SBD

SOUTH BUFFALO DEVELOPMENT, LLC

October 14, 2009

Ms. Linda C. Ross, Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203-2915

Re: Buffalo Color Corporation, Areas A, B, C and E
C915230, C915231 and C915232
City of Buffalo, County of Erie

Dear Ms. Ross:

South Buffalo Development LLC (SBD) has prepared this response to your letter dated September 9, 2009 regarding the Interim Site Management Plan (SMP) issued by MACTEC Engineering and Consulting, Inc. (MACTEC) on August 31, 2009. Attached please find two copies of the revised Interim Site Management Plan prepared by MACTEC.

Following are our responses to the specific comments provided in your letter:

1. NYSDEC Comment: The document is labeled as an Interim SMP and on page 1-1 it states that the document only applies through demolition and pre-remedial activities. However, page 3-2 discusses redevelopment work. The document should be internally consistent. The Department's preference would be to have the long-term SMP submitted, but if SBD prefers an interim document at this time, then change the words "redevelopment" to "demolition" where appropriate.

Response: Pre-design studies were initiated during September of 2009, two months ahead of the overall project schedule included in the approved Alternatives Analysis Report. Because the remedial design process is ongoing, and to comply with the requirements of the Brownfield Agreements, SBD has submitted an Interim SMP at this time to document the management and engineering controls in use for the demolition. References to "redevelopment" have been removed from the text of the revised Interim SMP, where appropriate, and replaced with the term "demolition", as requested.

2. NYSDEC Comment: The final land use and goal of the project is for commercial redevelopment, as discussed during our September 2, 2009 meeting. References to industrial development should be deleted.

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Response: SBD's redevelopment plan for the Site has always included both commercial and light industrial uses, provided that such uses are acceptable to the community and consistent with the zoning for the property. What was discussed and confirmed at our September 2, 2009 meeting was that the selected cleanup standards for the Site are the NY Commercial Soil Cleanup Objectives (SCOs). At the meeting, it was acknowledged by the Department that achieving the Commercial SCOs will permit either commercial or industrial future use. We believe it would be misleading to indicate in the SMP that only commercial reuse is being considered for the Site, and therefore we have not deleted the references to a combined commercial/industrial redevelopment scenario.

3. NYSDEC Comment: The text on page 2-1 states that the Environmental Easement (EE) will be submitted as an appendix to the SMP; however, NYSDEC requires that the EE reference the final SMP. Therefore, delete the last line of Section 2.1.

   Response: Deletion made as requested.

4. NYSDEC Comment: On page 2-2, the text states that building slabs will be left in place. This determination is a City of Buffalo function as part of the demolition permitting process. The SMP does not guide this decision. The foundations or slabs may have to be removed where waste or contaminated material warrants further delineation and/or remediation. Modify the text.

   Response: The text has been modified to read, "If approved by the City of Buffalo, existing pavement and building slabs will be left in place to minimize potential contact with contaminated soil".

5. NYSDEC Comment: Page 3-1, Section 3.1, first paragraph, last line – Add text that the removal, disposal or recycling shall be in accordance with Solid Waste regulations.

   Response: The text has been modified as requested.

6. NYSDEC Comment: There are no odor controls mentioned in the SMP. Modify the text accordingly.

   Response: Section 3.13 has been re-titled "Dust and Odor Control", and a paragraph has been added to the end of the section that describes odor control requirements.

7. NYSDEC Comment: On page 3-3, the text states that "Soils that require off-Site disposal will not be stockpiled for more than 90 days after completion of excavation". Please add that it is 90 days after completion of a specific area, not the entire site.

   Response: The text has been modified as requested.

8. NYSDEC Comment: Page 3-3, Section 3.4, third bullet. Remove the text "and sustained for a minimum duration of 1 minute".

   Response: The text has been modified to read, "Sustained or repeated periodic photoionization detector readings, as obtained in ambient air at the surface of the excavated material, of greater than 10 ppm above background levels over a 1-minute interval". This allows for non-sustained PID readings to trigger the "grossly contaminated"determination, while at the same time reducing the potential that an isolated, non-repeatable PID reading will trigger this requirement.

9. NYSDEC Comment: Page 3-4. The list of SVOCs (Semi-Volatile Organic Compounds) should be included in the SMP.

   Response: The text has been modified to indicate that the Target Compound List of volatile and semi-volatile organic compounds is provided as Appendix C.

10. NYSDEC Comment: Page 3-5, Section 3.6 – There is a typographical error "will may". Modify the text accordingly.

    Response: The typographical error has been corrected.

11. NYSDEC Comment: Appendix D – Include the Remedial Construction QA/QC Plan.

    Response: The Remedial Construction QA/QC Plan has not yet been prepared. As noted in Section 5.0, the Remedial Construction QA/QC Plan will be developed during the remedial design process and provided as part of the final Site Management Plan.

12. NYSDEC Comment: The SMP checklist and template should be used for resubmittal if the SMP is for the entire project not just for demolition. The checklist and template were supplied to you on September 3, 2009 via email.

    Response: The revised SMP is considered and interim plan that addresses the demolition phase of the project. The final SMP to be submitted upon completion of remedial design will utilize the checklist and template provided by NYSDEC.

Please let me know if you have any questions or require additional information regarding this submittal.

Very truly yours,

South Buffalo Development, LLC by
Its Manager SBD Holding I, Inc.

Jon M. Williams, President of SBD Holding I, Inc.

INTERIM SITE MANAGEMENT PLAN

FORMER BUFFALO COLOR CORPORATION SITE
AREAS A, B, C AND E
NY BCA Nos. C915230, C915231 & C915232
BUFFALO, NEW YORK

Prepared for:

SOUTH BUFFALO DEVELOPMENT LLC

Buffalo, New York

3410090701

October 14, 2009

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Buffalo, New York

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October 14, 2009

MACTEC Project 3410090701

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1.0 INTRODUCTION

MACTEC Engineering and Consulting, Inc. (MACTEC) has prepared this Interim Site Management Plan (SMP) on behalf of South Buffalo Development LLC (SBD) for the Former Buffalo Color Corporation (BCC) Area ABCE Site (Site) to address the Site during demolition and pre-remedial activities. The location of the Site is shown on Figure 1 and the Site Plan is shown on Figure 2. This SMP was prepared in accordance with the requirements of the New York State Brownfield Cleanup Program, specifically the regulations provided in 6 NYCRR Part 375 (http://www.dec.ny.gov/regs/2491.html) and the Brownfield Cleanup Program Guide (Draft) NYSDEC (2004) (Guide).

SBD has teamed with Honeywell to facilitate the demolition of the former dye plant and remediate the property. The proposed remediation and redevelopment approach for the Site, crafted jointly by Honeywell and SBD, will utilize the Track 4 cleanup track in accordance with the New York Brownfield Cleanup Program (BCP) regulations to transform the Site from an abandoned and blighted property into viable commercial/industrial property. The goal for this Site is to remediate and build new, environmentally sustainable commercial/industrial facilities that will support jobs and promote the economic stability of the region. The plan also calls for creation of substantial open space and potential access to the Buffalo River for the public. A web site has been established by SBD that provides information about the project. The web site address is http://www.buffalocolorredevelopment.com.

This SMP is consistent with the requirements of Chapter 9 (Remedial Work Plan) of the Alternatives Analysis Report (AAR) prepared for the Site (MACTEC, February 2009). A copy of the Remedial Work Plan is provided for reference in Appendix A.

Addressed in this SMP are the following:

- Institutional and Engineering Control Plan;
- Soil Fill Management Plan;
- Demolition Health and Safety Plan;
- Quality Assurance / Quality Control Plan;
- Operations, Maintenance, and Monitoring (OM&M) Plan;
- Notification and reporting requirements; and
- Supporting tables and figures.

1.1 SITE DESCRIPTION

The Site is located on the south side of the City of Buffalo, Erie County, New York, in an area of heavy industrial development that dates to the mid-1800s. The Site occupies approximately 47 acres near and adjacent to the Buffalo River and is described by four distinct areas (Areas A, B, C, and E). The Site layout is shown on Figure 2.

Area A is approximately 10.2 acres in size and is located on the southern end of the Site. The property is fenced and is accessible by vehicle via gated entrances along South Park Avenue. Presently, it includes various former production buildings, several aboveground storage tank (AST) farms, and an office/maintenance building. It is bounded by South Park Avenue to the north, the Buffalo River to the east, an inactive rail line to the south (beyond which is Area D, which is not part of the Site for the purposes of this remedial effort), and railroad tracks to the west.

Area B is approximately 5.5 acres in size and is located to the north of Area A. Area B is fenced and is accessible by vehicle via a gated entrance along Lee Street. Area B includes the former BCC office building, located at 100 Lee Street, and surrounding asphalt parking area which totals approximately three acres and is under separate ownership; this portion of Area B is not owned or controlled by SBD, nor is it part of the Brownfield Cleanup Agreements (BCA). The western portion of Area B (approximately 2.5 acres) is owned and controlled by SBD and is included in the BCA. Area B is bounded by a rail spur and Area C to the north, Lee Street to the east, South Park Avenue to the south, and railroad tracks to the west.

Area C is located on the northwestern corner of the Site. It is fenced and accessible by vehicle from gated entrances along Lee Street. Area C covers approximately six acres and includes the former powerhouse building and former ice house. A large AST, formerly used for storage of fuel oil, is presently located on the western side of the property. Area C is bounded by Elk Street to the north, Lee Street to the east, a rail spur and Area B to the south, and railroad tracks to the west.

Area E is the largest of the four areas (approximately 25.5 acres) and is located on the northeastern side of the Site. Former BCC Building 322 and surrounding property totaling about 9.1 acres is under separate ownership and is not part of the BCA. The remaining 16.4 acres of Area E are owned and will be redeveloped by SBD under the BCA. The western side of Area E presently includes various former

production buildings, maintenance sheds, a former laboratory, the former wastewater treatment plant (which at one time included several surface impoundments) and a large AST farm. The eastern half of Area E is vacant, with much of it grass-covered. Area E is bounded by Elk Street to the north, Orlando Street to the east (across which is a bulk petroleum terminal currently operated by Buckeye), and Prenatt Street to the south.

1.2 SITE HISTORY

Originally founded as the Schoellkopf Aniline and Dye Company in 1879, the plant produced dyes and organic chemicals based primarily on aniline and various aniline derivatives. The company was reorganized into the National Aniline Chemical Company in 1916. It became one of the five companies that merged to create Allied Chemical Corporation (Allied Chemical) in 1920. The existing dye-making facility and the right to produce certain dyes and intermediates were sold by Allied Chemical to Buffalo Color Corporation (BCC) on July 1, 1977. At the time of the sale, the plant was divided into eight areas designated with the letters A, B, C, D, E, F, G, and H. BCC purchased the manufacturing areas A through E, while Allied Chemical retained the acid plant (which was sold to PVS in 1981), the research and development facility on Area F, and the parking lots on Areas G (Elk Street) and H (Smith Street).

In 2005, BCC filed for bankruptcy. During the bankruptcy proceedings, some of the facility's production equipment was sold and removed from the site. In conjunction with the bankruptcy, the office building and former plant hospital located at 100 Lee Street on Area B and the warehouse building (Building 322) located near Elk Street on Area E, along with some of the land under and around those buildings, were sold to other parties. Agreements are in place to preserve access rights to the land for the purposes of any required environmental investigation and remediation activities. The remaining buildings and property on Areas A, B, C, D and E were purchased by SBD in 2008.

1.3 OVERVIEW OF SITE CONTAMINATION

The Site has been extensively characterized via numerous investigations dating to the 1980s and including the 1996-1997 RCRA Facility Investigation and the 2007 Remedial Investigation. During these investigations, over 100 monitoring wells/piezometers and approximately 200 soil borings have been advanced across the Site. Over 250 groundwater samples and over 200 soil samples were submitted for analytical testing for a broad list of organic compounds, metals and other analytes. Hundreds of additional soil samples have been subjected to field instrument screening and visual inspection.

The following is excerpted from Section 3.3 of the AAR and summarizes the present understanding of contamination at the Site:

- SOIL (SOURCES OF GROUNDWATER CONTAMINATION): Based on proximity to shallow groundwater that contains similar contaminants, two likely sources of soil to shallow aquifer impact have been identified above the first zone of saturation: 1) approximately 2,100 cubic yards of soils impacted by semi-volatile organic compounds (SVOCs) located in the central part of Area A, and 2) approximately 8,150 cubic yards of soil impacted by volatile organic compounds (VOCs) in the vicinity of the large AST farm on the southwestern side of Area E.

- SOIL (DIRECT CONTACT PATHWAY): Metals (primarily arsenic and to a lesser extent mercury) and polycyclic aromatic hydrocarbons (PAHs) were found across the Site in both surface and subsurface soil at levels that exceed the NY Commercial Soil Cleanup Objectives (SCOs). For the direct contact pathway, surface soil samples are considered the most relevant data points. A background study completed by MACTEC suggests that the majority of the soil samples collected during the RI contained arsenic and PAHs at levels that are within the calculated Site-specific background standards. The data also suggests that the locations with levels of arsenic and PAHs within background levels are not sources of groundwater contamination. The majority of the site (roughly 60%) is currently covered by pavement or buildings, which have concrete floor slabs.

- SHALLOW AQUIFER: Groundwater is not used or planned for use at the Site or in the vicinity of the Site for drinking purposes. Thus, there is no current human exposure pathway associated with the presence of metals and inorganic compounds in the shallow aquifer at levels that exceed the NY Class GA standards (which are based on a potable use scenario). Potential adverse impact to the Buffalo River and ecological receptors via discharge of contaminated shallow groundwater exists at Area A, which is the only portion of the Site that abuts the river. Shallow groundwater on Areas B, C and E also flows toward the river. However, the RI/FS data indicate the chlorobenzene plumes on Areas C and E have not migrated beyond the property boundaries. During the pre-design investigation, additional monitoring wells will be installed on Areas C and E, and these wells (as well as certain existing wells in Area E) will be sampled to further delineate the extent of the groundwater plumes. Remedial action specified in the AAR focuses on shallow groundwater impacted by chlorobenzene and other organic contaminants at the following locations:

    - On the southern portion of Area A, where the shallow groundwater contains chlorobenzene, aniline and other organic Site-related constituents at part per million levels and which, under static conditions, extend to and could possibly flow into the Buffalo River;

    - On the northwestern corner of Area C, where levels of chlorobenzene at part per million levels were identified; and

    - On the southwestern portion of Area E in a limited area around the large AST farm where levels of chlorobenzene and other organic compounds have been identified in groundwater at part per million levels and impacted soil has also been identified.

- DEEP GROUNDWATER (CONFINED AQUIFER): Metals/inorganic compounds and part per billion levels of SVOCs were identified sporadically in the groundwater samples collected from the wells screened within the confined aquifer. As described in the AAR, institutional controls/environmental easements will be utilized to preclude on-Site use of the confined aquifer.

- SITE SEWERS AND STORMWATER OUTFALLS: The existing Site process sewers are connected to the nearby BSA sewer lines. The RI/FS sampling completed in 2007 identified the presence of residual contaminants in solids within the facility process sewers (including sediments or sludge). Shallow groundwater may infiltrate portions of facility storm sewers and discharge to the Buffalo River via existing stormwater outfalls, specifically Outfall 006 on Area A. Abandonment/plugging or rehabilitation of the Site underground sewer system will be completed by SBD, as described in the AAR.

- FORMER AREA E WASTEWATER LAGOONS: As discussed in Section 2.1 of the AAR, the former wastewater lagoons located on the southeastern side of Area E were drained, dredged and capped between 1984 and 1988 in accordance with closure plans approved by the NYSDEC. Groundwater samples collected from shallow wells located near the locations of the three former lagoons did not contain VOCs above NY Class GA standards or otherwise show evidence of impact related to the former lagoons. Additional groundwater monitoring will include sampling of specified monitoring wells in the vicinity of the former lagoons.

- AREA E LNAPL: Light non-aqueous phase liquids (LNAPL) in the form of a weathered petroleum substance were identified in two monitoring wells near the southeastern border of Area E during 2008 quarterly groundwater monitoring activities. Additional focused investigation of this area will be completed as part of the remedial design process to evaluate the extent of LNAPL and determine future monitoring and remedial requirements.

1.4 DESCRIPTION OF THE REMEDY

Chapter 9 of the AAR (MACTEC, February 2009) presents the Remedial Work Plan for the Site (Appendix A). As provided in the AAR, the preferred remedy for the Site consists of the following components:

- Soil – Source area removal and installation of a cover system has been selected as the preferred alternative for the Site soil. This alternative involves excavation to the water table at the location identified as a likely source of groundwater contamination on Area E (approximately 8,100 cubic yards) and off-Site disposal of contaminated soil. The cover system will use a combination of soil, pavement, and existing/new building structures to provide protection from direct contact exposure to contaminated surface soils, consistent with the presumptive remedy as identified in 6 NYCRR Part 375.

- Area A Groundwater – A downgradient hydraulic barrier wall will be installed on Area A along the Buffalo River shoreline to prevent migration of contaminated groundwater from Area A to the Buffalo River; this will include groundwater extraction as necessary to maintain hydraulic control.

- Area B Groundwater – Groundwater monitoring will be performed at Area B to verify the results of the Remedial Investigation, which indicated no significant groundwater contamination was

present at that location. During 2008, groundwater monitoring at Area B will be performed in accordance with the ICM OM&M Plan. Based on the outcome of this monitoring at selected point of compliance (POC) wells, the scope and frequency of additional groundwater monitoring and/or remediation at Area B will be proposed.

- Areas C&E Groundwater – Enhanced bioremediation with monitoring for the limited chlorobenzene plumes identified at Areas C&E. At Area E, it may be advantageous to directly apply the bio-enhancement additive to the subsurface during the source area removal action. Long-term monitoring will be included for select Site and POC wells.

- Vapor Intrusion - An environmental easement will be implemented to ensure that occupied structures associated with future development at the Site are constructed such that the vapor intrusion (VI) pathway is eliminated.

- Site Sewers – Existing underground sanitary/process and storm sewer lines will be capped, removed or rehabilitated, as determined appropriate on an area-by-area basis by SBD and/or Honeywell in accordance with the project schedule.

- Institutional/engineering controls and environmental easements will be implemented that prohibit groundwater use, provide protocols for disturbance of Site soils and/or groundwater, limit future land use to commercial or industrial, and require elimination of the vapor intrusion pathway for all occupied structures.

To implement the preferred remedy, demolition of some or all of the abandoned former Buffalo Color dye manufacturing facility is necessary. SBD initiated demolition activities in June 2009 and expects to complete the demolition process by the Third Quarter of 2010.

SBD has retained MACTEC to complete the engineering design of the final remedy components. Pre-design studies and engineering design work has begun. Final design is expected to be completed by the First Quarter of 2011. A revision to this Site Management Plan will be issued upon completion of the design process to address remedial construction and long-term OM&M requirements.

1.5 PROJECT ORGANIZATION

Listed below are the key project personnel and their office/primary telephone numbers. The complete contact information for these individuals (address, phone, email address, etc.) is provided in Appendix B.

NYSDEC Region 9

Mr. Martin Doster, Regional Hazardous Waste Remediation Engineer, (716) 851-7220
Ms. Linda Ross, Engineer Geologist I, (716) 851-7220

SBD
Mr. Jon Williams, President, (716) 856-3333

MACTEC
Mr. John Scrabis, Project Manager, (412) 279-6661

1.6 LIMITATIONS

This document was prepared for the sole use of SBD, Honeywell, and the NYSDEC. No other party should rely on the information contained herein without prior written consent of MACTEC. We believe that the information provided herein is reasonably supported by the results of the previous work made known to MACTEC and the application of professional standards of care that are generally accepted for completion of environmental investigations.

The scope of work described herein is based on information obtained during previous studies and our experience. If additional information becomes available which might impact our scope of work, we request the opportunity to review the information, reassess the potential concerns, and modify our approach, if warranted.

2.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

The preferred remedy, as presented in the Chapter 9 of the AAR (see copy in Appendix A) includes the use of institutional and engineering controls, which is consistent with the New York BCP Track 4 approach.

2.1 INSTITUTIONAL CONTROLS

Environmental easements will be established for the Site. The easements will specify the following institutional controls:

- Groundwater Use: the use or withdrawal of Site groundwater for drinking, irrigation, or other consumptive purposes will be prohibited.

- Land Use: future land use will be restricted to commercial or industrial purposes.

- Vapor Intrusion: the vapor intrusion (VI) pathway will be mitigated in newly constructed buildings via the use of vapor barriers and/or soil gas mitigation systems (active or passive). The vapor intrusion for an existing building that will be rehabilitated for reuse and occupation will be evaluated in accordance with NY laws, regulations and guidance; if the results indicate that applicable VI standards are or will be exceeded, mitigation of the VI pathway consistent with the requirements for new structures will be performed.

- Plans and Inspections: the environmental easements will specify the development and implementation of the following:

    - OM&M plan for the final remedy components, to include a long-term groundwater monitoring program and inspection requirements;
    - Soil Fill Management Plan;
    - Health & Safety Plans for OM&M and construction activities; and
    - Site Management Plan.

2.2 ENGINEERING CONTROLS

The following engineering controls will be utilized at the Site during demolition and pre-remedial Site activities:

- The perimeter fencing will be maintained to help prevent entry by trespassers or other unauthorized persons;

- SBD has retained the services of a security firm to provide full-time guards to observe and patrol the property;

- If approved by the City of Buffalo, existing pavement and building slabs will be left in place to minimize potential contact with contaminated soil; and

- Operation of the Area A groundwater extraction system, originally installed as an interim corrective measure, will continue.

The following engineering controls will be installed and maintained as part of the final remedy:

- A Site-wide cover system will be installed and maintained. The cover system will use a combination of clean soil (minimum of 12 inches), pavement, and existing/new buildings to provide protection from direct contact exposure to contaminated surface soils, consistent with the presumptive remedy as identified in 6 NYCRR Part 375.

- A downgradient hydraulic barrier wall will be installed on Area A along the Buffalo River shoreline to prevent migration of contaminated groundwater from Area A to the Buffalo River; this will include groundwater extraction as necessary to maintain hydraulic control.

- Vapor Intrusion – as noted above, the VI pathway must be mitigated for all new building construction via the installation and maintenance of vapor barriers and/or soil gas mitigation systems (active or passive). The vapor intrusion for any existing buildings that will be reused and occupied will be evaluated in accordance with NY laws, regulations and guidance; if the results indicate that applicable VI standards are or will be exceeded, mitigation of the VI pathway consistent with the requirements for new structures will be performed.

3.0 SOIL FILL MANAGEMENT PLAN

This section presents the Soil Fill Management Plan which will be used for the Site and referenced in the environmental easements. The plan specifies requirements for excavation and grading activities, stockpiling and soil staging areas, onsite reuse criteria, waste characterization sampling, soil loading and transportation, and requirements for offsite disposal. The plan also addresses steps that will be taken in the event that buried drums, underground storage tanks, pipes or sewers are encountered during future construction activities.

3.1 SITE PREPARATION

The Site will be cleared of buildings and other aboveground structures, with the exception of those structures that will remain as part of the final remedy (such as the wastewater treatment building, piping and supports, paved areas, slabs, etc. located on Area A). Vegetation, masonry, rubbish, scrap, debris, curbs, fences, etc. will be removed and properly recycled, reused, or disposed off-site in accordance with applicable federal, state and local solid waste regulations.

Pits or sumps located within floor slabs will be cleaned and inspected. If the pit or sump has a gravel bottom, or if the bottom is noticeably compromised, it will be necessary to evaluate the soil conditions under and around the base to determine if remediation is required. Pits which have been cleaned and pass the visual inspection will be backfilled to grade with clean fill.

Building foundations and slab foundations will be left in place during demolition, as approved by the City. All local permits and regulatory approvals will be obtained for the demolition work, as required.

As described in the AAR, the final remedy includes use of a surface cover system that will consist of a combination of clean soil, pavement, or building foundations to provide protection from direct contact exposure to contaminated surface soils. The cover system will reduce infiltration of precipitation through impacted soil into groundwater and promote surface drainage. The cover system will consist of soil (a minimum of one foot), asphalt, or concrete pavement (with appropriate granular subbase), or building structures. Existing paved surfaces, including building floor slabs, asphalt parking lots, and access drives that will be incorporated into the cover system will be cleaned, rehabilitated, and maintained as necessary. A demarcation layer will be placed between existing surface soils and any new soil cover materials so that

the boundary between clean fill and existing Site soils can be identified. The demarcation layer location(s) will be identified on the base American Land Title Association (ALTA) survey map, so that periodic inspections can readily identify erosion or damage to the cover system in those areas. Best Management Practices will be implemented to manage stormwater runoff from paved surfaces, as appropriate.

3.2 EXCAVATING AND GRADING BELOW COVER SYSTEM

Excavation of existing soils may be necessary to achieve desired site grading. For excavation work below the cover system, a Professional Engineer's (P.E.'s) representative with construction/remediation experience, representing the subject property owner or developer, will monitor soil/fill excavations or disturbances. The site owner at the time of intrusive work must provide a P.E. stamped/signed certification that excavation work below the cover system and subsequent repair/replacement of the cover system was conducted in a manner consistent with this Plan.

3.3 STOCKPILING OF EXCAVATED SOIL

Soils excavated during Site demolition that are potentially impacted from historical site operations will be stockpiled on the property for characterization. Specific locations for the stockpile areas will be determined during construction. Temporary stockpile areas will be lined with poly sheeting having a thickness of at least 10 mils and will be surrounded by a berm consisting of poly-covered earth, hay bales or wooden frames. Existing concrete curbs and slabs may also be used as part of the stockpile system provided that they are covered with the 10-mil poly sheeting. The stockpiled soil will be covered with polyethylene sheeting or spray-on dust suppression agents will be applied when soil is not being added or removed to reduce the infiltration of precipitation and the migration of dust. When a temporary stockpile area is no longer needed, all used plastic liners and berm construction materials will be properly disposed.

As an alternative to temporary stockpiles, rolloff boxes (tarped and lined as necessary) may be used for on-Site accumulation of excavated materials.

A daily record of the accumulation date(s), origination point, estimated volume (in cubic yards), date/location of on-Site reuse, sampling and characterization details, and date of off-Site transportation, as appropriate, for each separate soil stockpile will be maintained by the owner.

Soils that require off-Site disposal will not be stockpiled for more than 90 days after completion of the specific excavation. Characterization samples of the stockpiled material will be collected within two weeks (14 calendar days) after completion of an excavation; standard laboratory turnaround (approximately 3 weeks) will be used for all laboratory testing unless SBD determines that an expedited turnaround time is required. Soils identified for on-Site reuse beneath the cover system, as determined via the process described below, will not be stockpiled on-Site for more than 180 days.

3.4 SITE-SPECIFIC ACTION LEVELS

This section applies to any soils excavated during the course of Site development. To evaluate such soils for potential reuse on the Site as fill, the following process will be used.

Step 1 - Determine if Excavated Material is "Grossly Contaminated": For the purposes of this project, "grossly contaminated" soil exhibits one or more of the following characteristics:

- Visual indication of non-aqueous phase liquid (NAPL);
- Visual indication of other separate phase materials of concern, such as elemental mercury; and/or
- Sustained or repeated periodic photoionization detector readings, as obtained in ambient air at the surface of the excavated material, of greater than 10 ppm above background levels over a 1-minute interval.

Discolored soil will not be considered "grossly contaminated" if it does not exhibit any of the above characteristics.

If excavated material is identified as "grossly contaminated", it will be characterized for off-Site disposal. Any excavated material that does not meet the definition of "grossly contaminated" will be evaluated as defined in Step 2 below.

Step 2 – Compare to Site-Specific Action Levels (SSALs): Samples of the excavated material will be sampled and characterized at a NYSDEC-approved off-Site laboratory using the procedures described in this document. The results of the characterization testing will then be screened against the SSALs. The soils will be considered to meet the SSALs if concentrations of tested constituents meet the following parameters:

- Individual VOCs $\leq$ Commercial SCOs
- Total SVOCs $\leq$ 500 ppm
- Individual PCB Aroclors $\leq$ Commercial SCOs
- Metals $\leq$ 10x Commercial SCOs

It should be noted that the SSALs are not remedial action levels or cleanup goals for the Site remedy; such criteria are provided separately in the AAR. It is further understood that the SSALs will not be used as triggers for additional remediation beyond that specified in the AAR, except as follows: If concentrations of any analyzed metal exceeds the SSAL, then TCLP testing will be completed on that sample for that metal. If the TCLP result exceeds the TCLP limit for that metal, then additional sampling in the area of excavation from which the soil originated will be proposed to determine if additional remediation is warranted. The determination of whether additional action is warranted will be made by assessing the TCLP data, as well as Site specific information. If it is determined that additional investigation is warranted, that investigation should focus on the potential for those metals to have an impact on groundwater.

If discolored soils are encountered during the field work, special attention will be given to that area to assess possible impacts upon groundwater.

If the excavated material is not "grossly contaminated" and all sample results meet the SSALs, then the excavated material can be reused on Site as structural fill placed beneath the cover system. If the excavated material does not meet the requirements of either Step 1 or Step 2, or if for any reason the material is not suitable for reuse on site, it will be taken off-Site for proper disposal.

3.5 SAMPLING AND CHARACTERIZATION OF STOCKPILED SOIL

For stockpiled soil that may be reused as fill and is not "grossly contaminated" as determined based on Step 1 above, one composite sample will be collected for every 100 cubic yards (or portion thereof) of stockpiled soil. The composite sample will be collected from five locations from each 100 cubic yard volume. PID measurements will be recorded for each of the five individual locations. One grab sample will be collected from the individual location with the highest PID measurement. If none of the five individual sample locations exhibit PID readings, one location will be selected at random. The composite sample will be analyzed by a NYSDOH ELAP-certified laboratory for Target Compound List (TCL) SVOCs (plus aniline), PCBs, and TAL metals plus cyanide. The grab sample will be analyzed for TCL VOCs. The full list of TCL VOCs and SVOCs is provided as Appendix C. If off-Site disposal is expected, an additional composite sample will be collected for TCLP analysis and other characterization tests, as specified by the disposal facility.

Soil samples will be composited by placing equal portions of soil from each of the five individual sample locations into a pre-cleaned, stainless steel (or Pyrex glass) mixing bowl. The soil will be thoroughly homogenized using a stainless steel or disposable plastic scoop or trowel and transferred to pre-cleaned jars provided by the laboratory. Sample jars will then be labeled and a chain-of-custody form will be prepared.

Any stockpiled soil with TCLP/characterization results that indicate the material is hazardous waste (as defined under RCRA) will be subject to the applicable hazardous waste storage, labeling, handling, transportation and disposal regulations.

3.6 GROSSLY CONTAMINATED SOIL REMAINING IN EXCAVATION

If "grossly contaminated" soil is visible on the excavation sidewalls, SBD or future owners may choose to expand the excavation until no further "grossly contaminated" material remains visible within the excavation, or the owner may develop a plan for the characterization and remediation of the material for NYSDEC approval. The plan will be based on the type and extent of material encountered.

3.7 BURIED DRUMS OR UNDERGROUND STORAGE TANKS

Buried drums and underground storage tanks (USTs) have not previously been identified at the Buffalo Color Site. However, if buried drums or USTs are encountered during excavation activities, NYSDEC will be notified. Any USTs will be registered with NYSDEC as required per 6 NYCRR Part 375-1.8. Any buried drums and/or USTs encountered will be evaluated within the excavation via visual assessment and PID readings, provided that worker health and safety is protected. Subsequently, a Removal Plan will be prepared for NYSDEC approval. Drums and/or USTs will be excavated and removed in accordance with a site-specific Health and Safety Plan while following all applicable federal, state, and local regulations. Removed drums and underground storage tanks will be properly characterized and disposed off-site. The soil surrounding the buried drums or underground storage tanks will be considered as potentially contaminated and will be characterized in accordance with methods prescribed in this Plan.

3.8 UNDERGROUND PIPES AND SEWERS

Inactive storm or sanitary sewer pipes that will not be reused and are encountered within the limits of an excavation will be removed and any exposed ends will be plugged/capped at the walls of the excavation.

If pipes are large, the use of flowable fill may be considered. Based on Site knowledge, no underground chemical/process pipes are expected; if any are encountered during grading or excavation activities, they will be cut, drained, and removed from within the excavation limits. Drained materials will be collected and properly disposed off-Site. Pipe sections left in the ground (if any) which will not be reused will be capped/plugged after draining and the potential for migration of contaminants along the pipe bedding will be assessed and mitigated via placement of impermeable collars or other barriers, as appropriate.

3.9 REQUIREMENTS FOR STRUCTURAL FILL PLACED BENEATH THE COVER SYSTEM

Excavated material, crushed asphalt or concrete from building demolition, and clean fill/borrow material brought on Site for use as structural fill beneath the Site cover system must meet the following criteria:

- All materials from on-Site sources must be shown through testing to have concentrations of constituents that are less than or equal to the SSALs.
- Material from off-Site sources intended for use as site backfill shall meet the Commercial SCOs (Protection of Public Health) or Protection of Groundwater SCOs, whichever is more stringent, except as follows:
    - The following material may be imported for use as backfill, without chemical testing, for use beneath pavement, buildings, or below the cover system provided it contains less than 10% by weight of material which would pass through a size 200 sieve and consists of:
        1. Rock or stone, consisting of virgin material from a permitted mine or quarry; or
        2. Recycled concrete or brick from a Department registered construction and demolition debris processing facility which conforms to Section 304 of the New York Department of Transportation Standard Specifications Construction and Materials Volume I (2002).
- Off-Site borrow materials intended for use on the Site which require chemical testing will be tested via collection of one composite sample per 500 cubic yards of material from each source area. The sample will be analyzed for TCL VOCs, TCL SVOCs, PCBs, and TAL metals plus cyanide. If more than 1,000 cubic yards of material are borrowed from a given off-Site source area and both samples of the first 1,000 cubic yards meet the SSALs, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional material from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency will be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the SSALs.

3.10 COVER SYSTEM SOILS

The cover soil material will meet the following criteria:

- Off-Site borrow soils will be documented as having originated from locations having no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products.

- Off-Site soils intended for use as site cover will not be defined as a solid waste in accordance with 6NYCRR Part 360-1.2(a).

- If off-Site soil intended for use as cover material is considered "virgin", it will be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use.

- Off-Site soils to be used as cover soils must not exceed the lower of the Commercial or Protection of Groundwater SCOs.

- Non-virgin soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area. The sample will be analyzed for TCL VOCs, TCL SVOCs, PCBs, and TAL metals plus cyanide. If more than 1,000 cubic yards of soil are borrowed from a given off-site non-virgin soil source area and both samples of the first 1,000 cubic yards meet the specified SCOs, the sample collection frequency will be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency will be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the specified SCOs.

- The topsoil used for the final cover will be fertile, friable, natural loam surface soil, capable of sustaining plant growth, and free of clods or hard earth, plants or roots, sticks or other extraneous material harmful to plant growth.

- Grassed areas will be seeded with a sustainable perennial mixture with appropriate erosion control measures taken until the perennial grasses are established, as specified by the local soil conservation district.

- To reduce the disturbance of the surface cover material, clean soil berms will be constructed in areas where shallow-rooted trees and shrubs will be planted. The berms will be of sufficient thickness to allow the excavation of only clean fill deep enough to plant the tree or shrub root ball. The berm material will contain sufficient organic material to allow tree and/or shrub growth, and will be of sufficient strength to support trees and/or shrubs at their maximum height.

3.11 ASPHALT AND CONCRETE

Existing asphalt and concrete from buildings, roads, parking lots, etc. will be reused as part of the Site cover wherever possible.

3.12 EROSION CONTROL

Coverage will be obtained under the NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities that are classified as "Associated with Industrial Activity", Permit #GP-93-06 (Construction Storm Water General Permit). Requirements for coverage under the Construction Storm

Water General Permit include the submittal of a Notice of Intent form and the development of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will fulfill all permit requirements and will be prepared in accordance with the latest version of "Chapter Four: the Storm Water Management and Erosion Control Plan" in Reducing Impacts of Storm Water Runoff from New Development (NYSDEC). This Storm Water Management and Erosion Control Plan, in accordance with permit requirements, will provide the following information:

- A background discussion of the scope of the construction project.
- A statement of the storm water management objectives.
- An evaluation of post-development runoff conditions.
- A description of proposed storm water control measures.
- A description of the type and frequency of maintenance activities required to support the control measure.

The SWPPP will address issues such as erosion prevention, sedimentation control, hydraulic loading, pollutant loading, ecological protection, physical site characteristics that impact design, and site management planning. All descriptions of proposed features and structures at the Site will include a description of structure placement, supporting engineering data and calculations, construction scheduling, and references to established detailed design criteria. The SWPPP will conform to all requirements as established by applicable regulatory agencies.

Proven soil conservation practices, including Best Management Practices, will be incorporated in the construction and development plans to mitigate soil erosion, off-site sediment migration, and water pollution from erosion. The use of temporary erosion control measures such as silt fencing and/or hay bales will be placed around soil stockpiles and bare surface soil during demolition activities, as specified by the local soil conservation district. These methods are described below. Stockpiles will be graded and compacted as necessary for positive surface water runoff and dust control. Stockpiles of soil will be placed a minimum of 50 feet from the property boundaries.

Temporary erosion and sedimentation control measures will be used during active demolition/construction stages. Prior to any demolition/construction activity, temporary erosion and sediment control measures will be installed and maintained until such time that permanent erosion control measures are installed and effective. The following temporary measures will be incorporated into demolition/construction activities:

- Silt fences will be placed around active demolition/construction areas that result in soil disturbance;
- Hay bails will be placed and staked around stockpiled soil under the plastic to create a berm; and
- Plastic covers will be placed on stockpiled soil to reduce rain water infiltration and dust.

As sediment collects along the silt fences, hay bails, etc., they will be cleaned to maintain desired removal performance and prevent structural failure of the fence. Accumulated sediment will be removed as specified in the SWPPP. Removed sediment will be stockpiled and characterized as specified above for excavated soil. The perimeter silt fences will remain in place until demolition/construction activities in the area are completed and vegetative cover or other erosion control measures are adequately established. Silt fences will be provided and installed in accordance with the New York Guidelines for Urban Erosion and Sediment Control.

Permanent erosion control measures may be incorporated during demolition for long-term erosion protection. Permanent measures and facilities will be installed as early as possible during construction phases.

The remedial construction activities will involve the installation of a cover system or clean fill with demarcation layer or pavement placed over the entire site. Permanent erosion control measures incorporated into the construction plans will include limiting steep slopes, routing runoff to surface water collection channels, limiting flow velocities in the collection channels to the extent practical, and lining collection channels, where appropriate. In areas where flow will be concentrated (i.e.; collection channels) the channel slopes and configuration will be designed to maintain channel stability.

Any final slopes greater than 33 percent will be reinforced, and will have a demarcation layer under the clean cover to indicate if erosion has extended to the subgrade. Following the placement of final cover soils over regraded areas, a revegetation program will be implemented to establish permanent vegetation. The areas to be grassed will be seeded in stages as construction is completed with 100 lbs/acre of seed with a sustainable perennial mixture.

In addition to the above seed mixture, mulch, mulch blankets, or synthetic fabric will be placed to prevent erosion during turf establishment. Mulch will be placed on all slopes less than 15% and a mulch blanket on all slopes greater than 15%. Synthetic erosion control fabric will be placed in drainage ditches and swales.

3.13 DUST AND ODOR CONTROL

The surface of unvegetated earthen or disturbed soil/fill areas will be wetted with water or other dust suppressive agents to control dust during demolition/construction. Any subgrade material left exposed during extended interim periods (greater than 90 days) prior to placement of a final cover will be covered with a temporary cover system (i.e., tarps, spray type cover system, etc.) or planted with vegetation to control fugitive dust to the extent practicable. Particulate and VOC monitoring will be performed along the downwind occupied perimeter during subgrade excavation, grading, and handling activities in accordance with the Community Air Monitoring Plan to be provided as part of the project Health and Safety Plan.

Dust suppression techniques will be employed at the Site in accordance with applicable NYSDEC guidance. Dust suppression techniques that may be used at the Site include applying water on roadways, wetting equipment, spraying water on buckets during excavation and dumping, hauling materials in properly covered or watertight containers, covering excavated areas and material after excavation activity ceases, establishing vegetative cover immediately after placement of cover soil, and reducing the excavation size and/or number of excavations. The use of atomizing sprays is recommended so that excessively wet areas will not be created but fugitive dust will be suppressed.

If objectionable odors are generated during excavation or soil management activities, steps will be taken to control and suppress such odors. Actions may include placement of tarps, plastic sheeting or temporary soil cover layers over open excavations or soil piles from which the objectionable odors emanate. If necessary, odor-suppressant foam may also be employed. Trucks or rolloff containers used to contain odor-producing soils prior to off-site disposal will be covered or tarped. Because odor perception varies between individuals, the presence of objectionable odors associated with excavations or soil management practices that require implementation of odor control/suppression techniques will be determined based on one or more of the following conditions:

- Odor complaints are received from local citizens;
- The odor is objectionable to Site workers;
- The odor is noticeable and pervasive at the property boundary.

3.14 CONSTRUCTION WATER MANAGEMENT

Pumping of water (i.e., ground water and/or storm water) that has accumulated in an excavation, if necessary, will be done in such a manner as to prevent the migration of particulates, soil, or unsolidified concrete materials and prevent damage to the existing subgrade. Water pumped from the excavations may be discharged to the BSA sewer system, after BSA approval has been obtained. If the water quality is such that the BSA will not approve the discharge to a sewer, or if the water cannot be sufficiently treated so that BSA approval is obtained, it will be stored in temporary storage tanks, characterized, and transported off-Site for proper disposal. Runoff from the surface will be limited to control discharges to storm sewers or the Buffalo River.

3.15 ACCESS CONTROLS

Access to soil on the property will be controlled until final cover is placed to prevent direct contact with subgrade materials. As specified above, excavated material that is stockpiled on Site will be temporarily covered to limit access to that material.

3.16 INSTITUTIONAL CONTROLS

As described in the AAR, the use of the property and the protocol for excavations that extend below the cover system will be addressed through environmental easements/deed restrictions. The specific language to be used in the easements/deed restrictions will be provided in the final Site Management Plan.

3.17 MAINTENANCE

The potential for exposure to subgrade materials through erosion or damage to the cover system will be controlled via implementation of a comprehensive Operations, Maintenance and Monitoring (OM&M) Plan. The OM&M plan will be part of the final Site Management Plan. Specific requirements for inspection and repair of the cover system, as well as requirements for notification and reporting, will be included in the OM&M Plan.

3.18 HEALTH AND SAFETY

Site-specific Health and Safety Plans (HASPs) will be developed and implemented for all components of demolition that involve excavation or potential exposure to subgrade materials. All project HASPs will include requirements for worker training and medical monitoring, PPE and air monitoring requirements (including action levels), a Community Air Monitoring Plan, emergency/contingency procedures, and health and safety information for the specific contaminants known or suspected to exist on the Site.

4.0 HEALTH AND SAFETY

In June 2009, SBD provided a submittal to NYSDEC which included SBD's Health and Safety Plan for Site demolition activities and the perimeter dust monitoring specification prepared by MACTEC. SBD requires that all personnel, contractors, and visitors to the Site, including client and regulatory personnel, comply with the HASP, or provide their own HASP.

As part of the remedial design process, a separate Health and Safety Plan will be developed for remedial construction. That Plan will be provided in the final version of the Site Management Plan.

A requirement to develop and implement a Health and Safety Plan for any future construction or OM&M activities that involve potential contact with Site contaminants (including soil and groundwater) will be included in the environmental easements developed for the Site.

5.0 QUALITY ASSURANCE/QUALITY CONTROL

A Quality Assurance/Quality Control (QA/QC) Plan will be developed as part of the final remedial design package. A complete copy of the QA/QC Plan will be provided as Appendix D. The project QA/QC protocol will be consistent with the NY BCP requirements.

6.0 OPERATIONS, MAINTENANCE AND MONITORING PLAN

An Operations, Maintenance and Monitoring (OM&M) Plan will be developed after completion of the remedial design process. The OM&M Plan will be included in the final Site Management Plan and will include the following:

- Detailed OM&M requirements for Site engineering controls, including the Area A hydraulic barrier wall and groundwater extraction system and the Site cover system;
- Manufacturer's literature for the components of the Area A groundwater extraction system and any other active equipment associated with the final remedy;
- A long-term groundwater monitoring plan, to include a list of wells to be monitored, the field methods to be used for groundwater monitoring and sampling, a description of field tests and laboratory analyses, QA/QC requirements, and a monitoring schedule;
- Reporting and notification requirements;
- Inspection requirements, including the inspection schedule and example checklists;
- A contingency plan;
- Health and safety requirements for OM&M work; and
- Tables, figures and attachments, as necessary.

The OM&M plan will be referenced in the environmental easements developed for the Site.

Until the final OM&M Plan has been prepared, the Area A groundwater extraction system and other interim corrective measures (ICM) will be operated and maintained in accordance with the approved Final Operations, Maintenance, & Monitoring Plan developed for the ICM components (MACTEC, March 2006). A groundwater monitoring event will be completed as part of pre-design studies, as described in the Pre-Design Investigation Work Plan (MACTEC, August 2009).

7.0 NOTIFICATION AND REPORTING REQUIREMENTS

During demolition and pre-remedial Site activities, the following notification and reporting requirements will apply:

- Quarterly reporting to the Buffalo Sewer Authority (with copy to NYSDEC to include O&M summary) for the Area A groundwater extraction system, as required under the current BSA discharge permit;
- Monthly job progress reports per Section XI of the BCAs;
- Submittal of Work Plans and remedial design documents to NYSDEC as they are prepared; and
- Notification to NYSDEC regarding interruptions to operation of the Area A groundwater extraction system, when they occur.

A revised list of Notification and Reporting requirements will be provided with the final Site Management Plan upon completion of the remedial design process.

8.0 REFERENCES

The following is a list of significant references used in preparation of this Site Management Plan. Other documents, including project correspondence documents, were used to supplement the information obtained from the references listed below.

1. MACTEC Engineering and Consulting, Inc., March 2006, "Final Operations, Maintenance & Monitoring Plan, Interim Corrective Measure, Buffalo Color Area ABCE, Buffalo, New York".

2. MACTEC Engineering and Consulting, Inc., September 2006, "Remedial Investigation / Feasibility Study Work Plan, Buffalo Color Corporation, Buffalo, New York."

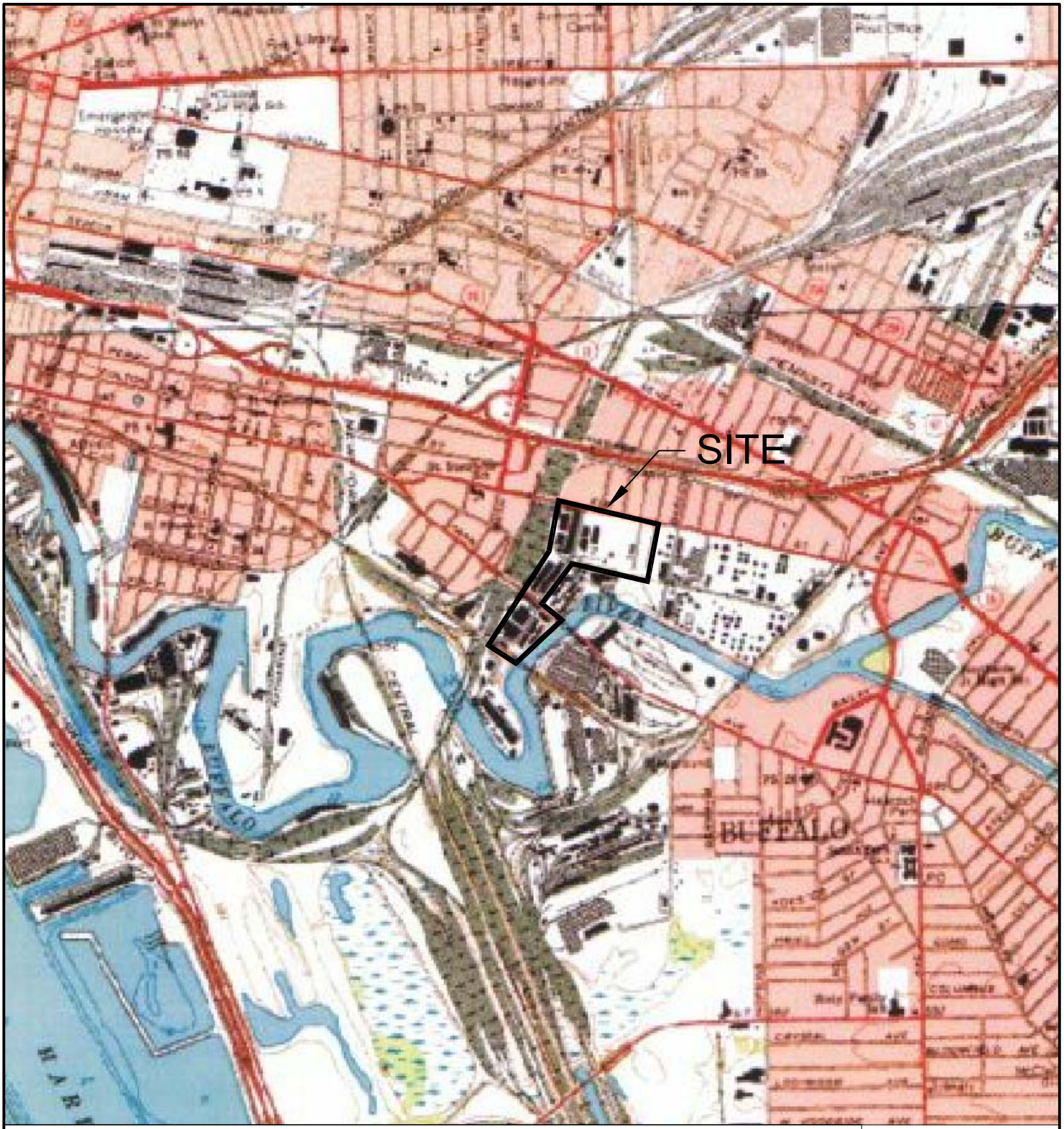
3. MACTEC Engineering and Consulting, Inc., February 2009, "Final Alternatives Analysis Report, Former Buffalo Color Corporation Site, Buffalo, New York."

4. MACTEC Engineering and Consulting, Inc., August 2009, "Pre-Design Investigation Work Plan".

5. New York State Department of Environmental Conservation, April 2009, Brownfield Site Cleanup Agreements (#C915230, #C915231 and #C915232).

FIGURES

DRAWN BY: NEL 7-27-2009 APPROVED BY: NF



SCALE 1:24000

1 0.5 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0.5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

BUFFALO SE QUADRANGLE

SOUTH BUFFALO DEVELOPMENT
BUFFALO, NEW YORK
Project No.: 3410090701

MACTEC
Engineering & Consulting Inc.
800 North Bell Avenue, Suite 200
Pittsburgh, PA 15106

SITE LOCATION MAP
BUFFALO COLOR AREAS ABCE
BUFFALO, NEW YORK

FIGURE: 1

1

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DRAWN BY: NEL 7-27-2009 APPROVED BY: NF

Conrail Railroad

Area-A

Area-B

Area-C

Buffalo
Research Laboratory

SOUTH PARK AVE.

LEE STREET

ELK STREET

OLANDO STREET

PVS
Chemicals

BCC OUTFALL 006

BCC OUTFALL 006
INV.=567.44', 36"
RCP

BUFFALO RIVER
ELEVATION = 573.19'
FLOW

PVS
OUTFALL
004,

PVS
OUTFALL
003,

PVS
OUTFALL
002

PVS
OUTFALL
001

BCC
OUTFALL
011

Area-E

PVS
Chemicals

200 0 200
SCALE: 1"= 200'

SOUTH BUFFALO DEVELOPMENT BUFFALO, NEW YORK Project No.: 3410090701	MACTEC Engineering & Consulting Inc. 800 North Bell Avenue, Suite 200 Pittsburgh, PA 15106	SITE LAYOUT BUFFALO COLOR AREAS ABCE BUFFALO, NEW YORK FIGURE: 2	2

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APPENDIX A

REMEDIAL WORK PLAN

9 REMEDIAL WORK PLAN

The goal of the remedy selection process in the BCP is to select a remedy for a site that is fully protective of public health and the environment, taking into account the current, intended and reasonably anticipated future land use of the site.

This section presents the preferred remedy which has been selected as the final remedy for the Site. The preferred remedy is driven by and consistent with the BCP and SBD's proposed redevelopment approach (as described in Subsection 1.1) in that it is:

- Fully protective of human health and the environment;
- Allows for the creation of significant riverfront green space and public access;
- Provides for the accelerated demolition of the abandoned chemical plant;
- Eliminates the risks and hazards posed by the currently deteriorating infrastructure; and
- Meshes well with SBD's and other stakeholders' schedules for accelerated redevelopment of the Site.

9.1 PLANT DEMOLITION

Prior to remedial construction, SBD will complete asbestos abatement and demolition of the existing Buffalo Color facility. The work will be completed in accordance with applicable laws and regulations and will be performed as follows:

Asbestos abatement will include:

- Preparation of an asbestos abatement health and safety plan, to include requirements for employee training and medical monitoring, list of designated personnel, respiratory protection program, PPE, site and community air monitoring, and emergency procedures;
- Implementation of jobsite security to prevent access by unauthorized personnel;
- Implementation of a decontamination program;
- Implementation of a hazard communication program;
- Obtaining all required licenses, permits and approvals;
- Designation of regulated areas, including use of warning signs as appropriate;
- Provisions for adequate exhaust ventilation;
- Removal of friable asbestos, including pipe insulation and other insulating materials;
- Removal of non-friable asbestos, including floor tile, roofing materials, and transite;
- Implementation of a final cleaning and visual inspection program;
- Off-site disposal of ACM at licensed disposal facilities; and

- Preparation of submittals and reports, as necessary, to document the asbestos abatement program.

Demolition of the existing facility will include the following:

- Preparation and implementation of a demolition health and safety plan, to include requirements for employee training and medical monitoring, list of designated personnel, respiratory protection program, PPE, fire protection, site and community air monitoring programs, and emergency procedures;
- Implementation of a decontamination program;
- Implementation of a hazard communication program;
- Obtaining all required licenses, demolition permits and other permits, and approvals;
- Meeting with the appropriate City departments to discuss the re-use of foundations and slabs (SBD acknowledges that a demolition permit is required from the City);
- Mobilization of equipment and site preparation;
- Removal and proper disposal of residual chemicals remaining in piping, tanks, pits/sumps and process vessels;
- Cleaning/rinsing of piping, tanks, pits/sumps and process vessels and proper disposal of collected rinseate;
- Removal and proper disposal of regulated materials, including PCB electrical equipment, Universal wastes, mercury-containing equipment;
- Capping/plugging of drains and sewer lines exposed during demolition;
- Demolition/removal of buildings, tanks, piping, and ancillary structures, as required;
- Backfilling to grade (after cleaning) of pits and sumps;
- Cleaning (power washing, scouring, scabbling, etc.) and, if appropriate, sealing of structural floor slabs that will remain in place;
- Implementation of dust control measures;
- Implementation of erosion and sediment control measures;
- Site restoration; and
- Preparation of reports and submittals, as necessary, to document the completion of demolition activities.

9.2 DESCRIPTION OF PREFERRED REMEDY

The Preferred Remedy for the Site consists of the following components:

- Soil – Installation of a Site-wide cover system with Area E source area excavation
- Area A Groundwater – Installation of a downgradient hydraulic barrier wall combined with optimized Site groundwater extraction system and implementation of Site cover system
- Area B Groundwater – Groundwater monitoring and implementation of Site cover system

- Areas C&E Groundwater – Enhanced bioremediation with Area E source removal, implementation of Site cover system, and groundwater monitoring
- Site Sewers – plugging, removal and/or rehabilitation if necessary to mitigate active preferential contaminant migration pathways
- Use of institutional/engineering controls and environmental easements

The following subsections provide descriptions of the specific components of the preferred remedy.

9.2.1 Soil

Alternative S-3 (Cover System with Area E Source Area Excavation) has been selected as the preferred alternative for the Site soil. This alternative includes excavation to the water table and off-Site disposal of contaminated soil at the source area located on Area E (Figure 18) combined with the use of a cover system.

The source area at Area E contains approximately 8,100 cubic yards of VOC-impacted soil located around the AST farm in the southwestern corner of this area (Figure 18). The soil in this area has been targeted for removal. The removal will occur after SBD has removed/demolished the AST tank farm, buildings and any other ancillary structures that are located within the area. Removal of foundations and underground utilities that may exist within the excavation limits will also be completed. The criteria used to identify soil to be removed from this specific location will be as follows:

- Soil will be removed down to the first zone of saturation (expected to be encountered at a depth of 4 to 5 feet below existing ground surface).
- Soil above the water table within the designated area that exhibits noticeable NAPL and/or sustained open-air photoionization detector (PID) readings above 10 parts per million will be removed.
- Locations of RI soil samples (and any additional samples collected during the remedial design process) within the designated area shown through laboratory testing to contain total concentrations of Site-specific VOCs (benzene, chlorobenzene, and related compounds) or Site-specific SVOCs (aniline, nitrobenzene and related compounds) that exceed 10 parts per million (ppm) will be removed. The 10 ppm criterion was selected based on review of the analytical results for the RI soil samples collected from borings advanced around the AST farm versus other Area E soil samples (which exhibited much lower levels, if any, of similar substances).

Confirmatory soil samples will be collected from the excavation sidewalls at a frequency of one sample for every 50 lineal feet of sidewall. The confirmatory samples will be analyzed for Target Compound List (TCL) VOCs and SVOCs. No excavation bottom samples are proposed because the excavation will extend to the water table. No saturated soil samples will be collected for confirmatory analyses. Additional samples may be required if “grossly contaminated” materials are encountered (as defined in the draft Soil Fill Management Plan provided in Appendix A).

The horizontal limits of excavation will be determined based on the above criteria. Excavation will not be performed beyond property lines. If data obtained during remedial design or source area removal indicates that soil contamination at the Area E source area extends beyond the property line, additional delineation will be necessary. Excavation may be limited by the presence of subsurface obstructions or active utility lines.

As noted in prior sections, the cover system to be utilized as part of the remedy, consistent with the redevelopment of the Site, will involve use of a combination of clean soil, pavement, or building structures to provide protection from direct contact exposure to contaminated surface soils. As identified in the RI report and illustrated on Figure 20, areas that must be covered to eliminate the direct contact pathway under a Commercial use scenario exist throughout the Site. Although certain portions of the Site surface soil may in fact meet the Commercial SCOs, it would be difficult to properly delineate and manage these areas during future redevelopment. Thus, the cover system will extend across the entire Site. The cover system will reduce infiltration of precipitation through impacted soil into groundwater and promote surface drainage. The cover system will consist of a minimum of one foot of soil, asphalt or concrete pavement (with appropriate granular subbase), or building structures, consistent with the presumptive remedy as identified in 6 NYCRR Part 375. If portions of Area A are used as natural habitat resource areas, the cover soil thickness will be increased to two feet or more and the cover material shall meet the "Protection of Ecological Resources" SCOs as described in 6NYCRR Part 375-6.7. Existing paved surfaces, including building floor slabs, asphalt parking lots, and access drives which SBD chooses to use as part of the cover system will be cleaned, rehabilitated, and maintained as necessary. Any required actions for the parking lot associated with the 100 Lee Street property (Area B) will be coordinated with the owner. A demarcation layer will be placed between existing surface soils and any new soil cover materials so the boundary between clean fill and existing Site soils can be identified in the future. Best Management Practices will be implemented to manage stormwater runoff from paved surfaces, as appropriate.

9.2.2 Groundwater

Due to the variability of shallow groundwater conditions across the Site, a multi-faceted remedy has been selected to address Site groundwater in the shallow aquifer and attain the groundwater RAOs as described in the following subsections. The long term goal of groundwater remediation is restoration of groundwater to its classified use; the short term goal is plume stabilization. In addition to the remedy components described below, the implementation of a Site-wide cover system will serve to reduce surface water infiltration and minimize the soil-to-groundwater migration pathway.

9.2.2.1 Area A Shallow Groundwater

Alternative GW-A-2 (Downgradient Hydraulic Barrier Wall with Groundwater Extraction) has been selected as the preferred alternative for Area A shallow aquifer groundwater. This alternative involves the continued operation of the Area A groundwater extraction system, with an evaluation period to identify modifications as necessary to optimize groundwater containment and accommodate redevelopment. Effluent from the groundwater extraction system will continue to be pretreated as necessary to meet the requirements of the Buffalo Sewer Authority (BSA) discharge permit. During recent correspondence with the BSA (and as documented in MACTEC's letter to NYSDEC dated April 8, 2008), BSA indicated that the effluent from the Area A groundwater extraction system, due to its location, would not be discharged to any Combined Sewer overflows (CSOs).

As described in Section 7.2.1.2, the hydraulic barrier wall would be installed along the eastern edge of Area A bordering the Buffalo River. The edges of the wall would be "wrapped" along the southern border and a portion of the northern boundary of Area A (along Area D and South Park Avenue, respectively) to provide for the sufficient containment of groundwater (Figure 21). The intent of the hydraulic barrier wall is to create a physical barrier between impacted shallow aquifer groundwater at Area A and the Buffalo River. The wall would have the added benefit of reducing the volume of river water extracted by operation of the ICM. The wall would be toed into the glaciolacustrine clay layer, which acts as an aquitard separating the Shallow Aquifer from the Confined Aquifer present in the basal till and Onondaga limestone immediately below the clay. The type of wall used (sheet pile, slurry wall, etc.) would be determined based on pre-design studies. For evaluation purposes, it is assumed that the wall would be approximately 1,320 feet long and extend to an average depth of 25 feet. Soils and wastes generated during installation of the wall will be managed in accordance with the Soil Fill Management Plan (see Section 9.2.4).

The erosion protection mattress located along the southern end of the Area A riverbank was installed as an Interim Corrective Measure (see Section 2.3). The remainder of the Area A shoreline consists of vertical concrete walls and other man-made structures. The final design will address contaminated soils located between the hydraulic barrier wall and the river and will include, to the extent feasible, the restoration of the river bank to a natural vegetative state. Opportunities to enhance the habitat along the Area A shoreline will be considered during the final design process.

The LNAPL present at EW-5 and other wells/piezometers must be monitored and controlled through periodic recovery via hand bailing or use of absorbent materials. If accumulations of LNAPL increase significantly or occur persistently at new locations within Area A, or if the LNAPL interferes with operation of the groundwater extraction system, additional investigation and/or LNAPL recovery efforts will be implemented.

9.2.2.2 Area B Shallow Groundwater

Alternative GW-B-2 (Groundwater Monitoring) has been selected as the preferred alternative for the Area B shallow aquifer groundwater. During 2008, groundwater monitoring at Area B will be performed in accordance with the ICM OM&M Plan. Based on the outcome of this monitoring period, the scope and frequency of additional groundwater monitoring at Area B will be proposed.

9.2.2.3 Area C/E Shallow Groundwater

Alternative GW-C&E-2 (Enhanced Bioremediation and Groundwater Monitoring) has been selected as the preferred alternative for the Area C and E shallow groundwater. As noted in previous Sections, Alternative GW-C&E-2 includes in-situ enhanced bioremediation of the limited chlorobenzene plumes identified at Areas C&E. A pre-design investigation, including a treatability study, would be required to collect Site-specific data related to geochemical and biological processes at the Site in order to determine the appropriate amendments for enhanced bioremediation. Based on the results of the treatability study, a pilot-scale test would be conducted on-site to determine the injection point locations, spacing, and effectiveness. The full-scale implementation would be based upon the results of the treatability and pilot-scale tests. At Area E, it may be advantageous to directly apply the bio-enhancement additive to the subsurface during the source area removal action.

The long term goal of groundwater remediation is restoration of groundwater to its classified use; the short term goal is plume stabilization. The criteria for determining success for the biotreatment process will be based on confirmation through groundwater monitoring that concentrations of COCs in the plume have been reduced and that the plume is not migrating beyond the Site. If migration beyond the Site boundary occurs, an evaluation of additional remedial alternatives will be completed.

During 2008, groundwater monitoring at Areas C and E was performed in accordance with the ICM OM&M Plan. Additional groundwater monitoring may be performed as necessary to support the predesign study and to monitor the effects of treatment. The scope and frequency of additional groundwater monitoring at Areas C and E will be assessed upon evaluation of the outcome of the treatment program.

9.2.3 Site Sewers

It is recognized that Site process/sanitary and storm sewers represent potential preferential contaminant migration pathways within certain areas of the Site. It should be noted that, based on plant records and interviews with former plant personnel, it appears that no underground chemical conveyance or process piping is present at the site; all such lines are/were reportedly aboveground lines. However, as a precautionary measure, procedures for the proper management of underground piping encountered during excavation activities associated with remedy implementation or redevelopment are addressed in the Soil Fill Management Plan, a draft copy of which is provided in Appendix D. The following subsections identify the

remedial approach selected for the Site sewer system. SBD will obtain any necessary permits and approvals from the City and the BSA for these activities.

9.2.3.1 Storm Sewers

Underground storm sewer lines at the Site discharge stormwater (including water from existing building roof drains and surface runoff that is conveyed to storm sewer inlets) to the Buffalo River at Outfall 006 on Area A and at Outfall 011. These outfalls are former SPDES-permitted outfalls formerly operated by Buffalo Color. These outfalls previously also received significant volumes of non-contact cooling water (NCCW) when the Buffalo Color plant was in operation.

During the RI, sampling at Outfalls 006 and 011 indicated that groundwater likely infiltrates the storm sewer lines in areas where the lines are below the water table. At present, it has not been determined if the existing storm sewer lines and river outfalls will be preserved and reused during redevelopment of the Site. It is anticipated that SBD will evaluate the storm sewer lines and make a determination early in the redevelopment process (consistent with the schedule provided in Section 10.0) regarding which storm sewer lines/outfalls (if any) will be reused. If the lines/outfalls will be reused, then remedial measures consisting of the removal and proper disposal of sediment, followed by camera surveys where accessible/appropriate and rehabilitation of portions of the lines subject to infiltration, will be completed. If the storm sewers/outfalls will not be reused, then the associated manholes, inlets, and river outfalls will be plugged or sealed.

9.2.3.2 Sanitary Sewers

As with the storm sewers, it has not been determined if the existing sanitary lines will be preserved and reused during redevelopment of the Site, or if they will be abandoned or removed. Similar to the storm sewer system, it is anticipated that SBD will evaluate the sanitary sewer lines and make a determination early in the redevelopment process (consistent with the schedule provided in Section 10) regarding which sanitary sewer lines (if any) will be reused. Certain sewer lines may be removed during the course of remedial construction or redevelopment activities. Lines that will not be reused but left in place will be capped or plugged at inlets and where they connect with BSA sewer lines. Lines that will be reused (if any), will be flushed, camera surveyed where accessible/appropriate, and rehabilitated as necessary to prevent groundwater infiltration. Work involving the sanitary sewer lines will be coordinated with the BSA, as appropriate.

9.2.3.3 Contaminant Migration along Sewer Bedding

No evidence to indicate that sewer bedding materials are presently acting as preferential migration pathways for contaminated groundwater was found during the RI process. However, at Area A, because the underground sewer lines that connect to Outfall 006 are below the water table, the final remedy for shallow groundwater (installation of a downgradient hydraulic barrier wall combined with groundwater extraction) will designed to ensure elimination of any potential migration along the Outfall 006 bedding material. If

Outfall 006 is to remain, the hydraulic barrier wall will be sealed to the outside of the pipe to eliminate this potential migration pathway.

On Area E, the results of the soil sampling, groundwater sampling and MIP survey completed during the RI indicate that the chlorobenzene-impacted groundwater at the main AST farm has not migrated along the 36-inch diameter BSA sewer main. This sewer line runs parallel to the southern boundary of the Site, between the Site and the PVS Chemicals property (Figures 3 and 16). While it is expected that the soil and groundwater remediation to be performed at this location will minimize (if not eliminate) the potential for future migration of chlorobenzene-impacted groundwater along the 36-inch BSA sewer, it was agreed during the August 7, 2008 meeting with NYSDEC that a low-permeability collar (most likely a clay or grout collar) would be installed. Details regarding the type and location of the collar will be provided in the Remedial Design. .

9.3 GENERAL REQUIREMENTS

The following subsections describe the additional requirements, including institutional/engineering controls and environmental easements, which must be implemented as part of the preferred remedy for the Site.

9.3.1 Future Use Of Site

Environmental easements/deed notices will be implemented to ensure that the Site can be used only for commercial or industrial purposes (as the terms are defined in 6 NYCRR Part 375-1), unless the Site is subsequently remediated to meet residential use standards. The environmental easements and deed notices will be described in detail as part of the Institutional and Engineering Control Plan (which will be part of the Site Management Plan as noted below in Section 9.3.4)

9.3.2 Groundwater Use

The potable or consumptive use of groundwater (which is prohibited by City of Buffalo ordinance) will be prohibited at the Site through implementation of an environmental easement/deed notice.

9.3.3 Vapor Intrusion

An environmental easement will be implemented to ensure that occupied structures associated with future development at the Site are constructed such that the vapor intrusion (VI) pathway is eliminated. This can be accomplished through construction methods, such as installation of subslab vapor barriers and/or subgrade vapor collection systems (passive or active), or through additional characterization (conducted in accordance with NYSDEC and NYSDOH VI guidance) to ensure that the area over which the structure will reside does not present a potential VI concern.

9.3.4 Site Management Plan

A Site Management Plan must be prepared for the Site, consistent with 6 NYCRR Part 375 and the Guide. The plan will include the following components:

- Introduction, background, and summary of RI results;
- An Institutional and Engineering Control Plan;
- A Soil Fill Management Plan that specifies requirements for excavation/grading activities, stockpiling and soil staging areas, waste characterization sampling, onsite reuse criteria, soil loading and transportation, and requirements for offsite disposal ;
- Health and Safety for construction personnel, including requirements for Site and community air monitoring;
- A Quality Assurance/Quality Control Plan;
- An Operations, Maintenance and Monitoring Plan;
- Notification and reporting requirements; and
- Tables, figures and appendixes, as necessary

The Site Management Plan will be provided as a separate document later in the BCP process, consistent with the project schedule provided in Section 10. As requested by NYSDEC during the August 7, 2008 meeting, a draft Soil Fill Management Plan has been prepared, a copy of which is provided in Appendix B.

An environmental easement will be implemented that requires that any excavation or other disturbance of Site soil meets the requirements of the Site Management Plan.

9.3.5 Confined Aquifer

Based on the previous investigation data and RI data, no further investigation or remediation of the confined aquifer (i.e. the saturated unit present with the “basal” till unit and underlying Onondaga limestone) is required.

9.3.6 Additional Data To Be Obtained

The RI data adequately assesses environmental conditions at the Site. NYSDEC has requested that SBD obtain certain limited additional data. This request will be addressed as part of the remedial design process. The data to be obtained consist of the following:

- Delineation of Area C Chlorobenzene Plume: The well with the highest chlorobenzene concentration on Area C (well RFI-20) is located on the upgradient corner of the Site (Figure 16). NYSDEC has inquired if the chlorobenzene could be associated with conditions at the adjacent Honeywell Buffalo Research Laboratory. That facility conducts annual groundwater monitoring as a condition of its RCRA permit.

MACTEC obtained and reviewed a copy of a recent Groundwater Monitoring Report (Parsons, May 2007) for the laboratory site. Groundwater samples collected on the site, which were analyzed for VOCs in accordance with EPA Method 8260, did not identify detectable concentrations of chlorobenzene. Thus, it is not believed that an off-site release from this location is responsible for the Area C groundwater contamination. As part of the remedial design process, MACTEC will further evaluate the on-Site extent of the Area C chlorobenzene plume. This will include the installation of additional monitoring wells on Area C during predesign studies.

- Delineation of Area E Chlorobenzene Plume: The RI data indicates that the chlorobenzene plume on Area E is limited to the vicinity of the AST farm and has not migrated offsite. To verify this conclusion and to further evaluate the location and extent of the plume, additional monitoring wells will be installed during predesign studies. Additional test borings may also be advanced as part of the pre-design studies for the Area E source area removal, which would provide additional data on the extent of the impacted area.

- Presence of LNAPL at Area E Wells R-14 and ICM-PZ-04S: As described in Section 3.2.3, LNAPL has been identified in well R-14 and piezometer ICM-PZ-04S during 2008 quarterly groundwater monitoring activities. Samples of the LNAPL and groundwater at these two locations were collected by MACTEC for laboratory testing during the Third Quarter 2008 groundwater monitoring event. The analytical results for these samples were not available as of the date of this report and will be provided separately. Additional focused investigation of this area will be completed as part of the remedial design process to evaluate the extent of LNAPL and determine future monitoring and remedial requirements.

- Vapor Intrusion Issues (Area B and 343 Elk Street): As described in Section 3.2.5, Honeywell will attempt to collect additional vapor samples from the 100 Lee Street building, including indoor and outdoor air samples, during the remedial design process to be consistent with NYSDOH guidance. Honeywell will collect similar samples from the former Plant hospital building located on the southeastern corner of Area B. This assumes that access to these two buildings will be granted by the current owner. On Area E, SBD and Honeywell will perform additional evaluation to determine if further vapor intrusion investigation or mitigation is necessary for the 343 Elk Street property. This also assumes that access to this building will be granted by the current owner.

- PCB Soil Sampling – Area A: Two surface soil samples will be collected adjacent to the electrical buildings present on Area A for PCB laboratory analysis, in accordance with the original RI Work Plan. These samples inadvertently were not collected during the RI sampling efforts.

- Groundwater Contours for Confined Aquifer – Area E: As depicted on Figure 17 and described in the RI, data collected during the RI and during the prior RFI study indicates that a high point exists for the Confined Aquifer potentiometric surface at or near well R-07. Potential reasons for this condition include a natural anomaly, surveying error (i.e., incorrect top-of-casing elevation) or man-made conditions such as a compromised well seal. This issue will be further evaluated as part of future groundwater monitoring activities.

- Former Lagoons and Groundwater Conditions on Southeastern Portion of Area E: As part of future groundwater monitoring efforts, it was agreed that MACTEC will work with NYSDEC to identify existing monitoring wells for inclusion in the monitoring program that can be used to evaluate groundwater quality downgradient of the former Area E wastewater lagoons and where the RFI (Golder, 1997) identified aniline in groundwater. It is anticipated that monitoring wells R-08, R-09, R-11, R-13, and R-14, along with other wells as appropriate, will be included in the groundwater monitoring program for this area.

- Other Potential Source Areas: The analytical results for subsurface soil samples collected at certain RI boring locations on Areas B, C and E contained concentrations of some constituents above the

Commercial SCOs. Examples of these sample locations include Area B soil boring TB-B09 (834 mg/kg arsenic), Area C boring TB-C12 (60.2 mg/kg mercury), and Area E boring TB-E16 (470 mg/kg chlorobenzene, total SVOCs > 10,000 mg/kg). Although the RI groundwater data indicate that these substances are not present in the Site groundwater at levels of concern, NYSDEC has requested that further investigation of such sample locations be completed to determine if they represent threats to the shallow groundwater at the Site that will not be controlled via implementation of the remedy currently proposed in the AAR.

To comply with NYSDEC's request, a new round of groundwater monitoring will be completed at Areas B, C and E during the pre-design environmental studies. The groundwater monitoring program will include "shallow" monitoring wells on Areas B, C and E that were previously sampled during the RI. The list will be expanded to include the "PS"-series piezometers screened within the fill/upper water table, the new monitoring wells to be installed on Areas C and E for further delineation of the chlorobenzene plumes, and the "R" series monitoring wells on the southeastern side of Area E (as specified above). In addition, water table monitoring wells will be installed to further investigate soil samples from 4 test borings (TB-C12, TB-E15, TB-E16, and TB-E30) that NYSDEC identified as requiring further study to determine whether or not they would be considered Source Areas as defined by Part 375-1.2. The groundwater sampling and analytical methods used will be the same as those used during the prior RI sampling event, with some modifications made as appropriate to focus on specific COCs. If available, the logs of all PS wells will be submitted to NYSDEC. The complete list of wells/piezometers at Areas B, C, and E from which groundwater samples will be collected during the pre-design groundwater monitoring event is as follows:

- Area B: RFI-18, RFI-27, RFI-28, RFI-30, RFI-35, RFI-45, PS-07, PS-08, and PS-9
- Area C: RFI-20, RFI-31, PS-04, PS-05, PS-6, plus three new monitoring wells to further delineate the chlorobenzene plume (one of these new wells will be located approximately 100 ft. downgradient of boring TB-C12).
- Area E: RFI-17, RFI-29, RFI-32, RFI-33, RFI-36, RFI-39, RFI-42, RFI-43, RFI-51, RFI-PZ-17, RFI-PZ-18, RFI-PZ-19, PS-01, PS-02, PS-03, PS-10, PS-11, PS-12, PS-13, R-08, R-09, R-11, R-13, R-14; three new monitoring wells installed to further delineate the Area E chlorobenzene plume; and one well downgradient of test borings TB-E15, TB-E16, and TB-E30 (one well can adequately investigate all three of these borings).

- If laboratory results from the groundwater sampling described in this section are clearly indicative of (1) concentrated solid or semi-solid substances; (2) non-aqueous phase liquids; or (3) grossly contaminated media in accordance with Part 375-1.2, then additional investigation or remediation may be proposed.

9.4 CONTINGENCY PLAN

During the course of remedial design and construction, it may be appropriate for SBD to consider alternative or additional measures to facilitate remediation of the Site consistent with the Preferred Remedial Alternative set forth herein. Those measures which SBD may, at its discretion, consider include:

- Stabilization/Grouting: During source removal work, grouting or stabilization methods may be appropriate under certain circumstances, such as to eliminate preferential migration pathways along bedding materials of underground utility lines exposed within the excavation or around building foundations that cannot be removed.
- On-Site Treatment of Soil: During remediation or construction activities, on-Site treatment of excavated soils may be appropriate to reduce concentrations of metals or organic compounds prior

to off-Site disposal. Measures may include mixing or blending of additives to stabilize metals or biodegrade organic materials.

- Use of Sewer Infrastructure: It may be appropriate to utilize sections of existing sewer lines as conveyance structures for groundwater extraction piping on Area A (as part of the groundwater collection system to be used in conjunction with the hydraulic barrier wall) or as collection points for groundwater at other locations, if appropriate.

Prior to implementation of any of the above listed contingency items, a Work Plan will be prepared that details the scope and schedule for the proposed activities. The Work Plan will be submitted to NYSDEC for review and approval.

APPENDIX B

KEY PROJECT CONTACTS

APPENDIX B - KEY PROJECT CONTACTS

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APPENDIX C

TARGET COMPOUND LIST OF VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS

Target Compound List - Soil

	Compound	RL	Units	MDL	Units
Method	Acetone	20	ug/kg	5	ug/kg
8260B	Benzene	5	ug/kg	0.6751	ug/kg
	Bromodichloromethane	5	ug/kg	0.5613	ug/kg
	Bromoform	5	ug/kg	0.4424	ug/kg
	Bromomethane	5	ug/kg	0.7387	ug/kg
	2-Butanone	5	ug/kg	0.8816	ug/kg
	Carbon disulfide	5	ug/kg	0.5121	ug/kg
	Carbon tetrachloride	5	ug/kg	0.4464	ug/kg
	Chlorobenzene	5	ug/kg	0.7574	ug/kg
	Dibromochloromethane	5	ug/kg	0.7097	ug/kg
	Chloroethane	5	ug/kg	1.5489	ug/kg
	Chloroform	5	ug/kg	0.5849	ug/kg
	Chloromethane	5	ug/kg	0.8517	ug/kg
	Cyclohexane	5	ug/kg	0.3712	ug/kg
	1,2-Dibromo-3-chloropropane	5	ug/kg	0.7486	ug/kg
	1,2-Dibromoethane	5	ug/kg	0.8629	ug/kg
	1,2-Dichlorobenzene	5	ug/kg	0.7975	ug/kg
	1,3-Dichlorobenzene	5	ug/kg	0.6561	ug/kg
	1,4-Dichlorobenzene	5	ug/kg	0.6369	ug/kg
	Dichlorodifluoromethane	5	ug/kg	0.6657	ug/kg
	1,1-Dichloroethane	5	ug/kg	0.5753	ug/kg
	1,2-Dichloroethane	5	ug/kg	0.6133	ug/kg
	cis-1,2-Dichloroethene	5	ug/kg	0.7033	ug/kg
	trans-1,2-Dichloroethene	5	ug/kg	0.5959	ug/kg
	1,1-Dichloroethene	5	ug/kg	0.8484	ug/kg
	1,2-Dichloropropane	5	ug/kg	0.5431	ug/kg
	cis-1,3-Dichloropropene	5	ug/kg	0.6779	ug/kg
	trans-1,3-Dichloropropene	5	ug/kg	0.5977	ug/kg
	Ethylbenzene	5	ug/kg	0.6427	ug/kg
	2-Hexanone	5	ug/kg	0.6904	ug/kg
	Isopropylbenzene	5	ug/kg	0.6787	ug/kg
	Methyl acetate	5	ug/kg	0.9013	ug/kg
	Methylcyclohexane	5	ug/kg	0.7252	ug/kg
	Methylene chloride	5	ug/kg	0.6723	ug/kg
	4-Methyl-2-pentanone	5	ug/kg	0.6525	ug/kg
	Methyl tert-butyl ether	5	ug/kg	0.7477	ug/kg
	Styrene	5	ug/kg	0.7053	ug/kg
	1,1,2,2-Tetrachloroethane	5	ug/kg	0.7184	ug/kg
	Tetrachloroethene	5	ug/kg	0.6804	ug/kg
	Toluene	5	ug/kg	0.7296	ug/kg
	1,2,4-Trichlorobenzene	5	ug/kg	0.8819	ug/kg
	1,1,1-Trichloroethane	5	ug/kg	0.4864	ug/kg
	1,1,2-Trichloroethane	5	ug/kg	0.8312	ug/kg
	Trichloroethene	5	ug/kg	0.6578	ug/kg
	Trichlorofluoromethane	5	ug/kg	0.9187	ug/kg
	1,1,2-Trichloro-1,2,2-trifluoroethane	5	ug/kg	1.0676	ug/kg
	Vinyl chloride	5	ug/kg	0.4694	ug/kg
	Xylenes (total)	15	ug/kg	2.2405	ug/kg
	4-Bromofluorobenzene				
	1,2-Dichloroethane-d4				
	Toluene-d8				
	Dibromofluoromethane				

Target Compound List - Soil

	Compound	RL	Units	MDL	Units
Method	Acenaphthene	67	ug/kg	10.7125	ug/kg
8270C	Acenaphthylene	67	ug/kg	13.2847	ug/kg
	Acetophenone	330	ug/kg	15.3847	ug/kg
	Anthracene	67	ug/kg	11.6929	ug/kg
	Atrazine	330	ug/kg	15.815	ug/kg
	Benzaldehyde	330	ug/kg	8.7226	ug/kg
	Benzo(a)anthracene	67	ug/kg	10.6467	ug/kg
	Benzo(b)fluoranthene	67	ug/kg	13.5015	ug/kg
	Benzo(k)fluoranthene	67	ug/kg	13.8897	ug/kg
	Benzo(ghi)perylene	67	ug/kg	4.9004	ug/kg
	Benzo(a)pyrene	67	ug/kg	18.6668	ug/kg
	1,1'-Biphenyl	330	ug/kg	15.2032	ug/kg
	bis(2-Chloroethoxy)methane	330	ug/kg	13.3932	ug/kg
	bis(2-Chloroethyl) ether	67	ug/kg	5.8508	ug/kg
	bis(2-Ethylhexyl) phthalate	330	ug/kg	28.2698	ug/kg
	4-Bromophenyl phenyl ether	330	ug/kg	14.1942	ug/kg
	Butyl benzyl phthalate	330	ug/kg	23.3312	ug/kg
	Caprolactam	1700	ug/kg	43.6225	ug/kg
	Carbazole	67	ug/kg	8.767	ug/kg
	4-Chloroaniline	330	ug/kg	10.3143	ug/kg
	4-Chloro-3-methylphenol	330	ug/kg	9.951	ug/kg
	2-Chloronaphthalene	67	ug/kg	9.0096	ug/kg
	2-Chlorophenol	330	ug/kg	10.2592	ug/kg
	4-Chlorophenyl phenyl ether	330	ug/kg	14.7457	ug/kg
	Chrysene	67	ug/kg	11.657	ug/kg
	Dibenz(a,h)anthracene	67	ug/kg	14.6805	ug/kg
	Dibenzofuran	330	ug/kg	11.3047	ug/kg
	Di-n-butyl phthalate	330	ug/kg	18.5981	ug/kg
	3,3'-Dichlorobenzidine	330	ug/kg	62.9759	ug/kg
	2,4-Dichlorophenol	67	ug/kg	13.5397	ug/kg
	Diethyl phthalate	330	ug/kg	18.8561	ug/kg
	2,4-Dimethylphenol	330	ug/kg	14.0128	ug/kg
	Dimethyl phthalate	330	ug/kg	11.2358	ug/kg
	4,6-Dinitro-2-methylphenol	1700	ug/kg	320.91	ug/kg
	2,4-Dinitrophenol	1700	ug/kg	107.2091	ug/kg
	2,4-Dinitrotoluene	330	ug/kg	15.6186	ug/kg
	2,6-Dinitrotoluene	330	ug/kg	17.038	ug/kg
	Di-n-octyl phthalate	330	ug/kg	8.5871	ug/kg
	Fluoranthene	67	ug/kg	5.6318	ug/kg
	Fluorene	67	ug/kg	10.0584	ug/kg
	Hexachlorobenzene	67	ug/kg	12.6393	ug/kg
	Hexachlorobutadiene	67	ug/kg	14.1728	ug/kg
	Hexachlorocyclopentadiene	330	ug/kg	12.685	ug/kg
	Hexachloroethane	330	ug/kg	11.3052	ug/kg
	Indeno(1,2,3-cd)pyrene	67	ug/kg	3.6671	ug/kg
	Isophorone	330	ug/kg	12.9931	ug/kg
	2-Methylnaphthalene	67	ug/kg	13.1257	ug/kg
	2-Methylphenol	330	ug/kg	12.3186	ug/kg
	4-Methylphenol	330	ug/kg	14.6418	ug/kg
	Naphthalene	67	ug/kg	9.6935	ug/kg
	2-Nitroaniline	1700	ug/kg	20.4491	ug/kg
	3-Nitroaniline	1700	ug/kg	10.9061	ug/kg

Target Compound List - Soil

Compound	RL	Units	MDL	Units
4-Nitroaniline	1700	ug/kg	16.3198	ug/kg
Nitrobenzene	67	ug/kg	16.8007	ug/kg
2-Nitrophenol	330	ug/kg	12.7156	ug/kg
4-Nitrophenol	1700	ug/kg	196.5023	ug/kg
N-Nitrosodiphenylamine	67	ug/kg	13.668	ug/kg
N-Nitrosodi-n-propylamine	67	ug/kg	18.521	ug/kg
2,2'-oxybis(1-Chloropropane)	67	ug/kg	14.5869	ug/kg
Pentachlorophenol	330	ug/kg	57.9326	ug/kg
Phenanthrene	67	ug/kg	7.9643	ug/kg
Phenol	67	ug/kg	13.2533	ug/kg
Pyrene	67	ug/kg	17.7223	ug/kg
2,4,5-Trichlorophenol	330	ug/kg	8.2305	ug/kg
2,4,6-Trichlorophenol	330	ug/kg	16.6024	ug/kg
2-Fluorobiphenyl				
2-Fluorophenol				
2,4,6-Tribromophenol				
Nitrobenzene-d5				
Phenol-d5				
Terphenyl-d14				

Target Compound List - Water

	Compound	RL	Units	MDL	Units
Method 8260B	Acetone	20	ug/L	5	ug/L
	Benzene	5	ug/L	0.9894	ug/L
	Bromodichloromethane	5	ug/L	0.9311	ug/L
	Bromoform	5	ug/L	1.0686	ug/L
	Bromomethane	5	ug/L	1.5756	ug/L
	2-Butanone	5	ug/L	1.0841	ug/L
	Carbon disulfide	5	ug/L	1.0741	ug/L
	Carbon tetrachloride	5	ug/L	1.0832	ug/L
	Chlorobenzene	5	ug/L	0.5261	ug/L
	Dibromochloromethane	5	ug/L	0.6482	ug/L
	Chloroethane	5	ug/L	0.7471	ug/L
	Chloroform	5	ug/L	1.0077	ug/L
	Chloromethane	5	ug/L	1.3907	ug/L
	Cyclohexane	5	ug/L	0.5967	ug/L
	1,2-Dibromo-3-chloropropane	5	ug/L	0.3521	ug/L
	1,2-Dibromoethane	5	ug/L	0.6118	ug/L
	1,2-Dichlorobenzene	5	ug/L	0.6815	ug/L
	1,3-Dichlorobenzene	5	ug/L	0.5058	ug/L
	1,4-Dichlorobenzene	5	ug/L	0.5262	ug/L
	Dichlorodifluoromethane	5	ug/L	0.635	ug/L
	1,1-Dichloroethane	5	ug/L	1.0131	ug/L
	1,2-Dichloroethane	5	ug/L	0.959	ug/L
	cis-1,2-Dichloroethene	5	ug/L	0.6651	ug/L
	trans-1,2-Dichloroethene	5	ug/L	0.7517	ug/L
	1,1-Dichloroethene	5	ug/L	1.0662	ug/L
	1,2-Dichloropropane	5	ug/L	1.2753	ug/L
	cis-1,3-Dichloropropene	5	ug/L	0.7261	ug/L
	trans-1,3-Dichloropropene	5	ug/L	0.5823	ug/L
	Ethylbenzene	5	ug/L	0.6202	ug/L
	2-Hexanone	5	ug/L	0.5695	ug/L
	Isopropylbenzene	5	ug/L	0.5308	ug/L
	Methyl acetate	5	ug/L	1.2276	ug/L
	Methylcyclohexane	5	ug/L	0.5568	ug/L
	Methylene chloride	5	ug/L	1.0892	ug/L
	4-Methyl-2-pentanone	5	ug/L	0.591	ug/L
	Methyl tert-butyl ether	5	ug/L	1.0259	ug/L
	Styrene	5	ug/L	0.6394	ug/L
	1,1,2,2-Tetrachloroethane	5	ug/L	0.9323	ug/L
	Tetrachloroethene	5	ug/L	0.8249	ug/L
	Toluene	5	ug/L	0.8451	ug/L
	1,2,4-Trichlorobenzene	5	ug/L	0.3767	ug/L
	1,1,1-Trichloroethane	5	ug/L	1.0297	ug/L
	1,1,2-Trichloroethane	5	ug/L	1.1613	ug/L
	Trichloroethene	5	ug/L	0.8011	ug/L
	Trichlorofluoromethane	5	ug/L	1.1192	ug/L
	1,1,2-Trichloro-1,2,2-trifluoroethane	5	ug/L	0.3304	ug/L
	Vinyl chloride	5	ug/L	1.2902	ug/L
	Xylenes (total)	15	ug/L	1.9693	ug/L
	4-Bromofluorobenzene				
	1,2-Dichloroethane-d4				
	Toluene-d8				
	Dibromofluoromethane				

Target Compound List - Water

	Compound	RL	Units	MDL	Units
Method 8270C	Acenaphthene	2	ug/L	0.1445	ug/L
	Acenaphthylene	2	ug/L	0.0846	ug/L
	Acetophenone	10	ug/L	0.2204	ug/L
	Anthracene	2	ug/L	1.0389	ug/L
	Atrazine	10	ug/L	0.2016	ug/L
	Benzaldehyde	10	ug/L	0.5023	ug/L
	Benzo(a)anthracene	2	ug/L	0.1756	ug/L
	Benzo(b)fluoranthene	2	ug/L	0.1631	ug/L
	Benzo(k)fluoranthene	2	ug/L	0.1641	ug/L
	Benzo(ghi)perylene	2	ug/L	0.0866	ug/L
	Benzo(a)pyrene	2	ug/L	0.1168	ug/L
	1,1'-Biphenyl	10	ug/L	0.1541	ug/L
	bis(2-Chloroethoxy)methane	10	ug/L	0.1371	ug/L
	bis(2-Chloroethyl) ether	2	ug/L	0.2637	ug/L
	bis(2-Ethylhexyl) phthalate	10	ug/L	0.4624	ug/L
	4-Bromophenyl phenyl ether	10	ug/L	0.188	ug/L
	Butyl benzyl phthalate	10	ug/L	3.0644	ug/L
	Caprolactam	50	ug/L	7.2276	ug/L
	Carbazole	2	ug/L	0.1368	ug/L
	4-Chloroaniline	10	ug/L	1.0875	ug/L
	4-Chloro-3-methylphenol	10	ug/L	0.2537	ug/L
	2-Chloronaphthalene	2	ug/L	0.1512	ug/L
	2-Chlorophenol	10	ug/L	0.2107	ug/L
	4-Chlorophenyl phenyl ether	10	ug/L	0.104	ug/L
	Chrysene	2	ug/L	0.1079	ug/L
	Dibenz(a,h)anthracene	2	ug/L	0.1275	ug/L
	Dibenzofuran	10	ug/L	0.1847	ug/L
	Di-n-butyl phthalate	10	ug/L	0.299	ug/L
	3,3'-Dichlorobenzidine	10	ug/L	0.3614	ug/L
	2,4-Dichlorophenol	2	ug/L	0.1346	ug/L
	Diethyl phthalate	10	ug/L	0.449	ug/L
	2,4-Dimethylphenol	10	ug/L	0.0804	ug/L
	Dimethyl phthalate	10	ug/L	0.1395	ug/L
	4,6-Dinitro-2-methylphenol	50	ug/L	7.7947	ug/L
	2,4-Dinitrophenol	50	ug/L	6.1388	ug/L
	2,4-Dinitrotoluene	10	ug/L	0.165	ug/L
	2,6-Dinitrotoluene	10	ug/L	0.191	ug/L
	Di-n-octyl phthalate	10	ug/L	0.1557	ug/L
	Fluoranthene	2	ug/L	0.1003	ug/L
	Fluorene	2	ug/L	0.0991	ug/L
	Hexachlorobenzene	2	ug/L	0.1822	ug/L
	Hexachlorobutadiene	2	ug/L	0.1215	ug/L
	Hexachlorocyclopentadiene	10	ug/L	0.1152	ug/L
	Hexachloroethane	10	ug/L	0.0766	ug/L
	Indeno(1,2,3-cd)pyrene	2	ug/L	0.1607	ug/L
	Isophorone	10	ug/L	0.2886	ug/L
	2-Methylnaphthalene	2	ug/L	0.157	ug/L
	2-Methylphenol	10	ug/L	0.1403	ug/L
	4-Methylphenol	10	ug/L	0.1768	ug/L
	Naphthalene	2	ug/L	0.2787	ug/L
	2-Nitroaniline	50	ug/L	0.1664	ug/L
	3-Nitroaniline	50	ug/L	0.2598	ug/L

Target Compound List - Water

Compound	RL	Units	MDL	Units
4-Nitroaniline	50	ug/L	0.2281	ug/L
Nitrobenzene	2	ug/L	0.1802	ug/L
2-Nitrophenol	10	ug/L	0.1396	ug/L
4-Nitrophenol	50	ug/L	7.0366	ug/L
N-Nitrosodiphenylamine	2	ug/L	0.48933	ug/L
N-Nitrosodi-n-propylamine	2	ug/L	0.3858	ug/L
2,2'-oxybis(1-Chloropropane)	2	ug/L	0.3466	ug/L
Pentachlorophenol	10	ug/L	1.8799	ug/L
Phenanthrene	2	ug/L	0.2839	ug/L
Phenol	2	ug/L	0.2366	ug/L
Pyrene	2	ug/L	0.1107	ug/L
2,4,5-Trichlorophenol	10	ug/L	0.1519	ug/L
2,4,6-Trichlorophenol	10	ug/L	0.0908	ug/L
2-Fluorobiphenyl				
2-Fluorophenol				
2,4,6-Tribromophenol				
Nitrobenzene-d5				
Phenol-d5				
Terphenyl-d14				

APPENDIX D

REMEDIAL CONSTRUCTION QA/QC PLAN – *To be provided*

APPENDIX E

OPERATIONS, MAINTENANCE, AND MONITORING PLAN - *To be provided*