sewer is a component of the groundwater perimeter control system that is integral to the overall containment strategy for the NPLA plume that is interpreted to originate in OU-3. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Historical groundwater monitoring data indicates that the sewer also functions as a passive hydraulic barrier to downgradient groundwater migration due to the sewer design and hydraulic characteristics of the subsurface soils in the vicinity of the storm water sewer. Ongoing interception and collection of groundwater by the storm water sewer remains an important component of the overall perimeter control system. Therefore, maintaining the integrity and function of the sewer in OU-7 as an engineering control as part of the groundwater perimeter control system is required.
- **GWCS NPLA System**: The NPLA System is a passive portion of the Site GWCS that has operated at the Site since late 1997 and was installed to mitigate groundwater infiltration to the storm sewer system. The NPLA System, located near former Building B003 and Building B005N in OU-3, OU-3a and OU-7, consists of the re-use of old, abandoned storm water sewers that collect infiltrating groundwater that is conveyed to pump stations PS-1 and PS-2, and then pumped through approximately 1,500 feet of fusion-welded HDPE piping to the on-Site GTF for treatment.
- **Soil/Surface Cover:** Results of previous investigations have established that surficial soil within one foot of the ground surface in OU-7 meets Part 375 unrestricted-use soil cleanup objectives and is therefore suitable for commercial use. NYSDEC requires that the existing soil/surface cover be maintained throughout OU-7 due to the potential for impacted soil and/or groundwater beneath the soil/surface cover system in OU-7. If any activity performed in OU-7 requires disturbance of the soil/surface cover, these activities shall be managed and implemented in accordance with the IAWP, included as Appendix C, including the requirement

to segregate the top foot of soil from those soils located at depths greater than one foot below the ground surface.

- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system is required as an EC for OU-7. Any activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well.

The following ECs require protection, inspection, maintenance, and/or repair, as necessary, by the Property Owner, except in those instances when the need for repair or replacement is the direct result of activities conducted by IBM or its representatives:

- 60-inch Storm Water Sewer and
- Soil/Surface Cover System.

Property Owner inspection and maintenance requirements for these ECs are described in Section 10.6. In addition, the Property Owner will ensure that activities performed by the Property Owner or its representatives will not interfere with, or otherwise impair or compromise, any of the ECs located in OU-7.

The following ECs require protection, inspection, maintenance, and/or repair, as necessary by IBM, except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives:

- GWCS NPLA System and
- Groundwater Monitoring Well System

IBM inspection and maintenance requirements for these ECs are further described in Section 10.11 and in Section 12.0.

10.4 Intrusive Activities Work Plan

OU-7 has been designated for commercial use (and includes industrial use). 6 NYCRR Part 375 requires the maintenance of a 1-foot soil cover for the entirety of this OU. In compliance with this requirement, intrusive activities within OU-7 shall be performed in compliance with the IAWP included as Appendix C.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any intrusive activity in OU-7. This includes initial Site redevelopment and build-out activities as well as post redevelopment intrusive activities (e.g., building additions, utilities trenching, maintenance, etc.). Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where intrusive activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention.

Intrusive activities must protect and maintain the integrity of the ECs in OU-7, including:

- **Soil/Surface Cover System:** The potential for exposure to soil and/or groundwater impacted with residual contamination in OU-7 is addressed by a soil/surface cover system, which comprises a one-foot-thick soil cover over exposed soil and/or by concrete building slabs, asphalt covered roads and concrete covered sidewalks that overly areas above impacted groundwater. Because groundwater impacts have been

identified in OU-7, the IAWP shall be implemented for intrusive activities conducted in OU-7 as illustrated on Figure 10-1 and requires the segregation of the top foot of soils from those below one foot.

- **60-inch Storm Water Sewer:** A portion of this storm water sewer, shown on Figure 10-1, extends from the western portion of OU-7, into and through to the northern boundary of OU-3a, where it continues into OU-8 and terminates at an exposed outfall structure into a drainage swale. The 60-inch concrete storm water sewer is a component of the groundwater perimeter control system that is integral to the overall containment strategy for the NPLA plume that is interpreted to originate in OU-3. Therefore, maintaining the integrity and function of the sewer in OU-7 as an engineering control as part of the groundwater perimeter control system is required.
- **GWCS NPLA System**: The NPLA System is a passive portion of the Site GWCS, has operated at the Site since late 1997 and was installed to mitigate groundwater infiltration to the storm sewer system. The NPLA System, located near former Building B003 and Building B005N in OU-3, OU-3a and OU-7, consists of the re-use of old, abandoned storm water sewers that collect infiltrating groundwater that is conveyed to pump stations PS-1 and PS-2, and then pumped through approximately 1,500 feet of fusion-welded HDPE piping to the on-Site GTF for treatment.
- **Groundwater Monitoring Well System:** The monitoring well system comprises multiple groundwater monitoring wells with both flush mount and above-ground surface completions, many of which are routinely sampled to assess the effectiveness of existing Corrective Measures. Long term protection and maintenance of the groundwater monitoring well system is required as an EC for OU-7. Any activity within the vicinity of a monitoring well will be performed in a manner that protects and maintains the integrity of the monitoring well.

As has been previously noted, the following restrictions apply to any intrusive activities in OU-7:

- **Segregation of the top foot of soil** from those soils located at depths greater than one foot below the ground surface.
- **Materials Transport and Disposal Off-Site:** All material excavated and removed from OU-7 shall be properly characterized and approved by NYSDEC for transport to a facility appropriately permitted to receive such material.
- **Materials Import from Off-Site Sources:** All materials proposed for import onto the Site for use as backfill shall be in compliance with the provisions of the IAWP prior to receipt at the Site. All materials imported for use in OU-7 shall be from a NYSDEC-approved source and meet NYSDEC approved backfill or cover soil quality standards for OU-7. The NYSDEC-approved backfill or cover soil quality standards are listed in 6 NYCRR Part 375 Table 375-6.8(b), and shall be the lower of the Protection of Groundwater (PGW) SCOs and Commercial Use SCOs (as summarized in DER-10, Appendix 5). Please refer to Section 12.0 of the IAWP (Appendix C) for additional details regarding the import of backfill materials from off-Site sources.
- **Materials Reuse On-Site:** Any materials proposed for reuse on-Site must be pre-approved by NYSDEC. Please refer to Section 9.0 of the IAWP (Appendix C) for details regarding materials reuse on-Site.
- **Environmental or Public Health Monitoring:** Perform environmental, worker, and/or public health monitoring as part of the IAWP when implemented in OU-7. See GCM below.
- **Contingency for Grossly Contaminated Media (GCM):** As defined by NYSDEC DER-10 Section 1.3(b)(23), GCM is soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid that is identifiable either visually, through

strong odor, by elevated contaminant vapor levels or is readily detectable without laboratory analysis. If GCM is encountered at any time during intrusive activities in OU-7, NYSDEC will be notified and the contingency plan identified in the IAWP (Appendix C) will be implemented. These conditions may warrant implementing environmental, worker, and/or community air monitoring and/or mitigation measures.

- **Re-characterization of the top foot of soil** shall be required following any activity that includes significant reworking of the soil.
- **Characterization of previously unexposed soils** shall be conducted after removal of asphalt, concrete, or overlying buildings, if those soils are to remain exposed without the replacement of a similar cover in a timely manner.
- **Protection of Existing Infrastructure:** Identification of existing historical industrial infrastructure and active utilities, and protection of the structural integrity of existing buildings and utilities.
- **Construction measures** to control dust and off-Site migration of soil to roadways.
- **Dewatering procedures** must be pre-approved by NYSDEC.

Environmental and/or public health monitoring will be performed as part of the IAWP. Work conducted pursuant to the IAWP will be in accordance with procedures defined in activity-specific Health and Safety Plans (HASPs) and Community Air Monitoring Plans (CAMPs) prepared for the work in OU-7. A sample HASP is attached as Appendix F to this ISMP. HASPs and CAMPs shall be prepared by the selected general contractor and approved by NYSDEC and NYSDOH or other designated entity prior to any intrusive work. The HASPs and CAMPs are the responsibility of the Property Owner and shall be prepared in compliance with DER-10 Technical Guidance, 29 CFR 1910 and 1926, and all other applicable Federal, State and local requirements. Intrusive construction work within OU-7 shall be performed in compliance with the IAWP, and the contractor's activity-specific HASP and the CAMP. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM.

The Property Owner or its authorized representative is solely responsible for any intrusive work they perform during implementation of the IAWP. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations. The Property Owner shall ensure that development (or any other) activities will not interfere with, or otherwise impair or compromise, the ECs and ICs described for OU-7 in this ISMP. Criteria for notifications and for documentation of compliance with the IAWP are further noted in Section 1 of the IAWP (Appendix C). Notification requirements for these activities are listed in Section 10.8.

10.5 Vapor Intrusion Mitigation Measures for New Building Construction and Reoccupation of Existing Buildings

Prior to the construction of any enclosed structures or reoccupation of existing structures within the boundaries of OU-7 (Figure 10-1), a VI evaluation will be performed to determine whether monitoring or mitigation measures are necessary to eliminate potential exposure to vapors in the existing and/or proposed structures in accordance with the most recent NYSDOH Guidance Document "Guidance for Evaluating Vapor Intrusion in the State of New York". Alternatively, a VI mitigation system such as a vapor barrier and/or passive sub-slab depressurization system capable of being converted to an active system may be installed as an element of a new building

foundation without first conducting an investigation; however, a VI evaluation shall be performed prior to occupation of new buildings. Alternate building specific monitoring or mitigation provisions may be proposed for NYSDEC and NYSDOH review and approval depending on the characteristics of the remaining impacts, the design features of the structure and the proposed use and occupancy of the structure.

10.6 Inspection and Maintenance Plan

An inspection report is required for any activity regulated by this ISMP. The ECs in OU-7 that require protection, inspection, maintenance, and/or repair, as necessary, by the Property Owner[7] are:

- 60-Inch Storm Water Sewer System and
- Soil/Surface Cover System.

Inspections of these ECs by the Property Owner shall be conducted annually, at a minimum, and will evaluate and document that:

- The Engineering Controls the Property Owner is responsible to inspect and maintain continue to perform as designed.
- The requirements of this ISMP and the Environmental Easement, for which the Property Owner is responsible, have been complied with by the owner and/or its representatives.
- The Site records, for which the owner is responsible, are complete and up to date.

Example inspection forms are provided in Appendix G. These forms are subject to revision with NYSDEC approval. Applicable inspection forms and other records (including media sampling data, if any sampling has been conducted in OU-7 during the reporting period) shall be provided in the certification report in electronic format or other reporting format as approved by NYSDEC.

If an emergency, such as a natural disaster or an unforeseen failure of any of these ECs occurs, the Property Owner or its representative shall notify NYSDEC and IBM within 24 hours of the observations/actions. Within five (5) days of the event, the Property Owner or its representative shall have a qualified environmental professional, as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State, conduct an inspection of the Site to assess the effectiveness of the ECs implemented at the Site. Inspection forms and other reporting records shall be in a format approved by NYSDEC. If necessary, a corrective action plan, with a schedule for implementation, shall be submitted by the Property Owner or its representative to NYSDEC and IBM.

Intrusive activities performed in OU-7 are subject to the requirements of the IAWP (see Section 10.4 and Appendix C). A list of the specific IBM responsibilities for the protection, inspection, monitoring, and maintenance of ECs in OU-7 is provided in Section 10.11. Detailed specifications of IBM's Site-wide responsibilities are provided in Section 12.0. Responsibilities for the inspection and maintenance of the ECs identified herein are described in the following sections.

[7] The ECs in OU-7 also include groundwater monitoring wells and the GWCS NPLA System maintained by IBM. Except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives, the inspection, maintenance, repair, replacement, and/or decommissioning of monitoring wells and the GWCS NPLA System in OU-7 is the responsibility of IBM.

10.6.1 60-inch Storm Water Sewer

The portion of the 60-inch storm water sewer located within OU-7 shall be inspected and maintained by the Property Owner.

The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. This storm water sewer also functions as a passive hydraulic barrier to downgradient groundwater migration. The 60-inch concrete storm water sewer is a component of the groundwater perimeter control system that is integral to the overall containment strategy for the NPLA plume. As such, maintaining the integrity and function of the sewer in OU-7 as an engineering control as part of the groundwater perimeter control system is required. Routine maintenance associated with the storm water sewer shall be limited to the catch basins, drop inlets, and associated structures that are accessible from the surface. Maintenance of these structures may include sediment removal or repairs to the sewer to address reduced flow capacity, failure or unacceptable deterioration due to normal wear and tear from erosion, physical impact, etc. Localized repair or replacement of the storm water sewer piping shall be performed if the integrity and functionality of the conveyance system has been compromised. For the purposes of this ISMP, repairs will only be performed to address conditions that result in loss of sewer flow capacity or imminent failure/collapse of the piping or any other damage to the storm water drainage system that impairs the effectiveness of the perimeter control system.

Results of the inspection and any associated maintenance and repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-7.

10.6.2 Soil/Surface Cover System

The integrity of the soil/surface cover system located within OU-7 shall be inspected and maintained by the Property Owner.

Potential exposure to low-level groundwater impacts located within OU-7 is mitigated by the existing soil/surface cover system at the Site (Figure 10-1). All intrusive activities performed within OU-7 will be subject to the requirements of the IAWP (see Appendix C). Monitoring of the soil/surface cover system in OU-7 includes annual inspections of the cover materials by the Property Owner. This inspection frequency is subject to change by NYSDEC and NYSDOH. Unscheduled inspections and/or sampling may take place when a suspected failure of any part of the cover system has been reported or an emergency occurs that results in a breach of the soil cover system, leaving the soils below one foot permanently exposed or with significantly less than one foot of soil cover. Maintenance/repair of the soil cover, if necessary, will be performed based upon assessments of structural integrity and overall performance. Results of the inspection and any associated maintenance and repair, if necessary, shall be included in the periodic certification report submitted by the Property Owner of OU-7. If repairs are needed, a schedule for the repairs will also be included in the periodic certification report.

In those instances where the need for repair of` this cover in OU-7 is the direct result of activities conducted by IBM or its representatives, IBM will be responsible for the expense of the repair of any damaged component of this cover. Repair of this cover will be performed based upon assessments of structural integrity and overall performance. A description of the completion of any of these repairs will be included in the periodic certification report submitted by IBM. If these repairs have not been completed, a schedule for the repairs shall also be included in the periodic certification report.

10.6.3 GWCS NPLA System

The GWCS NPLA System is a component of the GWCS. As such, maintaining the integrity and function of the passive collection system in OU-7 as an engineering control as part of the GWCS is required. The GWCS NPLA system in OU-7 will be inspected and maintained by IBM. In those instances where damage to the GWCS NPLA System in OU-7 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner shall be responsible for the expense of the repair, replacement, and/or decommissioning of any damaged portions of the system.

10.6.4 Groundwater Monitoring Well System

The groundwater monitoring well system in OU-7 will be inspected and maintained by IBM. Monitoring wells that will not be required for long-term groundwater monitoring in OU-7, as approved by NYSDEC, shall be decommissioned by IBM in accordance with NYSDEC requirements.

Groundwater monitoring wells in OU-7 are routinely sampled to assess the effectiveness of existing corrective measures. In those instances where the need for repair, replacement and/or decommissioning of any monitoring wells in OU-7 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner shall be responsible for the expense of the repair, replacement, and/or decommissioning of any damaged well. Repairs and/or replacement of monitoring wells shall be performed based upon assessments of structural integrity and overall performance. A description of the completion of any of these repairs, if necessary, shall be included in the periodic certification report submitted by the Property Owner of OU-7. If these repairs have not been completed, a schedule for the repairs shall also be included in the periodic certification report.

NYSDEC shall be notified prior to the decommissioning of monitoring wells to assess whether a replacement monitoring well is required. Well decommissioning without replacement shall be conducted only with prior approval from NYSDEC. The repair, decommissioning and/or replacement of monitoring wells shall be documented in the annual inspection reports and in the subsequent periodic review report. Well decommissioning shall be performed in accordance with *NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Procedures,* dated November 2009.

10.7 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial systems (i.e., corrective measures) are considered complete when monitoring indicates that the corrective measure has achieved the remedial action objectives. At that time, a request to modify the continued applicability of one or more ICs and/or the continued operation and maintenance of one or more ECs can be submitted to NYSDEC.

Protection, inspection, maintenance and operation of the 60-inch storm water sewer, the soil/surface cover, the GWCS NPLA System, and the groundwater monitoring well systems in OU-7 shall not be discontinued unless prior written approval is granted by NYSDEC. In the event that monitoring data indicates that one or more of these ECs are no longer required, a proposal to eliminate these protection requirements may be submitted to NYSDEC.

10.8 Notifications

Notifications will be submitted by the Property Owner directly to NYSDEC (with a copy to IBM) as needed at the frequencies identified below for the following reasons:

- 15-day advance notice of proposed intrusive activities in OU-7 which are subject to the requirements of the IAWP and/or result in the following:
  - Import of materials from off-Site sources for use in OU-7,
  - Export of materials from OU-7 for off-Site disposal,
  - Reuse of materials in OU-7 from elsewhere on-Site,
  - Sampling and analysis of soil in OU-7 as required because of a reworking of the soil/surface cover system,
  - Sampling and analysis of soil in OU-7 as required due to the expected extended exposure of soils previously covered by the existing surface cover (i.e., asphalt, cement, or a building), and
  - Excavation dewatering, with prior approval from NYSDEC.
- 60-day advance notice of proposed changes in OU-7 use that are required under the terms of the Order, 6NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). A change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of an emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the ECs in OU-7, with written confirmation within seven (7) days that includes a summary of actions, if any, taken by the Property Owner and/or emergency response personnel.
- Verbal notice within 24 hours of any action of the Property Owner or its representatives which affects the integrity and/or effectiveness of the remedial or monitoring system in OU-7 or Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule will be submitted directly to NYSDEC with a copy to IBM.
- In those instances which are a direct result of activities by the Property Owner or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of OU-7 or the responsibility for implementing this ISMP will include the following notifications:

- NYSDEC shall be notified in writing of the proposed change at least 60 days prior to the change. This will include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-7, the new Property Owner's name, contact representative, and contact information shall be confirmed in writing.

10.9 Property Owner Certification Report to IBM

The Property Owner shall maintain records for OU-7 which will include but not be limited to this ISMP, inspection reports, certification reports and other written communications with NYSDEC and NYSDOH.

The Property Owner shall submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that, with respect to activities of the Property Owner or its representatives:

- ICs and/or ECs employed in OU-7 are unchanged, through the actions of the Property Owner or its representatives, from the previous certification or that changes to the ICs and/or ECs were approved by NYSDEC; and
- Nothing has occurred, through the actions of the Property Owner or its representatives, that impairs the ability of the ICs and/or ECs to protect public health and the environment or that constitute a violation or failure to comply with the ISMP.

NYSDEC retains the right to access OU-7 to evaluate the continued maintenance of ICs and/or ECs. This certification shall be submitted annually to NYSDEC through IBM, or at an alternate frequency that NYSDEC may allow and will be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR shall be prepared with OU-specific modules that address each of the OUs as defined in the Order. In the event that OU-7 is subdivided into separate parcels with different ownership, a certification form shall be prepared addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) shall be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives will also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form shall be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 Office; and a PRR in electronic format to NYSDEC's Central and Region 3 Offices and the NYSDOH Bureau of Environmental Exposure Investigation office.

The Property Owner certification report for OU-7 or its subdivisions shall include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy for OU-7.
- Results of required annual OU-7 inspections and, if applicable, severe condition inspections.
- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-7 during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports will include the following certification language:

"*For each institutional or engineering control identified for OU-7, I certify that all of the following statements are true:*

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional and engineering controls required by the remedial program.
- The institutional control employed at OU-7 is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect public health and the environment.
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-7 interim site management plan for this control.
- Access to OU-7 will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-7 is compliant with the OU-7 environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner’s Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-7].”

A SPDES permit that is issued to the Property Owner regulates the discharge of the 60-inch storm water sewer. Discharge from the 60-inch storm water sewer is located in OU-8 and includes surface drainage and subsurface infiltration from OU-3a and OU-7. This ISMP has no reporting requirements or oversight responsibilities for this discharge permit. The NYSDEC Division of Water will oversee the reporting, monitoring, and discharge requirements for this SPDES permit.

10.10 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan shall be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan shall explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work shall be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

10.11 Summary of IBM Requirements

IBM shall be responsible for performing the following activities in OU-7:

- Inspection and maintenance of the integrity of all monitoring wells.
- Collection of groundwater samples for analysis and submittal of a summary report to NYSDEC.
- Collection of groundwater elevation data and submittal of potentiometric surface maps to NYSDEC.
- Receipt of the Property Owner’s OU-7 certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.

- Include, in the Site-wide compiled PRR, any inspections, repairs, maintenance, or remedies implemented by IBM in OU-7.
- Protection of the structural integrity of the existing components of ECs in OU-7 during any activities performed by IBM in OU-7.
- Protection of the structural integrity of all buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during any activities performed by IBM in OU-7.
- If IBM is required to perform intrusive work in OU-7, such work shall be conducted in accordance with the IAWP. IBM or its authorized representatives are solely responsible for any intrusive work it performs. This includes, but is not limited to, the structural integrity of excavations, proper handling and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and activities in, on, under, or in proximity to structures that may be affected by excavations (such as building foundations).
- Upon request, IBM shall provide a copy of the Site-wide certification to the OU-7 Property Owner.

IBM requirements for these activities are further described in Section 12.0.

11.0 OPERABLE UNIT 8

For any emergencies encountered during activities in OU-8, refer to the contingency plan included in the IAWP in Appendix C. Notify NYSDEC immediately by calling Daniel Bendell at 845-256-3151.

This section of the ISMP details the implementation procedures that will be required by the Environmental Easement for OU-8. Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the Order on Consent (Index No. D3-10023-6-11) and thereby subject to applicable penalties. The documents governing activities in OU-8 are the Order on Consent (Appendix A), the Environmental Easement for OU-8 (Appendix B), and this ISMP. A list of acronyms is provided between the table of contents and Section 1.0.

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent use of the Site**. If the activities of the Property Owner or its representatives interfere with the effectiveness of the ICs and/or ECs for OU-8 or the ICs and/or ECs that are associated with the performance of the Site-wide remedy, the Property Owner will be held responsible for the costs associated with repairs and/or related schedule delays.**

This section of the ISMP lists the components of the remedy present in OU-8 and the Property Owner's responsibilities for the protection of the remedy and the associated monitoring system. This section also lists the inspections, certifications, notifications, and record keeping required of the Property Owner for OU-8.

The Property Owner's responsibilities can be summarized as follows:

- Adhere to and maintain the ICs established for OU-8.
- Ensure that the activities of the Property Owner and its representatives:
  - Do not impede the effectiveness of the Site-wide ECs, and
  - Protect the integrity of ECs in OU-8.
- Notify NYSDEC and IBM prior to implementation of any activities in OU-8 governed by this ISMP.
- Inspect and maintain remedial components owned by the Property Owner.
- Provide the OU-8 certification report to NYSDEC through IBM as part of the annual Periodic Review Report (PRR).

The Property Owner's responsibilities in OU-8 include, but are not limited to:

- Commercial use restriction (Section 11.2).
- Groundwater use restriction (Section 11.2).
- 60-inch storm water sewer system and its outfall (Section 11.3).
- For any soil disturbance (Section 11.4):

  - Sampling and approval from NYSDEC are required before soils are imported from an off-Site source for use in OU-8, or exported from OU-8 for either disposal off-Site or reuse elsewhere on-Site (i.e., in another OU), in accordance with DER-10;
  - Contingency Plan if grossly contaminated soils are encountered; and
  - Protection and maintenance of the integrity of the 60-inch storm water sewer system outfall.
- Inspection/status reports and maintenance of the remedial components owned by the Property Owner (Section 11.4).
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

11.1 Introduction

Operable Unit 8 (OU-8) is a separate 0.9-acre parcel located a short distance from the northwestern border of OU-3a (refer to Figure 11-1). OU-8 is bounded to the north by Route 209 and by private properties to the east, south and west. OU-8 contains the outfall structure of the 60-inch storm water sewer system that is located primarily within OU-3a. There are no SWMUs identified in OU-8 and it is not included as part of the Class 4 Site (IHWDS Registry No. 356002). OU-8 has been designated for commercial use (and includes industrial use).

IC and/or EC requirements and associated Property Owner responsibilities are described in the following sections.

11.2 Institutional Controls

The ICs for OU-8 include:

- **Compliance with the OU-8 Environmental Easement** by the Property Owner and the Property Owner's successors and assigns:
  - **Land Use Restriction:** Land use in OU-8 is restricted to commercial or industrial use.
  - **Groundwater Use Restriction:** The use of groundwater is prohibited without necessary water quality treatment as determined by the NYSDOH or the Ulster County Department of Health rendering it safe for its intended use and obtaining written approval from the NYSDEC. In addition, groundwater withdrawal from beneath OU-8 will be considered by NYSDEC on a case-by-case basis following a technical demonstration that the proposed groundwater withdrawal does not adversely impact the existing groundwater flow geometry in the surficial sand unit and/or in the bedrock unit in the vicinity of the Building B202 Elevator Shaft in OU-1.
  - **Compliance with the ISMP.**

These ICs may not be discontinued without an amendment to or extinguishment of the Environmental Easement for OU-8 and/or the ISMP. A copy of the OU-8 Environmental Easement recorded with the County of Ulster, New York shall be included in Appendix B.

Specific restrictions apply to any soil disturbance in OU-8 and new building construction/sampling for vapor intrusion mitigation as noted in Sections 11.4 and 11.5, respectively.

11.3 Engineering Controls

The EC in OU-8 is:

- **60-inch Storm Water Sewer System and its Outfall:** The 60-inch storm water sewer extends from the western portion of OU-7, into and through the northern boundary of OU-3a, where it continues into OU-8 and terminates at an exposed outfall structure into a drainage swale. The 60-inch concrete storm water sewer is a component of the groundwater perimeter control system that is integral to the overall containment strategy for the NPLA plume that is interpreted to originate in OU-3. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Historical groundwater monitoring data indicates that the sewer also functions as a passive hydraulic barrier to downgradient groundwater migration due to the sewer design and hydraulic characteristics of the subsurface soils in the vicinity of the storm water sewer. Ongoing interception and collection of groundwater by the storm water sewer remains an important component of the overall perimeter control system. Therefore, maintaining the integrity and function of the sewer and its outfall in OU-8 as an engineering control as part of the groundwater perimeter control system is required.

The following EC requires protection, inspection, and/or maintenance and repair, as necessary, by the Property Owner:

- 60-inch Storm Water Sewer and its Outfall.

Property Owner inspection and maintenance requirements for this EC is described in Section 11.5.

There are no ECs in OU-8 which require regular inspection, maintenance, and repair by IBM.

11.4 Soil Disturbance

This section describes the criteria required for any soil disturbance activity within OU-8. In general, the soils in OU-8 may be disturbed without the need to segregate surface soils from subsurface soils into separate piles. These soils may be backfilled into the excavated area in any sequence deemed appropriate by the Property Owner or its representatives.

The Property Owner or its representative must notify NYSDEC at least 15 days prior to the start of any soil disturbance activity in OU-8. This includes any intrusive activities relating to utilities trenching, storm water sewer/outfall maintenance, etc. Following notification, NYSDEC will evaluate whether additional information is required prior to implementing the work. The 15-day notification requirement will not apply to emergency response scenarios where intrusive activities may be required for utility repairs or other safety related activities (e.g., gas or sewer line repairs) requiring immediate attention. Criteria for notifications are further noted in Sections 11.7 and 11.8.

The following restrictions apply to any disturbance of soil in OU-8:

- **Materials Transport and Disposal Off-Site:** All material excavated and removed from OU-8 shall be properly characterized and approved by NYSDEC for transport to a facility appropriately permitted to receive such material.
- **Materials Import from Off-Site Sources:** All materials proposed for import onto the Site for use as backfill shall be in compliance with the provisions of the IAWP prior to receipt at the Site. All materials imported for use in OU-8 shall be from a NYSDEC-approved source and meet NYSDEC-approved backfill or cover soil quality standards for OU-8. The NYSDEC-approved backfill or cover soil quality standards are listed in 6 NYCRR Part 375 Table 375-6.8(b) and shall be the lower of the Protection of Groundwater (PGW) SCOs and Commercial Use SCOs (as summarized in DER-10, Appendix 5). Please refer to Section 12.0 of the IAWP (Appendix C) for additional details regarding the import of backfill materials from off-Site sources.

- **Materials Reuse On-Site:** Any materials proposed for reuse on-Site must be pre-approved by NYSDEC. Please refer to Section 9.0 of the IAWP (Appendix C) for details regarding materials reuse on-Site.
- **Contingency for Grossly Contaminated Media (GCM):** As defined by NYSDEC DER-10 Section 1.3(b)(23), GCM is soil, sediment, surface water or groundwater which contains sources or substantial quantities of mobile contamination in the form of non-aqueous phase liquid that is identifiable either visually, through strong odor, by elevated contaminant vapor levels or is readily detectable without laboratory analysis**.** If GCM is encountered at any time during intrusive activities in OU-8, NYSDEC will be notified and the contingency plan identified in the IAWP (Appendix C) will be implemented. These conditions may warrant implementing additional environmental, worker, and/or community air monitoring and mitigation measures.
- **Protection and maintenance** of the integrity of the 60-inch storm water sewer system outfall.
- **Protection of Existing Infrastructure:** Identification of existing historical industrial infrastructure and active utilities, and protection of the structural integrity of existing buildings and utilities shall be required.
- **Construction measures** to control dust and off-Site migration of soil to roadways.
- **Dewatering procedures** must be pre-approved by NYSDEC.

The Property Owner or its authorized representative is solely responsible for any soil disturbance activities they perform in OU-8. This includes but is not limited to identification of historical infrastructure, identification of existing utilities, monitoring the structural integrity of excavations, proper management and/or disposal of soil, water or other wastes generated from excavation activities, control of runoff from open excavations, and evaluation of activities in, on, under, or in proximity to structures that may be affected by excavations such as building foundations, storm water sewers, etc. The Property Owner will ensure that any soil disturbance activities will not interfere with, or otherwise impair or compromise, the ECs and ICs described for OU-8 in this ISMP. A summary of these activities will be included in the periodic inspection and certification reports submitted to NYSDEC by the Property Owner through IBM.

11.5 Inspection and Maintenance Plan

An inspection report is required for any activity regulated by this ISMP. The EC in OU-8 that requires protection, inspection, maintenance, and/or repair, as necessary, by the Property Owner is:

- 60-inch Storm Water Sewer and its Outfall.

Inspection of this EC by the Property Owner will be conducted annually, at a minimum, and will evaluate and document that:

- The Engineering Controls the Property Owner is responsible to inspect and maintain continue to perform as designed.
- The requirements of this ISMP and the Environmental Easement, for which the Property Owner is responsible, have been complied with by the Property Owner and/or its representatives.
- The Site records, for which the owner is responsible, are complete and up to date.

Example inspection forms are provided in Appendix G. These forms are subject to revision with NYSDEC approval. Applicable inspection forms and other records (including media sampling data, if any sampling has been conducted in OU-8 during the reporting period) will be provided in electronic format (or other reporting format as approved by NYSDEC) in the certification report.

If an emergency, such as a natural disaster or an unforeseen failure of this EC occurs, the Property Owner or its representative will notify NYSDEC and IBM within 24 hours of the observations/actions. Within five days of the event, the Property Owner or its representative will have a qualified environmental professional, as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State, conduct an inspection of the Site to assess the effectiveness of the EC implemented at the Site. Inspection forms and other reporting records will be in a format approved by NYSDEC. If necessary, a corrective action plan, with a schedule for implementation, will be submitted by the Property Owner or its representative to NYSDEC and IBM.

A list of the specific IBM responsibilities for OU-8 is provided in Section 11.10. Detailed specifications of IBM's Site-wide responsibilities are provided in Section 12.0.

Specific Property Owner responsibilities for the inspection and/or maintenance of the EC identified in Section 11.3 are described in the following section.

11.5.1 60-Inch Storm Water Sewer Outfall

The portion of the 60-inch storm water sewer and the outfall located within OU-8 will be inspected and maintained by the Property Owner.

The storm water sewer functions as a passive hydraulic barrier to downgradient groundwater migration. Routine maintenance associated with the storm water sewer will be limited to the catch basins, drop inlets, and associated structures that are accessible from the surface. Maintenance of these structures may include sediment removal or repairs to the sewer and outfall structure to address reduced flow capacity, failure or unacceptable deterioration due to normal wear and tear from erosion, physical impact, etc.

Localized repair or replacement of the storm water sewer piping will be performed if the integrity and function of the conveyance system has been compromised. For the purposes of this ISMP, repairs will only be performed to address conditions that result in loss of sewer flow capacity or imminent failure/collapse of the piping or any other damage to the storm water drainage system that impairs the effectiveness of the perimeter control system. Results of the inspection and any associated maintenance and repairs, if necessary, will be included in the periodic certification report submitted by the Property Owner of OU-8.

11.6 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial systems (i.e., corrective measures) are considered complete when monitoring indicates that the corrective measure has achieved the remedial action objectives. At that time, a request to modify the continued applicability of one or more ICs and/or the continued operation and maintenance of one or more ECs can be submitted to NYSDEC.

Protection, inspection, maintenance and operation of the 60-inch storm water sewer outfall will not be discontinued unless prior written approval is granted by NYSDEC. In the event that monitoring data indicate that these ECs are no longer required, a proposal to eliminate these protection requirements may be submitted to NYSDEC.

11.7 Notifications

Notifications shall be submitted by the Property Owner directly to NYSDEC (with a copy to IBM) as needed at the frequencies identified below for the following reasons:

- 15-day advance notice of proposed intrusive activities in OU-8 which are subject to the requirements of the IAWP and/or result in the following:
  - Import of materials from off-Site sources for use in OU-8,
  - Export of materials from OU-8 for off-Site disposal,
  - Reuse of materials in OU-8 from elsewhere on-Site, and
  - Excavation dewatering, with prior approval from NYSDEC.
- 60-day advance notice of proposed changes in OU-8 use that are required under the terms of the Order, 6NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). Change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of an emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of the ECs in OU-8, with written confirmation within seven (7) days that includes a summary of actions, if any, taken by the Property Owner and/or emergency response personnel.
- Verbal notice within 24 hours of any action of the Property Owner or its representatives which affects the integrity of the effectiveness of the remedial or monitoring system in OU-8 or Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule will be submitted directly to NYSDEC with a copy to IBM.
- In those instances which are a direct result of activities by the Property Owner or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of OU-8 or the responsibility for implementing this ISMP will include the following notifications:

- NYSDEC shall be notified in writing of the proposed change at least 60 days prior to the change. This will include a certification that the prospective purchaser has been provided with a copy of the Order and approved work plans and reports, including this ISMP.
- Within 15 days after the transfer of all or part of OU-8, the new Property Owner's name, contact representative, and contact information shall be confirmed in writing.

11.8 Property Owner Certification Report to IBM

The Property Owner shall maintain records for OU-8 which will include but not be limited to this ISMP, inspection reports, certification reports and other written communications with NYSDEC and NYSDOH.

The Property Owner shall submit to NYSDEC, through IBM, a written statement with certifications, under penalty of perjury, that, with respect to activities of the Property Owner or its representatives:

- ICs and/or ECs employed at the OU are unchanged through the actions of the Property Owner or its representatives from the previous certification or that changes to the ICs and/or ECs were approved by NYSDEC; and,

- Nothing has occurred, through the actions of the Property Owner or its representatives, that impairs the ability of the ICs and/or ECs to protect public health and the environment or that constitute a violation or failure to comply with the ISMP.

NYSDEC retains the right to access OU-8 to evaluate the continued maintenance of ICs and/or ECs. This certification shall be submitted annually to NYSDEC through IBM, or at an alternate frequency that NYSDEC may allow and will be made by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR shall be prepared with OU-specific modules that address each of the OUs as defined in the Order. If OU-8 is subdivided into separate parcels with different ownership, a certification form shall be prepared addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM.

The report(s) shall be prepared in accordance with NYSDEC DER-10. Media sampling results generated during sampling events performed by the Property Owner or its representatives shall also be incorporated into the certification form provided by the Property Owner. The appropriate number of copies of the certification form shall be submitted to NYSDEC through IBM, such that IBM can submit within 45 days of the end of each certification period, a compiled PRR in hard-copy format to NYSDEC's Region 3 Office; and a PRR in electronic format to NYSDEC's Central and Region 3 Offices and the NYSDOH Bureau of Environmental Exposure Investigation.

The Property Owner certification report for OU-8 or its subdivisions will include, within the scope of activities performed by the Property Owner and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy for OU-8.
- Results of required annual OU-8 inspections and, if applicable, severe condition inspections.
- Applicable inspection forms and other records generated by the Property Owner or its representatives for OU-8 during the reporting period.
- A summary of data and/or information generated by the Property Owner or its representative during the reporting period with comments and conclusions.
- If the Property Owner is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted. In addition, laboratory data deliverables for samples collected during the certification reporting period will be submitted electronically in a NYSDEC-approved format.

The annual certification reports will include the following certification language:

"*For each institutional or engineering control identified for OU-8, I certify that all of the following statements are true:*

- No actions of the Property Owner or its representative have reduced the effectiveness of the institutional and engineering controls required by the remedial program.

- The institutional control employed at OU-8 is unchanged from the date the control was put in place, or last approved by the NYSDEC.
- Nothing has occurred through the actions of the Property Owner or its representatives that would impair the ability of the control to protect public health and the environment.
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the OU-8 interim site management plan for this control.
- Access to OU-8 will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
- Use of OU-8 is compliant with the OU-8 environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Representative] [and I have been authorized and designated by all Property Owners to sign this certification for OU-8]."

A SPDES permit that is issued to the Property Owner regulates the discharge of the 60-inch water storm sewer at the outfall located in OU-8. The SPDES permit that was issued to the previous Property Owner, TechCity, (SPDES No. NY0260134) expired on June 30, 2019 and was not renewed. The new Property Owner, iPark 87, shall apply to NYSDEC for a new SPDES permit. Discharge from the 60-inch storm water sewer includes surface drainage and subsurface infiltration from OU-3a and OU-7. This ISMP has no reporting requirements or oversight responsibilities for this discharge permit. The NYSDEC Division of Water oversees the reporting, monitoring, and discharge requirements for this SPDES permit.

11.9 Corrective Measures Plan

If, through the actions of the Property Owner or its representatives, a component of the Site-wide remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan shall be submitted by the Property Owner (with copy to IBM) to NYSDEC for approval. This plan shall explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work shall be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

11.10 Summary of IBM Requirements

IBM will be responsible for performing the following activities in OU-8:

- Receipt of the Property Owner's OU-8 certification report and submittal to NYSDEC as part of the Site-wide compiled PRR.
- Include, in the Site-wide compiled PRR, any inspections, repairs, maintenance, or remedies implemented by IBM in OU-8.
- Protection of the structural integrity of the EC in OU-8 during any activities performed by IBM in OU-8.
- Protection of the structural integrity of all buildings, utilities, and surface and subsurface features, including but not limited to historical and existing infrastructure during any activities performed by IBM in OU-8.

- For any engineering control for which the property owner is responsible for inspection, maintenance and repair, in those instances where the need for repair and/or replacement for that engineering control in OU-8 is the direct result of activities conducted by IBM or its representatives, IBM shall be responsible for the expense of the repair and/or replacement of this storm water sewer. Repairs and/or replacement of such engineering control shall be performed based upon assessments of structural integrity and overall performance. A description of the completion of any of these repairs shall be included in the periodic certification report submitted by IBM. If these repairs have not been completed, a schedule for the repairs shall also be included.
- Upon request, IBM shall provide a copy of the Site-wide certification to the OU-8 Property Owner.

For a more extensive description of IBM requirements for these activities, refer to Section 12.0.

12.0 IBM RESPONSIBILITIES

Institutional Controls (ICs) and Engineering Controls (ECs), as defined in Section 1.1.2, have been incorporated into the Site remedy to reduce the risk to public health and the environment by limiting potential exposures to impacted media that will remain at the Site during redevelopment activities and subsequent Site use. Documents governing future Site activities include the Order on Consent (Appendix A), the Environmental Easement(s) for each OU (Appendix B), the non-disturbance easement incorporated as part of the deed with the Office of the Ulster County Clerk for OU-5, and this ISMP. Detailed responsibilities of the Property Owner(s) in each OU are specified in the section for that OU. A list of acronyms is located between the table of contents and Section 1.0.

IBM's primary responsibilities are to monitor and maintain existing infrastructure/components of remedial systems (i.e., ECs) that have been implemented to protect human health and the environment on a Site-wide basis. IBM's responsibilities can be summarized as follows:

- Monitor the effectiveness of the Site-wide remedy.
- Maintain remedy components and ECs to function as designed.
- Adhere to the ICs specified for each OU in this ISMP.
- Collect periodic review certifications from the Property Owners and combine them with IBM's periodic certification to NYSDEC in compliance with the Order on Consent and this ISMP.
- Accommodate and fund NYSDEC and NYSDOH oversight of the above requirements.

This section details the Site-wide monitoring, maintenance, certification, and reporting procedures that shall be required by IBM irrespective of the OU in which the EC is located and describes the measures for evaluating the performance and effectiveness of the remedy(s) implemented to reduce or mitigate residual impacts to affected media within each OU.

Failure to properly implement or comply with the requirements of the ISMP is a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the Order on Consent (Index No.D3-10023-6-11) and thereby subject to applicable penalties. If the activities of IBM or its representatives interfere with the effectiveness of the ICs and/or ECs that are associated with the performance of the Site-wide remedy, IBM shall be held responsible for the costs associated with repairs as required by NYSDEC.

This section also describes the general Site-wide monitoring activities that are the responsibility of IBM under this ISMP. It describes IBM's maintenance and repair responsibilities, and the measures for evaluating the performance and effectiveness of the remedy(s) implemented to reduce or mitigate residual impacts within each OU for the affected media identified below. These requirements and responsibilities may only be revised with the approval of NYSDEC.

12.1 General

The key elements of the monitoring and maintenance program that IBM shall perform include:

- Follow the soil management/intrusive activities procedures specified for each OU;
- Inspection and/or maintenance of select ECs;
- Sampling and analysis of appropriate media (e.g., groundwater, soil, indoor air);

- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria; and
- Evaluating OU information periodically to confirm that the remedy continues to be effective in protecting public health and the environment.

The following sections provide information on this monitoring program, including:

- Protection, inspection, maintenance and reporting requirements for select ECs;
- Sampling locations, protocol, and frequency;
- Analytical sampling program requirements; and
- Quality Assurance/Quality Control (QA/QC) requirements.

12.2 IBM Remedial Component Responsibilities

IBM shall perform an inspection of the following remedial components:

- Groundwater Monitoring Well System;
- Groundwater Collection System (GWCS);
- Utility Trench Barrier Wall (a component of the Perimeter Control System);
- IWSL Surface Impoundment; and
- IWSL Surface Fence.

These inspections, conducted annually at a minimum, shall evaluate and document the following:

- That ECs continue to perform as designed;
- That Site ICs and/or ECs continue to be protective of human health and the environment;
- That compliance with requirements of this ISMP and the Environmental Easement is maintained;
- That Site records are complete and up to date; and
- Any changes made to the remedial or monitoring system.

If an emergency, such as a natural disaster or an unforeseen failure of the ECs identified above occurs, an inspection of the Site shall be conducted by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State, within five (5) days of the event to verify the effectiveness of the EC implemented at the Site. Inspection forms and other reporting records will be in a format as approved by NYSDEC.

The following sections identify the ECs within each OU for which IBM retains inspection, monitoring, and reporting responsibilities. Specific requirements for these ECs are described in Section 12.3. Notification requirements for these activities are noted in Section 12.8.

12.2.1 OU-1

OU-1 currently includes the following ECs that shall require inspection and potential maintenance by IBM:

- OU-1 groundwater monitoring well network (Section 12.3.1).

12.2.2 OU-2

There are no ECs in OU-2.

12.2.3 OU-3

OU-3 currently includes the following ECs that shall require inspection and potential maintenance by IBM:

- OU-3 groundwater monitoring well system (Section 12.3.1); and
- Perimeter Control System components (Section 12.3.2), as follows:
  - Utility Trench Barrier Wall (Section 12.3.2.3).

12.2.4 OU-3a

OU-3a currently includes the following ECs that shall require inspection and potential maintenance by IBM:

- OU-3a groundwater monitoring well system (Section 12.3.1);
- Perimeter Control System components (Section 12.3.2), as follows:
  - Utility Trench Barrier Wall (Section 12.3.2.3); and
- Groundwater Collection System (Section 12.3.3).

12.2.5 OU-4

OU-4 currently includes the following ECs that shall require inspection and potential maintenance by IBM:

- OU-4 groundwater monitoring well system (Section 12.3.1).

12.2.6 OU-4a

OU-4a currently includes the following EC that shall require inspection and potential maintenance by IBM:

- OU-4a groundwater monitoring well system (Section 12.3.1).

12.2.7 OU-5

OU-5 currently includes the following ECs that shall require inspection and potential maintenance by IBM:

- OU-5 groundwater monitoring system (Section 12.3.1);
- IWSL Surface Impoundment (Section 12.3.4); and
- IWSL Surface Impoundment Fence (Section 12.3.5).

12.2.8 OU-6

OU-6 currently includes the following ECs that shall require inspection and potential maintenance by IBM:

- OU-6 groundwater monitoring well system (Section 12.3.1).

12.2.9 OU-7

OU-7 currently includes the following ECs that shall require inspection and potential maintenance by IBM:

- NPLA groundwater collection system and
- OU-7 groundwater monitoring well system (Section 12.3.1).

12.2.10 OU-8

OU-8 does not contain any ECs for which IBM retains inspection or maintenance responsibilities.

12.3 Remedial Component Inspection, Monitoring and Reporting Requirements

The following sections describe the ECs within each OU for which IBM retains inspection, monitoring, and reporting responsibilities. Prior to any activity, IBM shall inspect the area to identify ECs and employ appropriate measures to protect the integrity of the ECs present within the vicinity of the ensuing activity. The ECs present in each OU are listed in Section 12.2. Example inspection forms are provided in Appendix G. These forms are subject to revision with NYSDEC approval. Applicable inspection forms and other records (including media sampling data, if any sampling has been conducted during the reporting period) will be provided in electronic format (or other reporting format as approved by NYSDEC) in the certification report.

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within five (5) days of the event to verify the effectiveness of the ECs implemented at the Site by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Inspection forms and other reporting records will be in a format as approved by NYSDEC.

Specific Property Owner responsibilities are specified in each OU.

12.3.1 Site-wide Groundwater Monitoring Well System

The Site-wide groundwater monitoring well system includes monitoring wells located in OUs 1, 3, 3a, 4, 4a, 5, 6 and 7. The maintenance, repair, replacement, and/or decommissioning of monitoring wells is the responsibility of IBM, except in those instances when the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives.

In those instances where the need for repair, replacement and/or decommissioning of any monitoring wells is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner shall be held responsible for the expense of the repair, replacement, and/or decommissioning of any damaged well. Repairs and/or replacement of wells in the monitoring well system shall be performed based on assessments of structural integrity and overall performance.

NYSDEC shall be notified prior to repair or decommissioning of monitoring wells to assess whether a replacement monitoring well is required. The repair, decommissioning and/or replacement of monitoring wells shall be documented in the annual inspection report and in the subsequent periodic certification review report. Well decommissioning without replacement shall be conducted only with prior approval from NYSDEC. Well decommissioning shall be performed in accordance with *NYSDEC's CP-43: Groundwater Monitoring Well Decommissioning Procedures,* dated November 2009. Well decommissioning without replacement shall be conducted only with prior approval from NYSDEC.

12.3.2 Perimeter Control System

The perimeter control system intercepts impacted groundwater and provides hydraulic control at the Site. The primary purpose and function of the storm water sewer portions of the perimeter control system is to collect and convey storm water generated from surface water runoff in areas in the various OUs through a gravity catch basin system; however, these storm water sewer components are integral to the overall containment strategy for the B005 groundwater plume originating in OU-3. Portions of the perimeter control system are located in OUs 1, 3, 3a, 7 and 8. The perimeter control system consists of the following components:

- **42-inch Storm Water Sewer System:** The 42-inch concrete storm water sewer is a component of the groundwater perimeter control system that is integral to the overall containment strategy for the NPLA plume that is interpreted to originate in OU-3. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Historical groundwater monitoring data indicate that the sewer functions as a passive hydraulic barrier to downgradient groundwater migration due to the sewer design and hydraulic characteristics of the subsurface soils in the vicinity of the storm water sewer. Ongoing interception and collection of groundwater by the storm water sewer remains an important component of the overall perimeter control system.
- **60-inch Storm Water Sewer and its Outfall:** This storm water sewer, shown on Figure 5-1, extends from the western portion of OU-7, into OU-3a on through the northern boundary of OU-3a, where it continues into OU-8 and terminates at an exposed outfall structure into a drainage swale. The 60-inch storm water sewer consists of a 60-inch concrete storm water sewer pipe. The 60-inch concrete storm water sewer is a component of the groundwater perimeter control system that is integral to the overall containment strategy for the NPLA plume that is interpreted to originate in OU-3. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system. Historical groundwater monitoring data indicate that the sewer functions as a passive hydraulic barrier to downgradient groundwater migration due to the sewer design and hydraulic characteristics of the subsurface soils in the vicinity of the storm water sewer. Ongoing interception and collection of groundwater by the storm water sewer remains an important component of the overall perimeter control system.
- **Utility Trench Barrier Wall:** The Utility Trench Barrier Wall consists of a 250-foot-long trench constructed of compacted clay in an area where impacted groundwater has the potential to migrate off-Site through abandoned and active utility pipeline corridors and is a component of the groundwater perimeter control system. Approximately 100 feet of the Utility Trench Barrier Wall is located in OU-3a, with the remaining approximately 150 feet extending southward into OU-3.

Routine maintenance and repair and annual inspection of the following components of the perimeter control system are the responsibility of the Property Owners of the respective OUs in which the components are located:

- 42-inch Storm Water Sewer System located in OUs 1, 3 and 4;
- 42-inch Storm Water Sewer Outfall located in OU-6;
- 60-inch Storm Water Sewer located in OUs 3a and 7; and
- 60-inch Storm Water Sewer Outfall located in OU-8.

IBM responsibilities for components of the Perimeter Control System are described in the following sections.

12.3.2.1 42-inch Storm Water Sewer

Portions of the 42-inch storm water sewer, a component of the groundwater perimeter control system, are located in OUs 1, 3, and 4. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system.

Routine maintenance of the 42-inch storm water sewer, including maintenance of the catch basins, drop inlets, and associated structures that are accessible from the surface, is the responsibility of the respective Property Owners. Maintenance of these structures may include sediment removal or repairs to the sewer to address reduced flow capacity, failure or unacceptable deterioration due to normal wear and tear from erosion, physical impact, etc. Annual inspections of the catch basins, drop inlets, and associated structures that are accessible from the surface and completion of an inspection form is the responsibility of the Property Owners of OUs-1, 3, and 4, as described in Sections 2.6, 4.6, and 6.7, respectively.

Localized repair or replacement of the storm water sewer piping will be performed by the Property Owner of the OU in which the damaged section of the storm water piping system is located if the integrity and function of the conveyance system has been compromised.

For the purposes of this ISMP, repairs will only be performed to address conditions that result in loss of sewer flow capacity or imminent failure/collapse of the piping or any other damage to the storm water drainage system that impairs the effectiveness of the perimeter control system.

12.3.2.2 60-inch Storm Water Sewer

Portions of the 60-inch storm water sewer, a component of the groundwater perimeter control system, are located in OUs-3a, 7, and 8. The storm water sewer's primary purpose and function is to provide conveyance of storm water generated from surface runoff areas in the various OUs through a gravity catch basin system.

Routine maintenance of the 60-inch storm water sewer, including maintenance of the catch basins, drop inlets, and associated structures that are accessible from the surface, is the responsibility of the Property Owner of OU-3a, 7, and 8. Maintenance of these structures may include sediment removal or repairs to the sewer to address reduced flow capacity, failure or unacceptable deterioration due to normal wear and tear from erosion, physical impact, etc. Annual inspections of the catch basins, drop inlets, and associated structures that are accessible from the surface and completion of an inspection form is the responsibility of the Property Owner of OU-3a, 7, and 8 as described in Section 5.6, Section 10.6, and Section 11.5.

Localized repair or replacement of the storm water sewer piping will be performed by the Property Owner of OU in which the damaged section of the storm water piping system is located if the integrity and function of the conveyance system has been compromised.

For the purposes of this ISMP, repairs will only be performed to address conditions that result in loss of sewer flow capacity or imminent failure/collapse of the piping or any other damage to the storm water drainage system that impairs the effectiveness of the perimeter control system.

12.3.2.3 Utility Trench Barrier Wall

Portions of the Utility Trench Barrier Wall, a component of the groundwater perimeter control system, are located in OUs-3 and 3a. The Utility Trench Barrier Wall's primary purpose is to mitigate the potential for impacted groundwater to migrate off-Site through abandoned and active utility pipeline corridors. The Utility Trench Barrier Wall consists of approximately 250 linear feet of compacted clay in the vicinity of the unsaturated portion of the

surficial sand unit in OU-3 and OU-3a. Approximately 150 feet of the Utility Trench Barrier Wall is located in OU-3, with the remaining approximately 100 feet extending northward into OU-3a.

Except in those instances where the need for repair or replacement is the direct result of activities conducted by the Property Owner or its representatives, the maintenance and repair of the Utility Trench Barrier Wall is the responsibility of IBM.

Routine inspection of the Utility Trench Barrier Wall that shall be performed by IBM includes an annual assessment of the integrity of the surface cover above the Utility Trench Barrier Wall. This inspection frequency is subject to change by NYSDEC. Unscheduled inspections may take place when a suspected failure of any part of the Utility Trench Barrier Wall has been reported or an emergency occurs that is deemed likely to have resulted in a potential failure of the Utility Trench Barrier Wall that could compromise the Utility Trench Barrier Wall's effectiveness in mitigating the potential for impacted groundwater to migrate off-Site.

Localized repair or replacement of the Utility Trench Barrier Wall shall be performed if the integrity and function of the Utility Trench Barrier Wall has been compromised. In those instances where the need for repair of the Utility Trench Barrier Wall is the direct result of activities conducted by the respective Property Owners or their representatives, the Property Owners shall be responsible for the expense of the repair of any damaged portion of the Utility Trench Barrier Wall. Repair of the Utility Trench Barrier Wall shall be performed based upon assessments of structural integrity and overall performance. NYSDEC shall be notified prior to repair or replacement of the Utility Trench Barrier Wall or portions thereof and the repair or replacement process shall be documented in the subsequent periodic certification report.

12.3.3 Groundwater Collection System

The GWCS has operated at the Site since 1985 and currently consists of the following primary components:

- Two groundwater cutoff trenches totaling approximately 1,900 feet that intersect the unsaturated portion of the surficial sand unit near Old Neighborhood Road extending along the western and northern perimeter of the NPLA. The cutoff trenches gravity drain collected groundwater to three manholes equipped with duplex pumps for transfer of groundwater to the treatment system.
- Pump stations PS-1 and PS-2 collect groundwater that infiltrates into the abandoned storm water sewer in OU-3 and OU-3a and pump the groundwater to the groundwater treatment facility. The pumps are installed in a 141-inch-deep fiberglass wet well. The groundwater collected at pump stations PS-1and PS-2 is pumped through approximately 1,500 feet of fusion welded HDPE piping to the GTF.
- The groundwater treatment system consisting of a grit removal tank and two identical tray-type air stripping units designed to treat up to 83 gallons per minute of groundwater. This equipment is housed in Building B049. The GTF is scheduled to be upgraded to address ECs in 2024.

Maintenance and monitoring of the GWCS to address the provisions of the ISMP are presented in the GWCS Operations, Maintenance and Monitoring (OM&M) Plan provided in Appendix E. IBM shall retain responsibility for the operation, maintenance and monitoring of the GWCS and ensure its continual operation to the extent feasible in order to minimize and/or mitigate potential off-Site migration of Site contaminants. IBM shall update and revise the OM&M Plan to address significant changes in the equipment, operation, and monitoring information, as appropriate.

12.3.4 IWSL Surface Impoundment

OU-5 includes SWMU L, the former sludge lagoon, which comprises approximately 9,500 square feet (0.22-acres) and was used as a settlement pond for flocculants produced during the treatment of acid/alkali wastes. Potential exposure to residual impacted soils located within the IWSL Surface Impoundment is mitigated by the surface impoundment cover and the Non-disturbance Easement recorded with the Office of the Ulster County Clerk (included in Appendix H).

Annual inspection of the integrity of the IWSL Surface Impoundment shall be conducted by IBM. This inspection frequency is subject to change by NYSDEC and NYSDOH. Unscheduled inspections and/or sampling may take place when a suspected failure of any part of the surface impoundment has been reported or an emergency occurs that is deemed likely to have resulted in the potential exposure of the public or Site workers and/or tenants to residual soil and/or groundwater impacts.

In those instances where the need for repair or replacement of the IWSL surface impoundment in OU-5 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner shall be held responsible for the expense of the repair and/or replacement of the damaged portion of the surface impoundment. Repairs and/or replacement of portions of the surface impoundment shall be performed based on assessments of structural integrity and overall performance. NYSDEC shall be notified prior to repair or replacement of the surface impoundment or portions thereof and the repair or replacement process shall be documented in the subsequent periodic certification report.

12.3.5 IWSL Surface Impoundment Fence

The former IWSL Surface Impoundment is enclosed within an 8-foot-high chain-link fence. Maintenance of the integrity of the IWSL Surface Impoundment fence is the responsibility of IBM. Annual inspection of the integrity of the IWSL Surface Impoundment shall be conducted by IBM. This inspection frequency is subject to change by NYSDEC and NYSDOH. Unscheduled inspections may take place when a suspected failure of the surface impoundment fence has been reported or an emergency occurs that is deemed likely to have resulted in the potential exposure of the public, Site workers and/or tenants to residual soil and/or groundwater impacts.

In those instances where the need for repair or replacement of the IWSL surface impoundment fence in OU-5 is the direct result of activities conducted by the Property Owner or its representatives, the Property Owner shall be responsible for the expense of the repair and/or replacement of the damaged portion of the surface impoundment. Repairs and/or replacement of portions of the surface impoundment fence shall be performed based on assessments of structural integrity and overall performance. NYSDEC shall be notified prior to repair or replacement of the surface impoundment fence or portions thereof and the repair or replacement process will be documented in the subsequent periodic certification report.

12.4 Media Monitoring Program

12.4.1 Groundwater

The groundwater monitoring program for each OU is described in the Groundwater Monitoring Plan (GMP) included as Appendix D. The GMP specifies the schedule and frequency of monitoring, sampling protocols, parameters analyzed, QA/QC procedures, data quality assessment and reporting requirements.

In accordance with the GMP, trends in VOC concentrations in groundwater samples collected from each OU will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. IBM may request a reduction in monitoring frequency from NYSDEC if the data demonstrate that measurable progress towards the

remedial action objectives has been achieved and a reduced monitoring frequency will be adequate to document the observed trends.

The current GMP approved by NYSDEC requires that groundwater monitoring and analytical sampling be performed at a frequency of once every five quarters. As such, a groundwater monitoring report shall be submitted in accordance with this schedule independent of the PRR required by this ISMP. A summary of the data from the latest groundwater monitoring report shall be included in the annual Periodic Review Report.

12.4.2 Soil

Routine soil sampling is required as part of the general monitoring activities conducted under this ISMP monitoring program, unless conducted as required in accordance with the IAWP as applicable in each OU. If NYSDEC and/or NYSDOH determine that further characterization, beyond that which is required by the IAWP as applicable to each OU, of a formerly covered area that has become exposed as a result of redevelopment activities is required, the sampling parameters, frequency and locations will be determined at that time.

12.4.3 Vapor Intrusion Monitoring

IBM currently performs annual indoor air and/or sub-slab soil vapor sampling in portions of Building B021. A vapor intrusion monitoring report is submitted annually to NYSDEC and NYSDOH independent of the PRR required by this ISMP. A summary of the data from the latest vapor intrusion monitoring report (not previously reported in a PRR) and a summary of the historical VI monitoring data shall be included in the annual Periodic Review Report.

12.4.4 Monitoring Quality Assurance/Quality Control

Media sampling and analyses will be performed in accordance with the requirements of the Quality Assurance/Quality Control Plan (QA/QC Plan) prepared for the work. Main components of the QA/QC Plan include:

- QA/QC Objectives for data measurement.
- Sampling Programs:
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
  - Sample holding times will be in accordance with NYSDEC ASP requirements.
  - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody
- Calibration Procedures:
  - Field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
- The laboratory will follow calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures:

  - Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.

- Internal QC and Checks
- QA Performance and System Audits
- Corrective Action Measures

12.5 OU Inspections

IBM shall perform OU-wide inspections on a regular schedule (a minimum of once per year) and complete an inspection form (Appendix F). The form will compile sufficient information to assess the following:

- ECs are performing properly and function as designed to protect human health and the environment.
- Compliance with ICs, including OU-specific usage.
- General OU conditions at the time of the inspection.
- Activities at the Site are being conducted in accordance with provisions of this ISMP.
- Compliance with permits and schedules included in the applicable Maintenance Plan(s).
- Confirmation that OU-specific records are up to date.

Notification requirements for these activities are noted in Section 12.8.

12.6 Periodic Certification

Based upon the certification for each OU provided to IBM by the Property Owner, along with the results of IBM's inspections and monitoring of the Site, the results of the inspections and the OU-specific monitoring data will be evaluated by IBM as part of the IC certification to confirm that:

- ICs and ECs employed in each OU are in place, are performing properly, and remain effective.
- The monitoring plan is being properly implemented.
- No Property Owner- or IBM-related activities in or on any OU have compromised components of the remedial or monitoring systems in any of the OUs.
- Components of the Site-wide remedy continue to be protective of public health and the environment and are performing as designed.

A Periodic Review Report (PRR) shall be submitted to the NYSDEC project manager beginning twelve (12) months after the Interim Site Management Plan is approved. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually to the NYSDEC or at another frequency as may be required by the NYSDEC project manager. The report shall be prepared in accordance with NYSDEC's DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. Based upon the current subdivision of the Site into ten Operable Units under more than one owner, a single PRR shall be prepared by IBM. OU-specific PRR modules shall be prepared by the Property Owners and provided to IBM to address each of the OUs defined in the Order. In the event that any OU is

subdivided into separate parcels with different ownership, a certification form will be prepared (by the Property Owners) addressing each parcel (as legally described by a revised metes-and-bounds description and amended to Appendix B) and submitted to NYSDEC through IBM. IBM shall prepare and include its own certification report associated with its activities and responsibilities Site-wide.

IBM's Site-wide certification report shall include, within the scope of activities performed by IBM and its representatives:

- Identification, assessment and certification of IC/ECs required by the remedy.
- Results of required annual inspections and, if applicable, severe condition inspections.
- Applicable Site management/inspection forms and other records generated by IBM or its representatives during the reporting period.
- A summary of data and/or information generated by IBM or its representatives during the reporting period with comments and conclusions.
- If IBM is required to collect samples for analysis, data summary tables and graphical representations of sampling data by media, including a listing of analyzed compounds, along with the applicable standards, with exceedances highlighted.
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.
- A performance summary for all treatment systems at the Site during the calendar year.

A qualified environmental professional as defined in 6 NYCRR Part 375 or Professional Engineer licensed to practice and registered in New York State shall prepare, and include in IBM's annual certification report, the following certification as per the requirements of NYSDEC DER-10 :

"*For each institutional or engineering control identified Site-wide, I certify that all of the following statements are true:*

- No actions of IBM or its representatives have reduced the effectiveness of the institutional and engineering controls required by the remedial program;
- The institutional controls employed Site-wide is unchanged from the date the controls were put in place, or last approved by the NYSDEC;
- Nothing has occurred through the actions of IBM or its representatives that would impair the ability of the control to protect public health and the environment;
- Nothing has occurred through the actions of the Property Owner or its representatives that would constitute a violation or failure to comply with the interim site management plan for this control;
- Access to the Site shall continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- Use of each OU is compliant with the OU's environmental easement;

- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.

“I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [IBM’s Designated Representative] [and I have been authorized and designated by IBM to sign this certification for the Site].”

“I certify that the New York State Education Department has granted a Certificate of Authorization to provide Professional Engineering services to the firm that prepared this Periodic Review Report.”

The appropriate number of copies of the compiled PRR shall be submitted to NYSDEC by IBM, in hard-copy format, to NYSDEC’s Region 3 Office; and in electronic format to NYSDEC’s Central Office and Region 3 Office, and the NYSDOH Bureau of Environmental Exposure Investigation. Upon request, IBM shall provide a copy of the Site-wide certification to the requesting Property Owner.

12.7 Monitoring Reporting Requirements

Forms, and other relevant reporting formats used during the monitoring/inspection events, shall be

- Subject to approval by NYSDEC and
- Submitted at the time of the PRR, as specified for each OU in this ISMP.

Groundwater monitoring results shall be reported in a separate report provided by IBM in accordance with the GMP. Other monitoring results shall be reported to NYSDEC in the PRR and shall include, at a minimum, the following information:

- Date of monitoring event;
- Name, company, and position of person(s) conducting sampling;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., soil, soil vapor, etc.);
- Copies of field forms completed (e.g., sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of laboratory data sheets and the required laboratory data deliverables required for points sampled (to be submitted electronically in NYSDEC-identified format);
- Observations, conclusions, or recommendations; and

- A determination as to whether contaminant conditions have changed since the last reporting event.

Data will be reported in hard copy and/or digital format as determined by NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

12.8 Notifications

Notifications will be submitted by the Property Owner directly to NYSDEC (with copy to IBM) as needed at the frequencies identified below for the following reasons:

- Unless otherwise noted, 15-day advance notice of proposed soil disturbance or ground-intrusive activities which are subject to the requirements of the IAWP, including:
  - Import of materials from off-Site sources for use on-Site;
  - Export of materials for off-Site disposal;
  - Reuse of materials on-Site;
  - Sampling and analysis of soil on-Site as required following any activity that includes reworking of the soil,
  - Sampling and analysis of soil as required due to the expected extended exposure of soils previously covered by the existing surface cover (i.e., asphalt, cement, or a building); and
  - Excavation dewatering, with prior approval from NYSDEC.
- 15-day notice whenever construction activities expect to dewater an excavation in accordance with a pre-approved dewatering plan.
- 60-day advance notice of proposed changes in use that are required under the terms of the Order, 6 NYCRR Part 375, and/or Environmental Conservation Law. Note that changes in use do not refer to current property use restriction designations (i.e., commercial use, restricted-residential-use). A change in use restriction cannot occur without prior approval of NYSDEC and NYSDOH.
- Verbal notice within 24 hours of any action of IBM or its representatives which affects the integrity of the effectiveness of the remedial or monitoring system Site-wide. Within seven (7) days, a summary of the event, a proposed remedial action and an accompanying schedule will be submitted directly to NYSDEC with a copy to owners of affected properties.
- In those instances which are a direct result of activities by IBM or its representatives, follow-up status reports on actions taken to respond to an emergency or non-emergency event requiring ongoing responsive action shall be submitted to NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

12.9 Corrective Measures Plan

If, through the actions of IBM or its representatives, a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan shall be submitted by IBM (with copy to the owner of the affected property) to NYSDEC for approval. This plan shall explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work shall be performed pursuant to the corrective measures plan until it is approved by NYSDEC.

12.10 Remedial System Optimization

A Remedial Site Optimization (RSO) study shall be conducted any time that the NYSDEC project manager or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the estimated time frame;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focus on overall site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

Upon completion of an RSO, an RSO report shall be submitted to the NYSDEC project manager for approval. The RSO report will document the research/investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. An update to the ISMP may also be required.

Table 1-1: Operable Unit Summary

Operable Unit ID	Proposed Use	Associated SWMUs and Investigation Areas	Class 4 Site	Management Responsibility [1]
1	Commercial	AE and Triangle Groundwater Plume Area	No	IBM: OU Groundwater Monitoring and Reporting
2	Commercial	O and AF	No	
3	Commercial	D, E, F, G, H, I, M, P, R, S, T, U, V, W, Y, AA, AB, and AC	Yes	IBM: OU Groundwater Monitoring and Reporting
3a	Commercial	U	Yes	IBM: Groundwater Monitoring and Reporting; Operations, Maintenance and Reporting associated with the GWCS
4	Restricted Residential	Z, C, Q, X, and MOSF	No	IBM: OU Groundwater Monitoring and Reporting
4a	Commercial	None	No	
5	Commercial	L	Yes	IBM: OU Groundwater Monitoring and Reporting; IWSL Post -Closure Monitoring, Maintenance and Reporting
6	Commercial	B, J, K, N, and AD	No	IBM: OU Groundwater Monitoring and Reporting
7	Commercial	A	No	IBM: OU Groundwater Monitoring and Reporting
8	Commercial	None	No	

Footnotes:

1 **With the exception of the Operable Unit specific tasks noted below, the Site Owner is reponsible for the implementation and performance of all Institutional and Engineering Controls specified in the Site Management Plan (SMP).**

Notes:

1. Operable Unit summary from Exhibit C of the NYSDEC Order on Consent signed July 8, 2011 for Site #356002 and the February 2013 Statement of Basis.
2. See Figure 2 for Operable Unit locations.

Table 1-2: Summary of OU / SWMU Status and Remedial Investigation Findings

Operable Unit ID	Associated SWMUs and Investigation Areas		Summary of Environmental Conditions	Consent Order Specific Requirement and Status	Statement of Basis Status	Notes/Comments
	ID	ID Description				
1	AE	B202 Elevator Shaft	Low levels of polychlorinated biphenyls (PCBs) reportedly remain in a localized area of soil and groundwater beneath the shaft.	Address this area in Site Management Plan (SMP)	NFA with implementation of an Environmental Easement (EE) and implementation of an SMP	
	-	Triangle Groundwater Plume Area	A discrete area immediately downgradient of the 42-inch sewer (perimeter control system) exhibits low level volatile organic compounds (VOCs) in groundwater associated with the B005 plume. Recent investigations indicate that detected VOCs attenuate rapidly to non-detect within a short distance from the perimeter control system.	Submit final report summarizing recent investigation work conducted in this area. Submitted Supplemental Triangle Plume Investigation Report in February 2010	NFA with implementation of an EE and implementation of an SMP	
2	O	Parking Lot Sand Landfill	Acetone detected above groundwater protection soil cleanup objective (SCO) in samples collected from test pit J: (64 ppb, 110 ppb, and 210 ppb; SCO is 50 ppb). No measurable groundwater impact.	NFA per October 4, 1996 Permit	Unchanged	
	AF	Inactive West Demolition Debris Area	Area contains non-hazardous demolition debris (concrete, sand, etc.)	NFA per October 4, 1996 Permit	Unchanged	
3	D	Former Waste Acetone Storage Tank	Former tank located at the southwest exterior of Building B005. The tank was removed from service in 1987 and decontaminated, removed from the ground and disposed in 1989. There are no known releases from this former tank.	NFA per October 4, 1996 Permit	Unchanged	
	E	Former Waste IPA Storage Tanks	Former tanks located at the southwest exterior of Building B005. The tanks were removed from service in 1987 and decontaminated, removed from the ground and disposed in 1989. There are no known releases from these former tanks.	NFA per October 4, 1996 Permit	Unchanged	
	F	Former East Side Waste Tanks (2)	Former tanks located at the southwest exterior of Building B005. The tanks were removed from service in 1987 and decontaminated, removed from the ground and disposed in 1989. There are no known releases from these former tanks.	NFA per October 4, 1996 Permit	Unchanged	
	G	Former Waste PCE Tank	PCE release occurred in 1986. Downgradient PCE detections found in groundwater resulted in installation of a groundater recovery system at MW-504S that operated until 2007. Soil samples indicated VOCs below applicable SCOs. March 2011 RI Report concludes that this unit does not represent a significant continuing source area.	March 2009 Work Plan for evaluation of source removal implemented and completed in December 2010. SWMU G Investigation Report submitted to NYSDEC in March 2011.	NFA with implementation of an EE and implementation of an SMP	
	H	Former Waste Solvent Recovery Tank	Former tank located in a concrete vault in the courtyard between Buiildngs B003 and B005. The tank was removed from service, decontaminated, removed from the ground and disposed in 1986. There are no known releases from this former tank.	NFA per October 4, 1996 Permit	Unchanged	
	I	Former Waste Solvent Recovery Tank	Former tank located in a concrete vault in the courtyard between Buiildngs B003 and B005. The tank was removed from service in 1987 and decontaminated, removed from the ground and disposed in 1989. There are no known releases from this former tank.	NFA per October 4, 1996 Permit	Unchanged	
	M	Portions of the IW Sewer Lines	General (Acid/Alkali) rinse line conveyed TCA, DCM, Freon 113, TCM, PCE, and TCE. Original general, cyanide, and chrome rinse lines (clay tile) are currently below the water table. Soil gas samples identify higher VOC concentrations in B003. Some groundwater sampled exceeded NYSGWQS for some VOCs which suggests potential source areas beneath these buldings. Residual areas of impacts in groundwater are contained and remediated by the groundwater collection and treament system. The 2023 Alternatives Analysis Report concluded no addtional corrective measures are warranted.	March 2009 work plan implemented and completed as areas became between April 2009 and 2017. accessible. Submitted SWMU M Investigtion Report in June 2018.	Unchanged	Submitted Supplemental Investigation Data Report in March 2020 and SWMU M Alternatives Analysis Report in May 2023.
	P	Building 035 Former Dry Well	Drain field evaluated. No impact noted.	NFA per October 4, 1996 Permit	Unchanged	
	R	Building 005 South Former Waste TCA underground storage tank	TCA and DCA at low levels (ppb) in soil samples. Not indicative of a source area.	NFA	Unchanged	
	S	Former Waste TCA Tanks (B001)	Remedial investigations identified this SWMU as a potential source area. An In Situ Thermal Desorption Remedial Measure was completed in 2015.	Submit work plan to delineate and evaluate source removal. Remedial investigation completed October 2012; Feasibility Study completed March 2013; Remedial action completed October 2015.	Unchanged	Formal NFA from NYSDEC Pending
	T	Former Waste Oil Tank	Saturated soil sample results indicate a potential source area.	Submit work plan to delineate and evaluate source removal. Remedial investigation completed in 2013.	Unchanged	The remedial investigation concluded that SWMU T tank is not a source of impacts and NFA is warranted. The spare IW line associated with the former waste oil tank was evaluated further as part of SWMU M.
	U	North Parking Lot Area Plume	Groundwater VOC plume	Continue operation of groundwater collection system	NFA with implementation of an EE and implementation of an SMP	
	V	Portions of B005 Plume	A 1996 RFI identified three areas of higher VOC concentrations, consequently three monitoring wells were installed. Eight VOCs were detected in two wells; all below their respective cleanup standards. PCE was detected above the NYSGQS at one well (north end of B005S). Other VOCs were detected at this well which suggests minor source area of TCE and TCA beneath the central portion of B005S.		NFA with implementation of an EE and implementation of an SMP	
	W	Former Building 004 Separator Tank	Soil samples show no indication of source area. Groundwater samples are above standards, but are likely related to a different source area in the vicnity of Building 005 South.		Unchanged	

Table 1-2: Summary of OU / SWMU Status and Remedial Investigation Findings

Operable Unit ID	Associated SWMUs and Investigation Areas		Summary of Environmental Conditions	Consent Order Specific Requirement and Status	Statement of Basis Status	Notes/Comments
	ID	ID Description				
	Y	Former Fluoride Wastewater Ejector Tank	No soil samples were taken based upon no photoionization detector response. Discharge IW lines were not evaluated. The IW waste lines may be under the building. Tank has been closed.	Evaluate existing IW lines in conjunction with SWMU M investigation.	NFA with implementation of an EE and implementation of an SMP	
3 (Continued)	AA	Inactive Building 031 Septic System	Very low level levels of polycyclic aromatic hydrocarbons (PAHs). Benzo(a)pyrene (1,200 ppb), benz(a)anthrecene (1,300 ppb), benzo(b)fluoranthene (1,500 ppb), and chrysene (1,200 ppb) are above soil standard (1,000 ppb). Nothing significant with chlorinated solvents (very low ppb).	NFA	Unchanged	
	AB	Former Waste TCA Recovery Unit	Slightly elevated TCA-series compounds detected in soil gas. Elevated concentrations of TCA in downgradient wells. One detection of TCA above cleanup value.	March 2009 work plan in place to evaluate the potential for source removal when it becomes accessible. SWMU AB Supplemental Investigation Report submitted in 2012.	NFA with implementation of an EE and implementation of an SMP	
	AC	Former B005S Solvent Recovery Process Unit	Only contaminant found in soil was isopropyl alcohol at 84 ppb and 120 ppb. No standard to compare to. Also associated with SWMU H and SWMU I (Listed as NFA in 10/4/96 permit). These had acetone (260 ppb) and isopropyl alcohol (max 490 ppb) detected in the soils when the tanks were removed.	NFA	NFA with implementation of an EE and implementation of an SMP	
3a	U	North Parking Lot Area Plume	Groundwater VOC plume	Continue operation of groundwater collection system.	NFA with implementation of an EE and implementation of an SMP	
4	Z	Inactive Building 033 Septic System	Building 058 septic system investigation indicated subsurface soil below unrestricted SCOs and groundwater impacts are below ambient water quality standards.	NFA	Unchanged	
	C	Former Building 058	See SWMU Z	NFA	Unchanged	
	Q	Building 031 Former Lagoon	This lagoon was used in the 1950s for evaporation/infiltration of boiler blow down. No groundwater impacts detected.	NFA per October 4, 1996 Permit	Unchanged	
	X	Building 031 Separator	Neither soil nor groundwater results are above standards.	NFA	Requires proof of closure (and removal) to be considered formally closed	Requires removal by Property Owner to be considered formally closed
	MOSF	MOSF Demolition	Demoiltion work completed.	Additional work specified by NYSDEC in September 20, 2010 letter.	NFA with implementation of an EE and implementation of an SMP	
4a	None	None	None	None	Unchanged	
5	L	Former Industrial Waste Sludge Lagoon	The remedy for this area has been implemented. No significant groundwater impacts.	NFA per October 4, 1996 Permit	Unchanged	
6	B	Building B036 Container Storage Area	Building B036, located within the fenced area of the IWSL, formerly stored small quantities of spent acids and caustics, organic solvents, and oils. There are no known spills or releases from this unit.	NFA per October 4, 1996 Permit	Unchanged	
	J	Wastewater Treatment Tanks (6)	Closed in 1994 as part of the IWTF closure. There are no known spills or releases from this unit.	NFA per October 4, 1996 Permit	Unchanged	
	K	Emergency Wastewater Holding Tanks (2)	Still exist within the bermed and fenced portion of the former IWSL. There are no known spills or releases from this unit.	NFA per October 4, 1996 Permit	Unchanged	
	N	Inactive Building 036 Construction and Debris Landfill	Disposal of concrete, bituminous asphalt, sheet metal, galvanized pipe, ceramic, brick, and three empty drums. No detected impact to groundwater. Chromium, copper, lead, nickel, selenium, and zinc exceed soil standards for unrestricted use.	NFA per October 4, 1996 Permit	Unchanged	
	AD	Former Fire Training Area	Activity was well contained within concrete structures. Soil chemistry below unrestricted standards. No identifiable groundwater contamination.	NFA	Unchanged	
7	A	Building 029 Chemical Storage	Building B029 formerly served as a chemical distribution center warehouse for containerized chemicals and drummed waste materials. There are no known spills or releases from this unit.	NFA per October 4, 1996 Permit	Unchanged	
8	None	None	None	None	Unchanged	

Notes:
1) Operable Unit and SWMU summaries and status are based on Exhibit C of the NYSDEC Order on Consent signed July 8, 2011 and the NYSDEC Statement of Basis dated February 23, 2013 for Site No. 356002
2) NFA = No Further Action
3) ppb = parts per billion
4) SWMU = Solid Waste Management Unit

Table 1-2: Summary of Historical Reports

Report Title	Report Date	Author
1989 RCRA Storage Tank Closures	9/28/1989	Dames and Moore
Part 373 Permit Modification, DEC Permit #3-5154-67/1-0	11/5/1990	IBM
Groundwater Collection System Trench Extension Report	7/25/1994	Groundwater Sciences Corporation/Wehran
Utility Trench Sealing Project	12/2/1994	Groundwater Sciences Corporation
Newly Identified SWMUs Corrective Action RCRA Facility Investigation	12/27/1994	Groundwater Sciences Corporation
RCRA Facility Assessment, Four Recently Identified SWMUs	1/16/1995	Groundwater Sciences Corporation
RCRA Facility Investigation Soil Gas Survey & Sewer Systems Sampling	4/12/1996	Groundwater Sciences Corporation
RCRA Facility Investigation, Groundwater Plumes & Sources	3/14/1997	Groundwater Sciences Corporation
RCRA Facility Investigation Former Industrial Waste Sludge Lagoon	4/16/1999	Groundwater Sciences Corporation
Part 373 Permit Renewal Application	4/2/2001	Groundwater Sciences Corporation
Expanded RFI, Former IWSL & Arsenic & VOC Plume Source Investigation & Deep Bedrock RFI	2/26/2002	Groundwater Sciences Corporation
Part 373 Permit, MW-504S Shutdown Request	3/30/2007	IBM
RCRA Facility Investigation Management Plans	5/1/2009	Golder Associates
Triangle Plume Area Investigation Report	9/30/2009	Golder Associates
Supplemental Triangle Plume Area Investigation	2/5/2010	Golder Associates
2010 Annual Groundwater Monitoring Report	3/30/2011	Groundwater Sciences Corporation
SWMU G Investigation Report	3/31/2011	Golder Associates
SWMU S Supplemental Remedial Investigation WorkPlan	9/2/2011	Golder Associates
SWMU T Supplemental Remedial Investigation WorkPlan	9/2/2011	Golder Associates
Citizen Participation Plan for Former IBM Kingston	9/6/2011	NYSDEC
Supplemental Site Characterization Work Plan: Surficial Soils	9/26/2011	Groundwater Sciences Corporation
Supplemental Site Characterization Work Plan: Sanitary Sewer Evaluation	9/26/2011	Groundwater Sciences Corporation
2011 Semiannual GW Monitoring Rpt	9/29/2011	Groundwater Sciences Corporation
TechCity OM&M Plan	10/19/2011	Groundwater Sciences Corporation
TechCity SSC Report: Surficial Soils	2/15/2012	Groundwater Sciences Corporation
2011 Annual Report, Former IBM Kingston Site (TechCity)	3/30/2012	Groundwater Sciences Corporation
SWMU T Supplemental Remedial Invest Report	5/16/2012	Golder Associates
TechCity SSC Report: Former Fluoride Ejector Tank (SWMU Y)	6/29/2012	Groundwater Sciences Corporation
SWMU AB Supplemental Remedial Invest Report	10/31/2012	Golder Associates
SWMU S Supplemental Remedial Invest Report	11/6/2012	Golder Associates
TechCity SSC Rpt: Sanitary Sewer Evaluation (revised from 6/29/12)	12/7/2012	Groundwater Sciences Corporation
IBM Kingston Statement of Basis	2/23/2013	NYSDEC
Final Plume Triangle Investigation Report	2/28/2013	Environmental Resources Management
Decision Document Final Corrective Measures SoB	3/1/2013	IBM
2012 Annual GW Monitoring Report	3/28/2013	Groundwater Sciences Corporation
SWMU S Supplement FeasibilityStudy	3/28/2013	Golder Associates
TechCity Groundwater Monitoring Plan	7/13/2013	Groundwater Sciences Corporation
2013 Annual GW Monitoring Report	3/28/2014	Groundwater Sciences Corporation
ICM Workplan, SWMU S: Former B001 Waste TCA Tanks	6/5/2014	Golder Associates
Final ICM Workplan, SWMU S: Former B001 Waste TCA Tanks	9/1/2014	Golder Associates
Hazardous Waste Contingency Plan	12/12/2014	O'Brien and Gere
2014 Annual Groundwater Monitoring Report	3/30/2015	Groundwater Sciences Corporation
SWMU S Interim Corrective Measure Constr Completion Rpt	10/1/2015	Golder Associates
2015 Annual Groundwater Monitoring Report	3/30/2016	Groundwater Sciences Corporation
2016 Annual Groundwater Monitoring Report	3/30/2017	Groundwater Sciences Corporation
2017 Annual Groundwater Monitoring Report	3/29/2018	Groundwater Sciences Corporation
SWMU M Investigation Report	6/22/2018	Golder Associates
B021 Vapor Intrusion Monitoring Report	12/21/2018	Golder Associates
2018 Annual Groundwater Monitoring Report	3/28/2019	Groundwater Sciences Corporation
SWMU M Supplement Investigation Work Plan	9/19/2019	Golder Associates
2019 Anuual Groundwater Monitoring Report	3/30/2020	Groundwater Sciences Corporation
Supplemental SWMU M Investigation Data Report	3/31/2020	Golder Associates
Emerging Contaminants Sampling Report	1/29/2021	Groundwater Sciences Corporation
2020 Annual Groundwater Monitoring Report	3/30/2021	Groundwater Sciences Corporation
2021 Annual Groundwater Monitoring Report	3/31/2022	Groundwater Sciences Corporation
2022 Annual Groundwater Monitoring Report	3/30/2023	Groundwater Sciences Corporation
2023 Alternatives Analysis Report - SWMU M	5/5/2023	WSP USA Inc.

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 2

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**TEST PIT J** 02-04 FEET 10/18/1994	**TEST PIT J** 06-08 FEET 10/18/1994
Volatile Organic Compounds						
Acetone	mg/kg	67-64-1	0.05	500	0.21	0.11 / 0.064

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 3

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**B-286** 06-08 FEET 7/18/1996	**B-286** 10-12 FEET 7/18/1996	**B-286** 12-14 FEET 7/18/1996	**B-286** 14-16 FEET 7/18/1996	**B-286** 16-18 FEET 7/18/1996	**B-286** 24-26 FEET 7/18/1996
Volatile Organic Compounds										
1,1,1-Trichloroethane	mg/kg	71-55-6	0.68	500		69 DJ	0.88 EJ	3.3 D		
1,1-Dichloroethane	mg/kg	75-34-3	0.27	240						
1,1-Dichloroethene	mg/kg	75-35-4	0.33	500		0.44 E		0.33 E		
1,2-Dichloroethane	mg/kg	107-06-2	0.02	30						
1,2-Dichloroethene (Total)	mg/kg	540-59-0	0.25 (cis- isomer) 0.19 (trans- isomer)	500 (cis- isomer) 500 (trans- isomer)			0.50 EJ			
Ethylbenzene	mg/kg	100-41-4	1	390		27 DJ		1.1		
Tetrachloroethene	mg/kg	127-18-4	1.3	150		25 DJ				
Toluene	mg/kg	108-88-3	0.7	500		10 DJ				
Trichloroethene	mg/kg	79-01-6	0.47	200		80 DJ	0.48 EJ	2.4 D		0.47 E
Xylene (Total)	mg/kg	1330-20-7	0.26	500		140 DJ	0.45 E	5.5 D	0.29 D	0.36 E
Semi-volatile Organic Compounds										
o-Cresol	mg/kg	95-48-7	0.33	500		2.7				
Benz(a)anthracene	mg/kg	56-55-3	1	5.6						
Chrysene	mg/kg	218-01-9	1	56		1.9 J				
Polychlorinated biphenyls										
Arochlor-1254	mg/kg	11097-69-1	0.1	1		**8.4**	0.24	0.37		
Arochlor-1260	mg/kg	11096-82-5	0.1	1	0.29	**1.3**	**1.1**	**1.7**	0.17	

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).
6 D indicates sample was was diluted
7 E indicates concentration exceeds the calibration range of the instrument
8 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 3

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**B-287** 08-10 FEET 7/17/1996	**B-287** 14-16 FEET 7/17/1996	**B-287** 16-18 FEET 7/17/1996	**B-287** 18-20 FEET 7/17/1996	**B-287** 20-22 FEET 7/17/1996
Volatile Organic Compounds									
1,1,1-Trichloroethane	mg/kg	71-55-6	0.68	500					
1,1-Dichloroethane	mg/kg	75-34-3	0.27	240					
1,1-Dichloroethene	mg/kg	75-35-4	0.33	500					
1,2-Dichloroethane	mg/kg	107-06-2	0.02	30					
1,2-Dichloroethene (Total)	mg/kg	540-59-0	0.25 (cis- isomer) 0.19 (trans- isomer)	500 (cis- isomer) 500 (trans- isomer)					
Ethylbenzene	mg/kg	100-41-4	1	390					
Tetrachloroethene	mg/kg	127-18-4	1.3	150					
Toluene	mg/kg	108-88-3	0.7	500					
Trichloroethene	mg/kg	79-01-6	0.47	200					
Xylene (Total)	mg/kg	1330-20-7	0.26	500	47 D	0.29	3.5 D		0.42 D
Semi-volatile Organic Compounds									
o-Cresol	mg/kg	95-48-7	0.33	500					
Benz(a)anthracene	mg/kg	56-55-3	1	5.6					
Chrysene	mg/kg	218-01-9	1	56					
Polychlorinated biphenyls									
Arochlor-1254	mg/kg	11097-69-1	0.1	1	**3.6 E**	0.11	0.17	0.19	0.14
Arochlor-1260	mg/kg	11096-82-5	0.1	1					

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).
6 D indicates sample was was diluted
7 E indicates concentration exceeds the calibration range of the instrument
8 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 3

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**MW-269-S** 08-10 FEET 7/11/1996	**MW-269-S** 10-12 FEET 7/11/1996	**MW-269-S** 14-16 FEET 7/11/1996	**MW-269-S** 18-20 FEET 7/11/1996	**MW-269-S** 20-22 FEET 7/11/1996
Volatile Organic Compounds									
1,1,1-Trichloroethane	mg/kg	71-55-6	0.68	500		61 D	0.70		3.6
1,1-Dichloroethane	mg/kg	75-34-3	0.27	240					
1,1-Dichloroethene	mg/kg	75-35-4	0.33	500		1.6			
1,2-Dichloroethane	mg/kg	107-06-2	0.02	30					
1,2-Dichloroethene (Total)	mg/kg	540-59-0	0.25 (cis- isomer) 0.19 (trans- isomer)	500 (cis- isomer) 500 (trans- isomer)		0.68 J			0.28 J
Ethylbenzene	mg/kg	100-41-4	1	390					
Tetrachloroethene	mg/kg	127-18-4	1.3	150		45			4.0
Toluene	mg/kg	108-88-3	0.7	500					
Trichloroethene	mg/kg	79-01-6	0.47	200	130	57 D	0.64		3.5
Xylene (Total)	mg/kg	1330-20-7	0.26	500				1.6	
Semi-volatile Organic Compounds									
o-Cresol	mg/kg	95-48-7	0.33	500					
Benz(a)anthracene	mg/kg	56-55-3	1	5.6					
Chrysene	mg/kg	218-01-9	1	56					
Polychlorinated biphenyls									
Arochlor-1254	mg/kg	11097-69-1	0.1	1					
Arochlor-1260	mg/kg	11096-82-5	0.1	1					

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).
6 D indicates sample was was diluted
7 E indicates concentration exceeds the calibration range of the instrument
8 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 3

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**MW-269-S** 22-24 FEET 7/11/1996	**MW-270-S** 08-10 FEET 7/11/1996	**MW-270-S** 10-12 FEET 7/11/1996	**MW-270-S** 12-14 FEET 7/11/1996	**MW-270-S** 14-16 FEET 7/11/1996
Volatile Organic Compounds									
1,1,1-Trichloroethane	mg/kg	71-55-6	0.68	500		130	3.1	48 D	15
1,1-Dichloroethane	mg/kg	75-34-3	0.27	240		1.0			
1,1-Dichloroethene	mg/kg	75-35-4	0.33	500		3.4		1.4	
1,2-Dichloroethane	mg/kg	107-06-2	0.02	30					
1,2-Dichloroethene (Total)	mg/kg	540-59-0	0.25 (cis- isomer) 0.19 (trans- isomer)	500 (cis- isomer) 500 (trans- isomer)		10	0.22	0.94	0.400
Ethylbenzene	mg/kg	100-41-4	1	390		16			
Tetrachloroethene	mg/kg	127-18-4	1.3	150		57		6.1	1.8
Toluene	mg/kg	108-88-3	0.7	500		5.9			
Trichloroethene	mg/kg	79-01-6	0.47	200	0.55	130	3.4	50 D	16
Xylene (Total)	mg/kg	1330-20-7	0.26	500		100			
Semi-volatile Organic Compounds									
o-Cresol	mg/kg	95-48-7	0.33	500					
Benz(a)anthracene	mg/kg	56-55-3	1	5.6		1.3 J			
Chrysene	mg/kg	218-01-9	1	56					
Polychlorinated biphenyls									
Arochlor-1254	mg/kg	11097-69-1	0.1	1					
Arochlor-1260	mg/kg	11096-82-5	0.1	1					

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).
6 D indicates sample was was diluted
7 E indicates concentration exceeds the calibration range of the instrument
8 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 3

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**MW-271-S** 08-10 FEET 7/11/1996	**MW-271-S** 10-12 FEET 7/11/1996	**MW-271-S** 18-20 FEET 7/11/1996	**MW-275-S** 14-16 FEET 7/19/1996
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/kg	71-55-6	0.68	500	1.1	6.4 J	1.0	0.91 E
1,1-Dichloroethane	mg/kg	75-34-3	0.27	240			0.93	
1,1-Dichloroethene	mg/kg	75-35-4	0.33	500				
1,2-Dichloroethane	mg/kg	107-06-2	0.02	30			0.55	0.02
1,2-Dichloroethene (Total)	mg/kg	540-59-0	0.25 (cis- isomer) 0.19 (trans- isomer)	500 (cis- isomer) 500 (trans- isomer)	0.45	1.3 J		
Ethylbenzene	mg/kg	100-41-4	1	390				
Tetrachloroethene	mg/kg	127-18-4	1.3	150				
Toluene	mg/kg	108-88-3	0.7	500				
Trichloroethene	mg/kg	79-01-6	0.47	200	2.6	20 J	37 D	
Xylene (Total)	mg/kg	1330-20-7	0.26	500				
Semi-volatile Organic Compounds								
o-Cresol	mg/kg	95-48-7	0.33	500				
Benz(a)anthracene	mg/kg	56-55-3	1	5.6				
Chrysene	mg/kg	218-01-9	1	56				
Polychlorinated biphenyls								
Arochlor-1254	mg/kg	11097-69-1	0.1	1				
Arochlor-1260	mg/kg	11096-82-5	0.1	1				

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).
6 D indicates sample was was diluted
7 E indicates concentration exceeds the calibration range of the instrument
8 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 4

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO RESTRICTED RESIDENTIAL mg/kg	**B-051-C** 02-03 FEET 4/19/1993	**B-051-C** 06-07 FEET 4/19/1993	**B-299** 06-08 FEET 7/25/1996
Volatile Organic Compounds							
1,2-Dichloroethene (Total)	mg/kg	540-59-0	0.25 (cis- isomer) 0.19 (trans- isomer)	100 (cis- isomer) 100 (trans- isomer)	0.20 E		
Semi-volatile Organic Compounds							
Benz(a)anthracene	mg/kg	56-55-3	1	1			**1.3**
Benzo(a)pyrene	mg/kg	50-32-8	1	1			**1.2**
Benzo(b)fluoranthene	mg/kg	205-99-2	1	1			**1.5**
Chrysene	mg/kg	218-01-9	1	3.9			1.2
Indeno(1,2,3-dc)pyrene	mg/kg	193-39-5	0.5	0.5			**0.57 J**
Polychlorinated biphenyls							
Arochlor-1260	mg/kg	11096-82-5	0.1	1		0.16	

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text indicates compound detected above New York State SCO for Restricted Residential Use (Part 375-6.8(b)).
6 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 5

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**BELOW LINER SAMPLE A** 12/20/1984	**BELOW LINER SAMPLE B** 12/20/1984	**BELOW LINER SAMPLE D** 12/20/1984
Polychlorinated biphenyls							
Arochlor-1242	mg/kg	11097-69-1	0.1	1			
Metals							
Cadmium	mg/kg	7440-50-8	2.5	9.3	4	3	7
Chromium	mg/kg	18540-29-9 16065-83-1	1 (hexavalent) 30 (trivalent)	400 (hexavalent) 1500 (trivalent)	80	50	100
Mercury	mg/kg	7439-97-6	0.18	2.8	0.3		

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).
6 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 5

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**LAGOON AREA SAMPLE A** 12/27/1984	**LAGOON AREA SAMPLE B** 12/27/1984	**LAGOON AREA SAMPLE C** 12/27/1984
Polychlorinated biphenyls							
Arochlor-1242	mg/kg	11097-69-1	0.1	1			
Metals							
Cadmium	mg/kg	7440-50-8	2.5	9.3			
Chromium	mg/kg	18540-29-9 16065-83-1	1 (hexavalent) 30 (trivalent)	400 (hexavalent) 1500 (trivalent)	2.0	5.0	100
Mercury	mg/kg	7439-97-6	0.18	2.8			

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).
6 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 5

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**LAGOON AREA SAMPLE D** 12/27/1984	**LAGOON AREA SAMPLE E** 12/27/1984	**LAGOON AREA SAMPLE F** 12/27/1984
Polychlorinated biphenyls							
Arochlor-1242	mg/kg	11097-69-1	0.1	1			
Metals							
Cadmium	mg/kg	7440-50-8	2.5	9.3			
Chromium	mg/kg	18540-29-9 16065-83-1	1 (hexavalent) 30 (trivalent)	400 (hexavalent) 1500 (trivalent)	10	7.0	6.0
Mercury	mg/kg	7439-97-6	0.18	2.8			

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).
6 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 5

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**LAGOON AREA SAMPLE G** 12/27/1984	**LAGOON AREA SAMPLE H** 12/27/1984	**LAGOON AREA SAMPLE 10B** 1/9/1985
Polychlorinated biphenyls							
Arochlor-1242	mg/kg	11097-69-1	0.1	1			**6**
Metals							
Cadmium	mg/kg	7440-50-8	2.5	9.3			
Chromium	mg/kg	18540-29-9 16065-83-1	1 (hexavalent) 30 (trivalent)	400 (hexavalent) 1500 (trivalent)	6.0	10	
Mercury	mg/kg	7439-97-6	0.18	2.8			

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).
6 J indicates estimated concentration

Table 1-4a: Summary of Soil Sample Results Exceeding Unrestricted Use and Commercial Use SCOs

Operable Unit 6

Parameter Name	Reporting Units	CAS Number	6NYCRR Part 375-6.8(a) SCO UNRESTRICTED mg/kg	6NYCRR Part 375-6.8(b) SCO COMMERCIAL mg/kg	**MW-292-S** 02 FEET 7/25/1996	**Inactive C & D Landfill SS-1** 0-3 FEET 3/6/1990	**Inactive C & D Landfill SS-2** 3/6/1990	**Inactive C & D Landfill SS-4** 3/6/1990	**Inactive C & D Landfill SS-5** 3/6/1990	**Inactive C & D Landfill SS-6** 3/6/1990
Metals										
Chromium	mg/kg	18540-29-9 16065-83-1	1 (hexavalent) 30 (trivalent)	400 (hexavalent) 1500 (trivalent)		12		88		14
Copper	mg/kg	7440-50-8	50	270				**320**		
Lead	mg/kg	7439-92-1	63	1000				280		
Nickel	mg/kg	7440-02-0	30	310				200		
Selenium	mg/kg	7782-49-2	3.9	1500		13				
Zinc	mg/kg	7440-66-6	109	10000				820		
Polychlorinated Biphenyls / Pesticides										
Arochlor-1254	mg/kg	11097-69-1	0.1	1	0.11					
Chlordane	mg/kg	5103-71-9	0.094	24		0.379	1.35		0.795	

Notes:

1 SCO - New York State Soil Cleanup Objective (6 NYCRR Part 375)
2 Soils Monitoring Data where detected concentrations exceed the New York State SCO for Unrestricted Use (Part 375-6.8 (a))
3 mg/kg milligrams per kilogram
4 Blank space indicates compound not detected above New York State SCO for Unrestricted Use (Part 375-6.8(a)).
5 Bold text with gray shading indicates compound detected above New York State SCO for Commercial Use Use (Part 375-6.8(b)).

Table 1-4b: Summary of Groundwater Monitoring Results Remaining Above NYSGWQS

Operable Unit: 1

Parameter Name	NYSGWQS*	UNIT	MW-173S 10/15/2020[4]
PERFLUOROOCTANESULFONIC ACID (PFOS)	10	ng/l	14
PERFLUOROCTANOIC ACID (PFOA)	10	ng/l	41
1,4-DIOXANE	1	ug/l	21

Operable Unit: OU 3

Parameter Name	NYSGWQS*	UNIT	MW-176S 6/21/2022[3]	MW-177S 6/21/2022[3]	MW-178S 6/21/2022[3]	MW-182S 6/21/2022[3]	MW-267S 10/14/2020[4] 6/22/2022[3]	MW-269S 6/17/2022[3]	MW-271S 6/17/2022[3]	MW-272S 6/22/2022[3]
1,1,1-TRICHLOROETHANE	5	ug/l					14	280 D	38 D	
1,1-DICHLOROETHANE	5	ug/l		9.0	6.4	150 D	8.2	93 D	13	50 D
1,1-DICHLOROETHYLENE	5	ug/l	7.0	12	6.5	130 D		5.0	9.6	58 D
1,2-DICHLOROETHANE	0.6	ug/l						1.4	2.8	
1,2-DICHLOROETHYLENE, TOTAL	5	ug/l					100 D	78 D	73 D	11
TETRACHLOROETHYLENE	5	ug/l						5.7	9.4	
TRICHLOROETHYLENE	5	ug/l	5.6		8.1	18	210 D	230 D	250 D	110 D
VINYL CHLORIDE	2	ug/l						3.1	23	
PERFLUOROOCTANESULFONIC ACID (PFOS)	10	ng/l					83			
PERFLUOROCTANOIC ACID (PFOA)	10	ng/l					17			
1,4-DIOXANE	1	ug/l								

Operable Unit: OU 3 (continued)

Parameter Name	NYSGWQS*	UNIT	MW-275S 10/14/2020[4] 6/17/2022[3]	MW-279S 6/17/2022[3]	MW-503S 10/15/2020[4]	MW-505S 10/14/2020[4]
1,1,1-TRICHLOROETHANE	5	ug/l				
1,1-DICHLOROETHANE	5	ug/l		19		
1,1-DICHLOROETHYLENE	5	ug/l		23		
1,2-DICHLOROETHANE	0.6	ug/l				
1,2-DICHLOROETHYLENE, TOTAL	5	ug/l				
TETRACHLOROETHYLENE	5	ug/l				
TRICHLOROETHYLENE	5	ug/l	7.1	11		
VINYL CHLORIDE	2	ug/l				
PERFLUOROOCTANESULFONIC ACID (PFOS)	10	ng/l			22	86
PERFLUOROCTANOIC ACID (PFOA)	10	ng/l			11	16
1,4-DIOXANE	1	ug/l	1			

Operable Unit: OU 3a

Parameter Name	NYSGWQS*	UNIT	MW-204S 6/16/2022[3]	MW-604S 6/17/2022[3]
1,1,1-TRICHLOROETHANE	5	ug/l	71 D	27
1,1,2-TRICHLOROETHANE	1	ug/l		
1,1-DICHLOROETHANE	5	ug/l	18	18
1,1-DICHLOROETHYLENE	5	ug/l	9.1	
1,2-DICHLOROETHANE	0.6	ug/l	2.2	1.5
1,2-DICHLOROETHYLENE, TOTAL	5	ug/l	39 D	39 D
TRICHLOROETHYLENE	5	ug/l	100 D	120 D
VINYL CHLORIDE	2	ug/l		

Table 1-4b: Summary of Groundwater Monitoring Results Remaining Above NYSGWQS

Operable Unit: OU 5

Parameter Name	NYSGWQS*	UNIT	MW-208S 6/23/2022[3]	MW-210S 6/23/2022[3]	MW-612S 6/23/2022[3]	MW-802 10/15/2020[4]
ARSENIC, DISSOLVED	0.025	mg/l	0.056	0.100		
PHENOLS, TOTAL	1	ug/l			21	
PERFLUOROOCTANESULFONIC ACID (PFOS)	10	ng/l				580
PERFLUOROCTANOIC ACID (PFOA)	10	ng/l				19
1,4-DIOXANE	1	ug/l				4.3

Operable Unit: OU 6

Parameter Name	NYSGWQS*	UNIT	MW-106S 10/15/2020[4]	MW-816 6/23/2022[3]	MW-817 6/23/2022[3]
1,1,1-TRICHLOROETHANE	5	ug/l			6.5
1,1-DICHLOROETHANE	5	ug/l			5.8
1,2-DICHLOROETHANE	0.6	ug/l			2.8
1,2-DICHLOROETHYLENE, TOTAL	5	ug/l			7.7
PHENOLS, TOTAL	1	ug/l			
TRICHLOROETHYLENE	5	ug/l		7.5	120 D
PERFLUOROOCTANESULFONIC ACID (PFOS)	10	ng/l	470		
PERFLUOROCTANOIC ACID (PFOA)	10	ng/l	14		

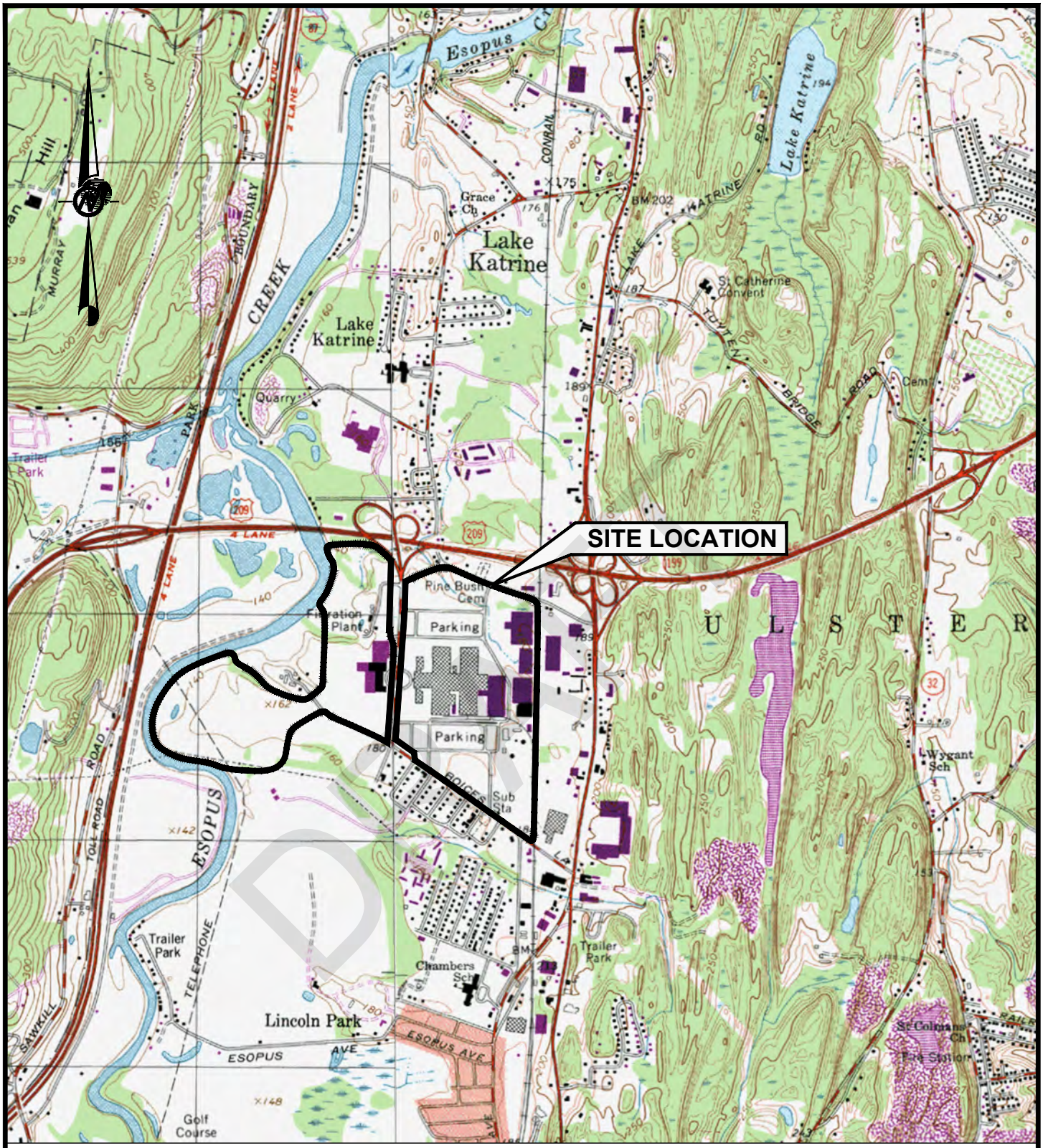
Operable Unit: OU 7

Parameter Name	NYSGWQS*	UNIT	MW-313S 10/14/2020[4]
PERFLUOROOCTANESULFONIC ACID (PFOS)	10	ng/l	4000
PERFLUOROCTANOIC ACID (PFOA)	10	ng/l	51

Notes:
1 NYSGWQS - New York State Groundwater Quality Standard (6 NYCRR Part 703)
2 Groundwater Monitoring Data (GMP Only) where detected concentrations exceed NYSGWQS
3 GMP data reported from 2nd Quarter 2022 groundwater monitoring event
4 Emerging Contaminant data reported from sampling event associated with the Emerging Contaminant Sampling Work Plan, dated July 31, 2018 with report dated January 29, 2021
5 mg/l milligrams per liter
6 ug/l micrograms per liter
7 ng/L nanograms per liter
8 Blank space indicates compound not detected above NYSGWQS
9 D indicates sample was diluted

Table 1-5: Emergency and Site Contacts

Name/Affiliation	Contact Info
New York State Spill Hotline	1-800-457-7362
xxx iPark 87, Order Respondent, Majority Property Owner	xxx xxx
Daniel Bendell NYSDEC Region 3 - DER Project Manager	845-256-3151 daniel.bendell@dec.ny.gov
David Pollock NYSDEC Region 3 Materials Management Engineer and DER Project Manager's Supervisor	845-256-3151 david.pollock@dec.ny.gov
Julia Kenney NYSDOH Project Manager	518-402-7873 julia.kenney@health.ny.gov
Stephen Brown, Program Manager IBM, Order Respondent, Remedial Party	(720) 397 5618



2000 0 2000

SCALE FEET

REFERENCE

1.) BASE MAP TAKEN FROM USGS 7.5 MINUTE SERIES QUADRANGLES OF KINGSTON EAST, NY, DATED 1963, PHOTOREVISED 1980, AND KINGSTON WEST, NY, DATED 1997.

PROJECT

300 ENTERPRISE DRIVE KINGSTON NY SITE
INTERIM SITE MANAGEMENT PLAN

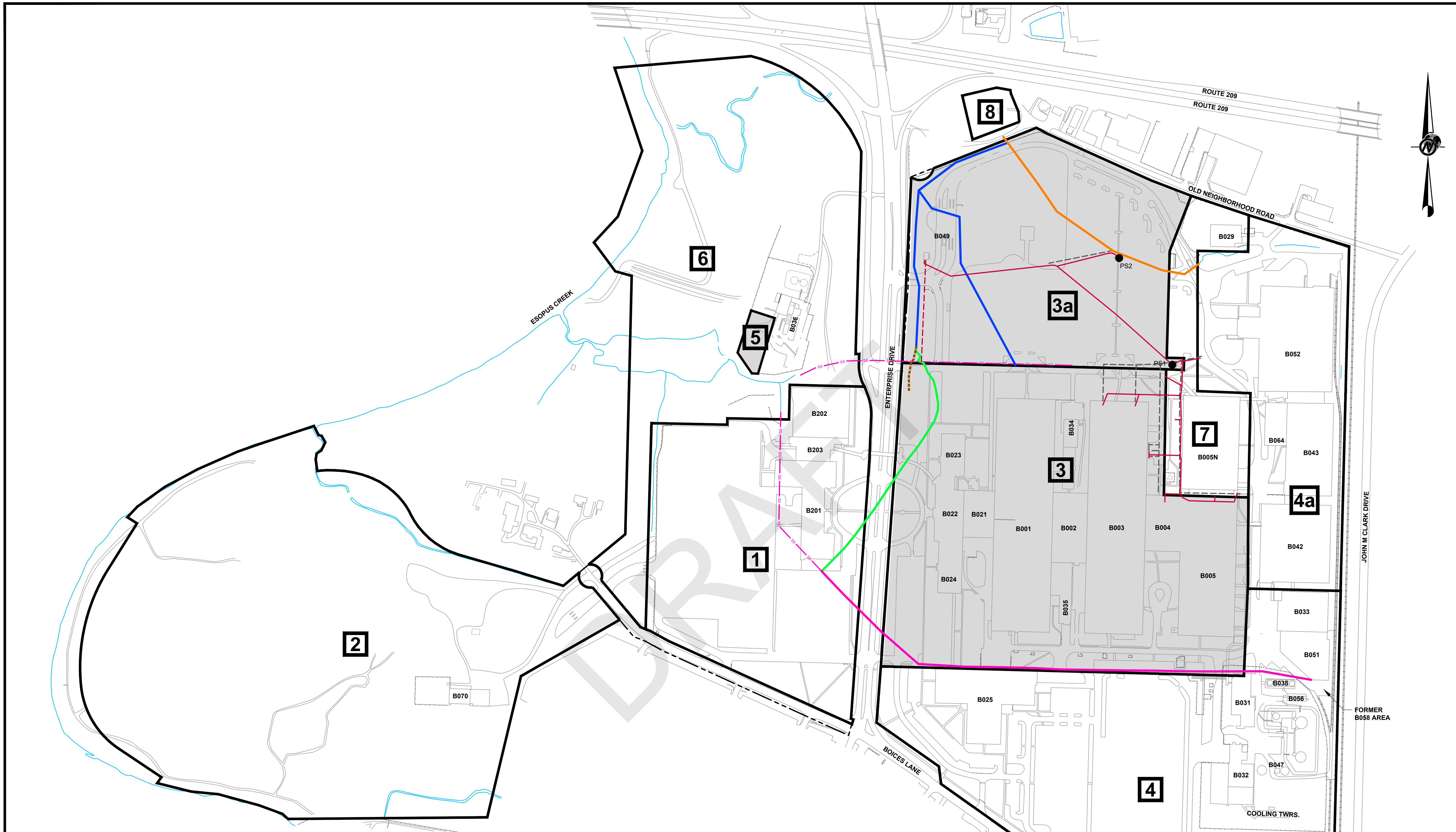
TITLE

SITE LOCATION MAP

PROJECT No.		GL19133924	FILE No.		GL19133924ZD08
DESIGN	CDH	2023-06-15	SCALE	AS SHOWN	REV. 0
CADD	RG	2023-06-15			
CHECK					
REVIEW					

FIGURE 1-1

Drawing file: GL19133924ZD08.DWG Jun 15, 2023 - 3:42pm



LEGEND

	PROPERTY BOUNDARY
	RIVER/STREAM
	42-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
	UNSATURATED SURFICIAL SAND UNIT (SITE PERIMETER CONTROL SYSTEM)
	GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)
	60-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
	NORTH PARKING LOT AREA (NPLA) SYSTEM
	4" PVC GTF EFFLUENT LINE
SS	STORM SEWER LINE
	UTILITY TRENCH BARRIER WALL
	EXISTING STORMWATER SYSTEM THAT IS PART OF THE NORTH PARKING LOT AREA GROUNDWATER COLLECTION SYSTEM (ABANDONED IN PLACE)
PS1	PUMP STATION
B003	BUILDING NUMBER
1	OPERABLE UNIT (OU)
	OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

PROJECT

300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE

SITE LAYOUT AND
OPERABLE UNITS
BOUNDARY MAP

PROJECT No.		GL19133924
FILE No.		GL19133924ZD09
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 1-2

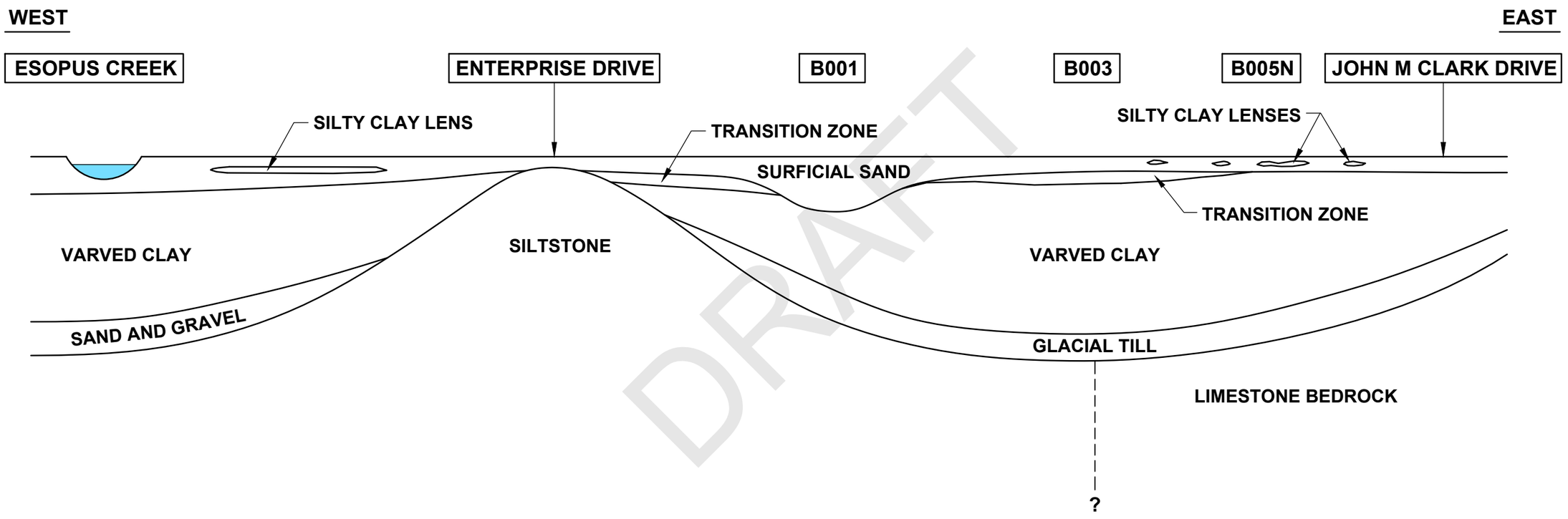


FIGURE NARRATIVE

THIS CROSS SECTION SCHEMATIC REPRESENTS A GENERALIZED INTERPRETATION OF SUBSURFACE CONDITIONS BASED ON SOIL BORING LOG INFORMATION COLLECTED ON THE SITE BY GOLDER AND GROUNDWATER SCIENCES CORPORATION. THIS GENERALIZED CROSS SECTION IS NOT TO SCALE. PROFESSIONAL JUDGMENT HAS BEEN USED TO DEVELOP THIS CROSS SECTION. ACTUAL CONDITIONS WILL VARY FROM THOSE PRESENTED. OTHER INTERPRETATIONS ARE POSSIBLE.

NOTE

1.) SECTION SHOWN IS NOT TO SCALE.

REFERENCE

1.) SECTION SHOWN BASED ON A FIGURE ENTITLED "SCHEMATIC CROSS SECTION," FIGURE 1-2, DATED MARCH 12, 1997, PREPARED BY GROUNDWATER SCIENCES CORPORATION (GSC), AND RECENT INVESTIGATION RESULTS.

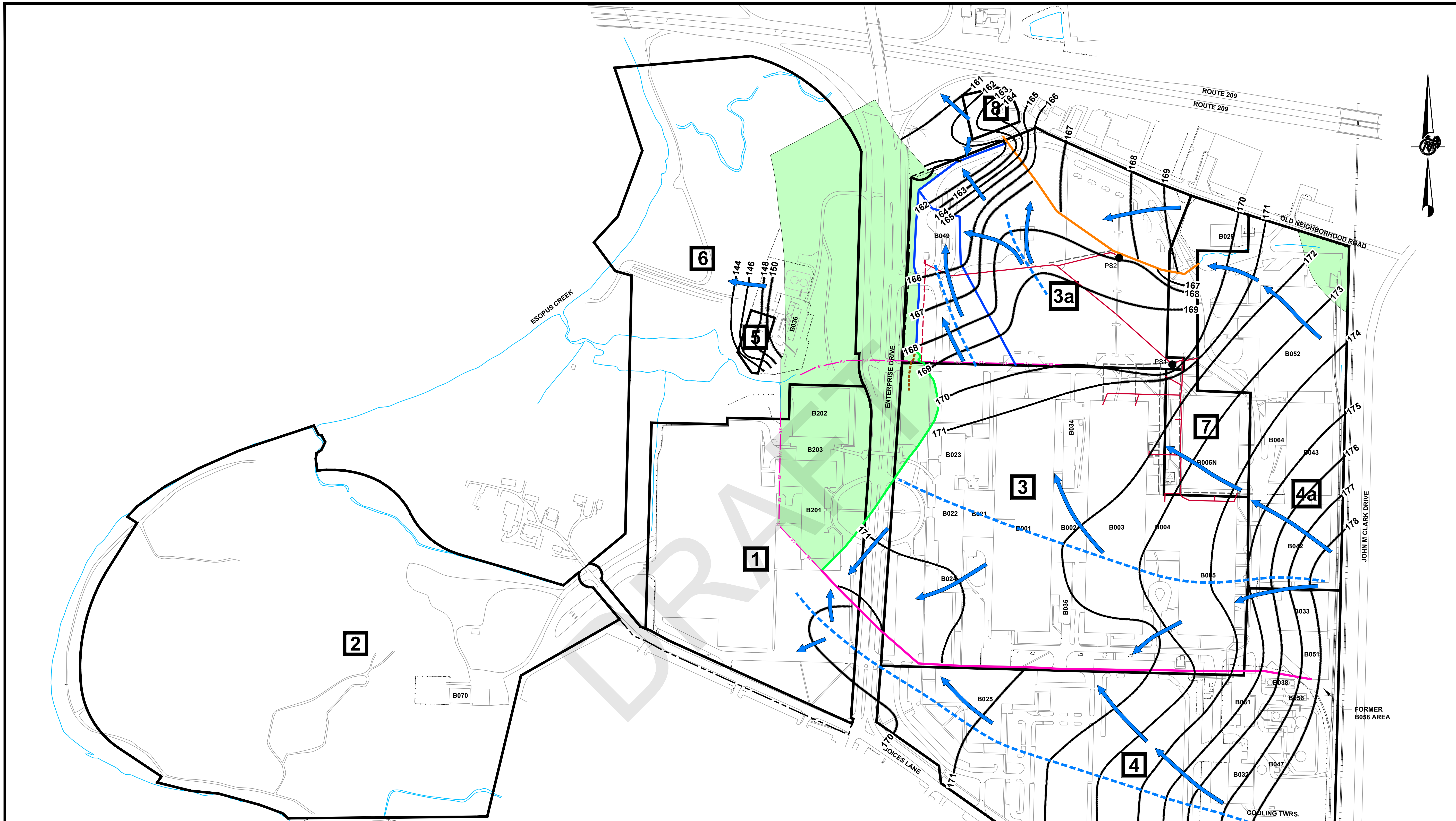
PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE
INTERPRETED GEOLOGIC CROSS SECTION

PROJECT No.		GL19133924
FILE No.		GL19133924ZD10
REV. 0	SCALE	N.T.S.
DESIGN	DPG	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 1-3

Drawing file: GL19133924ZD10.dwg Jun 15, 2023 - 3:58pm



LEGEND

PROPERTY BOUNDARY	UTILITY TRENCH BARRIER WALL
RIVER/STREAM	EXISTING STORMWATER SYSTEM THAT IS PART OF THE NORTH PARKING LOT AREA GROUNDWATER COLLECTION SYSTEM (ABANDONED IN PLACE)
42-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)	PS1 — PUMP STATION
UNSATURATED SURFICIAL SAND UNIT (SITE PERIMETER CONTROL SYSTEM)	B003 — BUILDING NUMBER
GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)	1 — OPERABLE UNIT (OU)
60-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)	INTERPRETED EXTENT OF UNSATURATED PORTION OF THE SURFICIAL SAND
NORTH PARKING LOT AREA (NPLA) SYSTEM	160 — INTERPRETED ELEVATION OF THE GROUNDWATER TABLE SURFACE (FT. MSL) (SEE REFERENCE 3)
4" PVC GTF EFFLUENT LINE	INTERPRETED GROUNDWATER FLOW DIRECTION IN SURFICIAL SAND
STORM SEWER LINE	INFERRED LOCATION OF GROUNDWATER DIVIDE

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

3.) GROUNDWATER CONTOURS, GROUNDWATER FLOW DIRECTION AND GROUNDWATER DIVIDE TAKEN FROM DIGITAL CAD FILE 3002I129_4Q2022_WSP.dwg, ENTITLED "SURFICIAL SAND AQUIFER GROUNDWATER ELEVATION CONTOUR MAP, OCTOBER 12, 2022 (FOURTH QUARTER 2022)," FIGURE 4-4, DATED MARCH 15, 2023, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

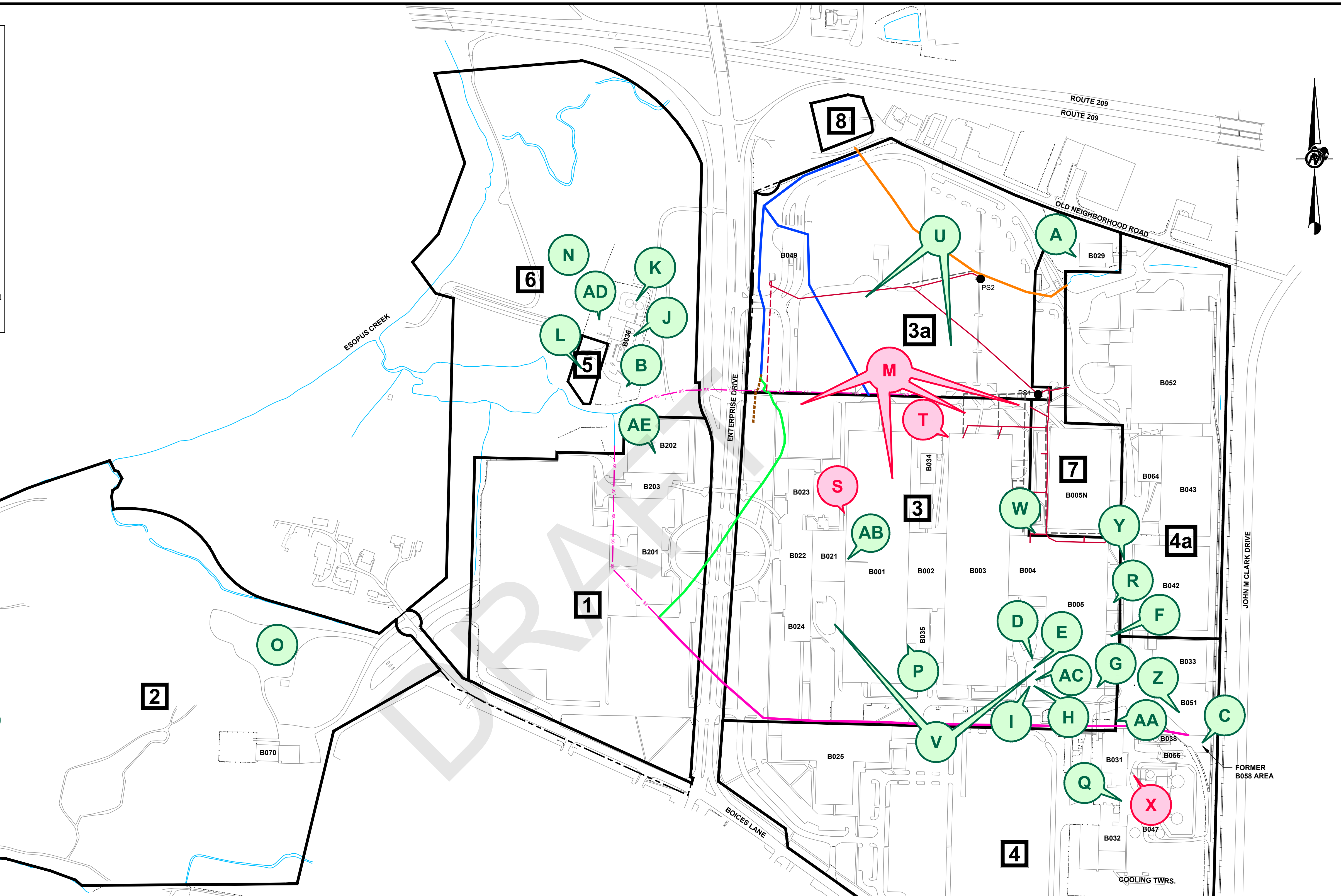
TITLE
INTERPRETED GROUNDWATER POTENTIOMETRIC SURFACE MAP

PROJECT No.		GL19133924
FILE No.		GL19133924ZD11
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-16
CADD	RG	2023-06-16
CHECK		
REVIEW		

FIGURE 1-4

SOLID WASTE MANAGEMENT UNITS (SWMUs)

- A: B029 Chemical Distribution Center
- B: B036 Container Storage Area
- C: Former B058
- D: Former Waste Acetone Storage Tank
- E: Former Waste IPA Storage Tank
- F: Former East Side Waste Tanks
- G: Former Waste PCE Tank
- H: Former East SRP Tank
- I: Former West SRP
- J: Wastewater Treatment Tanks
- K: Emergency Wastewater Holding Tanks
- L: Former Industrial Waste Sludge Lagoon
- M: Industrial Waste Sewer Lines
- N: Inactive B036 Construction and Debris Landfill
- O: Salt Barn Parking Lot Sand Fill Area
- P: Former B035 Dry Well
- Q: Former B031 Lagoon
- R: Former Waste TCA Tank (B005(S))
- S: Former Waste TCA Tank (B001)
- T: Former Waste Oil Tank
- U: North Parking Lot Area Plume
- V: B005 Plume
- W: Former B004 Separator Tank
- X: B031 Separator
- Y: Former Fluoride Wastewater Ejector Tank
- Z: Inactive B033 Septic System
- AA: Inactive B031 Septic System
- AB: Former B001 TCA Recovery Unit
- AC: Former B005(S) Solvent Recovery Process Unit
- AD: Former Fire Training Area
- AE: B202 Elevator No. 2
- AF: Inactive West Demolition Debris Fill Area



LEGEND

(black dash line)	PROPERTY BOUNDARY
(light blue line)	RIVER/STREAM
(magenta line)	42-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
(green line)	UNSATURATED SURFICIAL SAND UNIT (SITE PERIMETER CONTROL SYSTEM)
(blue line)	GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)
(orange line)	60-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
(red line)	NORTH PARKING LOT AREA (NPLA) SYSTEM
(red dashed line)	4" PVC GTF EFFLUENT LINE
SS	STORM SEWER LINE
(brown dotted line)	UTILITY TRENCH BARRIER WALL
(grey dashed line)	EXISTING STORMWATER SYSTEM THAT IS PART OF THE NORTH PARKING LOT AREA GROUNDWATER COLLECTION SYSTEM (ABANDONED IN PLACE)
● PS1	PUMP STATION
B003	BUILDING NUMBER
1	OPERABLE UNIT (OU)
(green circle)	2014 STATEMENT OF BASIS STATUS: NO FURTHER ACTION
(pink circle)	2014 STATEMENT OF BASIS STATUS - ADDITIONAL INVESTIGATION REQUIRED

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

PROJECT

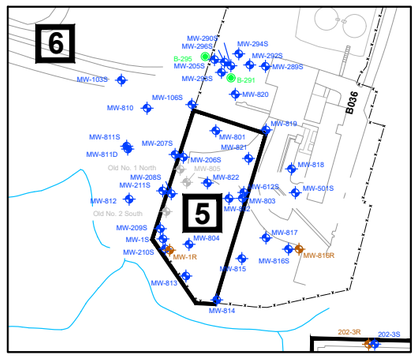
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

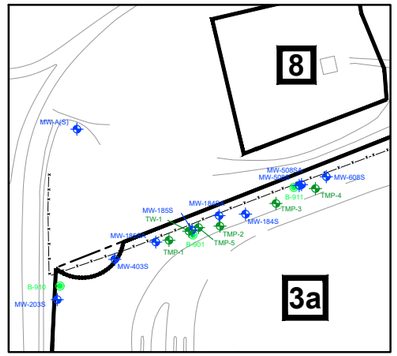
TITLE

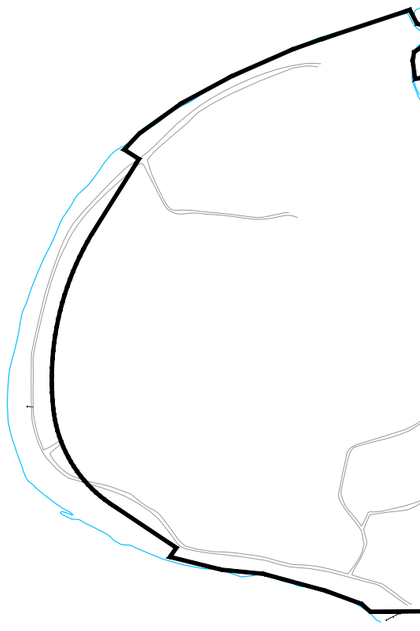
SOLID WASTE
MANAGEMENT UNIT
LOCATIONS AND
STATUS MAP

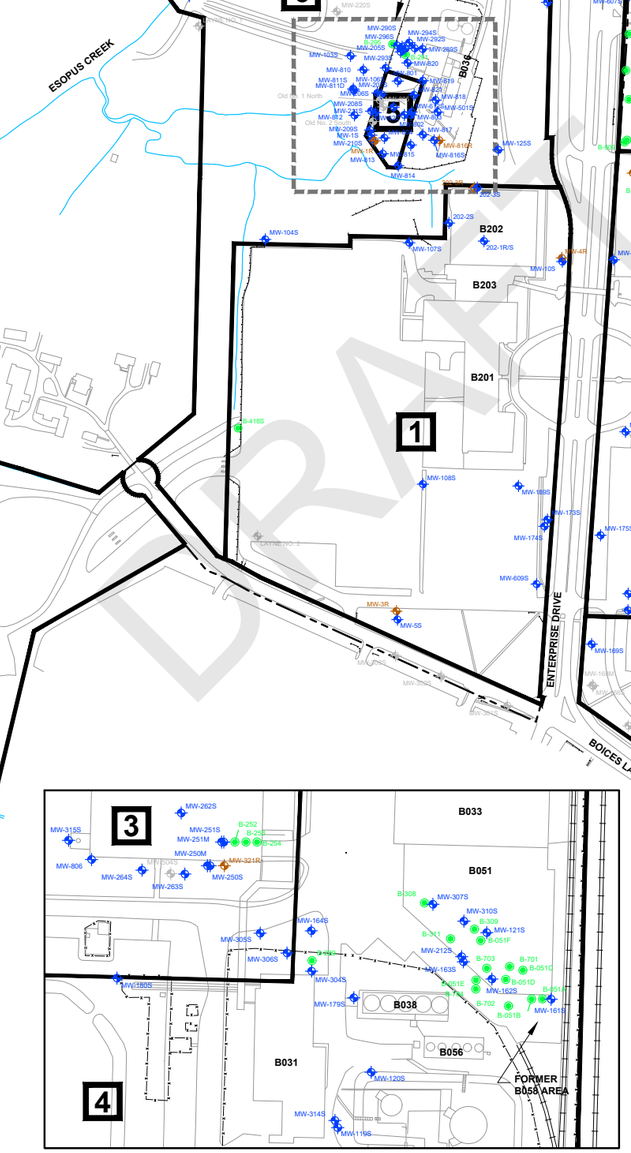
PROJECT No.		GL19133924
FILE No.		GL19133924ZD12
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

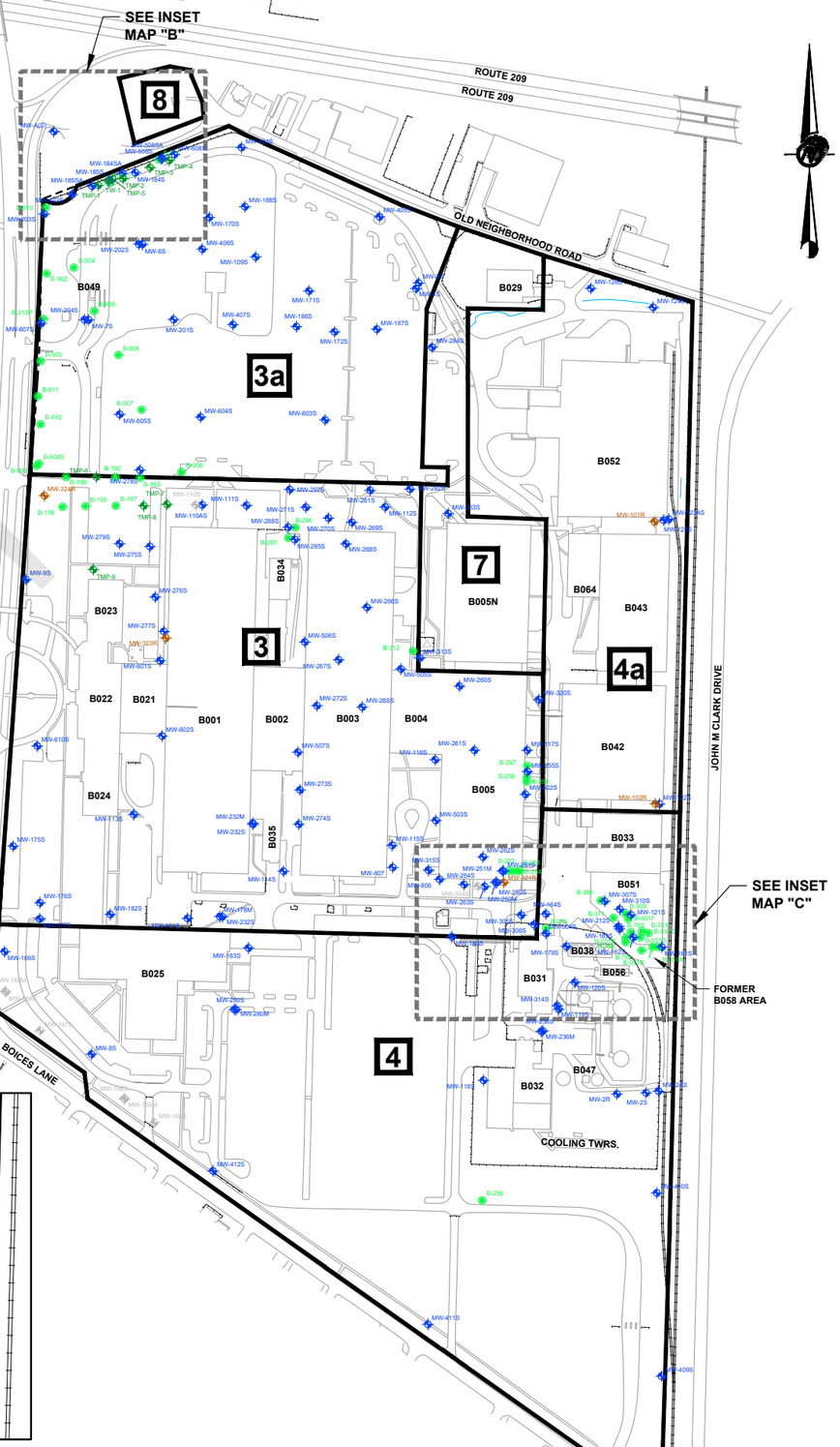
FIGURE 1-5











LEGEND

— - - —	PROPERTY/PARCEL BOUNDARY
—	RIVER/STREAM
B003	BUILDING NUMBER
1	OPERABLE UNIT (OU)
⌖	GROUNDWATER MONITORING WELL
⌖	BEDROCK MONITORING WELL
⌖	TEMPORARY SOIL MONITORING WELL
⌖	ABANDONED MONITORING WELL
◉	SOIL BORING

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

3.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

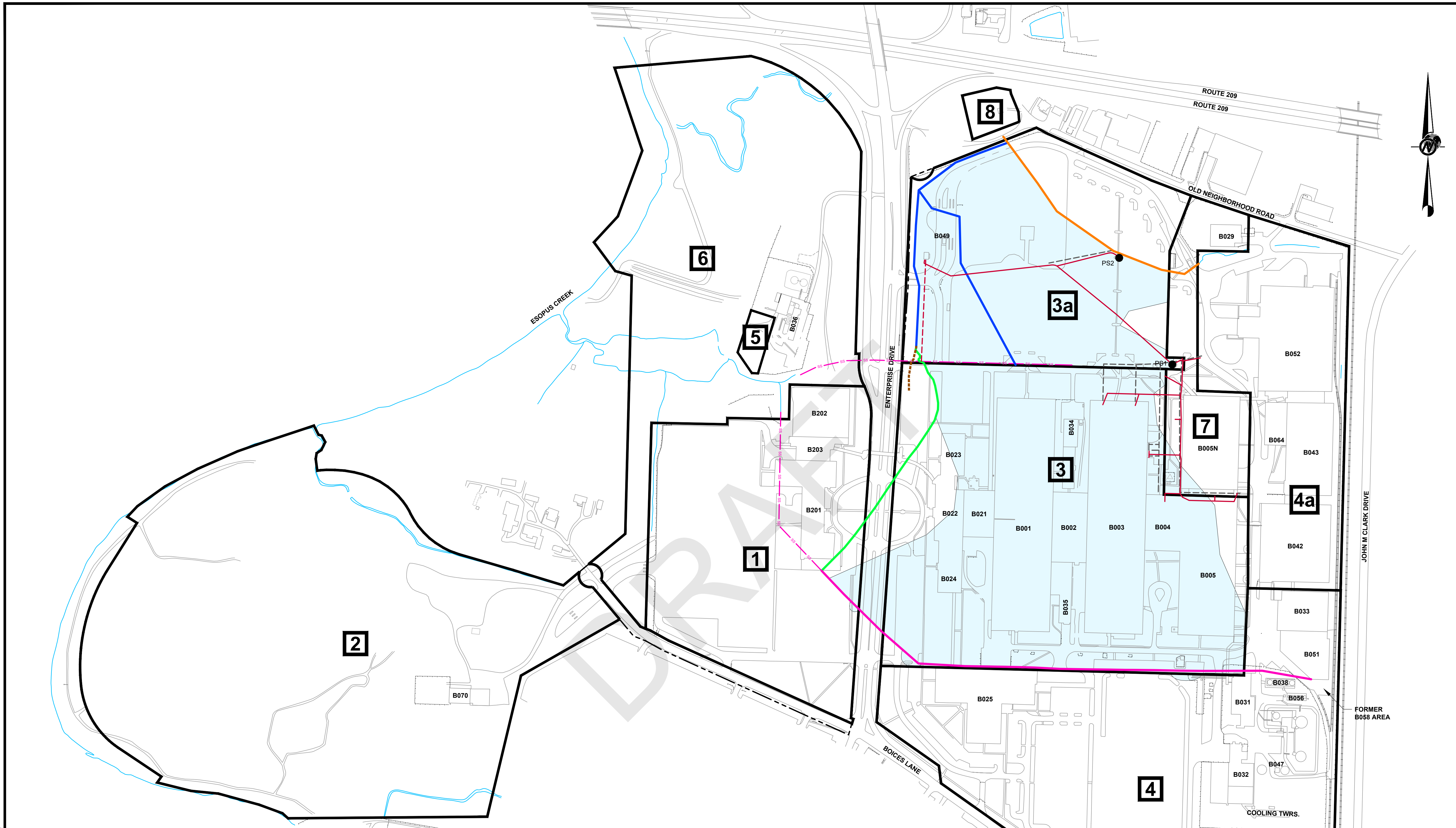
Drawing File: GL19133924ZD13.dwg | Layout: Historical Location Map | Modified: 06/15/23 4:11pm | Plotted: 06/15/23 4:12pm | Plotted by: rgrams

PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE
HISTORICAL MONITORING WELL AND SOIL BORING LOCATION MAP

PROJECT No.		GL19133924
FILE No.		GL19133924ZD13
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 1-6



LEGEND

PROPERTY BOUNDARY	
RIVER/STREAM	
42-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)	
UNSATURATED SURFICIAL SAND UNIT (SITE PERIMETER CONTROL SYSTEM)	
GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)	
60-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)	
NORTH PARKING LOT AREA (NPLA) SYSTEM	
4" PVC GTF EFFLUENT LINE	
STORM SEWER LINE	
	UTILITY TRENCH BARRIER WALL
	EXISTING STORMWATER SYSTEM THAT IS PART OF THE NORTH PARKING LOT AREA GROUNDWATER COLLECTION SYSTEM (ABANDONED IN PLACE)
PS1	PUMP STATION
B003	BUILDING NUMBER
1	OPERABLE UNIT (OU)
	GENERALIZED GROUNDWATER VOC PLUME AREA (2022)

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

PROJECT

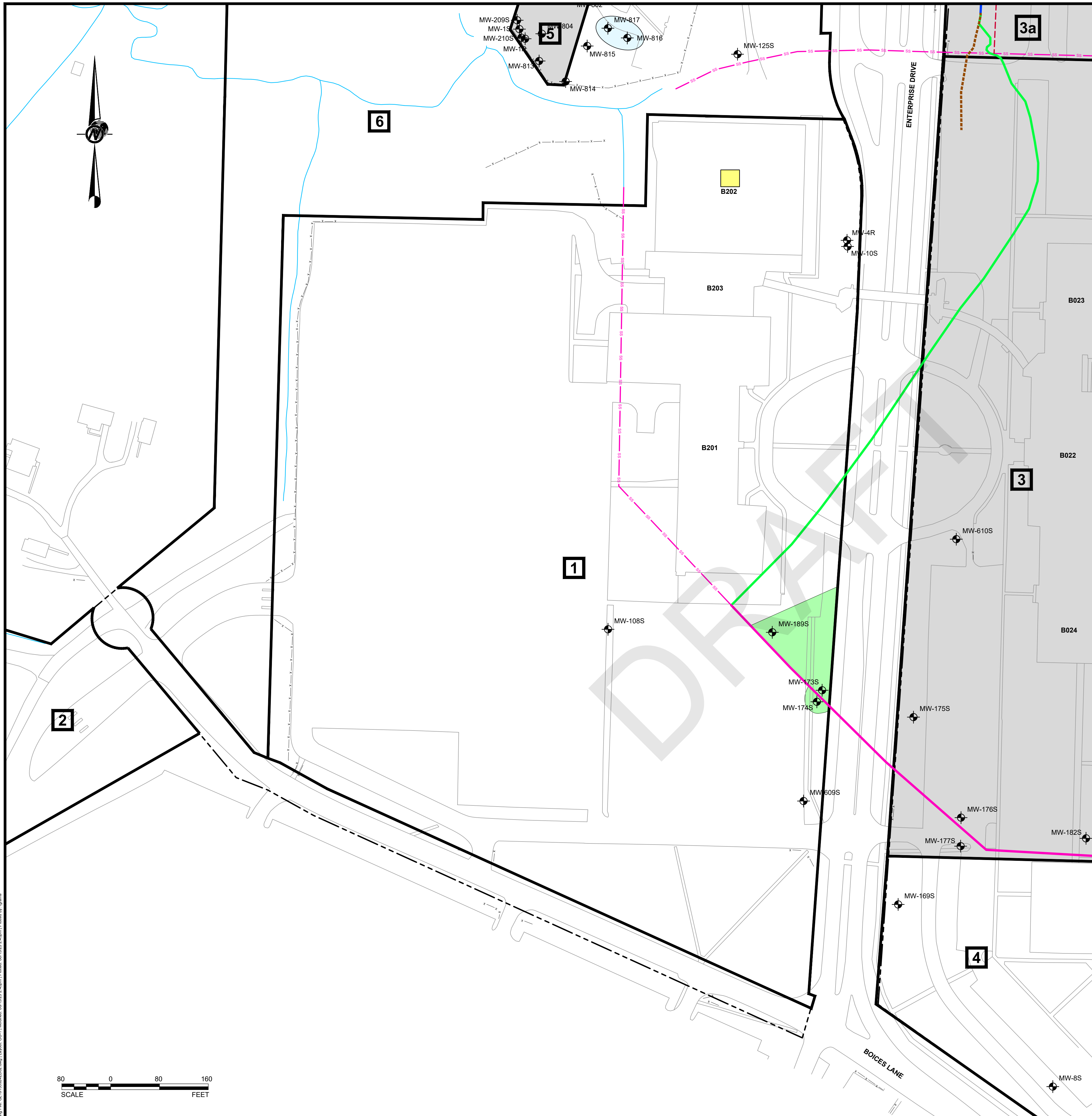
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

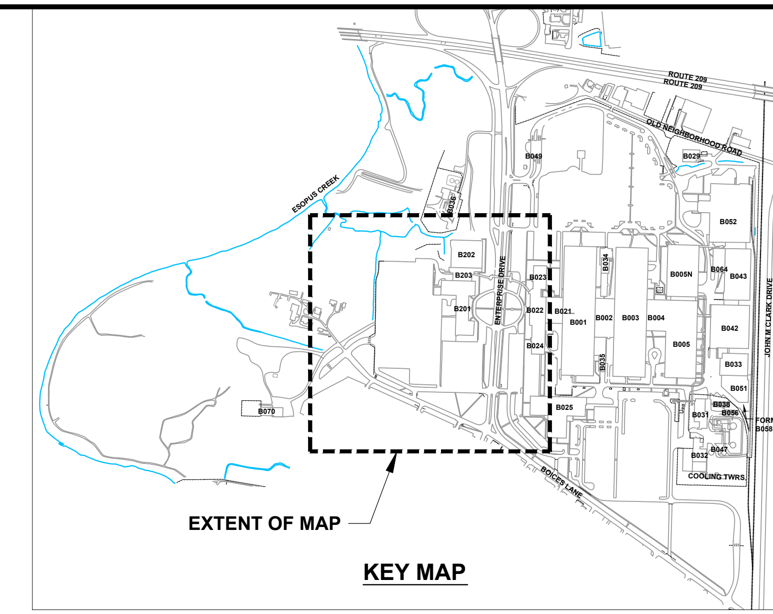
TITLE

GENERALIZED
GROUNDWATER VOC
PLUME MAP

PROJECT No.		GL19133924
FILE No.		GL19133924ZD18
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 1-7





KEY MAP

700 0 700 1400
SCALE FEET

LEGEND

(line symbol)	PROPERTY BOUNDARY
(line symbol)	RIVER/STREAM
(line symbol)	42-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
(line symbol)	UNSATURATED SURFICIAL SAND UNIT (SITE PERIMETER CONTROL SYSTEM)
(line symbol)	GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)
(line symbol)	4" PVC GTF EFFLUENT LINE
(line symbol)	STORM SEWER LINE
(line symbol)	UTILITY TRENCH BARRIER WALL
MW-169S	MONITORING WELL
B003	BUILDING NUMBER
1	OPERABLE UNIT (OU)
(green fill)	TRIANGLE PLUME AREA WHERE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE
(yellow fill)	BUILDING B202 ELEVATOR WHERE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE
(grey fill)	OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE (THE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE TO ALL PORTIONS OF OU-3 AND OU-3A)

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

PROJECT

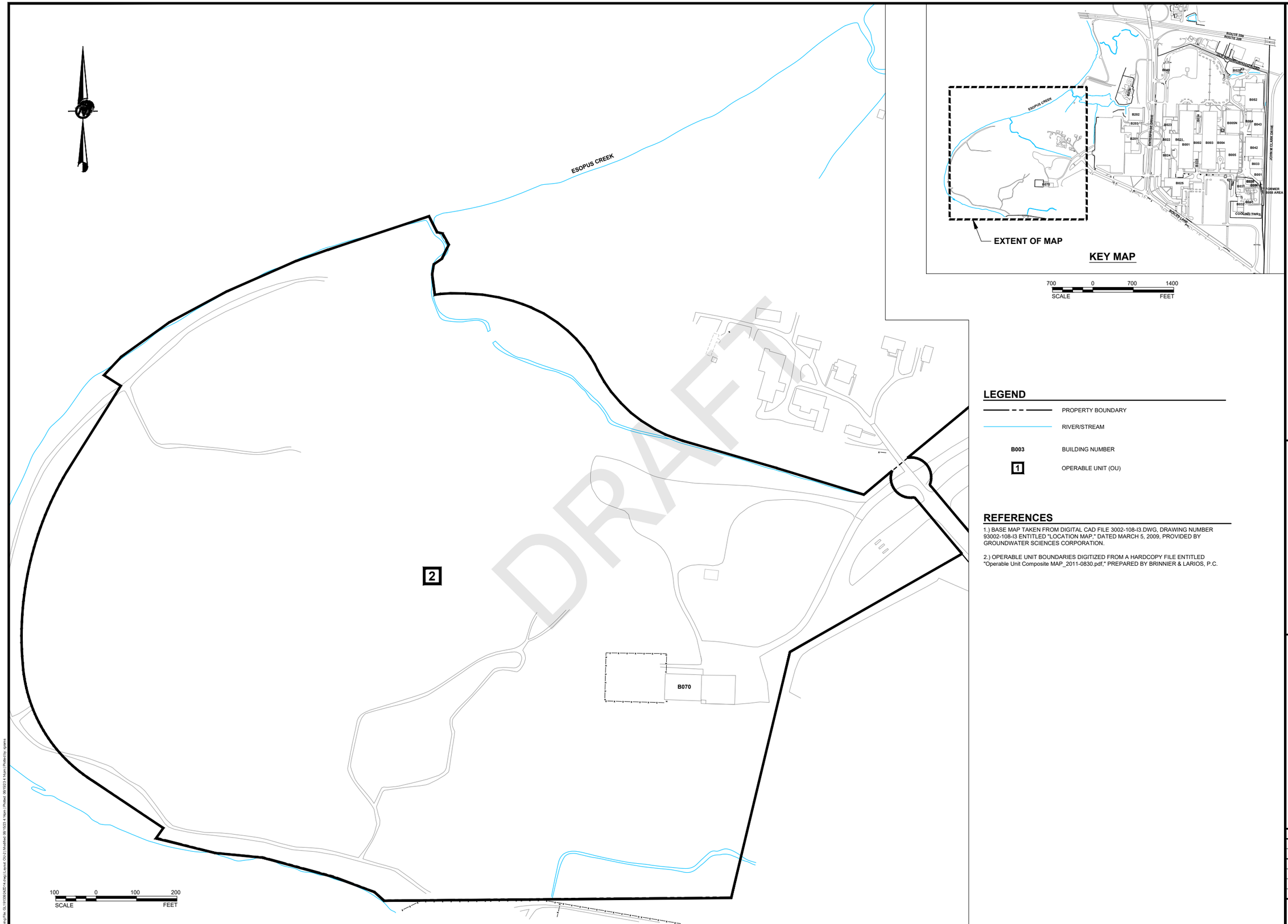
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE

OPERABLE UNIT 1
LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD02
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 2-1



LEGEND

- PROPERTY BOUNDARY
- RIVER/STREAM
- B003 BUILDING NUMBER
- 1 OPERABLE UNIT (OU)

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

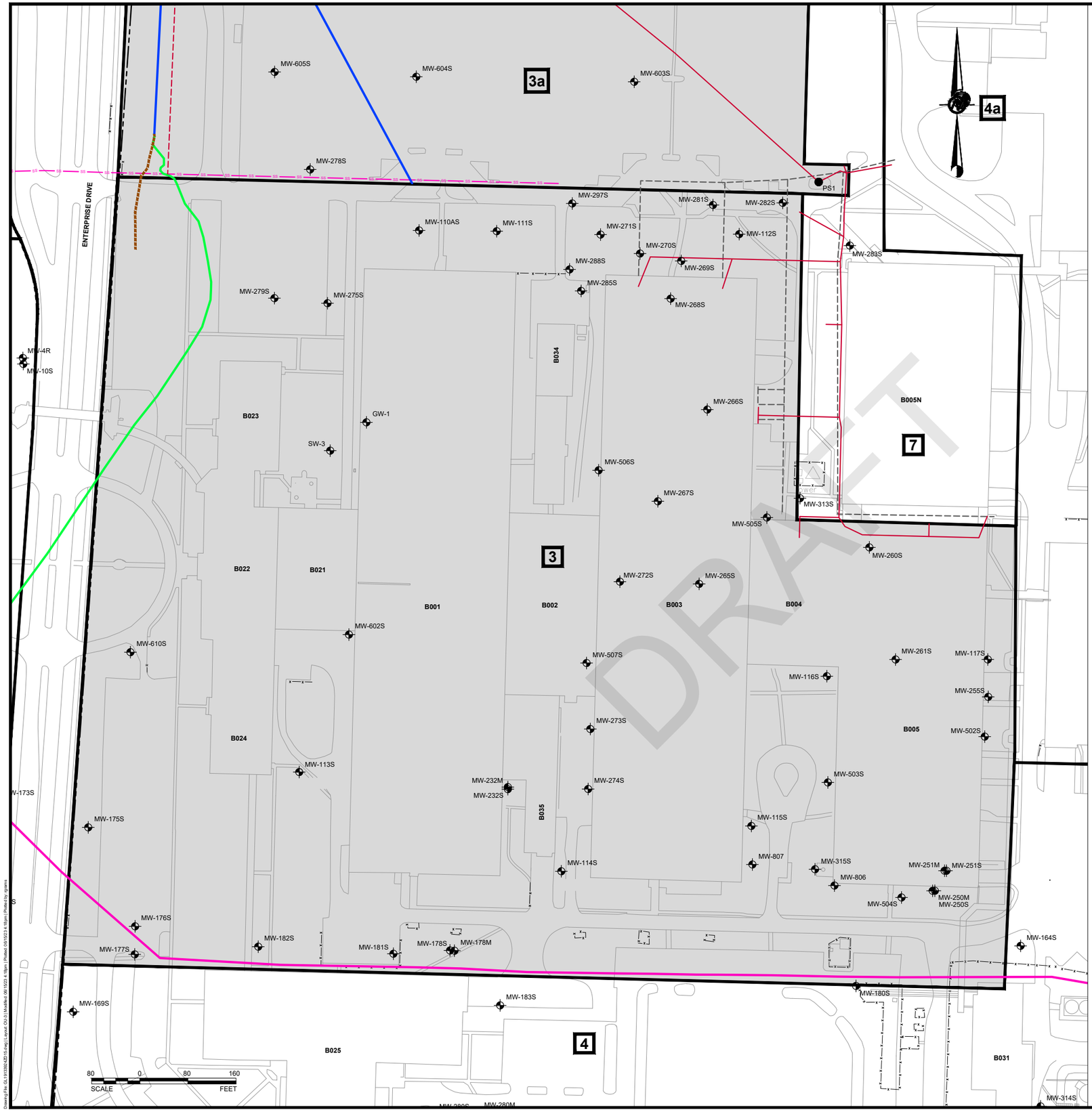
2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

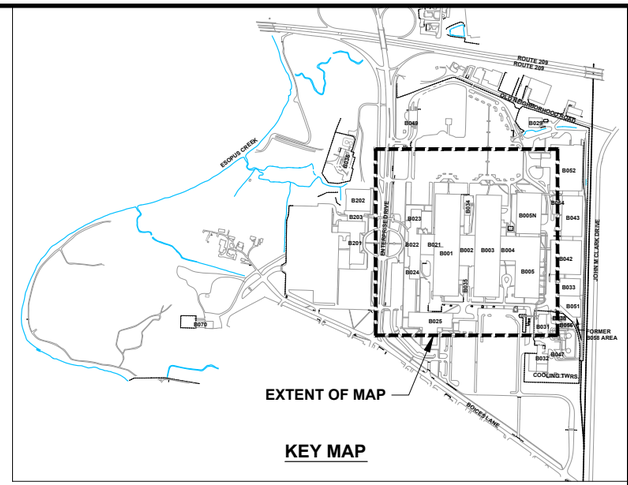
PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE
OPERABLE UNIT 2 LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD14
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 3-1





700 0 700 1400
SCALE FEET

LEGEND

- PROPERTY BOUNDARY
- RIVER/STREAM
- 42-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- UNSATURATED SURFICIAL SAND UNIT (SITE PERIMETER CONTROL SYSTEM)
- GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- NORTH PARKING LOT AREA (NPLA) SYSTEM
- 4" PVC GTF EFFLUENT LINE
- STORM SEWER LINE
- EXISTING STORMWATER SYSTEM THAT IS PART OF THE NORTH PARKING LOT AREA GROUNDWATER COLLECTION SYSTEM (ABANDONED IN PLACE)
- UTILITY TRENCH BARRIER WALL
- PS1 — PUMP STATION
- MW-505S — MONITORING WELL
- B003 — BUILDING NUMBER
- 1 — OPERABLE UNIT (OU)
- OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE (THE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE TO ALL PORTIONS OF OU-3 AND OU-3A)

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE SITEMAP.DWG, DRAWING NUMBER 93002-SITEMAP/2 ENTITLED "SITE MAP," DATED MAY 9, 2005, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

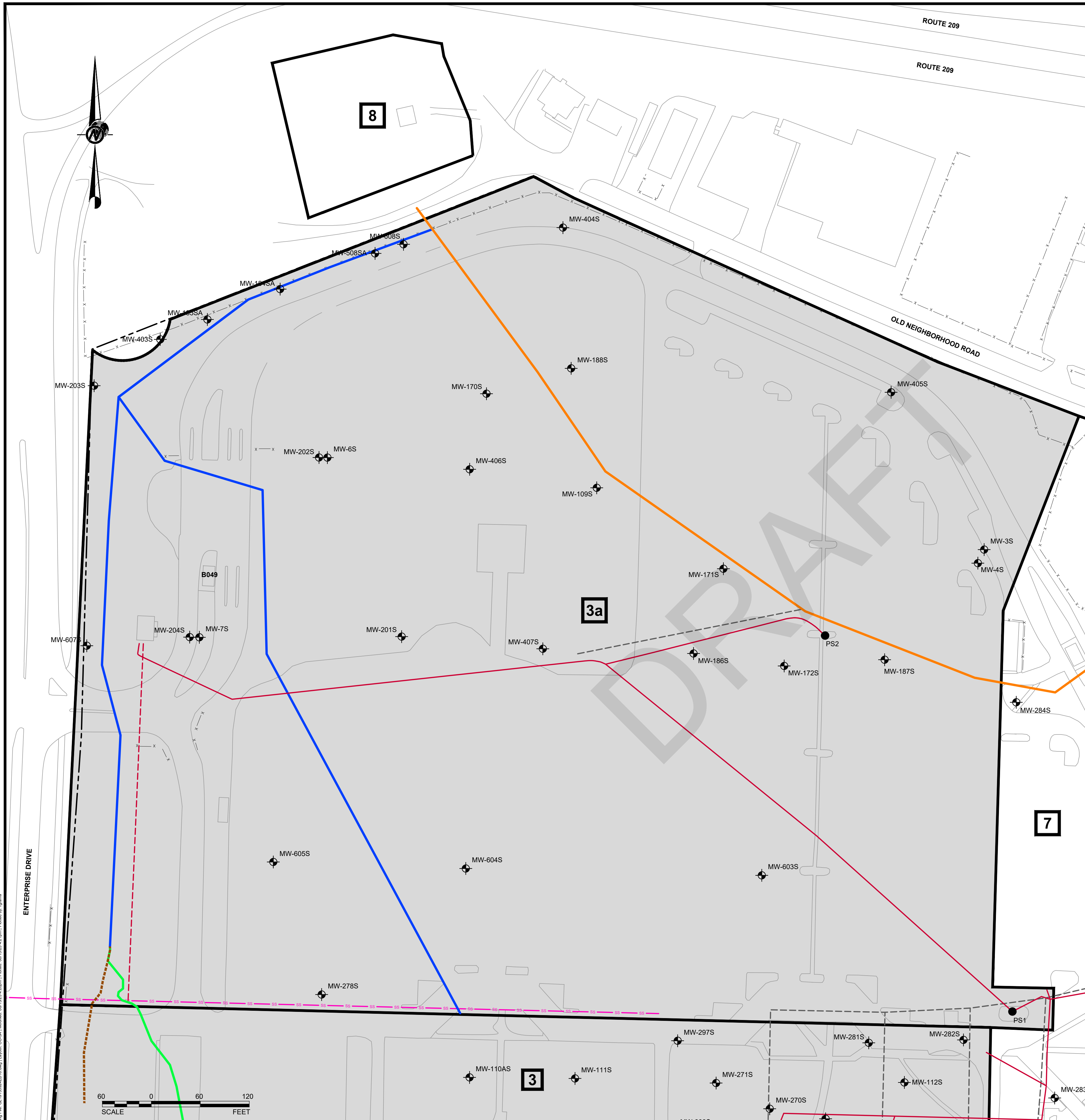
2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

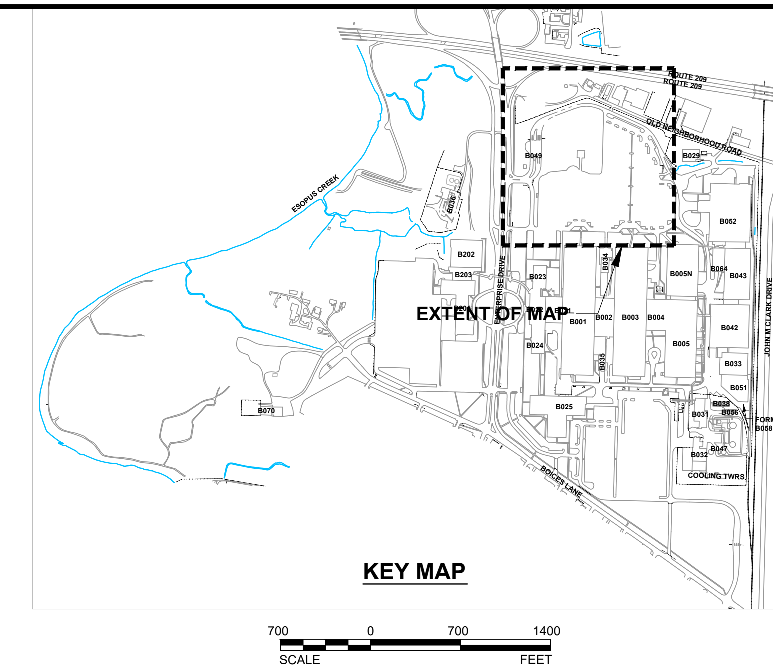
PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE MANAGEMENT PLAN

TITLE
OPERABLE UNIT 3 LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD15
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 4-1





LEGEND

- PROPERTY BOUNDARY
- RIVER/STREAM
- 60-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- UNSATURATED SURFICIAL SAND UNIT (SITE PERIMETER CONTROL SYSTEM)
- GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- NORTH PARKING LOT AREA (NPLA) SYSTEM
- 4" PVC GTF EFFLUENT LINE
- STORM SEWER LINE
- EXISTING STORMWATER SYSTEM THAT IS PART OF THE NORTH PARKING LOT AREA GROUNDWATER COLLECTION SYSTEM (ABANDONED IN PLACE)
- UTILITY TRENCH BARRIER WALL
- PS1 — PUMP STATION
- MW-186S — MONITORING WELL
- B003 — BUILDING NUMBER
- 1 — OPERABLE UNIT (OU)
- OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE (THE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE TO ALL PORTIONS OF OU-3 AND OU-3A)

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

PROJECT

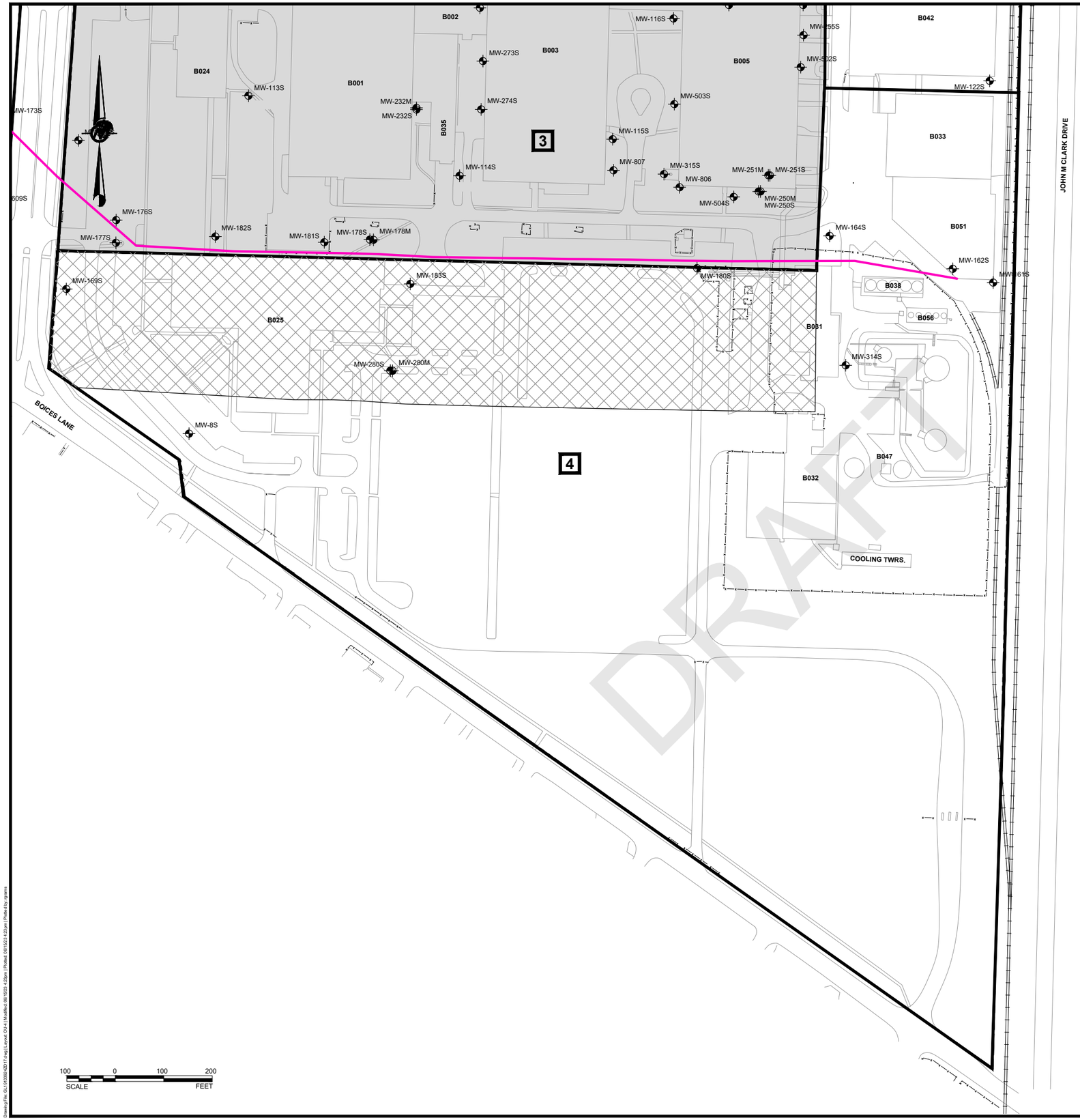
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

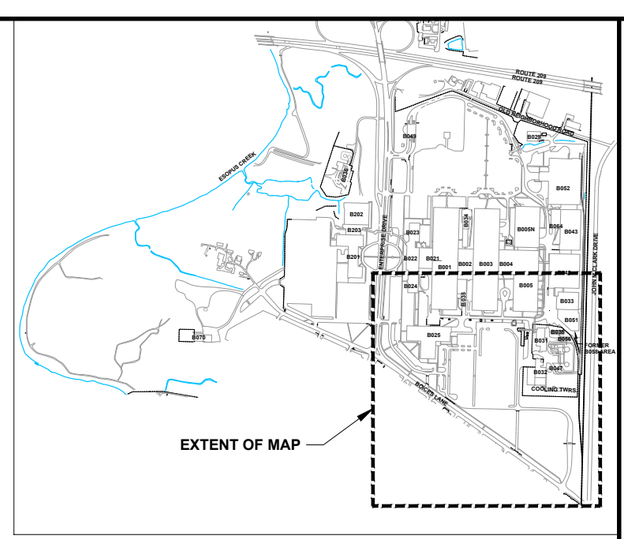
TITLE

OPERABLE UNIT 3A LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD16
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 5-1





KEY MAP

700 0 700 1400
SCALE FEET

LEGEND

- PROPERTY BOUNDARY
- RIVER/STREAM
- 42-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- MW-280S — MONITORING WELL
- B003 — BUILDING NUMBER
- 1 — OPERABLE UNIT (OU)
- OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE (THE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE TO ALL PORTIONS OF OU-3 AND OU-3A)
- AREA WHERE INTRUSIVE ACTIVITIES WORK PLAN AND NEW BUILDING VI REQUIREMENTS ARE APPLICABLE ON OU-4

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

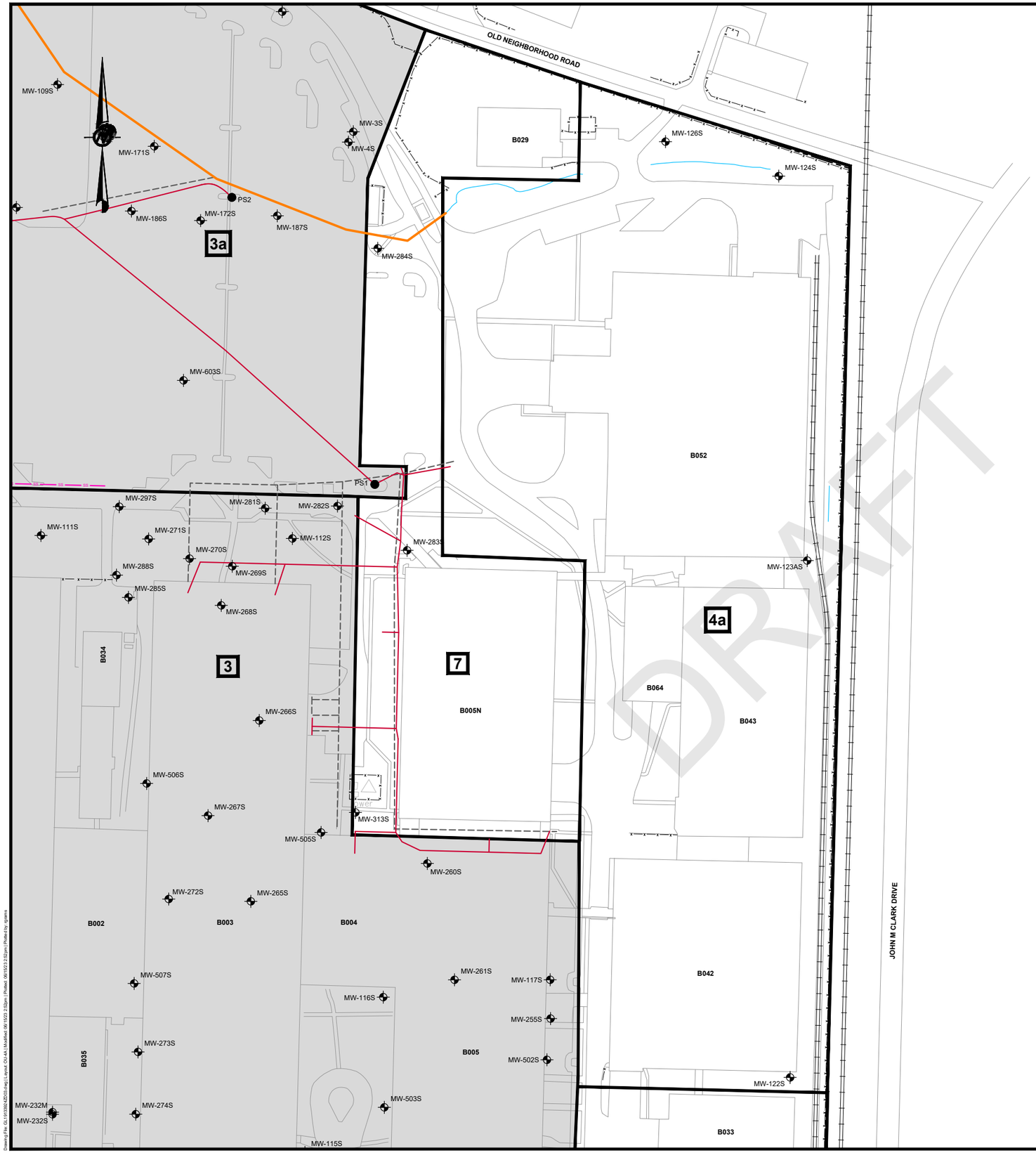
2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

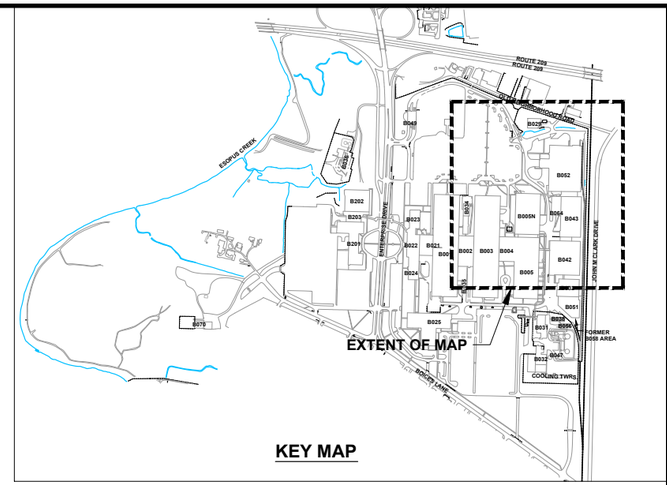
PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE
OPERABLE UNIT 4 LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD17
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 6-1





KEY MAP

700 0 700 1400
SCALE FEET

LEGEND

- PROPERTY BOUNDARY
- RIVER/STREAM
- 60-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- NORTH PARKING LOT AREA (NPLA) SYSTEM
- STORM SEWER LINE
- EXISTING STORMWATER SYSTEM THAT IS PART OF THE NORTH PARKING LOT AREA GROUNDWATER COLLECTION SYSTEM (ABANDONED IN PLACE)
- PS1 — PUMP STATION
- MW-268S — MONITORING WELL
- B003 — BUILDING NUMBER
- 1 — OPERABLE UNIT (OU)
- OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE (THE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE TO ALL PORTIONS OF OU-3 AND OU-3A)

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

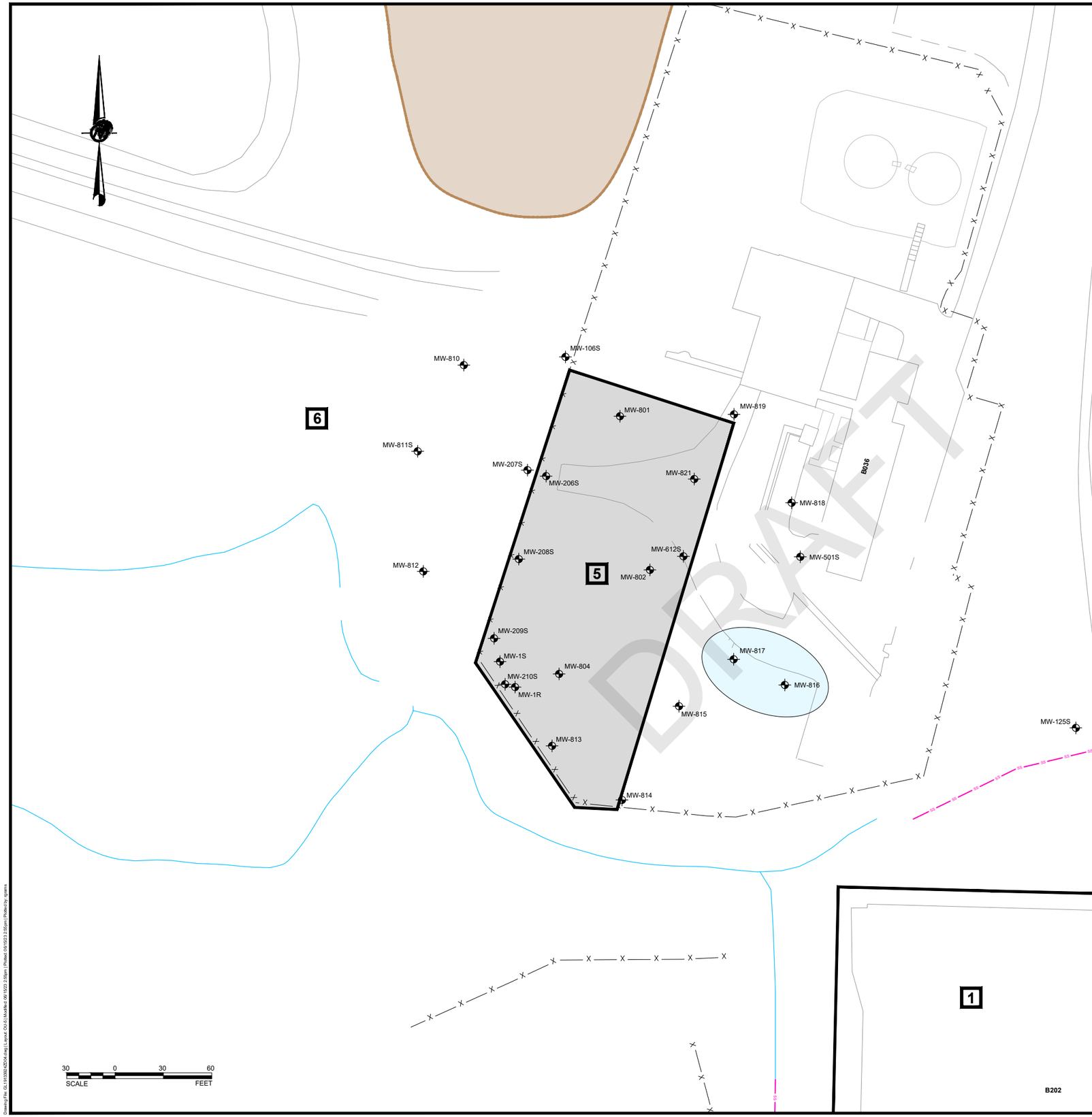
80 0 80 160
SCALE FEET

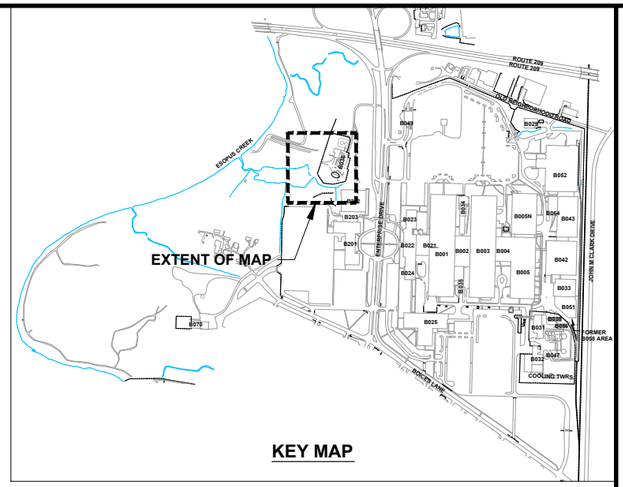
PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE
OPERABLE UNIT 4A LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD03
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 7-1





LEGEND

- PROPERTY BOUNDARY
- RIVER/STREAM
- B003 — BUILDING NUMBER
- 1 — OPERABLE UNIT (OU)
- STORM SEWER LINE
- MW-501S — MONITORING WELL
- FORMER C&D LANDFILL WHERE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE
- OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

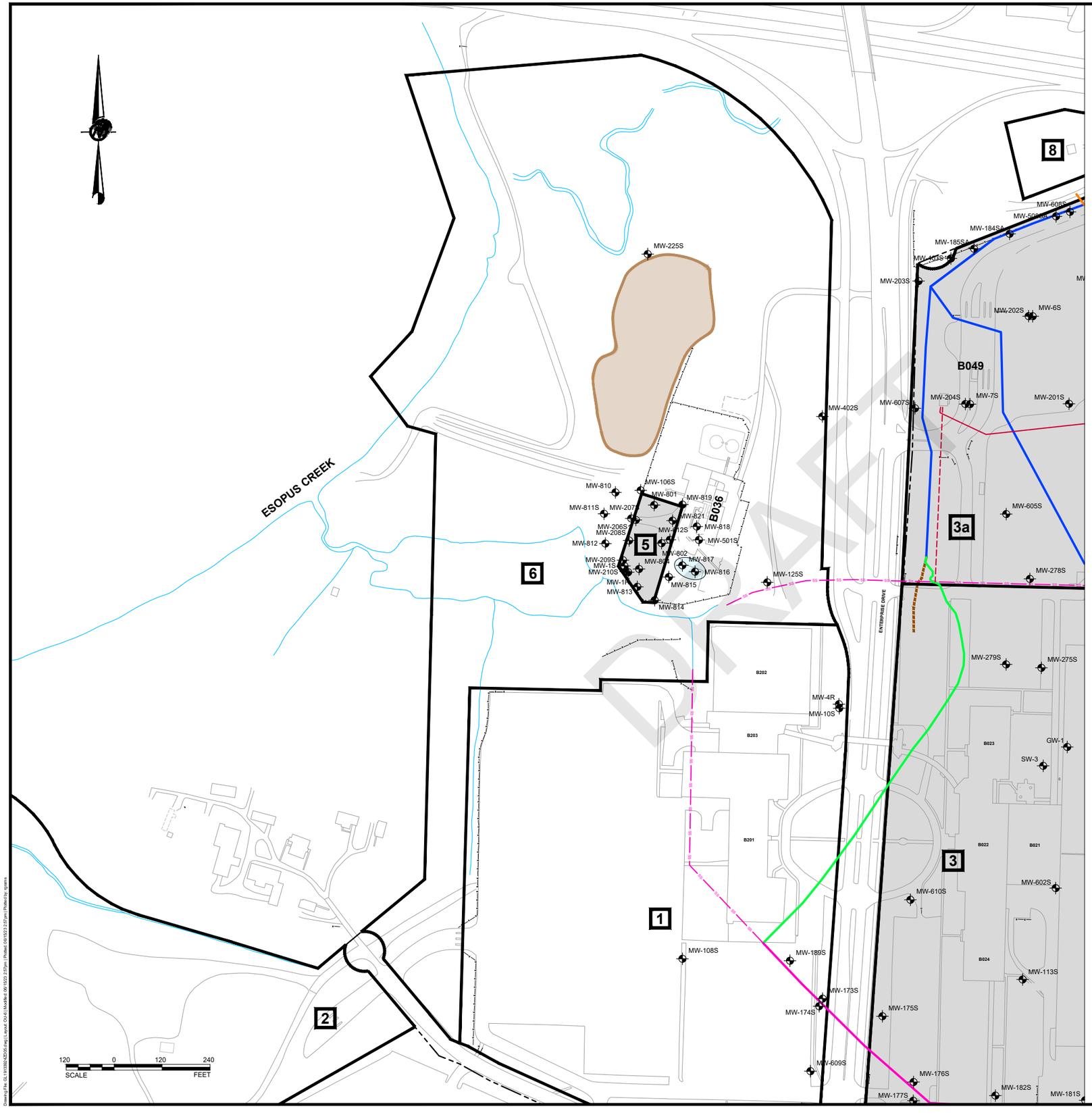
2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

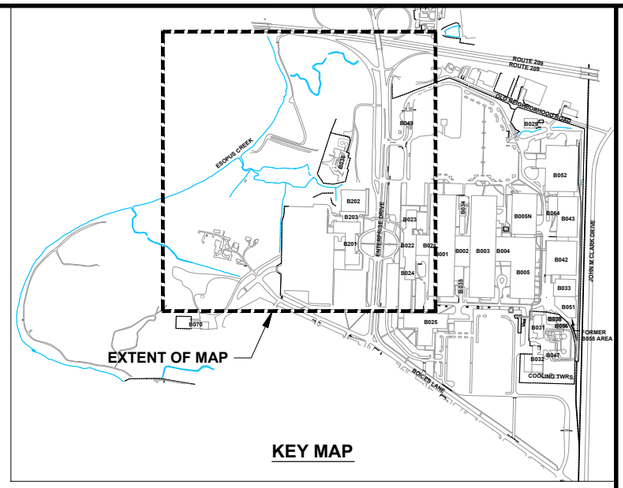
PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE
OPERABLE UNIT 5 LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD04
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 8-1





KEY MAP

700 0 700 1400
SCALE FEET

LEGEND

- PROPERTY BOUNDARY
- RIVER/STREAM
- 42-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- UNSATURATED SURFICIAL SAND UNIT (SITE PERIMETER CONTROL SYSTEM)
- GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- NORTH PARKING LOT AREA (NPLA) SYSTEM
- 4" PVC GTF EFFLUENT LINE
- STORM SEWER LINE
- UTILITY TRENCH BARRIER WALL
- MW-169S MONITORING WELL
- B003 BUILDING NUMBER
- 1 OPERABLE UNIT (OU)
- FORMER C&D LANDFILL WHERE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE
- OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE (THE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE TO ALL PORTIONS OF OU-3 AND OU-3A)
- PORTION OF OU-6 SUBJECT TO THE INTRUSIVE ACTIVITIES WORK PLAN

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

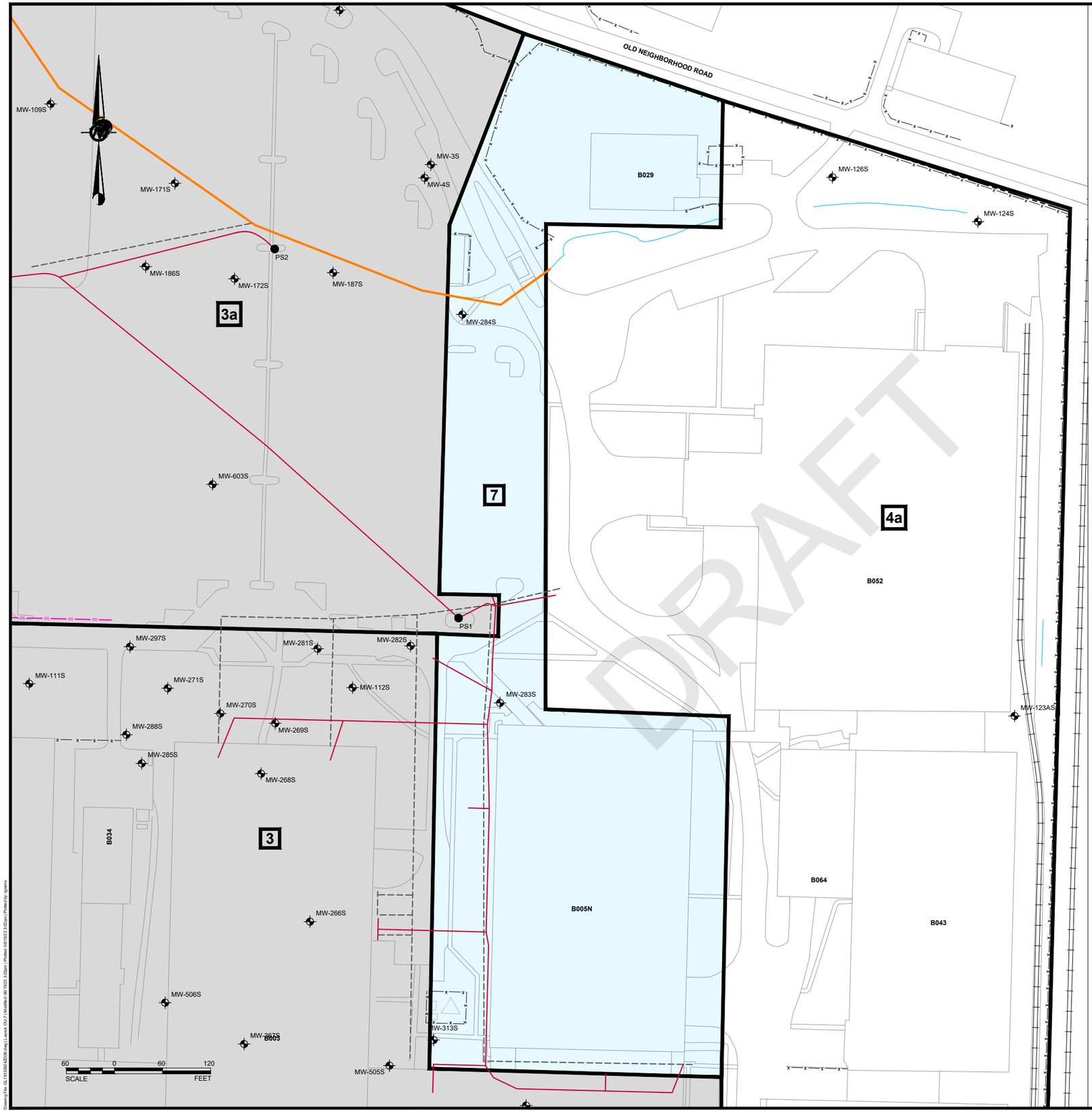
2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

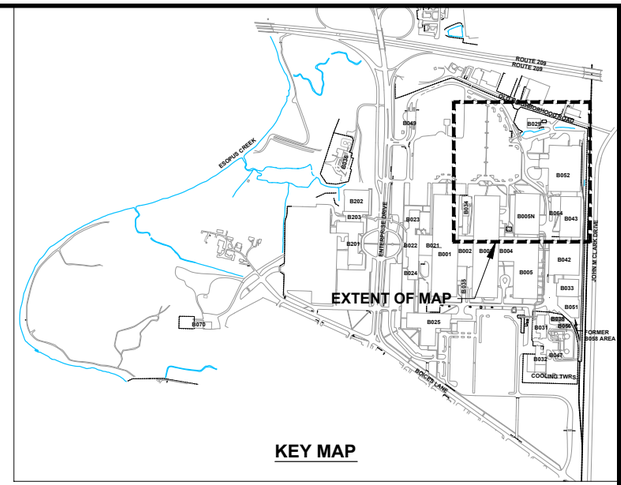
PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE
OPERABLE UNIT 6
LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD05
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 9-1





LEGEND

- PROPERTY BOUNDARY
- RIVER/STREAM
- 60-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- NORTH PARKING LOT AREA (NPLA) SYSTEM
- STORM SEWER LINE
- EXISTING STORMWATER SYSTEM THAT IS PART OF THE NORTH PARKING LOT AREA GROUNDWATER COLLECTION SYSTEM (ABANDONED IN PLACE)
- PS1 — PUMP STATION
- MW-112S — MONITORING WELL
- B003 — BUILDING NUMBER
- 1 — OPERABLE UNIT (OU)
- OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE (THE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE TO ALL PORTIONS OF OU-3 AND OU-3A)
- PORTION OF OU-7 SUBJECT TO THE INTRUSIVE ACTIVITIES WORK PLAN

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

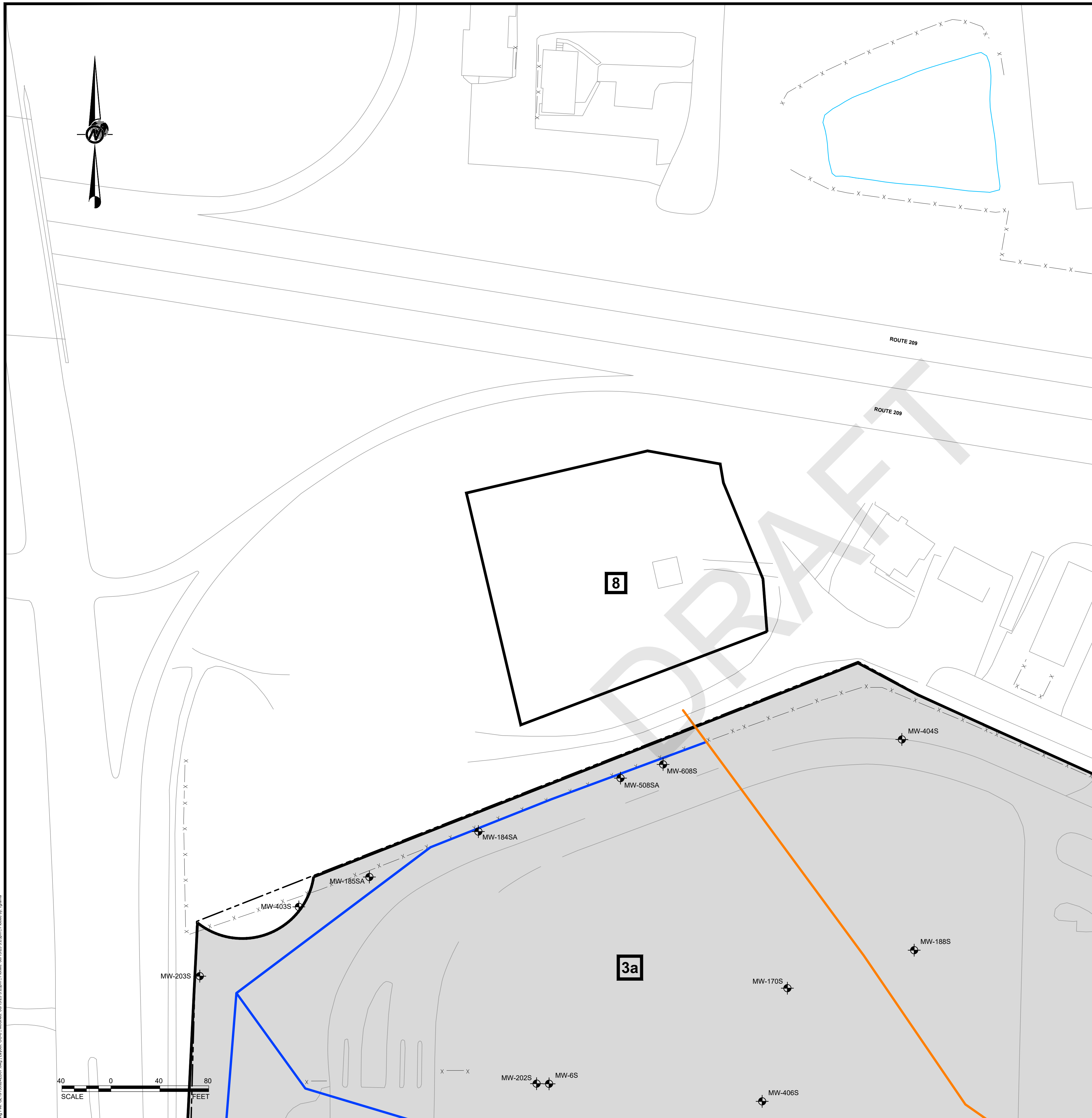
2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

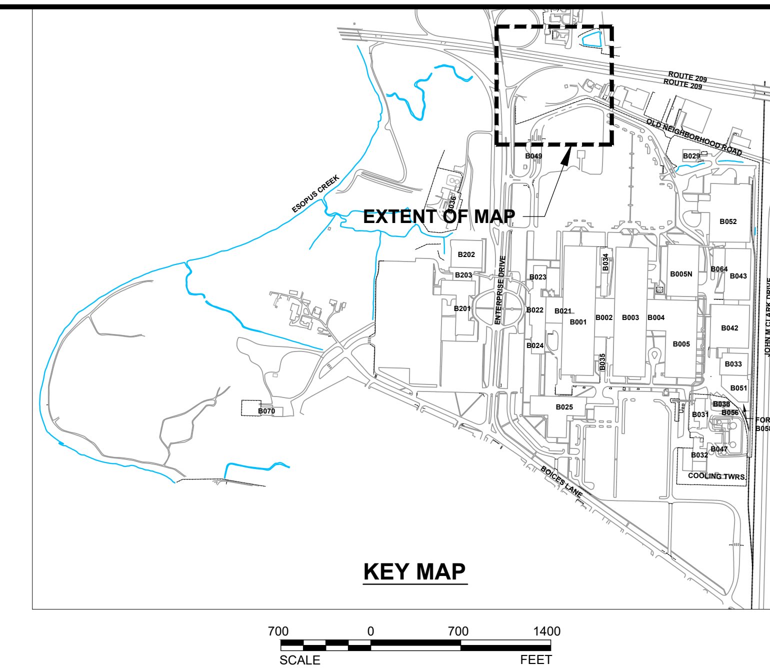
PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE MANAGEMENT PLAN

TITLE
OPERABLE UNIT 7 LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD06
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 10-1





LEGEND

- PROPERTY BOUNDARY
- RIVER/STREAM
- 60-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)
- MW-202S — MONITORING WELL
- B003 — BUILDING NUMBER
- 1 — OPERABLE UNIT (OU)
- OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE (THE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE TO ALL PORTIONS OF OU-3 AND OU-3A)

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

PROJECT

300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE

OPERABLE UNIT 8 LAYOUT

PROJECT No.		GL19133924
FILE No.		GL19133924ZD07
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE 11-1

ATTACHMENT 1

Site Property Owners Contacts List

Attachment 1: Site Contacts, Parcel Owners, Occupancy and Usage

Site Contacts

Tax ID Parcel	Known Building Number or Name	Property Owner	Parcel Address	Parcel Size (Acres)	Contact Name	Phone Number and/or Email
48.7-1-29.100	B201,B202 ,B203	Ulster County EDA, Inc	101-899 Enterprise Dr	24.7		
48.7-1-29.110	B001	iPark 87 LLC	Enterprise Dr/Boices Ln	5.84		
48.7-1-29.120	B002	iPark 87 LLC	1000-1098 Enterprise Dr	1		
48.7-1-29.130	B034	iPark 87 LLC	900-998 Enterprise Dr	0.38		
48.7-1-29.140	B035	iPark 87 LLC	300-398 Boices Ln	0.43		
48.7-1-29.150	B003	iPark 87 LLC	Enterprise Dr/Boices Ln	5.8		
48.7-1-29.160	B004	iPark 87 LLC	1200-1298 Enterprise Dr	0.84		
48.7-1-29.170	B005S	iPark 87 LLC	100-198 Boices Ln	2.7		
48.7-1-29.180	B051	BSD Realty NY LLC	70-78 Boices Ln	0.67		
48.7-1-29.190	B033	BSD Realty NY LLC	80-88 Boices Ln	1		
48.7-1-29.200	58 acres (B070)	Ulster County EDA, Inc	605-695 Boices Ln	57.5		
48.7-1-29.210	B043	Kingston Realty Team LLC	1600-1678 Enterprise Dr	1.8		
48.7-1-29.220	B064	Kingston Realty Team LLC	1680-1698 Enterprise Dr	0.39		
48.7-1-29.230	B052	Kingston Realty Team LLC	1700-1798 Enterprise Dr	3.5		
48.7-1-29.240	B029	iPark 87 LLC	1800-1898 Enterprise Dr	0.28		
48.7-1-29.250	B025	iPark 87 LLC	500-798 Boices Ln	2.1		
48.7-1-29.260	60-in storm outfall	iPark 87 LLC	460 Old Neighborhood Rd	0.87		
48.7-1-29.270	Common Areas	iPark 87 LLC	Enterprise Dr/Boices Ln	95.5		
48.7-1-29.290	B042	Kingston Realty Team LLC	90-98 Boices Ln	2.3		
48.7-1-29.300	B036	iPark 87 LLC	901-949 Enterprise Dr	36.1		
48.7-1-29.400	B021	iPark 87 LLC	700-798 Enterprise Dr	0.65		
48.7-1-29.500	B005N	iPark 87 LLC	1300-1598 Enterprise Dr	3		
48.7-1-29.600	B031, B032, B067, B038, B056	Ulster County	60-64 Boices Ln	7.4		
48.7-1-29.700	B022	iPark 87 LLC	500-698 Enterprise Dr	0.49		
48.7-1-29.800	B023	iPark 87 LLC	300-498 Enterprise Dr	0.64		
48.7-1-29.900	B024	iPark 87 LLC	100-298 Enterprise Dr	0.55		

Attachment 1: Site Contacts, Parcel Owners, Occupancy and Usage

Controls

OU	Tax ID Parcel	Property Owner	**42" and/or 60" Storm and/or Outfall**	**B202 Elevator Shaft**	**GWCS and Pump Station 1 and 2**	**GW Monitoring Wells**	**IWSL Surface Impoundment and Fence**	**Soil/Surface Cover System**	**Utility Trench Barrier Wall**	*GW and Land Use Restriction*	*Intrusive Activities Work Plan (IAWP)*	*Soil Disturbance*	*VI Evaluation and Mitigation*
OU 1 (TPA)	48.7-1-29.100	Ulster County EDA, Inc	X			X		X		X	X		X
OU 1	48.7-1-29.100	Ulster County EDA, Inc	X	X		X				X		X	X
OU 2	48.7-1-29.200	Ulster County EDA, Inc								X		X	X
OU 3	48.7-1-29.110	iPark 87 LLC	X			X		X		X	X		X
OU 3	48.7-1-29.120	iPark 87 LLC						X		X	X		X
OU 3	48.7-1-29.130	iPark 87 LLC						X		X	X		X
OU 3	48.7-1-29.140	iPark 87 LLC						X		X	X		X
OU 3	48.7-1-29.150	iPark 87 LLC						X		X	X		X
OU 3	48.7-1-29.160	iPark 87 LLC				X		X		X	X		X
OU 3	48.7-1-29.170	iPark 87 LLC				X		X		X	X		X
OU 3	48.7-1-29.270	iPark 87 LLC			X	X		X	X	X	X		X
OU 3	48.7-1-29.400	iPark 87 LLC						X		X	X		X
OU 3	48.7-1-29.500	iPark 87 LLC				X		X		X	X		X
OU 3	48.7-1-29.700	iPark 87 LLC						X		X	X		X
OU 3	48.7-1-29.800	iPark 87 LLC						X		X	X		X
OU 3	48.7-1-29.900	iPark 87 LLC						X		X	X		X
OU 3a	48.7-1-29.270	iPark 87 LLC	X		X	X		X	X	X	X		X
OU 4	48.7-1-29.180	BSD Realty NY LLC				X				X		X	X
OU 4	48.7-1-29.190	BSD Realty NY LLC								X		X	X
OU 4 (150)	48.7-1-29.250	iPark 87 LLC						X		X	X		X
OU 4	48.7-1-29.250	iPark 87 LLC								X		X	X
OU 4 (150)	48.7-1-29.270	iPark 87 LLC	X			X		X		X	X		X
OU 4	48.7-1-29.270	iPark 87 LLC	X			X				X		X	X
OU 4 (150)	48.7-1-29.600	Ulster County	X			X		X		X	X		X
OU 4	48.7-1-29.600	Ulster County				X				X		X	X
OU 4a	48.7-1-29.270	iPark 87 LLC								X		X	X
OU 4a	48.7-1-29.210	Kingston Realty Team LLC								X		X	X
OU 4a	48.7-1-29.220	Kingston Realty Team LLC								X		X	X
OU 4a	48.7-1-29.230	Kingston Realty Team LLC								X		X	X
OU 4a	48.7-1-29.290	Kingston Realty Team LLC				X				X		X	X
OU 5	48.7-1-29.300	iPark 87 LLC				X	X			X			
OU 6 (C&D and IWTP)	48.7-1-29.300	iPark 87 LLC	X			X		X		X	X		X
OU 6	48.7-1-29.300	iPark 87 LLC	X			X				X			X
OU 7	48.7-1-29.240	iPark 87 LLC	X					X		X	X		X
OU 7	48.7-1-29.270	iPark 87 LLC	X			X		X		X	X		X
OU 7	48.7-1-29.500	iPark 87 LLC						X		X	X		X
OU 8	48.7-1-29.260	iPark 87 LLC	X							X		X	

Key:
X = IC/EC Required

Bold = Major Engineering Control
Italic = Major Institutional Control

Abbreviations:

IWSL = Industrial Waste Sludge Lagoon
GWCS = Groundwater Collection System
GW = Groundwater
Storm = Storm Sewer
OU = Operable Unit

TPA = Triangle Plume Area
C&D = Construction and Debris Landfill
150 = 150 feet south of the 42" Storm
IWPT = IWMP Plume Area

Attachment 1: Site Contacts, Parcel Owners, Occupancy and Usage

Occupancy and Usage

Tax ID Parcel	Property Owner	Known Building Number or Name	Occupancy	Tenant (Company, Contact, Usage)
48.7-1-29.100	Ulster County EDA, Inc	B201		
		B202		
		B203		
48.7-1-29.110	iPark 87 LLC	B001		
48.7-1-29.120	iPark 87 LLC	B002		
48.7-1-29.130	iPark 87 LLC	B034		
48.7-1-29.140	iPark 87 LLC	B035		
48.7-1-29.150	iPark 87 LLC	B003		
48.7-1-29.160	iPark 87 LLC	B004		
48.7-1-29.170	iPark 87 LLC	B005S		
48.7-1-29.180	BSD Realty NY LLC	B051		
48.7-1-29.190	BSD Realty NY LLC	B033		
48.7-1-29.200	Ulster County EDA, Inc	58 acres (B070)		
48.7-1-29.210	Kingston Realty Team LLC	B043		
48.7-1-29.220	Kingston Realty Team LLC	B064		
48.7-1-29.230	Kingston Realty Team LLC	B052		
48.7-1-29.240	iPark 87 LLC	B029		
48.7-1-29.250	iPark 87 LLC	B025		
48.7-1-29.260	iPark 87 LLC	60-in storm outfall		
48.7-1-29.270	iPark 87 LLC	Common Areas		
48.7-1-29.290	Kingston Realty Team LLC	B042		
48.7-1-29.300	iPark 87 LLC	B036		
48.7-1-29.400	iPark 87 LLC	B021		
48.7-1-29.500	iPark 87 LLC	B005N		
48.7-1-29.600	Ulster County	B031		
		B032		
		B067		
		B038		
		B056		
48.7-1-29.700	iPark 87 LLC	B022		
48.7-1-29.800	iPark 87 LLC	B023		
48.7-1-29.900	iPark 87 LLC	B024		

APPENDIX A

APPENDIX A-1

Order on Consent

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

In the Matter of the Development and Implementation of a Remedial Program for an Inactive Hazardous Waste Disposal Site under Article 27, Titles 9 and 13, and, Article 71 of the Environmental Conservation Law By International Business Machines Corporation ("IBM") and A.G. Properties of Kingston, LLC and Ulster Business Complex LLC ("TechCity"), (collectively, "Respondents").	**ORDER ON CONSENT** Index # Site # 356002

WHEREAS,

1. A. The New York State Department of Environmental Conservation ("Department") is responsible for inactive hazardous waste disposal site remedial programs pursuant to Article 27, Title 13 of the Environmental Conservation Law ("ECL") and Part 375 of Title 6 of the Official Compilation of Codes, Rules and Regulations ("6 NYCRR") and may issue orders consistent with the authority granted to the Commissioner by such statute.

B. The Department is responsible for carrying out the policy of the State of New York to conserve, improve and protect its natural resources and environment and control water, land, and air pollution consistent with the authority granted to the Department and the Commissioner by Article 1, Title 3 of the ECL.

C. This Order is issued pursuant to the Department's authority under, *inter alia,* ECL Article 27, Titles 9 and 13, ECL Article 71-2727 and ECL 3-0301.

2. Respondent IBM is a business corporation authorized to do business in the State of New York. Respondent IBM previously owned and or operated a manufacturing and mainframe testing facility on Enterprise Drive in the Town of Ulster, Ulster County, New York, and is one of the permittees (operator) on the RCRA permit for this facility (hereinafter the "Site."). A map depicting the general boundaries of the Site, the tax parcels and the Solid Waste Management Units ("SWMUs") is attached hereto as Exhibit A.

3. Respondent TechCity is a business corporation authorized to do business in the State of New York, is one of the permittees (owner) on the RCRA permit for this facility and is the owner of the Site.

4. Respondents have performed corrective action activities at the Site since 1980 including numerous investigations to determine the nature and extent of chemicals present in the soil, vapor and groundwater; removal and/or closure of potential sources; installation, operation, maintenance, and monitoring of groundwater extraction and remediation systems; routine groundwater monitoring and reporting per Department approved work plans. A partial summary of environmental conditions and remaining program requirements is shown in Exhibit C.

5. The Site is listed as a class 4 site with a site number of 356002 in the *Registry of Inactive Hazardous Waste Disposal Sites in New York State.*

6. Respondents are currently listed as permittees for a 6 NYCRR Part 373 permit that governs corrective action, closure, and post-closure activities on portions of the Site (RCRA Permit No. 3-5154-00067/00090) (the "RCRA Permit").

7. Respondent IBM managed hazardous wastes at the Site pursuant to the RCRA Permit in the years prior to the transfer of the Site to Respondent TechCity. The Department recognizes that in the agreement dated July 25, 1997 between TechCity and IBM, IBM among other things retained responsibility for corrective action under the RCRA Permit contemplated to commercial use standards; however, such agreement doesn't impact the Department's authority over the Site.

8. The purpose of this Order is to:

(a) Define the appropriate boundaries of the class 4 listed site.

(b) Re-define the area subject to the RCRA requirements, including corrective actions, closure activities and post closure care.

(c) Evaluate the existing investigation and remediation activities completed to date on the Site to determine whether areas within the Site boundaries require additional investigation and/or remediation.

(d) Subdivide the Site into appropriate Operable Units.

(e) Complete the RCRA Permit requirements for Corrective Action, Closure and Post Closure Care for the facility.

9. In 1998, the Department identified TechCity as the new owners of the site and modified the RCRA permit to include TechCity as the Site owner and a permittee.

10. Respondents consent to the issuance of this Order without (i) an admission or finding of liability, fault, wrongdoing, or violation of any law, regulation, permit, order, requirement, or standard of care of any kind whatsoever; (ii) an acknowledgment that there has been a release or threatened release of hazardous waste at or from the Site; and/or (iii) an acknowledgment that a release or threatened release of hazardous waste at or from the Site constitutes a significant threat to the public health or environment.

11. Solely with regard to the matters set forth below, Respondents hereby waive any right to a hearing as may be provided by law, consent to the issuance and entry of this Order, and agree to be bound by its terms. Respondents consent to and agree not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and agree not to contest the validity

of this Order or its terms or the validity of data submitted to the Department by Respondents pursuant to this Order.

NOW, having considered this matter and being duly advised, **IT IS ORDERED THAT**:

I. Effect of Order

The RCRA Permit is hereby superseded and terminated by this Order. Activities taken by Respondents at the Site will be subject to the terms and provisions of this Order and will be taken pursuant to one or more Department approved work plans to be developed under and in accordance with the terms of this Order.

II. Evaluation of Operable Units and Existing Conditions

A. Attached hereto as **Exhibit B** is a map depicting the proposed ten (10) Operable Units for the Site.

B. IBM and TechCity shall complete the investigations and remediation of the OUs in accordance with **Exhibit C** and in accordance with the proposed use for each of the OUs.

C. If in the future an Operable Unit's intended use shall change from that outlined in Exhibit C, TechCity shall complete all investigation and remediation activities as determined by the Department, in order to complete remediation of each Operable Unit for the new proposed use.

Based on current environmental conditions and available data, OUs 3, 3a and 5 will be included as part of the Class 4 inactive hazardous waste disposal site, Site No. 356002. The other OUs will not be part of the Class 4 inactive hazardous waste disposal site.

III. Development, Performance, and Reporting of Work Plans

A. Work Plans

All activities at the Site that comprise any element of an Inactive Hazardous Waste Disposal Site Remedial Program shall be conducted pursuant to one or more Department-approved work plans ("Work Plan" or "Work Plans") and this Order and all activities shall be consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300, as required under CERCLA, 42 U.S.C. § 9600 *et seq*. All other activities conducted at the site in accordance with Exhibit C shall be performed pursuant to one or more Department-approved Work Plans. The Work Plan(s) under this Order shall address both on-Site and any off-Site conditions which may exist and shall be developed and implemented in accordance with 6 NYCRR § 375-1.6(a). All Department-approved Work Plans shall be incorporated into and become enforceable parts of this Order. Upon approval of a Work Plan by the Department, Respondents shall implement such Work Plan in accordance with the schedule contained therein. Nothing in this Subparagraph shall mandate that any particular Work Plan be submitted.

Each Work Plan submitted shall use one of the following captions on the cover page:

1. Supplemental Site Characterization ("SC") Work Plan: a Work Plan whose objective is to identify the presence of any hazardous waste disposal at the Site, and/or to delineate the boundaries of operable units where hazardous wastes may be present;

2. Supplemental Remedial Investigation/Feasibility Study ("RI/FS") Work Plan: a Work Plan whose objective is to perform a Remedial Investigation and a Feasibility Study and to recommend additional remedial action;

3. Citizen Participation (CP) Plan: a Work Plan whose objective is to provide a process for the affected and interested public to become informed about site issues and to effectively participate in the decision making process for site remedial actions

4. Remedial Design/Remedial Action ("RD/RA")Work Plan: a Work Plan whose objective is to provide for the development and implementation of final plans and specifications for implementing the remedial alternative set forth in the Department-approved RI/FS Report;

5. Site Management Plan: a Work Plan whose objective is to identify and implement the institutional and engineering controls required for the Site, as well as any necessary monitoring and/or operation and maintenance of the remedy. An Interim Site Management Plan is a Work Plan with this objective that pertains to an Operable Unit or portion thereof.

B. Submission/Implementation of Work Plans

1. (a) Within sixty (60) days of the Department's determination that supplemental investigation and/or remediation is required for an operable unit, Respondents will submit one or more Work Plans identified in Paragraph IIIA pertaining to such operable unit. Such Work Plans may be documents previously developed pursuant to the RCRA Permit, or modifications thereof, captioned pursuant to Paragraph IIIA.

(b) The Department may request that Respondents submit additional or supplemental Work Plans for the Site. Within thirty (30) days after the Department's written request, Respondents shall advise the Department in writing whether the requested additional or supplemental Work Plan will be submitted and implemented. If Respondents elect to submit and implement such Work Plan, Respondents shall submit the requested Work Plan within sixty (60) days after such election.

(c) Respondents may opt to propose one or more additional or supplemental Work Plans at any time, which the Department shall review for appropriateness and technical sufficiency.

(d) Any request made by the Department under Subparagraph IV.B.1. (b) shall be subject to dispute resolution pursuant to Paragraph XII.

2. A Professional Engineer must stamp and sign all Remedial Design/Remedial Action Work Plans.

3. During all field activities conducted under this Order, Respondents shall have on-Site a representative who is qualified to supervise the activities undertaken. Such representative may be an employee or a consultant retained by Respondents to perform such supervision as provided at 6 NYCRR Part 375-1.6(a)(3).

C. Modifications to Work Plans

The Department shall notify Respondents in writing if the Department determines that any element of a Department-approved Work Plan needs to be modified in order to achieve the objectives of the Work Plan as set forth in Subparagraph IV.A or to ensure that the remedial objectives otherwise protects human health and the environment. Within thirty (30) days of receipt of such notification, Respondents shall either provide written notification as provided at 6 NYCRR 375-1.6(d)(3) as to whether it will modify the Work Plan, or invoke dispute resolution.

D. Submission of Final Reports and Periodic Review Reports

1. In accordance with the schedule contained in a Work Plan, Respondents shall submit a final report as provided at 6 NYCRR 375-1.6(b) and a final engineering report as provided at 6 NYCRR 375-1.6(c).

2. Any final report or final engineering report that includes construction activities shall include "as built" drawings showing any changes made to the remedial action design, or the IRM. A Professional Engineer must stamp and sign all final engineering reports. .

In the event that the final engineering report for the Site requires Site Management, including those which may be subject to an Environmental Easement, as further described in Section XII, hereof, Respondents shall submit a Periodic Review Report by the 18-month anniversary of the start of Site Management. Such Periodic Review Report shall be signed by a Professional Engineer or by such other qualified environmental professional as the Department may find acceptable and shall contain a certification as provided at 6 NYCRR 375-1.8(h)(3). Respondents shall submit subsequent Periodic Review Reports in accordance with the schedule specified by the Department. Respondents may petition the Department for a determination that the institutional and/or engineering controls may be terminated. Such petition must be supported by a statement by a Professional Engineer that such controls are no longer necessary for the protection of public health and the environment. The Department shall not unreasonably withhold its approval of such petition.

4. Within sixty (60) days after the Department's approval of a final report, Respondent shall submit such final report, as well as all data gathered and drawings and submittals made pursuant to such Work Plan, in an electronic format acceptable to the Department. If any document cannot be converted into electronic format, Respondent shall submit such document in an alternative format acceptable to the Department.

E. Review of Submittals

1. The Department shall make a good faith effort to review and respond in writing to each submittal Respondents make pursuant to this Order within sixty (60) days. The Department's response shall include, as provided at 6 NYCRR 375-1.6(d), an approval, modification or modification request, or disapproval of the submittal, in whole or in part.

2. Upon the Department's written approval of a Work Plan, such Department-approved Work Plan shall be deemed to be incorporated into and made a part of this Order and shall be implemented in accordance with the schedule contained therein.

3. If the Department modifies or requests modifications to a submittal, it shall specify the reasons for such modification(s). Within thirty (30) days after the date of the Department's written notice that Respondents' submittal has been disapproved, Respondents shall notify the Department of its election as provided at 6 NYCRR 375-1.6(d)(3). If Respondents elect to modify or accept the Department's modifications to the submittal, Respondents shall, within sixty (60) days after such election, make a revised submittal that incorporates all of the Department's modifications to the first submittal. In the event that Respondents' revised submittal is disapproved, the Department shall set forth its reasons for such disapproval in writing and Respondent shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XIII and its position prevails. Failure to make an election or failure to comply with the election is a violation of this Order.

4. If the Department disapproves a submittal, it shall specify the reasons for its disapproval. Within thirty (30) days after the date of the Department's written notice that Respondents' submittal has been disapproved, Respondents shall notify the Department of its election as provided at 6 NYCRR 375-1.6(d)(4). If Respondents elect to modify the submittal, Respondents shall, within sixty (60) days after such election, make a revised submittal that addresses all of the Department's stated reasons for disapproving the first submittal. In the event that Respondents' revised submittal is disapproved, the Department shall set forth its reasons for such disapproval in writing and Respondents shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XIII and its position prevails. Failure to make an election or failure to comply with the election is a violation of this Order.

F. Citizen Participation

Within 60 days of the effective date of this Order, Respondent TechCity, with assistance from IBM, will submit a Citizen Participation Plan ("CP Plan") for the Department's approval. Respondents shall cooperate with the Department and provide reasonable assistance, consistent with the CP Plan, in soliciting public comment on the Work Plans and Reports identified for public comment in the CP Plan, and additional Work Plans and/or Reports as the Department may require.

G. Release and Covenant Not to Sue

Upon the Department's issuance of a Certificate of Completion as provided at 6 NYCRR 375-1.9 and 375-2.9, Respondents shall obtain the benefits conferred by such provisions.

IV. Penalties

A. Respondents' failure to comply with any term of this Order constitutes a violation of this Order and the ECL.

B. 1. Respondents shall not suffer any penalty or be subject to any proceeding or action in the event it cannot comply with any requirement of this Order as a result of any event arising from causes beyond the reasonable control of Respondents, of any entity controlled by Respondents, and of Respondents' contractors, that delays or prevents the performance of any obligation under this Order despite Respondents' best efforts to fulfill the obligation ("Force Majeure Event"). The requirement that Respondents exercise best efforts to fulfill the obligation includes using best efforts to anticipate the potential Force Majeure Event, best efforts to address any such event as it is occurring, and best efforts following the Force Majeure Event to minimize delay to the greatest extent possible. "Force Majeure" does not include Respondents' economic inability to comply with any obligation, the failure of Respondents to make complete and timely application for any required approval or permit, and non-attainment of the goals, standards, and requirements of this Order.

2. Respondents shall notify the Department in writing within fifteen (15) days after it obtains knowledge of any Force Majeure Event. Respondents shall include in such notice the measures taken and to be taken to prevent or minimize any delays and shall request an appropriate extension or modification of this Order. Failure to give such notice within such fifteen (15) Day period constitutes a waiver of any claim that a delay is not subject to penalties. Respondents shall be deemed to know of any circumstance which it, any entity controlled by it, or its contractors knew or should have known.

3. Respondents shall have the burden of proving by a preponderance of the evidence that (i) the delay or anticipated delay has been or will be caused by a Force Majeure Event; (ii) the duration of the delay or the extension sought warranted under the circumstances; (iii) best efforts were exercised to avoid and mitigate the effects of the delay; and (iv) Respondents complied with the requirements of Subparagraph V.B.2 regarding timely notification.

4. If the Department agrees that the delay or anticipated delay is attributable to a Force Majeure Event, the time for performance of the obligations that are affected by the Force Majeure Event shall be extended for such time as is reasonably necessary to complete those obligations.

V. Entry upon Site

A. Respondent TechCity hereby consents, upon reasonable notice under the circumstances presented, to entry upon the Site (or areas in the vicinity of the Site which may be under the control of Respondent) by any duly designated officer or employee of the Department or any State agency having jurisdiction with respect to matters addressed pursuant to this Order, and by any agent, consultant, contractor, or other person so authorized by the Commissioner, all of whom shall abide by the health and safety rules in effect for the Site, for inspecting, sampling, copying records related to the contamination at the Site, testing, and any other activities necessary to ensure Respondents' compliance with this Order (if available, TechCity's appropriate personnel may accompany any such Department officer or employee). Upon request, Respondent TechCity shall (i) provide the Department with suitable work space at the Site, including access to a telephone, to the extent available, and (ii) permit the Department full access to all non-privileged records relating to matters addressed by this Order. Raw data is not considered privileged and that portion of any privileged document containing raw data must be provided to the Department. In the event Respondent TechCity is unable to obtain any authorization from third-party property owners necessary to perform its obligations under this Order, the Department may, consistent with its legal authority, assist in obtaining such authorizations.

B. The Department shall have the right to take its own samples and scientific measurements and the Department and Respondents shall each have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled. The Department shall make the results of any such sampling and scientific measurements available to Respondents.

VI. Payment of State Costs

A. Within sixty (60) Days after receipt of an itemized invoice from the Department, Respondents shall pay to the Department a sum of money which shall represent reimbursement for past State Costs as provided at 6 NYCRR 375-1.5(b)(3).

B. Within sixty (60) Days after receipt of an itemized invoice from the Department, Respondents shall pay to the Department a sum of money which shall represent reimbursement for State Costs, other than those identified in Subparagraph V.A, for work performed at or in connection with the Site through and including the Termination Date, as provided at 6 NYCRR 375-1.5(b)(3).

C. Personal service costs shall be documented as provided by 6 NYCRR 375-1.5(b)(3(ii). The Department shall not be required to provide any other documentation of costs, provided however, that the Department's records shall be available consistent with, and in accordance with, Article 6 of the Public Officers Law. The Department has created separate time and activity codes for TechCity and IBM and will bill each Respondent individually. Respondents are responsible for their own bills; however, the Department reserves the right to request payment from either Respondent if bills are not timely paid.

D. Such invoices shall be sent to Respondents at the following address:

For Respondent IBM:

Mitchell E. Meyers
Manager, Environmental Remediation
IBM Corporation
8976 Wellington Road
Manassas, VA 20109
meyersm@us.ibm.com

For Respondent TechCity:

Alan Ginsberg, Chair & CEO
TechCity Properties, Inc.
300 Enterprise Drive
Kingston, NY 12401

E. Each such payment shall be made payable to the Department of Environmental Conservation and shall be sent to:

Bureau of Program Management
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7010

F. Each party shall provide written notification to the other within ninety (90) Days of any change in the foregoing addresses.

G. Respondents may contest invoiced costs as provided at 6 NYCRR 375-1.5(b)(3)(v) and (vi).

VII. Reservation of Rights

A. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights or authorities, including, but not limited to, the right to require performance of further investigations and/or response action(s), to recover natural resource damages, and/or to exercise any summary abatement powers with respect to any person, including Respondents.

B. Except as otherwise provided in this Order, Respondents specifically reserve all rights and defenses under applicable law respecting any Departmental assertion of remedial liability and/or natural resource damages against Respondents, and further reserves all rights

respecting the enforcement of this Order, including the rights to notice, to be heard, to appeal, and to any other due process. The existence of this Order or Respondents' compliance with it shall not be construed as an admission of liability, fault, wrongdoing, or breach of standard of care by Respondents, and shall not give rise to any presumption of law or finding of fact, or create any rights, or grant any cause of action, which shall inure to the benefit of any third party. Further, Respondents reserve such rights as it may have to seek and obtain contribution, indemnification, and/or any other form of recovery from its insurers and from other potentially responsible parties or their insurers for past or future response and/or cleanup costs or such other costs or damages arising from the contamination at the Site as may be provided by law, including but not limited to rights of contribution under section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B).

VIII. Indemnification

Respondents shall indemnify and hold the Department, the State of New York, the Trustee of the State's natural resources, and their representatives and employees harmless for all claims, suits, actions, damages and costs resulting from the acts and/or omissions of Respondents, intentional, negligent, or otherwise, of every nature and description, arising out of or resulting from the compliance or attempted compliance with the provisions of this Order by Respondent or its employees, servants, agents, successors or assigns.

IX. Communications

A. All written communications required by this Order shall be transmitted by United States Postal Service, by electronic transmission including email or facsimile, by private courier service, or hand delivered as follows:

1. Communication from Respondents shall be sent to:

Attn: George Heitzman, P.E.
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, Albany, New York 12233-7014
gwheitzm@gw.dec.state.ny.us

Note: One (1) hard copy of plans is required, as well as one (1) electronic copy.

with copies to:

Attn: Benjamin Conlon, Esq.
NYS Department of Environmental Conservation
Office of General Counsel
625 Broadway, Albany, New York 12233-1500
bxconlon@gw.dec.state.ny.us

Attn: Kristin Kulow
New York State Department of Health
Oneonta District Office
28 Hill Street, Suite 201
Oneonta, New York 13820-9804
kxk07@health.state.ny.us

Note: One (1) hard copy of plans is required, as well as one (1) electronic copy.

With additional electronic copies to:

Wayne Mizerak
wjmizera@gw.dec.state.ny.us

Charlotte Bethoney
cmb18@health.state.ny.us

2. Communication to be made from the Department to Respondents shall be sent to:

For Respondent IBM:

Mitchell E. Meyers
Manager, Environmental Remediation
IBM Corporation
8976 Wellington Road
Manassas, VA 20109
meyersm@us.ibm.com

For Respondent TechCity:

Daniel E. Wieneke, President
TechCity Properties, Inc.
300 Enterprise Drive
Kingston, NY 12401

With copies to:

Michael B. Teetsel, CPG
Environmental Resources Management
77 Hartland Street; Suite 300
East Hartford, CT 06108

Mitchell Khosrova, Executive VP & General Counsel
TechCity Properties, Inc.
300 Enterprise Drive
Kingston, NY 12401

B. The Department and Respondents reserve the right to designate additional or different addressees for communication upon written notice to the other.

C. Each party shall notify the other within ninety (90) days after any change in the addresses in this Paragraph IX.

X. Public Notice

A. Within thirty (30) Days after the effective date of this Order, Respondents shall provide notice as required by 6 NYCRR 375-1.5(a). Within sixty (60) Days of such filing, Respondents shall provide the Department with a copy of such instrument certified by the recording officer to be a true and faithful copy.

B. If Respondent TechCity proposes to transfer by sale or lease the whole or any part of Respondent TechCity's interest in the Site, or becomes aware of such transfer, Respondent TechCity shall, not fewer than forty-five (45) days before the date of transfer, or within forty-five (45) days after becoming aware of such conveyance, notify the Department in writing (with a copy to IBM) of the identity of the transferee and of the nature and proposed or actual date of the conveyance, and shall notify the transferee in writing (with a copy to the Department and to IBM) of the applicability of this Order. However, such obligation shall not extend to a conveyance by means of a corporate reorganization or merger or the granting of any rights under any mortgage, deed, trust, assignment, judgment, lien, pledge, security agreement, lease, or any other right accruing to a person not affiliated with Respondents to secure the repayment of money or the performance of a duty or obligation.

XI. Environmental Easement

A. If a Department-approved final report for the Site, or Operable Unit thereof, relies upon one or more institutional and/or engineering controls, Respondent TechCity shall submit to the Department for approval an Environmental Easement to run with the land in favor of the State which complies with the requirements of ECL Article 71, Title 36, and 6 NYCRR 375-1.8(h)(2). Upon acceptance of Environmental Easement by the State, Respondent TechCity shall comply with the requirements of 6 NYCRR 375-1.8(h)(2).

B. If the Department-approved RI/FS Report for an operable unit provides for no action other than implementation of one or more institutional controls, Respondent TechCity shall cause an environmental easement to be recorded under the provisions of Subparagraph XI.A. If Respondent TechCity does not cause such environmental easement to be recorded in accordance with 6 NYCRR 375-1.8(h)(2), Respondent TechCity will not be entitled to the benefits conferred by 6 NYCRR 375-1.9 and 375-2.9.

XII. Dispute Resolution

In the event disputes arise under this Order, Respondents may, within thirty (30) Days after Respondents knew or should have known of the facts which are the basis of the dispute,

initiate dispute resolution in accordance with the provisions of 6 NYCRR 375-1.5(b)(2). Nothing contained in this Order shall be construed to authorize Respondents to invoke dispute resolution with respect to any remedy selected by the Department or any element of such remedy, nor to impair any right of Respondents to seek judicial review of the Department's selection of any remedy.

XIII. Termination of Order

This Order will terminate upon the Department's written determination that Respondents have completed all phases of the Remedial Program (including Site Management), in which event the termination shall be effective on the Fifth Day after the date of the Department's approval of the final report relating to the final phase of the Remedial Program.

XIV. Standard Provisions

Respondents will further comply with the standard provisions which are attached, and which constitute material and integral terms of this Order and are hereby incorporated into this document.

DATED: Albany, New York

JUL 08 2011

Commissioner Joseph Martens
New York State Department of Environmental Conservation

By:
Dale A. Desnoyers
Director
Division of Environmental Remediation

CONSENT BY RESPONDENT IBM

Respondent International Business Machines Corporation hereby consent to the issuing and entering of this Order without further notice, waive their right to a hearing herein, and agree to be bound by the terms, conditions and provisions contained in this Order.

By (Signature): Edan

Print Name: Edan Dionne

Title: Director, IBM Corporate Environmental Affairs

Date: July 5, 2011

ACKNOWLEDGMENT

STATE OF New York)
ss:
COUNTY OF Westchester)

On the 5th day of July in the year 2011 before me personally came Edan Dionne to me known, who, being by me duly sworn, did depose and say that s/he resides in Westchester County, NY that s/he is the Director of IBM Corporate Env. Affairs, the corporations described in and which executed the above instrument; and that s/he signed his/her name thereto by authority of the board of directors of said corporations.

Annemarie L. Mammano

Notary Public
Signature and Office of individual taking acknowledgment

ANNEMARIE L. MAMMANO
Notary Public, State of New York
#4609352 Putnam County
Commission Exp. September 30, 2013

CONSENT BY RESPONDENT A.G. Properties of Kingston, LLC

Respondent **Daniel E. Wieneke** hereby consents to the issuing and entering of this Order without further notice, waive their right to a hearing herein, and agree to be bound by the terms, conditions and provisions contained in this Order.

By (Signature): _____

Print Name: Daniel E. Wieneke

Title: President

Date: July 6, 2011

ACKNOWLEDGMENT

STATE OF NEW YORK) ss:
COUNTY OF ULSTER)

On the 6th day of July in the year 2011 before me personally came Daniel E. Wieneke to me known, who, being by me duly sworn, did depose and say that s/he resides in Ulster County, NY; that he is the President of A.G. Properties of Kingston, LLC, the limited liability company described in and which executed the above instrument; and that he signed his name thereto by authority of the member(s) of said limited liability company.

_____
Notary Public
Signature and Office of individual taking acknowledgment

MITCHELL KHOSROVA
Notary Public, State of New York
No. 31-4879585
Qualified in Columbia County
Commission Expires Nov. 10, 2014

CONSENT BY RESPONDENT Ulster Business Complex, LLC

Respondent **Daniel E. Wieneke** hereby consents to the issuing and entering of this Order without further notice, waive their right to a hearing herein, and agree to be bound by the terms, conditions and provisions contained in this Order.

By (Signature): 

Print Name: Daniel E. Wieneke

Title: President

Date: July 6, 2011

ACKNOWLEDGMENT

STATE OF NEW YORK) ss:
COUNTY OF ULSTER)

On the 6th day of July in the year 2011 before me personally came Daniel E. Wieneke to me known, who, being by me duly sworn, did depose and say that s/he resides in Ulster County, NY; that he is the President of Ulster Business Complex, LLC, the limited liability company described in and which executed the above instrument; and that he signed his name thereto by authority of the member(s) of said limited liability company.

Mitchell Khosrova

Notary Public
Signature and Office of individual taking acknowledgment

MITCHELL KHOSROVA
Notary Public, State of New York
No. 31-4879585
Qualified in Columbia County
Commission Expires Nov. 10, 20[illegible]

STANDARD PROVISIONS

Payment. Any penalty assessed pursuant to the terms and conditions of this Order shall be paid by submitting a certified or cashier's check or money order, payable to the Department of Environmental Conservation, to: Department of Environmental Conservation, Office of General Counsel, Attn: Benjamin Conlon Esq., 625 Broadway, 14th Floor, Albany, New York 12233-5550. Unpaid penalties imposed by this Order shall bear interest at the rate of 9 percent per annum for each day the penalty, or any portion thereof, remains unpaid. Payments received shall first be applied to accrued interest charges and then to the unpaid balance of the penalty.

Duration. This Order shall take effect when it is signed by the Commissioner of Environmental Conservation, or his designee, and shall expire when Respondents have fully complied with the requirements of this Order.

Access. For the purpose of monitoring or determining compliance with this Order, employees and agents of the Department shall be provided access to any facility, site, or records owned, operated, controlled or maintained by Respondents, in order to inspect and/or perform such tests as the Department may deem appropriate, to copy such records, or to perform any other lawful duty or responsibility.

Force Majeure. If Respondents cannot comply with a deadline or requirement of this Order, because of an act of God, war, strike, riot, catastrophe, or other condition which was not caused by the negligence or willful misconduct of Respondent and which could not have been avoided by the Respondent through the exercise of due care, Respondent shall apply in writing to the Department within a reasonable time after obtaining knowledge of such fact and request an extension or modification of the deadline or requirement.

Modifications. No change in this Order shall be made or become effective except as specifically set forth by written order of the Commissioner, being made either upon written application of Respondents, or upon the Commissioner's own findings after notice and opportunity to be heard have been given to Respondents. Respondents shall have the burden of proving entitlement to any modification requested pursuant to this Standard Provision or the "Force Majeure" provision, supra. Respondents' requests for modification shall not be unreasonably denied by the Department, which may impose such additional conditions upon Respondents as the Department deems appropriate. Notwithstanding the foregoing, if Respondents seek to modify an approved Work Plan, a written request shall be made to the Department.

Permit Exemption. The Department may exempt Respondent from the requirement to obtain any state or local permit or other authorization for activities conducted pursuant to this Order as provided at 6 NYCRR 375-1.12(b), (c), and (d).

Other Rights. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating or in any way affecting (1) any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against anyone other than Respondents; (2) any right of the Department to enforce administratively or at law or in equity, the terms, provisions and conditions of this Order; (3) any right of the Department to bring any future action, either administrative or judicial, for natural resource damages, or for any other violations of the ECL, the rules and regulations promulgated thereunder, or conditions contained in orders or permits, if any, issued by the Department to Respondents; (4) the summary abatement powers of the Department, either at common law or as granted pursuant to statute or regulation.

Entire Agreement. This Order shall constitute the entire agreement of the Department and Respondents with respect to settlement of those violations specifically referenced herein.

Headings. The paragraph headings set forth in this Order are included for convenience of reference only and shall be disregarded in the construction and interpretation of any provisions of this Order.

Signature of Order. This Order may be executed for the convenience of the parties hereto, individually or in combination, in one or more counterparts, each of which shall be deemed to have the status of an executed original and all of which shall together constitute one and the same.

Binding Effect. The provisions, terms, and conditions of this Order shall be deemed to bind Respondents and Respondents' heirs, legal representatives, receivers, trustees in bankruptcy, successors and assigns.

Service. If either Respondent is represented by an attorney with respect to the execution of this Order, service of a duly executed copy of this Order upon Respondent's counsel by ordinary mail shall be deemed good and sufficient service.

Multiple Respondents. 1. If more than one Respondent is a signatory to this Order, use of the term "Respondent" in these Standard Provisions shall be deemed to refer to each Respondent identified in the Order unless the Order clearly identifies one of the Respondents.

2. If there are multiple parties signing this Order, unless the Order clearly identifies one of the Respondents, the term "Respondent" shall be read in the plural, the obligations of each such party under this Order are joint and several, and the insolvency of or failure by any Respondent to implement any obligations under this Order shall not affect the obligations of the remaining Respondent(s) under this Order.

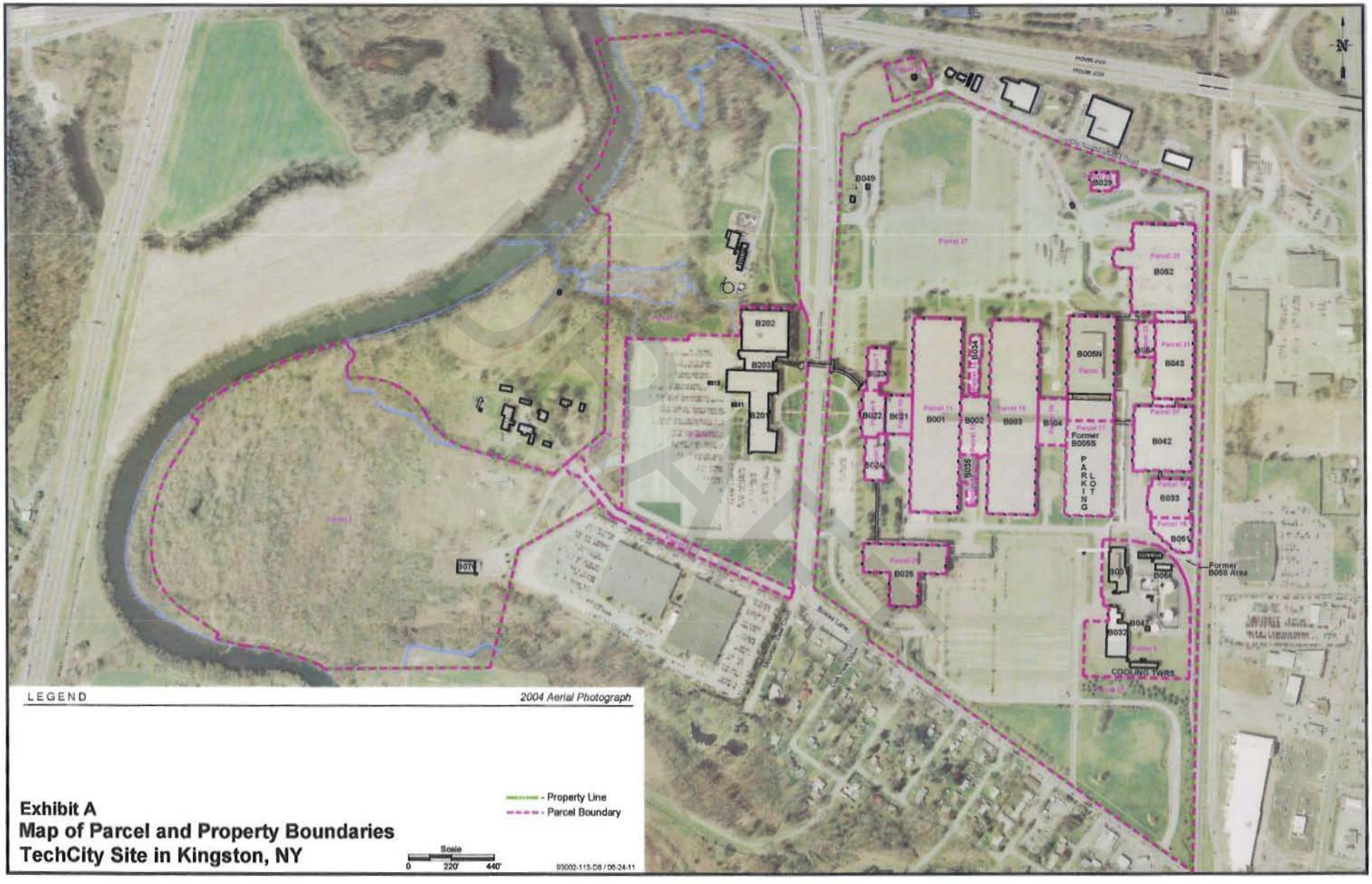


Exhibit A
Map of Parcel and Property Boundaries
TechCity Site in Kingston, NY

93002-113-D8 / 06-24-11

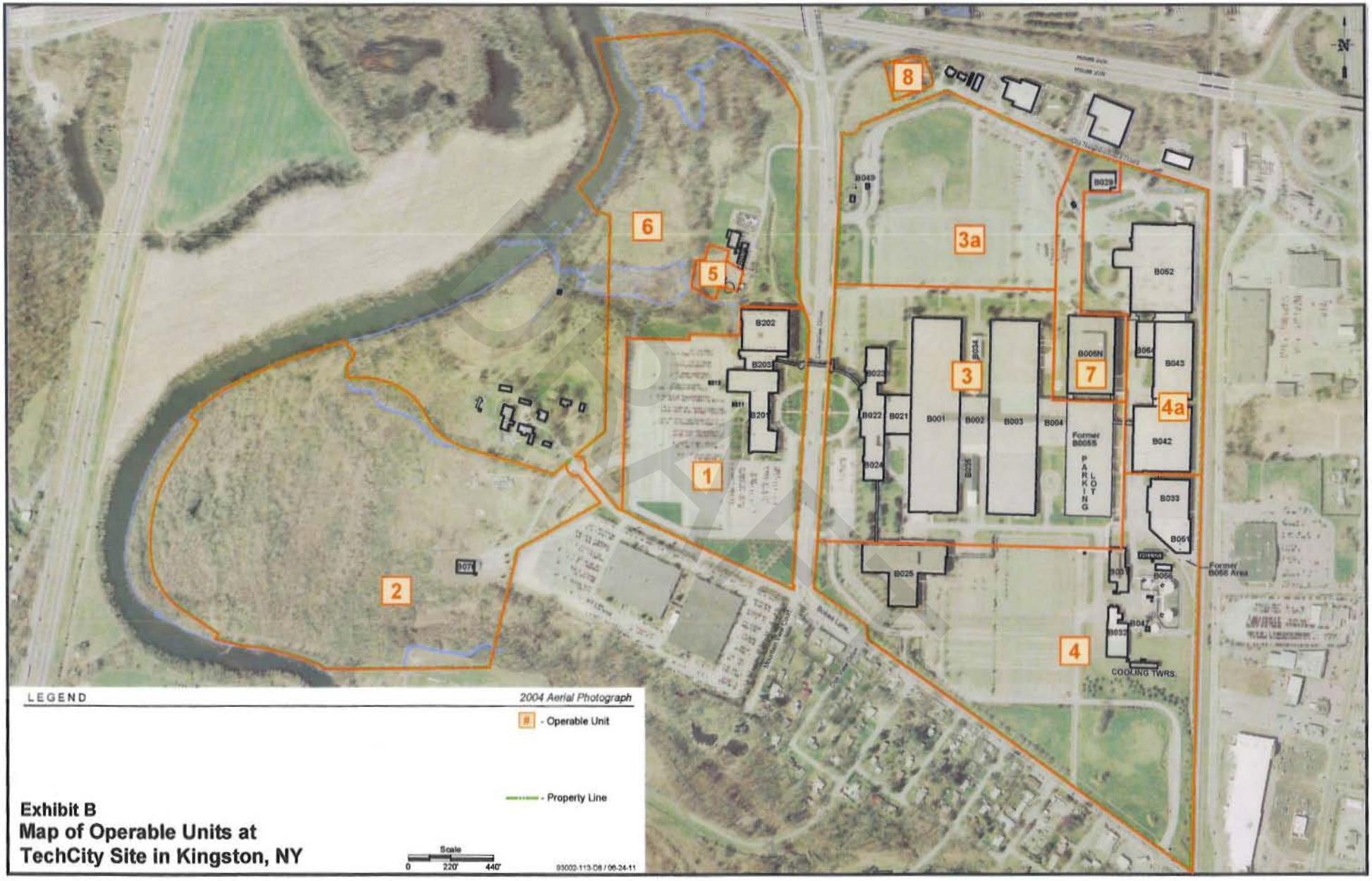


Exhibit B
Map of Operable Units at
TechCity Site in Kingston, NY

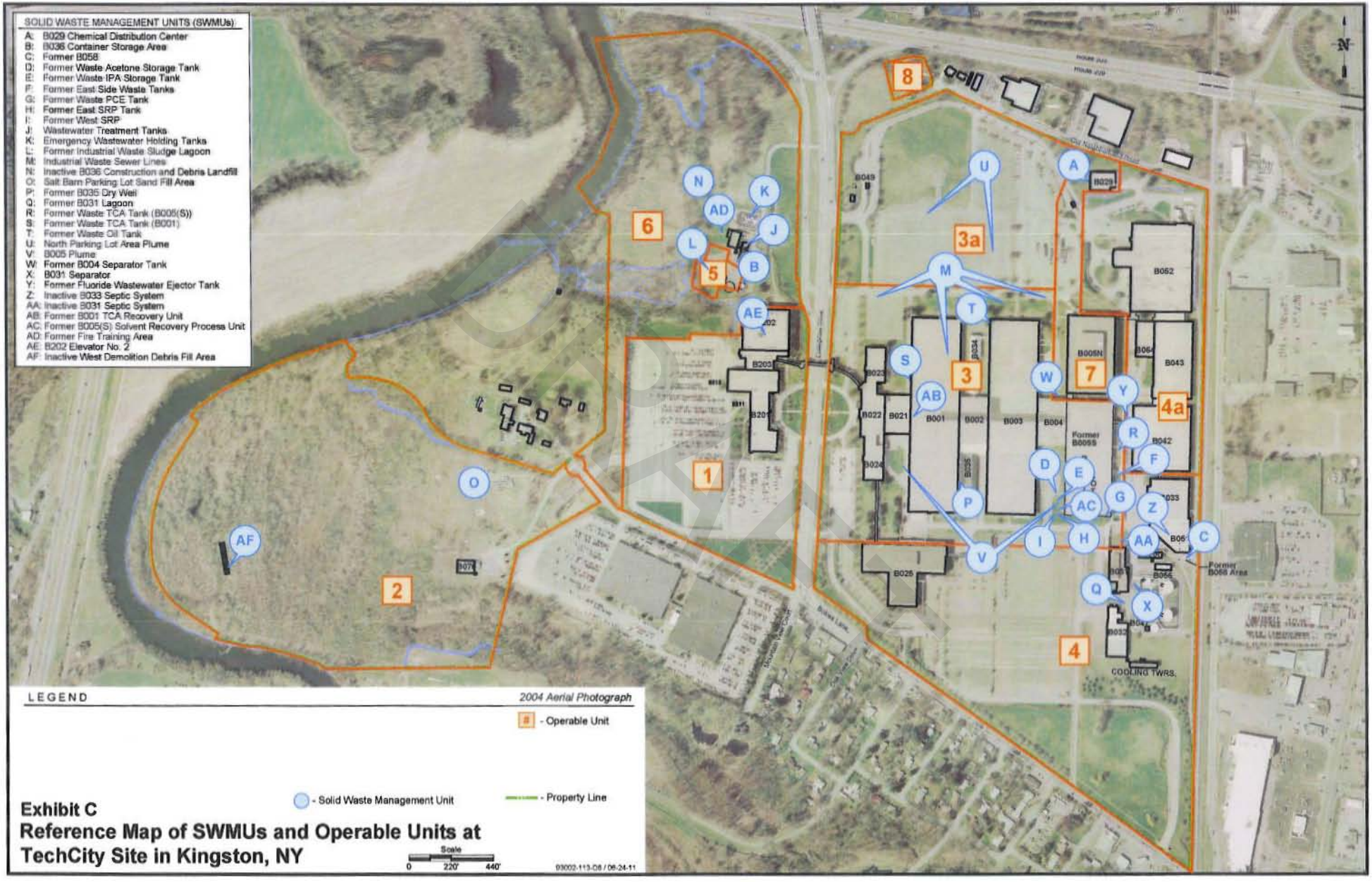

SOLID WASTE MANAGEMENT UNITS (SWMUs)
A: B029 Chemical Distribution Center
B: B036 Container Storage Area
C: Former B056
D: Former Waste Acetone Storage Tank
E: Former Waste IPA Storage Tank
F: Former East Side Waste Tanks
G: Former Waste PCE Tank
H: Former East SRP Tank
I: Former West SRP
J: Wastewater Treatment Tanks
K: Emergency Wastewater Holding Tanks
L: Former Industrial Waste Sludge Lagoon
M: Industrial Waste Sewer Lines
N: Inactive B036 Construction and Debris Landfill
O: Salt Barn Parking Lot Sand Fill Area
P: Former B035 Dry Well
Q: Former B031 Lagoon
R: Former Waste TCA Tank (B005(S))
S: Former Waste TCA Tank (B001)
T: Former Waste Oil Tank
U: North Parking Lot Area Plume
V: B005 Plume
W: Former B004 Separator Tank
X: B031 Separator
Y: Former Fluoride Wastewater Ejector Tank
Z: Inactive B033 Septic System
AA: Inactive B031 Septic System
AB: Former B001 TCA Recovery Unit
AC: Former B005(S) Solvent Recovery Process Unit
AD: Former Fire Training Area
AE: B202 Elevator No. 2
AF: Inactive West Demolition Debris Fill Area
N
1
2
3
3a
4
4a
5
6
7
8
B029
B049
B052
B043
B042
B005N
B005S
B001
B002
B003
B004
B021
B022
B023
B024
B025
B033
B034
B056
B202
B203
Former B005S
Former B056 Area
COOLING TWRS.
Old North Road
Route 209
Rondout Creek
Boiles Lane
LEGEND
2004 Aerial Photograph
- Operable Unit
- Solid Waste Management Unit
- Property Line
Exhibit C
Reference Map of SWMUs and Operable Units at TechCity Site in Kingston, NY
Scale
0 220' 440'
93002-113-D8 / 06-24-11

Exhibit C

Operable Unit 1
Proposed Use: Commercial

OU-Wide Requirements

Execute an environmental easement restricting site use to commercial, restricting use of groundwater, and requiring compliance with a Site Management Plan ("SMP"). Submit Site Management Plan that includes: procedures for invasive activities associated with maintenance/repair/demolition of the elevator shaft hydraulic lift; contingencies for any reconfiguration of currently unexposed soil surfaces (i.e. paved parking lots, sidewalks, etc.) as exposed surfaces, including characterizing the top foot of soil to verify that commercial-use standards are met; vapor intrusion evaluation for any new buildings; monitoring; and periodic certification.

SWMU ID	Solid Waste Management Unit ("SWMU") Name	Environmental Conditions / Comments	SWMU-Specific Requirements
AE	B202 Elevator Shaft	PCBs remaining in soil and bedrock groundwater	SMP
	Triangle Groundwater Plume	VOC Groundwater Plume	Submit Final Report incorporating notes below

Notes:

1. Two cross-sections through triangle area into the established plume. These cross sections will include screen locations, geological stratigraphy [sand, transition zone (using Golder interpretation), and clay layer], vertical and horizontal location of the 42-inch storm drain with corresponding elevations numerically noted.
2. Top of transition zone contour compiled by ERM using Golder interpretation of the transition zone.
3. Isopleth of transition zone compiled using Golder interpretation.
4. Revised summary of site model.
5. The above plus some additional already-prepared figures and tables need to be compiled in a summary document intended to bring key decision-making elements of numerous documents into a single summary document.

Operable Unit 2
Proposed Use: Commercial

OU-Wide Requirements

Execute an environmental easement, restricting site use to commercial. Submit work plan to characterize the top foot of soil at 8 locations for VOCs to verify that commercial-use standards are met in areas not covered by buildings or pavement.

SWMU ID	SWMU Name	Environmental Conditions / Comments	SWMU-Specific Requirements
O	Parking Lot Sand Landfill	Soil contaminated with acetone above groundwater protection SCO (test pit J: 64 ppb, 110ppb, and 210 ppb; SCO is 50 ppb); no measurable groundwater impact.	No Further Action ("NFA") per 10/4/96 Permit.
AF	Inactive West Demolition Debris Area	Non-hazardous demolition debris (concrete, sand, etc.)	NFA per 10/4/96 Permit

Operable Unit 3
Proposed Use: Commercial

OU-Wide Requirements

Execute an environmental easement restricting site use to commercial, restricting use of groundwater, and requiring compliance with a Site Management Plan. Submit Site Management Plan that includes: procedures for invasive activities; contingencies for any reconfiguration of currently unexposed soil surfaces (i.e. paved parking lots, sidewalks, etc.) as exposed surfaces, including characterizing the top foot of soil to verify that commercial-use standards are met; vapor intrusion evaluation for any existing and new buildings; monitoring; and periodic certification.

Submit work plan to characterize the top foot of soil at 4 locations for VOCs to verify that commercial-use standards are met in areas not covered with buildings or pavement. Submit work plan to evaluate sanitary sewer piping as potential conduit for contaminant migration.

This OU will be included as part of the Class 4 inactive hazardous waste disposal site, Site No. 356002. Noted portions require further investigation to evaluate the potential for source removal. SWMUs identified as NFA are designated as such because the site-wide plume appears to be unaffected by any remaining contamination at each SWMU, although monitoring may be required. As the site-wide plume shrinks over time, the potential groundwater and vapor intrusion impacts of each SWMU within its boundaries will be reassessed.

Operable Unit 3			
ID	SWMU Name	Environmental Conditions / Comments	SWMU-Specific Requirements
D	Former Waste Acetone Storage Tank		NFA per 10/4/96 Permit.
E	Former Waste IPA Storage Tanks		NFA per 10/4/96 Permit.
F	Former Waste Side Waste Tanks (2)		NFA per 10/4/96 Permit.
G	Former Waste PCE Tank	March 2009 work plan in place to evaluate the potential for source removal, when it becomes accessible. Report has been submitted to DEC for review.	Report under review. Implement recommendations when approved.

H	Former Waste Solvent Recovery Tank		NFA per 10/4/96 Permit.
I	Former Waste Solvent Recovery Tank		NFA per 10/4/96 Permit.
M	Portions of the IW Sewer Lines	March 2009 work plan in place to evaluate the potential for source removal, when it becomes accessible.	Submit schedule to implement March 2009 Work Plan
P	Building 035 Former Dry Well	Drain field evaluated, the Dry Well was not evaluated due to inaccessibility. No impact noted.	NFA per 10/4/96 Permit.
R	Building 005 South Former Waste TCA UST	TCA and DCA at low ppb in soil samples. Not indicative of a source area.	NFA
S	Former Waste TCA Tanks (B001)	GW contaminant contours indicate this as a source area.	Submit work plan to delineate and evaluate source removal.
T	Former Waste Oil Tank	Soil samples indicate potential source area.	Submit work plan to delineate and evaluate source removal.
U	North Parking Lot Area Plume	GW Contaminant Plume	Continue operation of groundwater remediation system
V	Portions of B005 Plume	March 2009 work plan in place to evaluate the potential for source removal, when it becomes accessible.	Submit schedule to implement March 2009 Work Plan
W	Former Building 004 Separator Tank	Soil samples show no indication of source area. GW samples are above standards, but are probably from a different source are such as Building 005 South, SWMU G.	NFA
Y	Former Fluoride Wastewater Ejector Tank	No soil samples were taken based upon no PID response. Discharge IW lines were not evaluated. The IW waste lines may be under the building. Tank has been closed	Evaluate exiting IW lines in conjunction with SWMU M investigation.

		(top removed and filled with gravel).	
AA	Inactive Building 031 Septic System	Very low levels of PAHs. Benzo(a)pyrene (1,200 ppb), benz(a)anthracene (1,300 ppb), benzo(b)fluoranthene (1,500 ppb), and chrysene (1,200 ppb) is above soil standard (1,000 ppb). Nothing significant with chlorinated solvents (very low ppb).	NFA
AB	Former Waste TCA Recovery Unit	March 2009 work plan in place to evaluate the potential for source removal, when it becomes accessible.	Submit schedule to implement March 2009 Work Plan
AC	Former B005S Solvent Recovery Process Unit	Only contaminant found in soil was isopropyl alcohol at 84 ppb and 120 ppb. No standard to compare to. Also associated with SWMU H and SWMU I (Listed as NFA in 10/4/96 permit). These had acetone (260 ppb) and isopropyl alcohol (max 490 ppb) detected in the soils when the tanks were removed.	NFA

Operable Unit 3a
Proposed Use: Commercial

OU-Wide Requirements

Execute an environmental easement restricting site use to commercial, restricting use of groundwater, and requiring compliance with a Site Management Plan. Submit Site Management Plan that includes: procedures for invasive activities; contingencies for any reconfiguration of currently unexposed soil surfaces (i.e. paved parking lots, sidewalks, etc.) as exposed surfaces, including characterizing the top foot of soil to verify that commercial-use standards are met; vapor intrusion evaluation for new buildings; monitoring; and periodic certification.

Submit work plan to characterize the top foot of soil at 5 locations for VOCs to verify that commercial-use standards are met in areas not covered with buildings or pavement.

This OU will be included as part of the Class 4 inactive hazardous waste disposal site, Site No. 356002.

Operable Unit 3a			
SWMU ID	SWMU Name	Environmental Conditions / Comments	SWMU-Specific Requirements
U	North Parking Lot Area Plume	GW Contaminant Plume	Continue operation of groundwater remediation

Operable Unit 4
Proposed Use: Restricted Residential

OU-Wide Requirements

Since TechCity's Generic Environmental Impact Statement (GEIS) and other documents for the development of the East Campus state that OU4 is expected to have residential units, the top two feet of soil need to be characterized at 9 locations to show that restricted residential standards are met. Execute an environmental easement restricting site use to restricted residential, restricting use of groundwater, and requiring compliance with a Site Management Plan. Submit work plan for soil vapor intrusion investigation in Building B025.

Submit Site Management Plan that includes: procedures for invasive activities; monitoring; and periodic certification. Installation of additional monitoring wells to more fully define the extent of the plumes within the vicinity of the 42-inch drain is required. Any new buildings constructed within the vicinity of the GW plumes will need a vapor intrusion evaluation.

SWMU ID	SWMU Name	Environmental Conditions / Comments	SWMU-Specific Requirements
Z	Inactive Building 033 Septic System	Building 058 septic system investigation indicated subsurface soil below unrestricted SCOs and GW contamination is now below ambient standards.	NFA
C	Former Building 058	See SWMU Z	NFA
Q	Building 031 Former Lagoon	No test pits. No soil samples taken. No GW impacts detected.	NFA per 10/4/96 Permit.
X	Building 031 Separator	Neither soil nor groundwater results are above standards.	NFA
MOSF	MOSF Demolition	Additional work specified in September 20, 2010 letter	Submit a Final Report

Operable Unit 4a
Proposed Use: Commercial

OU-Wide Requirements - None

Execute an environmental easement restricting site use to commercial, restricting use of groundwater, and requiring compliance with a Site Management Plan.

Operable Unit 5
Proposed Use: Commercial

OU-Wide Requirements

Execute an environmental easement restricting site use to commercial, restricting use of groundwater, and requiring compliance with a Site Management Plan. Submit Site Management Plan that includes: procedures for invasive activities; monitoring; and periodic certification. This area will be included as part of the Class 4 inactive hazardous waste disposal site.

SWMU ID	SWMU Name	Environmental Conditions / Comments	SWMU-Specific Requirements
L	Former Industrial Waste Sludge Lagoon	The remedy for this area has been implemented. No measurable groundwater impacts.	NFA per 10/4/96 Permit. Submit Site Management Plan.

Operable Unit 6
Proposed Use: Commercial

OU-Wide Requirements

Execute an environmental easement restricting site use to commercial, restricting use of groundwater, and requiring compliance with a Site Management Plan. Submit Site Management Plan that includes: procedures for invasive activities; monitoring; and periodic certification.

Submit work plan to characterize the top foot of soil at 5 locations for VOCs to verify that commercial-use standards are met in areas not covered with buildings or pavement.

SWMU ID	SWMU Name	Environmental Conditions / Comments	Requirements
B	B-036 Container Storage Area		NFA per 10/4/96 Permit.
J	Wastewater Treatment Tanks (6)		NFA per 10/4/96 Permit.
K	Emergency Wastewater Holding Tanks (2)		NFA per 10/4/96 Permit.
N	Inactive Building 036 Construction and Debris Landfill	Disposal of concrete, bituminous asphalt, sheet metal, galvanized pipe, ceramic, brick, and three empty drums. No detected impact to groundwater. Chromium, copper, lead, nickel, selenium and zinc exceed soil standards for unrestricted use.	NFA per 10/4/96 Permit. Submit Site Management Plan.
AD	Former Fire Training Area	Activity was well contained within concrete structures. Soil chemistry below unrestricted standards. No identifiable GW contamination.	NFA

Operable Unit 7
Proposed Use: Commercial

OU-Wide Requirements

Execute an environmental easement restricting site use to commercial, restricting use of groundwater, and requiring compliance with a Site Management Plan. Submit Site Management Plan that includes: procedures for invasive activities; contingencies for any reconfiguration of currently unexposed soil surfaces (i.e. paved parking lots, sidewalks, etc.) as exposed surfaces, including characterizing the top foot of soil to verify that commercial-use standards are met; vapor intrusion evaluation for any new buildings; monitoring; and periodic certification.

Submit work plan for vapor intrusion evaluation of Building B005N. Submit work plan to characterize the top foot of soil at 3 locations for VOCs to verify that commercial-use standards are met in areas not covered with buildings or pavement.

SWMU ID	SWMU Name	Environmental Conditions / Comments	Requirements
A	Building 029 Chemical Storage	Closure approval letter provided.	NFA per 10/4/96 Permit.

Operable Unit 8
Proposed Use: Commercial

OU-Wide Requirements

Execute an environmental easement restricting site use to commercial, restricting use of groundwater, and requiring compliance with a Site Management Plan.

APPENDIX A-2

Statement of Basis

Statement of Basis

IBM-Kingston
Town of Ulster, Ulster County
EPA ID No. NYD001359694
Site No. 356002
Statement of Basis
February 2013

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

STATEMENT OF BASIS

IBM-Kingston
Town of Ulster, Ulster County
EPA ID No. NYD 001359694
Site No. 356002
February 2013

SECTION 1: SUMMARY AND PURPOSE OF THE STATEMENT OF BASIS

This Statement of Basis (SB) has been developed by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) under the authority of the Solid Waste Disposal Act, as amended, and more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The SB provides background information on the facility, including a summary of investigative findings pertinent to the potential source areas. When available, both soil and groundwater results are summarized and a rationale to support the closure of each SWMU is provided. Various remedial actions proposed throughout the site include No Action, No Further Action, groundwater monitoring, and vapor intrusion evaluation. In accordance with the Order on Consent, environmental easements (EEs) and an Interim Site Management Plan (ISMP) are proposed for all portions of the site.

The purpose of this Statement of Basis (SB) is to inform and provide the public an opportunity to review and comment on the closure of twelve Solid Waste Management Units (SWMUs) and three Areas of Concern (AOCs) at the IBM Kingston site in the Town of Ulster, New York. The releases of hazardous waste or hazardous constituents from regulated units, solid waste management units, and other sources or areas at the facility were addressed by actions known as interim corrective measures (ICMs). An ICM is used whenever possible to achieve the initial goals of controlling the migration of contaminated groundwater and controlling current human and ecological exposure to contaminated media and can be effectively addressed before completion of the RCRA Facility Investigation (RFI) or Corrective Measure Study (CMS).

This SB describes closure conditions identified by various site investigations from the late 1970s to 2012. IBM has conducted these Corrective Action activities with the oversight of the Department from 1988-2011 under a 6 NYCRR Part 373 permit and from July 2011 to present under an Order on Consent.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of

Codes, Rules and Regulations of the State of New York; (6 NYCRR) Part 373 and, where applicable, Part 375 Regulations. This document is a summary of the information that can be found in the site-related reports, the current Order on Consent and documents in the document repository identified below.

The Department welcomes public comment on this SB. Public comments can influence the Department's final approval for a remedial action. If new substantive information and information is presented to the Department through public comments, the Department may integrate these comments and so modify the final decision. Therefore, the public is encouraged to review and provide comments on this SB.

SECTION 2: CITIZEN PARTICIPATION

The Department encourages input from the community on the proposed remedial actions. The Department has set a public comment period from February 28, 2013 to March 29, 2013 to solicit public participation in the remedy selection process.

The administrative record is available at the following locations:

Town of Ulster Public Library
860 Ulster Avenue
Kingston, NY 12401
Phone: 845-338-7881
Fax: 845-338-7884
Email: ulsterdirector@hvc.rr.com

Web site: http://townofulsterlibrary.org/

Monday, Wednesday, and Friday 10:00 am -5:00 pm
Tuesday and Thursday 12:00 pm - 8:00 pm
Saturday 10:00am - 3:00 pm

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7014

Comments will be summarized and responses provided in the "Response to Comments" document. The Response to Comments will be drafted at the conclusion of the public comment period and incorporated into the administrative record. To send written comments or obtain further information, contact:

Wayne Mizerak, Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway

Albany, NY 12233-7014
wjmizera@gw.dec.state.ny.us

Receive Site Citizen Participation Information by e-mail

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The site is located approximately four miles north of the city of Kingston in the Town of Ulster, Ulster County. The site is bounded to the east by retail properties along John M. Clark Drive; to the north by Old Neighborhood Road, to the northwest and southwest by Esopus Creek, to the west by a residential private property, and to the south by residential private properties, a commercial development and Boices Lane. A stand-alone parcel (OU-8) also exists (0.886 acre) between Old Neighborhood Road and U. S. Route 209.

Site Features: The site is located within a 258-acre property owned by Tech City, Inc. The majority of the site is relatively flat, consisting of several buildings and several asphalt parking areas. Constitution Drive runs north-south through the approximate center of the property and along the western boundary of the site. A 60-inch storm water drain cuts along the northern portion of the site and a 42-inch storm water drain cuts along the southern portion of the site. Many of the buildings are vacant. Others are occupied by commercial tenants. The Class 4 site consists of Operable Units 3, 3a, and 5, with a total acreage of 66.3 acres. The 258-acre property is the subject of an Order on Consent to define RCRA Corrective Action and inactive hazardous waste program requirements, where necessary. A Class 4 site is an inactive hazardous waste disposal site that has been properly closed but requires continued site management consisting of operation, maintenance, and monitoring.

Current Zoning/Uses: The site is zoned as the Tech City Redevelopment Overlay District which was implemented by the Town of Ulster to facilitate the redevelopment of Tech City. This specialized zoning precludes certain uses such as heavy industrial. A wide range of businesses operate at the site: general office space, data processing, data warehousing, research and development, light-industry, manufacturing, call centers, internet and e-commerce businesses, and distribution center operations.

Historical Uses: Prior to 1953, the site was used as a farm, including a hanger to house a

plane for crop dusting. After purchases of property by IBM in 1953 and 1980, various uses of the site included a powerhouse building, a sewage disposal facility, warehouse facilities, a salt barn, and temporary storage of hazardous waste. Manufacturing activities included computer and display manufacturing, computer programming, engineering laboratory, communications systems, mainframe computer components, software development, metal plating, electronic card etching, and paint shops. Starting in 1991, IBM began to transfer various activities to other facilities and in 1994, announced its intention to move all remaining personnel and operations and close the facility. In 1989, the site was bought by Tech City, the current owner.

Site Geology and Hydrogeology: Throughout the site, a surficial sand unit overlays a varved clay layer. At various locations throughout the site, a transition zone of intermediate permeability exists between the surficial sand and the varved clay layers. The depth to bedrock varies from a few feet within the vicinity of Constitution Drive to over a hundred feet in the east campus area. The thickness of the sand unit varies from a few feet to approximately 35 feet. The varved clay layer acts as an aquitard and is contiguous throughout the site. The sand unit aquifer and the transition zone have permeabilities which allow those aquifers to be routes of migration for groundwater contamination. The transition zone is not contiguous throughout the site and only has localized impact. In general, overburden groundwater flows towards Esopus Creek.

3.1: Solid Waste Management Units and Areas of Concern

The site is divided into ten operable units (OUs). An OU is an administrative term used to identify a portion of a site that can be addressed by a distinct investigation and/or cleanup approach. See Figure 2 for the boundaries of each operable unit. Seven operable units are referenced in this SB. Three operable units (OUs 2, 4a, and 8) have no areas proposed for closure at this time and are not further referenced in this SB.

A "Solid Waste Management Unit (SWMU)" includes any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of hazardous or solid wastes. Such units include any area at the facility at which solid wastes have been routinely and systematically released. These units include certain areas associated with production processes which have potentially become contaminated as a result of routine and systematic releases. See Table 1 for a list of all SWMUs for this site and Figure 1 for the location of each SWMU. Sixteen SWMUs were closed, with public comment, under the October 10, 1996 RCRA Permit No. NYD001359694 (Table 2). No further public comments will be accepted for these SWMUs. Public comment is requested for the 12 of the remaining 16 SWMUs and for the 3 Areas of Concern (AOCs).

An Area of Concern (AOC) is a term used in conjunction with facility-wide corrective action at hazardous waste management facilities. Any area at a facility having a probable release of a hazardous waste or hazardous constituent which may or may not be from a solid waste management unit (SWMU) and is determined by the Department of Environmental Quality to pose a current or potential threat to human health or the

environment. AOCs include areas that have been contaminated by routine and systematic releases of hazardous waste or hazardous constituents, excluding one-time accidental spills that are immediately remediated and cannot be linked to solid waste management activities. AOCs are considered equivalent to SWMUs for the purposes of facility-wide corrective action.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. Current use of the land is for mixed industrial and commercial purposes. Under proposed redevelopment plans portions of the site may also be used for restricted residential uses.

SECTION 5: SITE RESPONSIBILITY AND LEGAL INSTRUMENT

The IBM Kingston facility was operated in accordance with a 6NYCRR Part 373 Hazardous Waste Management Permit until 2011. This permit addressed: (1) the storage and management of hazardous waste in containers; (2) the operation and maintenance of the Interim Corrective Measures (ICMs) for contaminated groundwater; (3) the monitoring and maintenance of the groundwater monitoring network used to assess the performance of the interim corrective measures; and (4) financial assurance for closure and corrective action.

In July of 2011 an Order on Consent, which incorporated the requirements of the Part 373 permit, was executed. The Order on Consent addresses: (1) closure requirements for all open Solid Waste Management Units and Areas of Concern; (2) the operation and maintenance of the Interim Corrective Measures (ICMs) for contaminated groundwater; (3) the monitoring and maintenance of the groundwater monitoring network used to assess the performance of the interim corrective measures; (4) requirements for implementation of Institutional and Engineering Controls; and (5) requirements for development and implementation of a Site Management Plan.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the RCRA Facility Investigation

A RCRA Facility Investigation (RFI) has been conducted. The purpose of the RFI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RFI Reports.

The following general activities are conducted during an RFI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,

- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor/indoor air

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RFI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RFI Results

In a number of the SWMUs, tanks and associated, visually contaminated soils were removed and properly disposed. As a general rule, information regarding the level of contaminants which may have been present before removal is not available. After removal, soil samples at all AOCs and all but one of the SWMUs indicate that no residual soil contamination above unrestricted SCGs remains. Residually contaminated soil, above unrestricted SCGs, remains at SWMU AA.

In SWMU AA, five semi-volatile organic compounds (SVOCs) were detected above SCGs for commercial use in subsurface soil: benzo(a)pyrene (1,200 ppb, SCG 61ppb), benz(a)anthracene (1,300 ppb, SCG 224 ppb), benzo(b)fluoranthene, (1,500 ppb, SCG 1,100 ppb), chrysene (1,200 ppb, SCG 1,200 ppb) and dibenzo(a,h)anthracene (200 ppb, SCG 14 ppb). Four chlorinated solvents were detected at levels slightly above SCGs in groundwater: 1,1,1-trichloroethane (8.4 ppb, SCG 5 ppb), 1,1-dichloroethane (9.3 ppb, SCG 5 ppb), trichloroethene (31 ppb, SCG 5 ppb), and total 1,2-dichloroethene (17 ppb, SCG 5 ppb).

There is no reason to suspect that any of these SWMUs are an ongoing source of groundwater contamination at this site. The site monitoring program indicates that the ongoing pumping and treatment of the groundwater continue to effectively control groundwater contamination.

6.2: Interim Corrective Measures

Investigations and monitoring have been ongoing since 1978 to characterize groundwater flow and quality beneath this site. Results of these investigations in the early 1980s indicated that groundwater containing dissolved chemicals might be flowing off the IBM Kingston site to the north and northwest from an area known as the North Parking Lot Area (NPLA). In mid-1985, IBM Kingston installed and began operating a Groundwater Collection System (GWCS) in OU-3a, consisting of a set of groundwater cutoff trenches parallel to Enterprise Drive and Old Neighborhood Road. From December 1986 through the end of June 1994, water recovered from these trenches was passed through the on-site Industrial Waste Treatment Facility (IWTF) for removal of volatile organic compounds using counter-current air stripping towers. During early 1994, upgrades to the GWCS included the installation of new pumps in the associated trench manholes, the construction of a new treatment building and the installation of tray aerator units. On July 8, 1994, these units were put on line and any groundwater collected by the GWCS was conveyed to the treatment building, treated by aeration and discharged to the sanitary sewer. Additionally, the northwest leg of the GWCS was extended approximately 240 feet with three additional trench manholes and one additional pump station installed. The trench extension project was completed in May 1995. Also in 1995, a clay berm was installed to the top of bedrock (varies from 5 to 16 feet deep) within the vicinity of where the industrial and sanitary sewer lines passed through the western border of the East Campus. The purpose of the clay berm was to prevent migration of groundwater contamination along the bedding planes of the industrial waste, storm water, and sanitary sewer lines. On July 10, 1996, the discharge from the aerators was connected to the storm sewer system under a State Pollutant Discharge Elimination System (SPDES) permit.

In April 1987, an additional groundwater extraction operation began at well MW-504S at the southern end of Building 005 (B005) in OU-3. Initially, the extracted groundwater was run through the IWTF. In July 1994, this groundwater extraction point was upgraded to its own dual-tray aerator unit and the treated water was discharged to the sanitary sewer. In 2007, this system was turned off because the building was vacant and unheated and the system was freezing and became inoperable. A significant decrease in localized groundwater contaminant concentrations at MW-504S was achieved and has been maintained since the shutdown of this system.

6.3: Summary of Environmental Assessment

Nature and Extent of contamination: Groundwater is contaminated within the main production area, primarily by volatile organic compounds (VOCs), including chlorinated solvents, their degradation products, and Freon. Investigations dating back to the late

1970s found contravention of groundwater standards. Initially, Freon was a groundwater contaminant that exceeded groundwater SCGs, but has not been detected in the groundwater for several years. To date, two potential source areas in OU-3 (see Appendix A) have yet to be fully characterized because of their inaccessibility.

A localized source of bedrock groundwater contamination is present within the vicinity of Building 202 (located in OU-1) where hydraulic fluid containing polychlorinated biphenyls (PCBs) leaked into the bedrock from an elevator shaft.

A small quantity of waste was stabilized and left in place during closure of the surface impoundment identified as the Industrial Waste Sludge Lagoon (IWSL) (OU-5). Some VOC groundwater contamination has been identified in the adjacent Wastewater Treatment Area; however, this contamination is up gradient of the impoundment and appears to have come from the main campus plume (located in OU-3 and OU-3a) to the east. No significant groundwater contamination is associated with the IWSL.

Vapor intrusion investigations and evaluations for all occupied buildings at this site have been completed. The conclusions and recommended actions are presented in Section 7.

6.4: Summary of Human Exposure Pathways

The intent of the RCRA Corrective Action program is to reduce or eliminate the potential exposure of site contamination to people and the environment. The level of potential exposure reduction to be achieved at any given site should address the protection of human and environmental receptors that currently exist or may exist in the future.

Groundwater at this site is not used for drinking water. Municipal water serves the local residents and the businesses on site. All groundwater contamination is on site. There is a potential for exposure to site-related contaminants through dermal contact with contaminated groundwater by workers installing footings for new-building construction or installing/repairing utilities within the confines of or in close proximity to the areal extent of the groundwater plume. Exposures to workers by vapors potentially released during these invasive activities and exposure to workers or building occupants by vapor intrusion into occupied buildings are also potential threats. Throughout the site, with the exception of OU-4, invasive activities below 1 foot have the potential to result in dermal contact with contaminated soils and in inhalation of contaminated soil particles by the workers. In OU-4, invasive activities below 2 feet have the potential to result in dermal contact with contaminated soil and in inhalation of contaminated soil particles by workers. The site management plan will specify air monitoring protocols and working procedures for all invasive activities to insure the workers and the community are protected.

The groundwater pump and treat system has proven to be effective at reducing and containing the contaminant plume. This system has reduced the potential for human exposure by preventing the contaminated groundwater from flowing off-site.

Some impacted soils have been excavated and removed from the site during or prior to the investigations of the SWMUs. These areas were then backfilled and covered with clean soil, however, some residual contamination may remain. At two locations (SWMUs –S and –T in Appendix A), IBM has identified contaminated subsurface soils that require removal, but has not developed a remedial alternatives report. A third potential source area (SWMU M in Appendix A) requires investigation. To date, this third area has been inaccessible. Accessibility is expected by the summer of 2013. The SWMUs noted in Appendix A are not part of this SB, but will be addressed in a future SB.

Since mid-1985, IBM has treated contaminated groundwater to levels that comply with groundwater standards. All discharges associated with the treatment of contaminated groundwater are effectively controlled and do not present any risk to human health or the environment.

Investigations in January and March of 2012 and in March 2009 evaluated the potential for soil vapor intrusion. The investigations included sampling of indoor air, outdoor air, and sub-slab soil vapor. Based upon these investigations the following buildings have no vapor intrusion impacts that require either mitigation or continued monitoring: B005N, B023, B042, B043, B052, B064, B201, B202, and B203. The following buildings require continued monitoring for at least three years: B021, B022, and B024. Buildings B001, B002, B003, B004, and B025 are unoccupied and require a vapor-intrusion assessment before occupancy.. Based on historical use and the findings of the investigations at this site, Buildings B031, B032, B033, B051 do not have contamination below them or in close proximity. Therefore, these buildings do not require an investigation for vapor intrusion impacts.

6.5: Summary of Remedial Objectives

Cleanup goals have been established for the surface soil, subsurface soil, and groundwater beneath the site. The goals of these remedial actions are to: (1) ensure surface and subsurface soils meet the SCOs for the intended end use of either: (a) restricted residential use, or (2) commercial use, for the corresponding portions of the site identified in the Order on Consent; (2) restore the groundwater at the site to New York State Groundwater Quality Standards.

SECTION 7: SUMMARY OF PROPOSED REMEDY

7.1: Summary of Proposed Remedy

This section describes the environmental conditions and recommended remedial actions for 12 SWMUs and 3 AOCs for which remedial actions were not documented in the 1996 permit. For each of these SWMUs and AOCs, the Department recommends continued site management and placement of Environmental Easements (EE) for the operable units and parcels in which they are located. The ISMP and OU-specific EEs will include provisions for vapor intrusion evaluations and mitigation, specifications for groundwater monitoring and use restrictions, and procedures for invasive activities. The procedures for

invasive activities will be implemented site-wide, for any excavation below 1 foot in those areas designated for commercial use and below 2 feet for those areas designated for restricted residential use. An ISMP is a plan that is developed and implemented for interim remedial measures and/or operable units of a site before a site is fully remediated. As explained below, the Department recommends No Action for four of these SWMUs and two AOCs. For the remaining eight SWMUs and one AOC, IBM or Tech City have implemented ICMs such as a tank removal, soil removal, or a groundwater pump and treat system. For these eight SWMUs and one AOC, the Department recommends No Further Action.

The descriptions of the SWMUs and AOCs are grouped according to the operable units in which they are located.

A. Operable Unit 1(1 SWMU and 1 AOC)

The SWMU and the AOC in OU-1 will be subject to an environmental easement that restricts future property use to commercial, provides a groundwater use restriction, and requires compliance with an ISMP.

In general, the ISMP will include an excavation work plan and provisions for vapor intrusion evaluations for new buildings and when currently vacant buildings are re-occupied and/or renovated for use. Additional information regarding specific requirements of the ISMP can be found in Exhibit C of the Order on Consent and in the first paragraph of Section VI of this SB.

a. SWMU AE - B202 Elevator Shaft

Background: In May 1996, a maintenance crew discovered a loss of hydraulic fluid from Elevator No. 2 in building B202. Subsequent environmental investigations detected hydraulic fluid (0.9 ppm) and PCBs (10.2 ppb) in a downgradient well in close proximity to the elevator shaft. Contamination was not detected in any other downgradient wells.

In October 2000, a maintenance crew discovered a leak in Elevator No. 1 in building B202. Once again, hydraulic fluid (45 ppm) and PCBs (13 ppb) were detected immediately downgradient. The most recent data (November 2006) did not find detectable levels of PCBs in this well.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

b. AOC - Triangle Plume Area

Background: The Triangle Plume Area is located in southeast corner of OU-1. Low-level groundwater VOC contaminated has been detected within the vicinity

of a 42-inch storm water pipe. Data provided in the 2011 Annual Report indicated that only one well, southwest of the 42-inch drain, contained VOC contamination above SCGs (Trichloroethene 5.5 - 18 ppb).

Recommended Action: No Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

B. Operable Unit 3 (8 SWMUs and 1 AOC)

All SWMUs and the AOC in OU-3 will be subject to an environmental easement that restricts future property use to commercial, provides a groundwater use restriction, and requires compliance with an ISMP.

In general, the ISMP will include an excavation work plan and provisions for vapor intrusion evaluations for new buildings and when currently vacant buildings are occupied and/or renovated for use. Additional information regarding specific requirements of the ISMP can be found in Exhibit C of the Order on Consent and in the first paragraph of Section VI of this SB.

Some localized portions of OU-3 require further investigation to evaluate the potential for source removal (see Appendix A).

a. SWMU G – Former Waste PCE Tank

Background: SWMU G includes a former tetracholorethene (PCE) waste tank and an associated former PCE supply tank. A PCE release occurred in 1987. Both tanks were decommissioned in 1987 and removed in 1989. IBM also removed an estimated 45 cubic yards of PCE-impacted soil. Historically, PCE has been detected above SCGs in downgradient monitoring wells. Recent groundwater sampling shows continued low-level contamination (PCE 1.8 ppb and TCE 1.4 ppb), which is below the SCG of 5ppb for both PCE and TCE. A 2009 and 2010 MIP investigation did not identify any additional potential source areas associated with this SWMU.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

b. SWMU R – Building 005 South Former Waste TCA UST

This SWMU consists of a former underground waste tank and a former underground supply tank. The location of these underground storage tanks (USTs) is only approximately known. Soil gas samples indicated no elevated concentrations of trichloroethane (TCA) or its breakdown products. No TCA or its breakdown products were detected in the soil or groundwater at concentrations

above SCGs. A low-level TCA plume (5 ppb) persists in two downgradient wells.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

c. SWMU U – North Parking Lot Area Plume

Background: A groundwater divide within the confines of the site's groundwater plume causes the northern portion of the site's plume to migrate toward the northwest and the southern portion of the site's plume to migrate toward the south west. SWMU U is the northern portion of the site's plume and is intercepted by the GWTS implemented in 1985 (upgraded in l994 and 1996). Ongoing groundwater extraction, treatment, and monitoring continue.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

d. SWMU V – Portions of B005 Plume

Background: In 1987, an additional groundwater treatment extraction system began at MW-504S near the southern portion of B005. Extracted groundwater was treated jointly with the water extracted by the GWTS implemented in 1985. In 1994, SWMU V was upgraded with its own aeration system in B005. In 2007, IBM shut down the extraction and treatment system because the water in the aeration system was freezing. Building B005 was unoccupied and has since been demolished. Low-level groundwater contamination (PCE 13 ppb and TCE 1.4 ppb) continues to be detected in downgradient wells.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

e. SWMU Y – Former Fluoride Wastewater Ejector Tank

Background: This is an underground fiberglass wastewater holding tank. In July 1994, the tank was closed in place by removing the top and filling with gravel. Subsequent groundwater monitoring did not detect fluoride in the groundwater.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as required by the Order on Consent, is recommended.

f. SWMU AA – Inactive Building 031 Septic System

Background: Building 031 was initially served by a septic system before B036 had the capacity to pre-treat sanitary waste. There are no reports of releases of hazardous constituents to the septic system and no known reason to believe that hazardous constituents were discharged to the septic system. When B036 developed the capacity to pre-treat septic wastes, the septic waste from B031 was rerouted to B036.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

g. SWMU AB – Former Waste TCA Recovery Unit

Background: SWMU AB is a former above-ground TCA recovery unit that was located in B001. The recoverable TCA was piped from an underground tank SWMU S. Most of the pipe used was in the ceiling of B001. In close proximity to SWMU S, the pipe went underground to access the tank. No groundwater contamination is associated with the above-ground structures. All TCA NAPL detected is associated with the underground tank and the underground pipe in close vicinity to the tank and will be addressed under SWMU S. The recovery unit has been removed. Some of the aboveground pipe may be in place. If so, this will be addressed under SWMU S (See Appendix A).

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

h. SWMU AC – Former B005S Solvent Recovery Process Unit

Background: This unit has been removed. This unit processed gaseous waste containing acetone and isopropyl alcohol (IPA). The aqueous waste was piped to two underground tanks SWMU H and SWMU I (both determined to be No Further Action under the 10/24/96 permit). IPA was detected in two soil samples at 84 ppb and 148 ppb. No acetone or IPA was detected in the groundwater.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

i. AOC - Sanitary Sewer Lines

Background: The sanitary sewer lines run parallel to the industrial waste sewer lines long the boundary between OU-3 and OU-3a. Portions of the sanitary sewer lines lie within the contaminated groundwater that is part of SWMU U – North Parking Lot Area Plume. Historical documentation of infiltration necessitated an assessment of the potential for the sanitary sewer line to act as a conduit for

offsite migration of infiltrated contaminated groundwater. An April 2012 sampling program indicated that the sanitary sewer line is not a transport mechanism for offsite migration of contaminated groundwater.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

C. Operable Unit 3a (1 SWMU)

The SWMU in OU-3a will be subject to an environmental easement that restricts future property use to commercial, provides a groundwater use restriction, and requires compliance with an ISMP.

In general, the ISMP will include an excavation work plan and provisions for vapor intrusion evaluations for new buildings and when currently vacant buildings are occupied and/or renovated for use. Additional information regarding specific requirements of the ISMP can be found in Exhibit C of the Order on Consent and in the first paragraph of Section VI of this SB.

a. SWMU U – North Parking Lot Area Plume

Background: See SWMU U in OU-3.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

D. Operable Unit 4 (1 SWMU and 1 AOC)

All SWMUs and the AOC in OU- 4 will be subject to an environmental easement that restricts future property use to restricted residential, provides a groundwater use restriction, and requires compliance with an ISMP. OU-4 is the only portion of this site for which remedial action is evaluated for a future use of restricted residential.

In general, the ISMP will include an excavation work plan and provisions for vapor intrusion evaluations: (1) for new buildings and (2) when currently vacant buildings are reoccupied and/or renovated for use. Additional information regarding specific requirements of the ISMP can be found in Exhibit C of the Order on Consent and in the first paragraph of Section V of this SB.

a. SWMU Z – Building 033 Septic System

Background: Building B033 was constructed in the mid-1950s and at that time a septic system was installed. From the 1950s through the 1980s, a degreaser was

used in the ambulance and fire truck garage area located in the southwest corner of this building

No VOCs, SVOCs, or PCBs were detected in the soil samples above soil cleanup guidance values. In groundwater, four VOCs (trichloroethene at 14 ppb, 1,2-dichloroethene, total, at 16 ppb, 1,1,1-trichloroethane at 6.8 ppb, and 1,1-dichloroethane at 18 ppb) were detected. The resulting groundwater plume is relatively small and appears to extend only a short distance down gradient of this SWMU.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as required by the Order on Consent, is recommended.

b. AOC - MOSF Demolition

Background: The major oil storage facility (MOSF) area consisted of three aboveground tanks for #6 fuel oil: two 500,000-gal tanks, one 150,000-gal tank and a concrete delivery station. The tanks have been removed and the retention berms were leveled. Nine soil samples at three locations show that the top 2 feet meet the soil cleanup objectives for restricted residential use for this operable unit.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

E. Operable Unit 6 (1 SWMU)

All SWMUs in OU-6 will be subject to an environmental easement, including: restricting future property use to commercial, a groundwater use restriction, and compliance with an ISMP.

In general the ISMP will include an excavation work plan and performance of a vapor intrusion evaluation as appropriate. Additional information regarding specific requires of the ISMP can be found in the Order on Consent and in the first paragraph of Section VI of this SB.

a. SWMU AD – Former Fire Training Area

Background: This unit contained a self-contained concrete structure consisting of a 500-gallon above ground steel tank containing flammable liquid, two steel tray-like burn basins, and a 1,500 gallon underground concrete holding tank for extinguished flammable liquids, water used in the training exercise, and possibly fire fighting chemicals. The base of this holding tank was 6.5 feet below grade. The discharge pipe was reportedly not used and the wastes were periodically

pumped out.

The training area was dismantled in 1985 and the holding tank removed. Four soil gas samples detected no VOCs. Nineteen soil samples were taken from eight borings. Two SVOCs were detected slightly above SCGs. At a depth of 2 feet, benzo(a)anthracene (61 ppb) and benzo(a)pyrene (48 ppb) were detected. In another boring, benzo(a)pyrene (63 ppb) was detected at 12-14 feet. At a third boring, benzo(a)pyrene (59 ppb) was detected at 14-16 feet. No VOCs or PCBs were detected above SCGs.

In groundwater, no SVOCs were detected above the guidance value. Phenol was detected at the guidance value of 1 ppb. No VOCs or PBCs were detected above their respective SCGs.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

F. Operable Unit 7 (1 SWMU)

The SWMU in OU-7 will be subject to an environmental easement that restricts future property use to commercial, provides a groundwater use restriction, and requires compliance with an ISMP.

In general, the ISMP will include an excavation work plan and provisions for vapor intrusion evaluations for new buildings and when currently vacant buildings are renovated for use. Additional information regarding specific requirements of the ISMP can be found in Exhibit C of the Order on Consent and in the first paragraph of Section VI of this SB.

a. SWMU W – Former B004 Separator Tank

Background: The concrete tank was designed to separate floating material from dissolved material in the Industrial Waste sewer lines. The base of the tank was approximately two feet below the top of groundwater. The tank has been removed. One soil gas sample was taken and no VOCs were detected. Likewise, no VOCs were detected in the soils at concentrations above SCGs. VOCs were detected in the groundwater at levels consistent with the area-wide plume which appears to originate from the northern portion of B005S. Groundwater contamination is being addressed as part of the GWTS described in Section V, B.

Recommended Action: No Further Action with placement of an EE and implementation of an ISMP, as described above and required by the Order on Consent, is recommended.

Table 1 – All SWMUs and AOCs

Operable Unit	Identification	Name
1	SWMU AE	B202 Elevator Shaft
	AOC	Triangle Plume Area
2	SWMU O	Parking Lot Sand Landfill
	SWMU AF	Inactive West Demolition Debris Area
3	SWMU D	Former Waste Acetone Storage Area
	SWMU E	Former Waste IPA Storage Tanks
	SWMU F	Former Waste Side Waste Tanks (2)
	SWMU G	Former Waste PCE Tank
	SWMU H	Former Waste Solvent Recovery Tanks
	SWMU I	Former Waste Solvent Recovery Tank
	SWMU M	Portions of Industrial Waste Sewer Lines
	SWMU P	Building 035 Former Dry Well
	SWMU R	Building 005 South Former Waste TCA UST
	SWMU S	Former Waste TCA Tanks (B001)
	SWMU T	Former Waste Oil Tank
	SWMU U	North Parking Lot Area Plume
	SWMU V	Portions of B005 Plume
	SWMU Y	Former Fluoride Wastewater Ejector Tank
	SWMU AA	Inactive Building 031 Septic System
	SWMU AB	Former Waste TCA Recovery Unit
	SWMU AC	Former B005S Solvent Recovery Process Unit
	AOC	Sanitary Sewer Lines
3a	SWMU U	North Parking Lot Area Plume
4	SWMU C	Former Building 058
	SWMU Q	Building 031 Former Lagoon
	SWMU X	Building 031 Separator Tank
	SWMU Z	Building 033 Septic System
	AOC	MOSF Demolition
4a	none	
5	SWMU L	Former Industrial Waste Sludge Lagoon
6	SWMU B	B-036 Container Storage Area
	SWMU J	Wastewater Treatment Tanks
	SWMU K	Emergency Wastewater Holding Tanks
	SWMU N	Inactive B039 Construction and Debris Landfill
	SWMU AD	Former Fire Training Area
7	SWMU A	B029 Chemical Distribution Center
	SWMU W	Former B004 Separator Tank
8	none	

Table 2 - SWMUs already closed - No Further Action per 10/4/96 Permit**.**

Operable Unit	Identification	Name
1	none	
2	SWMU O	Parking Lot Sand Landfill
	SWMU AF	Inactive West Demolition Debris Area
3	SWMU D	Former Waste Acetone Storage Area
	SWMU E	Former Waste IPA Storage Tanks
	SWMU F	Former Waste Side Waste Tanks (2)
	SWMU H	Former Waste Solvent Recovery Tanks
	SWMU I	Former Waste Solvent Recovery Tank
	SWMU P	Building 035 Former Dry Well
3a	none	
4	SWMU Q	Building 031 Former Lagoon
	SWMU C	Former Building 058
4a	none	
5	SWMU L	Former Industrial Waste Sludge Lagoon
6	SWMU B	B-036 Container Storage Area
	SWMU J	Wastewater Treatment Tanks
	SWMU K	Emergency Wastewater Holding Tanks
	SWMU N	Inactive B039 Construction and Debris Landfill
7	SWMU A	B029 Chemical Distribution Center
8	none	

Appendix A

SWMUs which will be the subject of future Statements of Basis.

a. SWMU M – Portions of the IW Sewer Lines

Not yet fully evaluated because parts of it is inaccessible. The remaining portions of this SWMU will soon be accessible for further investigation.

b. SWMU S – Former Waste TCA Tanks (B001)

SWMU S includes a former 4,000-gallon underground TCA waste storage tank and associated 1,000-gallon underground TCA supply tank. An October 2011 investigation followed by a March 2012 investigation identified a source zone with approximate size of 40 feet by 90 feet (region greater than 50 % solubility).

Source removal/remediation is under consideration. A Focused Remedial Alternatives Report is being developed. In-situ thermal desorption, chemical oxidation, and chemical reduction are among the options being evaluated.

c. SWMU T - Former Waste Oil Tank

A 2,000-gallon waste oil steel underground tank, located near the northwest corner of B003 was used for the collection of waste cutting oil generated during the mid-1950s through the early 1960s. In 1982 the tank failed a pressure test due to leaks at the fill neck. The tank was removed and was reportedly in good condition. The bottom of the tank is reported to have been approximately 6 feet below the water table. Subsequent subsurface soil sample analyses and MIP screening indicate that the fill line to the tank leaked. Maximum detected concentrations for chlorinated solvents were: 1,1,1-trichloroethane (69,000 ppb) 1,1-dichloroethene (440 ppb), tetrachloroethene (25,000 ppb), and trichloroethene (80,000 ppb) . Maximum detected concentrations for BTEX compounds were: toluene (10,000 ppb), ethylbenzene (27,000 ppb), and total xylene (140,000 ppm).

Source removal/remediation is under consideration. Further investigation and the development of a Remedial Alternatives Report will be pursued.

d. SWMU X – Building 031 Separator Tank

This tank was a subsurface oil/water separator. The base of the tank was at approximately the same elevation as the top of the groundwater. No chemicals were known to have been discharged to the separator. All constituents detected in soil and groundwater were detected at levels below SCGs.

The records contain no information concerning closure or removal of this tank. IBM will need to verify that this tank has been properly closed before this SWMU can be closed.

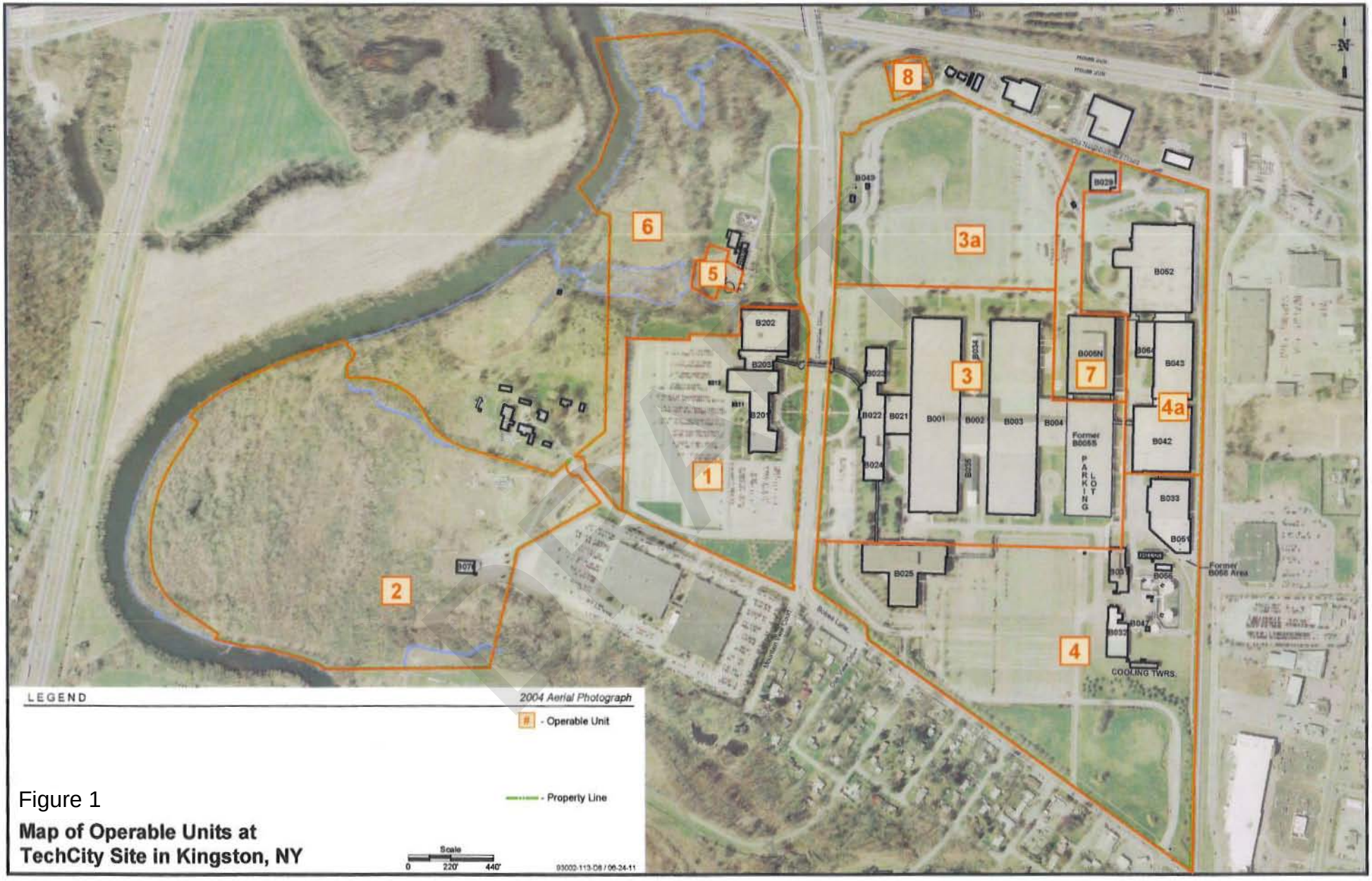


Figure 1

Map of Operable Units at TechCity Site in Kingston, NY

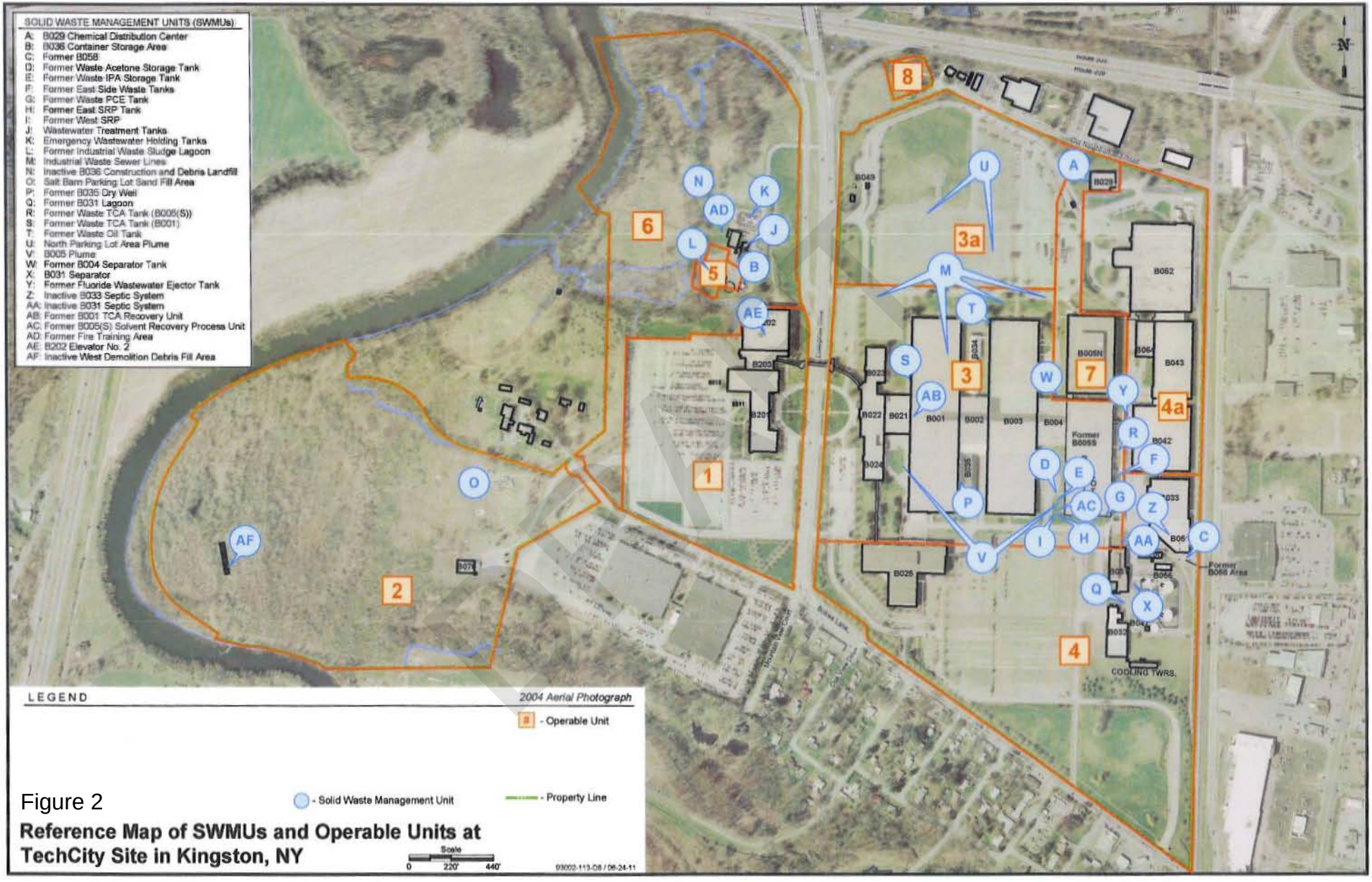


Figure 2

Reference Map of SWMUs and Operable Units at TechCity Site in Kingston, NY

APPENDIX B

Environmental Easements and Metes and Bounds

APPENDIX C

Intrusive Activities Work Plan / Community Air Monitoring Plan

Appendix C - Intrusive Activities Work Plan

300 Enterprise Drive Kingston NY Site
Interim Site Management Plan

300 Enterprise Drive Kingston NY Site 356002

July 2023

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1.0 NOTIFICATION

At least 15 days prior to the start of any activity that may encounter residual contamination, including initial Site redevelopment and build-out activities as well as future post redevelopment intrusive activities (e.g, building additions, utilities trenching, maintenance, etc.), the Site owner or its representative will notify the NYSDEC. Table 1 below includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of Site-related contact information is provided in Attachment 1 of the Site Management Plan.

Table 1: Notifications*

Daniel Bendell NYSDEC Region 3 - DER Project Manager	845-256-3151 daniel.bendell@dec.ny.gov
David Pollock NYSDEC Region 3 Materials Management Engineer and DER Project Manager's Supervisor	845-256-3138 david.pollock@dec.ny.gov
Kelly Lewandowski NYSDEC Site Control	518-402-9553 kelly.lewandowski@dec.ny.gov
Julia Kenney NYSDOH Project Manager	518-402-7873 julia.kenney@health.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for Site re-grading, intrusive elements or utilities to be installed below soil covers, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control.
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling.
- A schedule for the work, detailing the start and completion of all intrusive work.
- A summary of the applicable components of this Intrusive Activities Work Plan (IAWP).
- A statement that the work will be performed consistent with this IAWP and 29 CFR 1910.120.
- A copy of the contractor's health and safety plan, in electronic format, if it differs from the Health and Safety Plan (HASP) provided in Appendix F of the Interim Site Management Plan (ISMP) document.
- Identification of disposal facilities for potential waste streams.
- Identification of sources of any anticipated backfill, along with required request to import form and all supporting documentation including, but not limited to, chemical testing results.

The NYSDEC project manager will review the notification and may impose additional requirements for the excavation that are not listed in this IAWP.

2.0 APPLICABILITY

Extensive analytical data has been collected to characterize Site soils as part of RCRA Facility Assessments (RFAs), RCRA Facility Investigations (RFIs) and supplemental remedial investigations conducted to delineate the extent of contaminants associated with identified Solid Waste management Units (SWMUs). Based on these data, Operable Units (OUs) where concentrations of constituents in surficial (i.e., vadose zone) soils are currently known to exceed applicable NYSDEC soil cleanup objectives (SCOs) are:

- OU-1 in the vicinity of SWMU AE
- OU-5 in the vicinity of SWMU L
- OU-6 in the vicinity of SWMU N

Surficial soils outside of these areas are not known to be impacted. However, this IAWP will also apply to areas where there is potential for residual soil contamination associated with the Site groundwater plume. As such, the soil screening, characterization, handling and disposal protocols described in the sections that follow will be applicable for intrusive activities within OUs that constitute the defined limits of the Class 4 Inactive Hazardous Waste Site (i.e., OU-3, OU-3a, and OU-5); where remaining residual soil and/or groundwater contamination may potentially be present or is known to exist outside of the Class 4 Inactive Hazardous Waste Site; and/or where currently unexposed soil surfaces within the Class 4 Inactive Hazardous Waste Site OUs are exposed as a result of the relocation or removal of impervious surfaces and/or other engineering controls resulting from redevelopment activities.

Specifically, this IAWP will be applicable to the following OUs or subareas of OUs as illustrated on Figure C-1:

- **OU-1:** Applicable to the designated Triangle Plume Area and the Building B202 Elevator Shaft, as illustrated on Figure C-1.
- **OU-3:** All areas within the OU boundary where intrusive activities may be performed, including soils exposed due to relocation/removal of impervious surfaces.
- **OU-3a:** All areas within the OU boundary where intrusive activities may be performed, including soils exposed due to relocation/removal of impervious surfaces.
- **OU-4:** Applicable only to those areas within 150 linear feet of the southern boundary of OU-3, as illustrated on Figure C-1.
- **OU-6:** Applicable only to designated Building B036 C & D Landfill Area (SWMU N), and the IWTF plume located in proximity to MW-817 and former IWTF, as illustrated on Figure C-1.
- **OU-7:** All areas within the OU boundary where intrusive activities may be performed, including soils exposed due to relocation/removal of impervious surfaces.

This IAWP will not apply to intrusive activities performed within the boundaries of the following OUs at the Site:

- OU-2

- OU-4a
- OU-5 (The former Industrial Waste Sludge Lagoon has specific post-closure limitations in place for intrusive activities.)
- OU-8

Implementation of this IAWP is the responsibility of the Site owner, IBM, and its authorized representative(s) including documentation of implemented measures in the Periodic Review Report (PRR) upon conduct of "intrusive activities" as defined herein.

3.0 DE MINIMUS INTRUSIVE ACTIVITIES

Due to the size and complexity of the Site, routine activities related to maintenance, repair and/or redevelopment activities will frequently be performed that require minimal disturbance of surficial or sub-grade soils and/or fill. If these activities occur in the OUs or subareas of OUs subject to the IAWP, as identified in Section 2.0 above, the following criteria will be applied to determine if these activities are considered "de minimus" intrusive activities and as such not subject to the notification, sampling and characterization provisions of this IAWP:

- Disturbance of five square feet (feet^2) or less of surface area or a total volume displacement of less than 10 cubic feet (feet^3) or about 0.5 cubic yards (cy) of soil related to routine maintenance activities, including, but not limited to: landscaping plantings and associated activities; replacement or repair of fence posts; light pole standards; sign support poles; shallow electrical conduit repairs or similar installations.
- Exposure of five feet^2 or less of previously unexposed soils as a result of removal or relocation of impervious surfaces or structures.
- Surface pavement or sidewalk repairs or replacement where the total square footage does not exceed 10 feet^2 and disturbance of the associated subgrade is only required to replace or regrade structural fill or gravel subbase material below the repair/replacement area.
- Other minimally intrusive activities that may be required from time to time as part of routine maintenance and repair activities and approved in advance as a de minimus intrusive activity by the NYSDEC.

If, during the course of conducting any de minimus activities, grossly contaminated media (as defined in Section 1.3 of DER-10, *Technical Guidance for Site Investigation and Remediation*) is encountered, all work activities will immediately be suspended and NYSDEC will be notified. Continuation of work under the provisions of this IAWP in addition to supplemental investigation and characterization activities will be coordinated with the NYSDEC.

4.0 SOIL SCREENING AND CHARACTERIZATION

Visual, olfactory and instrument-based (e.g., photoionization detector) soil screening shall be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination) in the OUs and OU subareas subject to this IAWP. A qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State will perform the screening.

Soil screening shall be performed regardless of when the intrusive work is done (i.e., initial Site redevelopment and post-redevelopment activities) and shall include excavation and intrusive work performed during these

activities, such as demolition requiring the removal of subgrade structures, excavations for foundations and utility work, etc.

Excavated soils shall be segregated based on previous environmental data and field screening results in conjunction with their intended reuse as subsurface fill, surficial cover soils meeting 6 NYCRR Part 375 restricted commercial use standards (upper one foot), material that potentially requires off-Site disposal due to observed visual or olfactory environmental impacts readily detectable without laboratory analysis, or the presence of construction and demolition debris or other historical fill that make it undesirable for reuse as structural subgrade material at the Site.

Soils identified for potential reuse as surficial soil (upper one foot) or impacted soils (based on DER -10 visual and olfactory assessment) that require testing to assess off-Site disposal options, shall be analyzed as follows:

- **Surficial Soils (Segregated For Reuse):** Materials identified for potential reuse on-Site shall be sampled for full suite analytical parameters including the emerging contaminants per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the site use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances [April 2023 or date of current version, whichever is later] guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.
- **Impacted Soils or Soils Deemed Unsuitable For On-Site Re-use:** Representative composite sample(s) shall be collected from the stockpiled soil/fill. The number and frequency of samples shall be based upon the requirements of the off-Site disposal facility appropriately permitted for receipt of such materials. Similarly, each sample shall be analyzed for the parameters required by the selected disposal facility. The material shall be managed and disposed in accordance with the applicable requirements of 6 NYCRR Part 360 or Part 373 for the management and disposal of non-hazardous solid waste and debris or hazardous wastes, as appropriate.

Soils that do not exhibit any visual or olfactory evidence of environmental impact and are segregated for reuse as subgrade fill at depths greater than one foot below ground surface will not require analytical characterization.

5.0 SOIL STAGING METHODS

Soil that has been stockpiled and will remain as such overnight and/or for longer periods of time shall be continuously encircled with a containment berm and/or silt fence. Straw bales shall be used near catch basins, surface waters, and other discharge points, as needed.

Stockpiles shall be kept covered at all times with appropriately anchored tarps. Stockpiles shall be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles shall be inspected at a minimum frequency of once per week and following every storm event. Results of inspections shall be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC.

6.0 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State shall oversee all intrusive work and the excavation and load-out of all excavated material.

The Site owner of the property and/or remedial party (if applicable) and its contractors are solely responsible for safe execution of all intrusive and other work performed under this IAWP.

The presence of utilities and easements on the Site shall be investigated by the qualified environmental professional. The qualified environmental professional shall determine whether a risk or impediment to the planned work is posed by utilities or easements on the Site. A Site utility stakeout shall be completed for all utilities prior to any ground intrusive activities at the Site.

Loaded vehicles leaving the Site shall be appropriately lined, tarped, securely covered, manifested (if required), and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and other applicable transportation requirements).

The qualified environmental professional shall be responsible for ensuring that outbound trucks shall be free of loose soil/fill or mud prior to leaving the Site until the activities performed under this section are complete. To the extent feasible, Site redevelopment activities shall be designed to minimize off-Site disposal of soil/fill, however, any trucks that are loaded for off-Site transport shall be required to remain staged at all times on paved or gravel access roads to minimize tracking of soil/fill onto public roadways.

Alternatively, a truck wash may be operated on-Site, as appropriate. The qualified environmental professional shall be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the activities performed under this section are complete. Truck wash waters shall be collected and disposed off-Site in an appropriate manner.

Locations where vehicles enter or exit the Site shall be inspected daily for evidence of off-Site soil tracking.

The qualified environmental professional shall be responsible for ensuring that all egress points for truck and equipment transport from the Site are clean of dirt and other materials derived from the Site during intrusive excavation activities. Cleaning of the adjacent streets by the Site owner's contractor shall be performed as needed to maintain a clean condition with respect to Site-derived materials. Material accumulated from the street cleaning and egress cleaning activities shall be disposed off-Site at a permitted landfill facility in accordance with all applicable local, State, and Federal regulations.

7.0 MATERIALS TRANSPORT OFF-SITE

All transport of materials shall be performed by licensed haulers in accordance with applicable Federal, State and local regulations, including 6 NYCRR Part 364. Haulers shall be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site shall be secured with tight-fitting covers. The use of loose-fitting canvas-type truck covers is prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks shall be inspected for the presence of loose soil/fill or mud prior to leaving the Site. These materials shall be manually removed. All trucks loaded with Site materials shall exit the vicinity of the Site using only pre-

approved truck routes. Depending on the selected disposal facility location, the most appropriate route shall be designated and consider the following: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safe access to highways; and (f) overall safety in transport.

Trucks shall be prohibited from stopping and idling along roads in the vicinity of or adjacent to the Site. Egress points for truck and equipment transport from the Site shall be kept clean of dirt and other materials during Site remediation and development. Queuing of trucks shall be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing is prohibited.

8.0 MATERIALS DISPOSAL OFF-SITE

All material (soil/fill/solid waste) excavated and removed from the Site will be treated as contaminated and regulated material and shall be transported and disposed off-Site in a permitted facility in accordance with all Federal, State and local regulations (including 6 NYCRR Part 360 or Part 373 as applicable). If disposal of soil/fill from this Site is proposed for unregulated off-Site disposal (i.e., clean soil removed for development purposes), a formal request with an associated plan shall be submitted to NYSDEC. Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval.

Off-Site disposal locations for excavated soils shall be identified in the pre-excavation notification submitted to NYSDEC. This will include estimated quantities of material to be disposed and a breakdown, by class, of disposal facilities, as appropriate (i.e., hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, construction and demolition debris recycling facility, etc.). Actual quantities of waste streams disposed and the associated documentation shall be reported to NYSDEC in the PRR. This documentation shall include, but is not limited to waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-Site shall be handled consistent with 6 NYCRR Parts 360-365. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State C&D debris recovery facility (6 NYCRR Part 360-15 registered or permitted facility).

9.0 MATERIALS REUSE ON-SITE

The qualified environmental professional as defined in 6 NYCRR Part 375 shall ensure that procedures in this IAWP defined for materials designated for reuse are followed and that unacceptable material (i.e., contaminated) does not remain on-Site. Contaminated on-Site material, including historic fill and contaminated soil, that is acceptable for reuse on-Site shall be placed below the demarcation layer and/or one-foot of surface soils that meet commercial use SCOs, or an impervious surface (e.g., asphalt pavement, concrete surfaces, building foundations, etc.). In addition, contaminated on-Site material acceptable for reuse on-Site shall not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Materials proposed for reuse on-Site shall be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency shall be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the site use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances [April 2023 or date of current version, whichever is later] guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

Soil/fill material planned for reuse on-Site shall be segregated and staged as described in Sections 4.0 and 5.0 of this IAWP. The anticipated size and location of stockpiles shall be provided in the 15-day notification to the NYSDEC project manager. Stockpile locations shall be based on the location of Site excavation activities and proximity to nearby Site features. Material reuse on-Site shall comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC project manager.

Construction and demolition (C&D) debris from on-Site demolition may be proposed for use if it is a suitable substitute for commercial aggregate above the seasonal high-water table provided it consists of recognizable, uncontaminated concrete, rock or brick only. An approved beneficial use determination (BUD) with analytical testing would be required prior to any proposed reuse of C&D debris on-Site. The concrete or brick must be uncontaminated to be eligible for a BUD, therefore requiring complete abatement of hazardous materials (e.g., asbestos, lead, and PCB-containing materials) prior to demolition.

Concrete crushing or processing on-Site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing activities at the Site shall not be reused on-Site.

10.0 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including excavation dewatering, shall be handled, transported and disposed off-Site at a permitted facility in accordance with applicable Federal, State, and local regulations. Groundwater monitoring well purge and development waters and decontamination waters shall be managed in accordance with the requirements of the approved groundwater monitoring plan (i.e., recharged back to the land surface in the immediate vicinity of the monitoring well or contained and treated via the on-Site groundwater treatment system).

Discharge of water generated during large-scale construction activities to surface waters (i.e., a local pond, stream or river) may be performed under a SPDES permit administered by NYSDEC's Division of Water.

11.0 SOIL/SURFACE COVER SYSTEM RESTORATION

After the completion of soil removal and any other intrusive activities the cover system shall be restored in a manner that complies with this ISMP. The existing soil/surface cover system is comprised of a minimum of 12 or 24 inches of clean soil, asphalt pavement, concrete covered sidewalks, and concrete building slabs. A demarcation layer, consisting of orange snow fencing material, white geotextile or equivalent material shall be placed to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this ISMP. If the type of cover system changes from that which exists prior to the excavation (e.g., a soil cover is replaced by asphalt), this will constitute a modification of the soil/surface cover system and the upper surface of the remaining contamination. A figure showing the modified surface shall be included in the subsequent Periodic Review Report and in an updated ISMP.

12.0 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the Site shall be approved by the qualified environmental professional, as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State and shall be in compliance with the provisions in this IAWP prior to receipt at the Site. A Request to Import/Reuse Fill or Soil form (Attachment 1 to

this IAWP), can be found at http://www.dec.ny.gov/regulations/67386.html, shall be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review. A copy of the form is included as Attachment 1 to this IAWP.

The import of material from industrial sites, spill sites, other environmental remediation sites, or potentially contaminated sites to the Site is prohibited.

All imported soils shall meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d) and DER-10 Appendix 5 for commercial and restricted-residential use, depending on the operating unit in which the material is to be utilized. For this Site where commercial use is the planned and anticipated future use of the majority of the Site and restricted-residential use for OU-4, imported backfill will meet the lower of the protection of groundwater or protection of public health restricted-residential or commercial soil cleanup objectives, as set forth in Table 375-6.8(b) [6NYCRR Part 375-6.7] . Soils that meet 'general' fill requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this Site, shall not be imported onto the Site without prior approval by NYSDEC. All imported material shall be subject to the recommended sampling frequency and analyses contained in DER-10, Section 5.4 (e) and Table 5.4(e)10. Soil material shall be sampled for the full suite of analytical parameters, including PFAS and 1, 4-dioxane. The import of solid waste, as defined in 6 NYCRR Part 360, to the Site is prohibited.

Trucks entering the Site with imported soils shall be securely covered with tight fitting covers. Imported soils shall be stockpiled separately from excavated on-Site materials and covered to prevent dust releases.

13.0 STORMWATER POLLUTION PREVENTION

If Site redevelopment activities will disturb a surface area of greater than one acre, a Construction Stormwater Pollution Prevention Plan (SWPPP) that conforms to the requirements of NYSDEC Division of Water guidelines and regulations shall be prepared in advance of intrusive Site work and a Notice of Intent or Termination (NOIT) shall be filed with the Division of Water. This SWPPP shall be included as an Attachment to the IAWP. At a minimum the SWPPP shall incorporate the following provisions:

- Silt fence barriers and hay bale checks will be installed around excavation areas or at the Site perimeter depending on the extent of intrusive work and inspected once per week and following each storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.
- Accumulated sediments will be removed as required to keep the silt fence barrier and hay bale check functional.
- All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.
- Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the ISMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

14.0 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or redevelopment related construction, excavation activities shall be suspended and the excavation area will be secured until sufficient equipment is mobilized to address the condition.

Sampling shall be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analyses shall be performed for the full list of analytes (TAL metals; TCL volatiles and semi-volatiles (including 1,4-dioxane), TCL pesticides and PCBs, and PFAS), unless the Site history and previous sampling results provide a sufficient justification to limit the list of analytes. A reduction in the suite of compounds that soil samples will be analyzed for shall be proposed to NYSDEC for approval prior to sample collection. Any tanks shall be closed as per NYSDEC regulations and guidance.

Identification of unknown or unexpected contaminated media observed during intrusive Site work shall be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product shall also be reported to the NYSDEC spills hotline. These findings shall be included in the periodic reports prepared pursuant to the appropriate sections of the ISMP.

15.0 COMMUNITY AIR MONITORING PLAN

A generic Community Air Monitoring Plan (CAMP) that describes particulate and vapor monitoring required during intrusive Site investigation activities to protect the neighboring community has been prepared and is attached as Attachment 2 to this IAWP. The generic CAMP is consistent with the general requirements for community air monitoring at remediation sites, as established by the New York State Department of Health (NYSDOH) and NYSDEC. As such, the CAMP includes procedures and practices outlined under the NYSDOH Generic Community Air Monitoring Plan, dated December 2002, and NYSDEC Technical Assistance and Guidance Memorandum (TAGM) 4031: Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites.

Implementation of the CAMP during Site redevelopment activities shall be based on the physical configuration and constraints associated with the intrusive activity work area and prevailing wind direction at the Site. Specifically, locations and the number of particulate and volatile organic compound monitors both upwind and downwind of the planned excavation area shall be reviewed and agreed upon with the NYSDEC and NYSDOH Project Managers prior to initiation of intrusive activities subject to the IAWP and therefore the provisions of the CAMP. Air monitoring locations should be adjusted as needed in response to changes in the prevailing wind directions and/or areas of excavation.

Exceedances of action levels listed in the CAMP shall be reported to NYSDEC and NYSDOH Project Managers.

16.0 ODOR CONTROL PLAN

Based on historical excavation work performed at the Site and the nature of the known contamination at the Site, generation of odors from development activities on-Site are anticipated to be negligible. If, however, nuisance odors are identified at the Site boundary, or if odor complaints are received, work shall be halted and the source of the odors will be identified and mitigated. Work shall not resume until all nuisance odors have been abated. NYSDEC and NYSDOH shall be notified of all odor events and of any other complaints about project activities. Implementation of odor controls, including the halt of work, is the responsibility of the Site owner, IBM, and its representative(s) and any measures that are implemented will be detailed in the PRR. The party conducting the

intrusive activity leading to generation of nuisance odors shall have the primary responsibility to identify and mitigate the source of such odors.

All necessary means shall be employed to prevent on- and off-Site odor nuisances. At a minimum, these measures shall include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; (c) covering stockpiles with tarps or other covers; and (d) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate nuisance odors will include: (e) direct load-out of soils to trucks for off-Site disposal; (f) use of chemical odorants in spray or misting systems; and (g) use of staff to monitor odors in surrounding neighborhoods.

If during intrusive activities nuisance odors develop which cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-Site conditions or close proximity to sensitive receptors, odor control shall be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

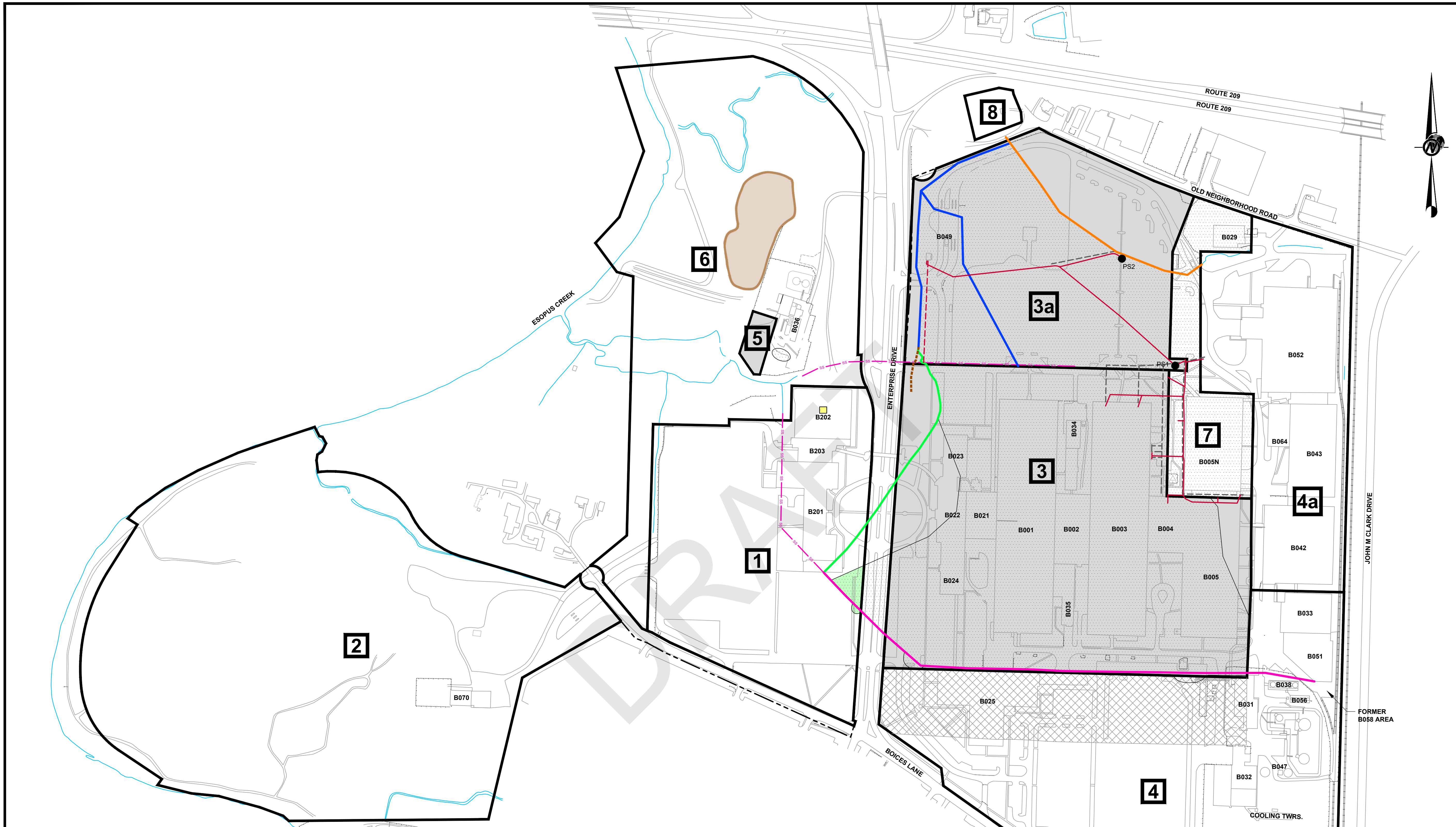
17.0 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during on-Site intrusive activities shall include, at a minimum, the following:

- Dust suppression may be achieved through the use of a dedicated on-Site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger areas shall be conducted in stages to limit the area of unvegetated soils exposed to the elements and vulnerable to dust production.
- Gravel shall be used on temporary roadways, if necessary, to provide a clean and dust-free road surface.
- Use of on-Site roads will be limited in total area to minimize the area subject to dust control via a water truck.

18.0 OTHER NUISANCES

Construction activities to be performed as part of the Site redevelopment activities shall comply with the Town of Ulster noise control ordinances and include the limitation of daily working hours, if requested or required by the Town's code enforcement department.



LEGEND

Symbol	Description
(dash-dot line)	PROPERTY BOUNDARY
B003	BUILDING NUMBER
(light blue line)	RIVER/STREAM
(magenta line)	42-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
(green line)	UNSATURATED SURFICIAL SAND UNIT (SITE PERIMETER CONTROL SYSTEM)
(blue line)	GROUNDWATER COLLECTION SYSTEM (SITE PERIMETER CONTROL SYSTEM)
(orange line)	60-INCH DIAMETER SEWER SYSTEM (SITE PERIMETER CONTROL SYSTEM)
(red line)	NORTH PARKING LOT AREA (NPLA) SYSTEM
(red dashed line)	4" PVC GTF EFFLUENT LINE
(magenta dashed line, SS)	STORM SEWER LINE
(brown dotted line)	UTILITY TRENCH BARRIER WALL
(grey dashed line)	EXISTING STORMWATER SYSTEM THAT IS PART OF THE NORTH PARKING LOT AREA GROUNDWATER COLLECTION SYSTEM (ABANDONED IN PLACE)
● PS1	PUMP STATION
1	OPERABLE UNIT (OU)
(light green fill)	TRIANGLE PLUME AREA WHERE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE
(yellow fill)	BUILDING B202 ELEVATOR WHERE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE
(tan fill)	FORMER C&D LANDFILL WHERE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE
(grey fill)	OPERABLE UNITS THAT COMPRISE THE CLASS 4 SITE (THE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE TO ALL PORTIONS OF OU-3 AND OU-3A)
(stippled fill)	AREA WHERE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE
(cross-hatched fill)	AREA WHERE INTRUSIVE ACTIVITIES WORK PLAN IS APPLICABLE ON OU-4

REFERENCES

1.) BASE MAP TAKEN FROM DIGITAL CAD FILE 3002-108-I3.DWG, DRAWING NUMBER 93002-108-I3 ENTITLED "LOCATION MAP," DATED MARCH 5, 2009, PROVIDED BY GROUNDWATER SCIENCES CORPORATION.

2.) OPERABLE UNIT BOUNDARIES DIGITIZED FROM A HARDCOPY FILE ENTITLED "Operable Unit Composite MAP_2011-0830.pdf," PREPARED BY BRINNIER & LARIOS, P.C.

NOTE

1.) THE SUBSURFACE UTILITIES AND OTHER FEATURES DEPICTED ON THIS DRAWING ARE BASED ON HISTORICAL DOCUMENTS AND INFORMATION PREPARED BY OTHERS AND IS PRESUMED TO BE ACCURATE. IBM HAS NOT OWNED THIS PROPERTY SINCE FEBRUARY 1998 AND IBM HAS NOT INDEPENDENTLY VERIFIED UTILITIES, SPATIAL LOCATION AND ORIENTATION, DEPTH OR OTHER PHYSICAL CHARACTERISTICS OR CURRENT CONDITIONS. PARTIES USE THIS DRAWING AT THEIR OWN RISK AND SHOULD INDEPENDENTLY FIELD VERIFY THE INFORMATION BEFORE RELYING ON THE INFORMATION FOR PLANNING, ENGINEERING AND CONSTRUCTION PURPOSES.

200 0 200 400
SCALE FEET

PROJECT
300 ENTERPRISE DRIVE
KINGSTON NY SITE
INTERIM SITE
MANAGEMENT PLAN

TITLE
AREAS SUBJECT TO THE
INTRUSIVE ACTIVITIES
WORK PLAN

PROJECT No.	GL19133924	
FILE No.	GL19133924ZD01	
REV. 0	SCALE	AS SHOWN
DESIGN	CDH	2023-06-15
CADD	RG	2023-06-15
CHECK		
REVIEW		

FIGURE C-1

ATTACHMENT 1
REQUEST TO IMPORT/REUSE FILL OR SOIL FORM

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e). Use of this form is not a substitute for reading the applicable Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is: Choose an item

Have Ecological Resources been identified? Choose an item

Is this soil originating from the site? Choose an item

How many cubic yards of soil will be imported/reused? Choose an item

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? Choose an item

Does it contain less than 10%, by weight, material that would pass a size 10 sieve? Choose an item

Does it contain less than 10%, by weight, material that would pass a size 100 sieve? Choose an item

Is this virgin material from a permitted mine or quarry? Choose an item

Is this material recycled concrete or brick from a DEC registered processing facility? Choose an item

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Location where fill was obtained:

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

Provide a list of supporting documentation included with this request:

The information provided on this form is accurate and complete.

_____ _____

Signature Date

_____

Print Name

_____

Firm

ATTACHMENT 2
INTRUSIVE ACTIVITIES WORK PLAN
GENERIC COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-Site receptors including residences and businesses and on-Site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-Site through the air.

The generic CAMP presented herein will be sufficient for many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate Site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented herein may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH. Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

VOCs shall be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings shall be recorded and be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

All readings shall be recorded and be available for State (NYSDEC and NYSDOH) and County Health personnel to review.

Exceedances of action levels listed in the CAMP shall be reported to NYSDEC and NYSDOH Project Managers.

APPENDIX D

Groundwater Monitoring Plan (current 2013 version being updated to address ECs)

APPENDIX E

Groundwater Collection System Operating, Maintenance, and Monitoring Information (Updated OM&M Manual to be provided upon completion of GTF upgrades scheduled for 2024)

APPENDIX F

Generic Health and Safety Plan

APPENDIX G

Site Inspection Form

300 Enterprise Drive Kingston NY Site

TOWN OF ULSTER, ULSTER COUNTY, NEW YORK

Interim Site Management Plan

NYSDEC Site Number: 356002

OPERABLE UNIT INSPECTION FORM

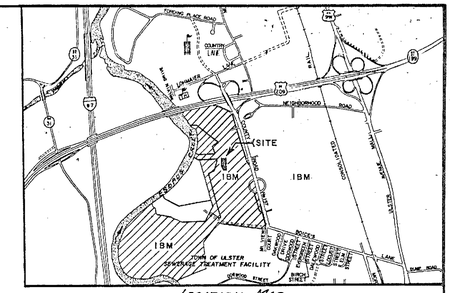
OU_____

Inspection Item Description	Frequency	Comments	Corrective Action (If Required)
OU General Conditions	Annually		
Intrusive Work Locations – General Conditions	Per Occurrence		
Cover Soil Integrity	Annually		
Groundwater Monitoring System Condition (Where Applicable in GMP)	Annually		
OU Specific Item:			
OU Specific Item:			
OU Specific Item:			

Inspector's Signature: _____ Date: _____

APPENDIX H

IWSL Non-Disturbance Easement



NON DISTURBANCE EASEMENT

SCALE: 1" = 100'

Owners or operators of this property must restrict disturbance of the hazardous waste disposal unit on this site, this in accordance with 6 NYCRR 373-3.7 as amended and the NYSDEC and EPA approved Site Closure Plan dated July 28, 1986, EPAID No. NYD001359694.

Approximately 324,400 cubic feet of soil containing trace amounts of the following residual hazardous constituents remains on this site.

Antimony
Arsenic
Barium
Benzene
Bromoform
Cadmium
Chlorobenzene
Chloroethane
Chloroform
Chromium

Endrin
Lead
Mercury
Methylene Chloride
Nickel
Phenols
PCBs
Selenium
Silver
1,1,2,2 Tetrachloroethane

Cobalt
Copper
Cyanide
1,2-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
1,2-Dichloroethene

Tetrachloroethene
Thalium
Tin
Toluene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichloroflouromethane
Trichlorotrifluoroethane
Vinyl Chloride

MAP
OF A PORTION OF LANDS OF
INTERNATIONAL BUSINESS MACHINES CORP.
SHOWING
0.582 ACRE NON DISTURBANCE EASEMENT
NEIGHBORHOOD ROAD

TOWN OF ULSTER · ULSTER COUNTY · NEW YORK

OCTOBER 20, 1993 · SCALE: 1" = 200'

FILED IN THE ULSTER COUNTY CLERK'S OFFICE ON MAY 25, 1994 AS MAP NO. 9970.

No.	BY	DATE	DESCRIPTION
1	GEW	3-01-94	NON DISTURBANCE EASEMENT

REVISION RECORD

CHRISTOPHER J. ZELL 49629

DENNIS M. LARIOS 058747

BRINNIER & LARIOS · P.C.
ENGINEERS & LAND SURVEYORS
67 MAIDEN LANE
KINGSTON · NY · 12401

Unauthorized alteration or addition to a plan bearing a licensed surveyor's seal is a violation of section 7209, subdivision 2, of the New York State Education Law.

GEW