REPORT

Engineering Evaluation/Cost Analysis
Interim Remedial Measure
Wastebed B/Harbor Brook Site
Geddes and Syracuse, New York

Honeywell

April 2010

O'BRIEN & GERE
www.obg.com

1163 | 42071

Engineering Evaluation/Cost Analysis Interim Remedial Measure Wastebed B/Harbor Brook Site

Geddes and Syracuse, New York

Prepared for:

Honeywell

JAMES R. HECKATHORNE, P.E., VP
O'BRIEN & GERE ENGINEERS, INC.

TABLE OF CONTENTS

Tables ii
Figures ii
Appendices ii
1 Introduction 1
1.1 Purpose of this EE/CA 1
1.2 Site Description and Background 2
1.3 Site Characterization 2
1.4 Integration with Other Remedies 4
1.5 Streamlined Risk Evaluation 5
2 Identification and Evaluation of IRM Response Actions 5
2.1 Response Action 1 6
2.1.1 Effectiveness 6
2.1.2 Implementability 6
2.1.3 Cost 6
2.2 Response Action 2 6
2.2.1 Effectiveness 7
2.2.2 Implementability 7
2.2.3 Cost 8
2.3 Response Action 3 8
2.3.1 Effectiveness 9
2.3.2 Implementability 9
2.3.3 Cost 9
2.4 Remediation/Restoration of Drainage Channels 10
2.4.1 Effectiveness 10
2.4.2 Implementability 11
2.4.3 Cost 11
2.5 Remediation/Restoration of Upper Harbor Brook 11
2.5.1 Effectiveness 12
2.5.2 Implementability 12
2.5.3 Cost 12
3. Comparative Analysis of Response Actions 12
4 Recommended Response Action 13

TABLES

1 IRM and FS Media Summary

2 Summary of Cost Estimate for Response Action 2

3 Summary of Cost Estimate for Response Action 3

FIGURES

1 Site Location

2 Site Plan

3 West Wall/Collection Trench

4 Distribution of NAPL

5 Proposed East Wall Alignments

6 Response Action #2 and #3 Partial Remedial Plans

7 Conceptual Sections

APPENDICES

A Streamlined Risk Evaluation (SRE)

Table 1. Chemicals of Potential Concern – Surface Soil

Table A1. Derivation of Toxic Equivalents for Dioxins – Surface Soil

Table 2. Chemicals of Potential Concern – Subsurface Soil

Table 3. Chemicals of Potential Concern - Sediment

Table A3. Derivation of Toxic Equivalents for Dioxins – Surface Sediment

Table 4. Chemicals of Potential Concern – Ground Water

Table 5. Chemicals of Potential Concern – Surface Water

Table 6. Chemicals of Potential Ecological Concern – Surface Soil

Table 7. Chemicals of Potential Ecological Concern – Sediment

Table 8. Chemicals of Potential Concern – Surface Water

Table 9. Chemicals of Potential Ecological Concern – Ground Water

Table 10 Onondaga Lake and Wastebed B/Harbor Brook COC Comparison

Figure 1 Sample Locations (Lower Harbor Brook)

Figure 2 Sample Locations (Upper Harbor Brook)

1 INTRODUCTION

This report presents the Engineering Evaluation/Cost Analysis (EE/CA) for the "East Wall" portion of the Interim Remedial Measure (IRM) at the Wastebed B/Harbor Brook Site (Site) in Geddes and Syracuse, New York. A site location plan is included as Figure 1.

1.1 PURPOSE OF THIS EE/CA

In 2003, Honeywell International Inc. (Honeywell) and the New York State Department of Environmental Conservation (NYSDEC) entered into an Order on Consent (Index #D7-0008-01-09) to conduct an Interim Remedial Measure (IRM) for Wastebed B/Harbor Brook. The IRM program is proceeding in parallel with the Remedial Investigation/Feasibility Study (RI/FS) to maintain the schedule for remediation of Onondaga Lake. Remediation for the area outboard of the proposed lakeshore barrier walls will be performed under the Wastebed B/Harbor Brook IRM and will be addressed in a separate EE/CA. The relationship between the IRMs and the overall site remedy is discussed in Section 1.4 of this report.

The Wastebed B/Harbor Brook IRM objectives, as presented in the Consent Order are to:

- Eliminate, to the extent practicable, within the scope of the IRM, the discharge of contaminated ground water and non aqueous phase liquid (NAPL) (and collect NAPL, as feasible) into Harbor Brook and Onondaga Lake.
- Eliminate, to the extent practicable, within the scope of the IRM, the potential human health and ecological impacts associated with site constituents of concern.
- Eliminate, to the extent practicable, within the scope of the IRM, potential impacts to fish and wildlife resources associated with on-going discharges of Contaminants of Concern from the site.

The IRM Scope included in the Consent Order called for a vertical barrier to be installed along the Onondaga Lake shoreline perimeter of Wastebed B and upstream along the west bank of Harbor Brook with a ground water collection system installed within the limits of the vertical barrier. The exact location of the barrier wall was to be determined as part of the IRM. The location of the barrier wall to the west of Harbor Brook ("West Wall") has been established and documented in the 50% design submitted to NYSDEC on November 1, 2007. The remainder of the proposed wall, extending from the eastern terminus of the West Wall, is referred to as the "East Wall." The East Wall is the focus of this EE/CA. The location of a portion of the East Wall in proximity to Lower Harbor Brook is evaluated in this EE/CA, as well as remediation/restoration of Upper Harbor Brook (areas upstream of the mouth of Harbor Brook from Culvert #1 upstream to OW #5, and ditches and associated wetlands tributary to this stretch of Harbor Brook.).

Subsequent to the signing of the Consent Order, investigations in connection with the Wastebed B/Harbor Brook Remedial Investigation detected subsurface NAPL to the east of Harbor Brook. As a result, Honeywell proposed to NYSDEC that the routing of the barrier wall to the east of Harbor Brook be evaluated to encompass the horizontal limits of NAPL encountered during the Remedial Investigation. It was also proposed, to help achieve the IRM objective of limiting the discharge of contaminated ground water and NAPL into Harbor Brook with subsequent discharge to Onondaga Lake, that hydraulic control of ground water and NAPL discharge into Upper Harbor Brook be incorporated into the IRM and be evaluated as part of this EE/CA.

Completion of this work as part of the IRM to control discharges to the lake, including upwelling of ground water, is critical to maintaining the overall schedule for remediation of Onondaga Lake, and specifically the excavation of sediments from SMU-7 in the southwest corner of the lake. Completion of the proposed IRM activities will also facilitate remediation and restoration of areas of the Site outboard of the barrier wall, contiguous to the lake.

As a result, this EE/CA evaluates alternative Response Actions for the alignment of the East Wall and subsequently Lower Harbor Brook. This EE/CA also discusses the remediation and restoration of Upper Harbor Brook, including hydraulic control of ground water and NAPL discharge into Upper Harbor Brook.

1.2 SITE DESCRIPTION AND BACKGROUND

Site Description

The Wastebed B/Harbor Brook Site initially consisted of four areas (shown on Figure 1):

1) Harbor Brook
2) Lakeshore Area
3) Penn-Can Property
4) Railroad Area

The SYW-12 Area (north of Onondaga Creek) was added to the Site during the Supplemental Remedial Investigation. Additional areas of study (AOS #1 and AOS #2) east of Harbor Brook were subsequently added at the request of NYSDEC. AOS #1 And AOS #2 are shown on Figure 1. SYW-12 is not within the EE//CA focus area and is therefore not shown on Figure 1.

Background

A Preliminary Site Assessment was performed at the Site in the summer of 2000 and winter of 2001 in accordance with the requirements of Consent Order D-7-0001-00-02 between the NYSDEC and Honeywell dated April 10, 2000 (NYSDEC, 2000). The PSA field work was performed in accordance with the NYSDEC-approved PSA Work Plan (O'Brien & Gere, 2000). A summary of the analytical data collected during the PSA was submitted to the NYSDEC in September 2001 (O'Brien & Gere, 2001). Based on review of the data, and in consideration of other previous study data, the NYSDEC determined that a RI/FS should be implemented at the Site. The determination was communicated to Honeywell in a letter dated November 28, 2001.

The RI/FS Work Plan was submitted in September 2002 and approved on November 8, 2002 by the NYSDEC. The RI was performed in accordance with the NYSDEC-approved RI/FS Work Plan (O'Brien & Gere, 2002). The RI was also performed in accordance with the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (USEPA, 1988) and Part 300.68 of the National Contingency Plan, CERCLA as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986.

The initial RI field program was performed November 2002 through May 2004. The NYSDEC requested that additional field work be completed for the RI. The Supplemental RI was performed in accordance with the September 15, 2006 NYSDEC-approved letter work plan. The Supplemental RI consisted of further investigation on the Wastebed B/Harbor Brook Site as well as wetland SYW-12 situated on the southeast corner of Onondaga Lake. The Supplemental RI field program was performed between November 2006 and June 2007. The RI Report was submitted to the NYSDEC on August 2, 2004, and a revised RI Report was submitted to the NYSDEC in November 2007 (O'Brien & Gere, 2007). That revised RI Report has not yet been approved by the NYSDEC and is being revised. The FS is currently being performed.

1.3 SITE CHARACTERIZATION

As discussed in the RI Report, review of data collected during the PSA, RI, Supplemental RI, Harbor Brook Sediment IRM (BBL, 2001), Wastebed B/Harbor Brook IRM, I-690 Limited Investigation, and Wastebed B Geotechnical Investigation and previous studies indicate that five primary Site-related source areas are present within the Wastebed B/Harbor Brook Site and SYW-12. The areas are:

- The Penn-Can Property (former Barrett Paving Facility)
- DSA#1
- DSA#2
- Sediment Spoil Areas
  - AOS #1 and Lakeshore Area Wetlands
  - SYW-12

Other possible sources of Site-related chemical parameters of Interest (CPOIs) at the Wastebed B/Harbor Brook Site include the Willis Avenue Site, the Ballfield Site, and anthropogenic sources (i.e., I-690 drainage, past and present railroad operations, general urban run-off, etc.). Wastebed B/Harbor Brook Site-related CPOIs within the East Flume are likely from past operations at the Willis Avenue Facility and ground water infiltrating into the flume. It is believed that anthropogenic sources are also impacting the East Flume and Harbor Brook, as well as the adjacent areas.

An apparent source of coal tar residues, including NAPL, was identified in the eastern central portion of the Penn-Can Property. The coal tar residues are associated with the historic operations of the former paving facilities that were located on the central and eastern portions of the Penn-Can Property. These residues are likely present due to releases from the former Barrett Paving facility formerly located on the Penn-Can Property. Residues from this source area migrated into the subsurface and then down slope through coarse lenses of marl and along the top of low-permeability (confining) geologic units (i.e., silt/clay and till) to depths of at least 20 ft below ground surface (bgs) in the area of lower Harbor Brook. As shown on Figure 4 of this report, these residues, including NAPL, appear to have migrated to the vicinity of Wastebed B and Harbor Brook. Ground water has also been impacted in areas associated with the NAPL. Soils, sediments and surface water have been impacted in areas where shallow and intermediate ground water discharge to surface water bodies (Harbor Brook, I-690 drainage ditch, and other site related ditches).The primary constituents associated with the NAPL include BTEX, naphthalene, and assorted PAHs.

Dredge spoils from the UEF were placed in DSA#1 around 1980. Prior to placement, these spoils were impacted by CPOIs from process and storm water from the former Syracuse Works Main Plant and the former Willis Avenue Plant, and potentially from ground water migrating from the Willis Avenue Chlorobenzene Site. Subsequently, constituents from DSA#1 have migrated via ground water and have impacted soils and ground water in the western portion of the Lakeshore Area and surface water and sediment within the UEF.

Dredge spoils from Onondaga Lake were placed in DSA#2 in 1977 during reconstruction of the East Flume, in particular during installation of the thermal diffuser discharge pipe. Spoils placed in DSA#2 were previously impacted by CPOIs from a variety of sources. CPOIs from DSA#2 have migrated via ground water and have impacted soils and ground water in the north-central portion of the Lakeshore Area, and surface water and sediment within the LEF.

The materials in AOS #1 and other wetland areas along the lakeshore of the Harbor Brook Site are likely related to historic discharges from the East Flume that formed the in-lake waste deposit. It appears that AOS#1 and wetland area #2 (WL2) on the opposite side of Harbor Brook were also influenced by historic discharges from Harbor Brook. Based on subsurface work in these two areas, it is likely that these areas may have received fill at some point; however, there are no historic records of fill material being placed in these areas. CPOIs from these areas have migrated via ground water and have impacted soils and ground water in the western and central portion of the Lakeshore Area, and surface water and sediment within Harbor Brook.

It appears that impacts to SYW-12 may be associated with upgradient anthropogenic sources such as the former Marley Property that appears to have contained a waste oil lagoon (October 15, 1951 Aerial Photo) or areas near the Carousel Mall that historically received

Solvay waste. The Solvay waste was likely placed in this area as a slurry, and may have contained waste other than the Solvay waste. Also, this area may have historically received fill material, especially to fill the former Onondaga Creek and barge terminal that were once on the Site. The nature of these fill materials is unknown and may have included dredge material from the lake that is likely impacting these surface soils. It should be noted that there was a manufactured gas plant adjacent to this Site to the south. Therefore, it may be difficult to differentiate between sources of CPOIs at SYW-12.

A detailed discussion of the CPOIs for the entire Site is presented in the Executive Summary of the RI Report.

1.4 INTEGRATION WITH OTHER REMEDIES

An RI/FS is currently being performed at the Site. The Wastebed B/Harbor Brook IRM, including the outboard area portion, is being performed concurrently with the RI/FS. The goal is to perform construction associated with the site-wide remedy (to be selected during the FS) and the IRMs in a timely manner to maintain the Onondaga Lake dredging schedule. The RI is being revised to address NYSDEC comments, and the FS is underway.

Site IRMs will address a number of site issues. The FS will address remaining site issues not covered by the IRMs, and will evaluate areas that are addressed by the IRM. The media that will be addressed in the Wastebed B/Harbor Brook Site FS, as well as the media to be addressed by the IRMs, are summarized in the IRM and FS Media Summary included as Table 1.

For the Wastebed B/Harbor Brook IRM, the western portion of the barrier wall is currently in the design phase. A collaborative development of the approach for the eastern portion of the barrier wall (addressed in this EE/CA) is being performed. Construction of the eastern and western portions of the barrier wall may be performed concurrently. The Upper Harbor Brook portion of the IRM is in the design phase. An EE/CA is being prepared for the Outboard Area IRM. The Outboard Area IRM will be completed subsequent to construction of the East and West Walls

The alternative Response Actions presented in this EE/CA consider both Lower Harbor Brook and Upper Harbor Brook. Lower Harbor Brook includes the mouth of Harbor Brook and that portion of the brook adjacent to wetland areas in AOS#1. Upper Harbor Brook consists of areas upstream of the mouth of Harbor Brook from Culvert #1 upstream to Open Water Area #5 as well as the manmade drainage channels and associated wetlands in this reach of Harbor Brook. These include:

- I-690 Drainage Ditch (and associated wetland WL6)
- Penn-Can Drainage Ditch (and associated wetlands WPC1, 2, and 3)
- Wastebed D/E Drainage Ditch
- Railroad Drainage Ditch 1 (and associated wetlands WRR1 and WRR2)
- Railroad Drainage Ditch 2 (and associated wetlands WRR3, WRR4 and WRR5)

The locations of these features are shown on Figure 2.

The East Wall will adjoin the West Wall, as shown on Figure 3. The West Wall portion of the Wastebed B/Harbor Brook IRM includes installation of a barrier wall from the eastern terminus of the Willis-Semet barrier wall to the western bank of Lower Harbor Brook (approximately 3000 linear feet) and installation of a groundwater collection system upgradient of the barrier wall to achieve hydraulic control. The barrier wall alignment was determined based on maximizing the volume of NAPL and impacted material captured behind the barrier wall, providing groundwater control along the Onondaga Lake shoreline, maximizing area outboard of the barrier wall for habitat restoration and wetland mitigation, and ensuring the barrier wall is properly keyed into a confining unit. The barrier wall will be installed to a minimum of 3

feet into the silt and clay confining layer (approximately 40 to 50 feet below grade).

The groundwater collection system will consist of a shallow groundwater collection trench, wick drains, collection sumps, and a monitoring system. The purpose of the groundwater collection system is to establish and maintain an inward gradient from the lake via collection of groundwater in the shallow and intermediate units. The anticipated flow rate from the West Wall collection trench is 20 gpm. Groundwater will flow by gravity from the collection trench into one of two collection sumps located along the length of the trench. Each sump will transfer groundwater to the lakeshore pump station, from where it will then be conveyed to the existing Willis-Semet GWTP. Piezometers equipped with pressure transducers will be installed immediately downgradient of the trench to verify that the collection system is maintaining an inward hydraulic gradient.

1.5 STREAMLINED RISK EVALUATION

A Streamlined Risk Assessment (SRE) has been performed to support this EE/CA, and is included in Appendix A. The SRE provides an evaluation of potential risks to human and ecological receptors assuming no removal or cleanup actions are taken at the Site. The factors presented in 40 CFR 300. 415(b)(2).were evaluated in the SRE to identify if a removal action is appropriate at this Site. The SRE concluded that response actions are warranted at the portions of the Site being evaluated by this EE/CA to meet the IRM objectives.

2 IDENTIFICATION AND EVALUATION OF IRM RESPONSE ACTIONS

This Section presents three alternative Response Actions to achieve the IRM objectives for Lower and Upper Harbor Brook. For Lower Harbor Brook, two wall alignment scenarios are evaluated. For Upper Harbor Brook, installation of a ground water collection trench with removal of sediments from manmade drainage channels and wetlands with isolation barriers is evaluated. Two restoration scenarios were initially considered for Upper Harbor Brook, including installation of a culvert for the entire length of the brook and restoring the brook in a manner similar to its existing characteristics. However after further review, installation of a culvert system is not consistent with the substantive permitting requirements of 6 NYCRR Part 608 and was not evaluated further in this EE/CA.

The retained alternatives are summarized as follows:

Response Action 1 - No Action

Response Action 2 - Install a barrier wall to the west of Lower Harbor Brook.

Response Action 3 - Install a barrier wall to the east of Lower Harbor Brook and temporarily reroute the Lower Harbor Brook channel to the east to be more central to and connected with AOS#1 and to allow for the construction of the Outboard Area IRM,

Common to both Response Actions 2 and 3 are:

- The removal of sediments from manmade drainage channels and wetlands that discharge to Upper Harbor Brook, with isolation barriers to mitigate the reintroduction of contaminants into the channels via ground water discharge. Pre-Design Investigations are planned for these areas to more fully establish design parameters, but the anticipated conceptual approach is summarized in Section 2.4.
- Remediation and restoration of the Upper Harbor Brook to maintain existing character. Install a ground water collection trench along the west bank of Upper Harbor Brook, and remove sediments from open water areas and existing culverts in Upper Harbor Brook, and restore the brook as practicable to maintain existing character.

In this section each Response Action is evaluated on the basis of effectiveness, implementability and cost. Subsequent sections present a comparative evaluation of the three alternatives and identify the recommended Response Action.

2.1 RESPONSE ACTION 1

Response Action 1 for both Lower and Upper Harbor Brook is the "No Action" scenario and would not include the implementation of any remedial construction measures or site monitoring.

The "No Action" scenario is used as the baseline against which the other Response Actions are evaluated.

2.1.1 Effectiveness

- OVERALL PROTECTION OF PUBLIC HEALTH AND THE ENVIRONMENT

  Response Action 1 would not address contamination present within the EE/CA focus area, nor would it include measures to mitigate the further migration or discharge of contaminated ground water and NAPL into Harbor Brook and Onondaga Lake. Therefore this response action would not be protective of health and the environment.

- COMPLIANCE WITH ARARS

  Response Action 1 would not be compliant with ARARs since contaminated ground water and NAPL would continue to migrate into Harbor Brook and Onondaga Lake.

- LONG-TERM EFFECTIVENESS AND PERMANENCE

  Response Action 1 would not be effective in reducing residual risk to the public or the environment, nor would it provide adequate controls to manage the site contaminants.

- REDUCTION OF TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT

  There is no treatment component to this response action.

- SHORT-TERM EFFECTIVENESS

  This response action does not involve implementation or site work, therefore evaluation of short-term effectiveness for this alternative is not applicable.

2.1.2 Implementability

- TECHNICAL FEASIBILITY

  Response Action 1 is technically feasible and easily implemented.

- ADMINISTRATIVE FEASIBILITY

  Response Action 1 is administratively feasible. Permits are not required.

- AVAILABILITY OF SERVICES AND MATERIALS

  Services and equipment are not required for this response action.

- STATE ACCEPTANCE

  The state may not accept this response action since it does not meet the objectives of the IRM.

2.1.3 Cost

The estimated present value cost to implement Response Action 1 is zero.

2.2 RESPONSE ACTION 2

Response Action 2 would involve the installation of approximately 600 linear ft of vertical barrier to the west of Harbor Brook, as shown on Figure 5. The vertical barrier would consist of a sealed-joint sheet pile wall that would be keyed into the silt and clay layer at approximate depths of between 25 ft and 40 ft bgs. The barrier wall, in conjunction with ground water collection upgradient of the wall, would serve to mitigate further discharges of NAPL and contaminated ground water to Harbor Brook and Onondaga Lake.

NAPL-impacted soils that would remain outside of the wall adjacent to and beneath Harbor Brook would be excavated as shown on Figure 5 and placed on site in an appropriate waste management unit. The depth of excavation in this area would need to be further evaluated during the design based on the pre-design investigation results. NAPL has been encountered in this area to depths of at least 20 ft bgs. However, due to the shallow ground water table, the excavation depth would not be anticipated to be greater than 10 ft bgs.

Therefore, NAPL-impacted soils below this depth would remain in place uncontained.

The final disposition of NAPL-impacted soils upgradient of the wall would be evaluated during the Feasibility Study/Record of Decision for the Wastebed B/Harbor Brook Site. Following the removal activities, the excavated area, including Harbor Brook and the adjacent wetlands, would be restored and/or mitigated, as appropriate, consistent with the lake-wide habitat restoration plan.

The manmade drainage channels and tributary wetlands would be remediated and restored as discussed in Section 2.4 of this EE/CA. Upper Harbor Brook would be remediated and restored as discussed in Section 2.5. Evaluation of these components of the response action is presented in Sections 2.4 and 2.5.

2.2.1 Effectiveness

- Overall Protection of Public Health and the Environment

  Installation of the barrier wall in conjunction with ground water collection would protect human health and the environment by effectively containing contaminated ground water and NAPL located upgradient of the barrier wall and mitigating further migration or discharge of these contaminants into Harbor Brook or Onondaga Lake.

  However, NAPL-impacted soils below the shallow ground water table east of the barrier wall, adjacent to and beneath Harbor Brook, would remain uncontained, in place. The contaminants in these soils could potentially migrate into Onondaga Lake.

- Compliance with ARARs

  Response Action 2 may not be consistent with federal and state ARARs relative to residual NAPL-impacted soils that would remain in place outside the barrier wall below the ground water table.

- Long-Term Effectiveness and Permanence

  Installation of the barrier wall in conjunction with ground water collection would contain contaminated ground water and NAPL located upgradient of the wall, and mitigate further migration or discharge of these contaminants into Harbor Brook or Onondaga Lake. The excavation of shallow NAPL located downgradient of the barrier wall would permanently remove this contamination, reducing (but not eliminating) the volume of materials that may continue to migrate and provide a potential source of contaminant discharge to surface water. Assuming an average excavation depth of 10 ft bgs, approximately 11,000 cubic yards (CY) of material would be removed.

- Reduction of Toxicity, Mobility, or Volume through Treatment

  There is no treatment component to this response action.

- Short-Term Effectiveness

  Potential risk to the community during construction would be associated with dust and vapors. The risk would be minimized through use of public access restrictions and wetting the soils, if necessary, to prevent fugitive dust. The risk to workers during construction would include inhalation of dust and vapors and potential direct contact. The risks to workers during construction would be mitigated through use of proper personal protective equipment. Adverse environmental impacts would be minimized through appropriate methods such as drainage and dust control.

2.2.2 Implementability

- Technical Feasibility

  Response action 2 is technically feasible; however, the excavation below the ground water table and the management and handling of contaminated soils and ground water may be difficult. ,Air monitoring and dust control measures to protect site users and the surrounding community from vapors and dust that may be generated during the site work would need to be evaluated during the design.

- ADMINISTRATIVE FEASIBILITY

  The personnel necessary for Response Action 2 would be readily available. Permitting or access issues would not be expected to be significant.

- AVAILABILITY OF SERVICES AND MATERIALS

  The personnel, equipment, and materials necessary for Response Action 2 would be readily available.

- STATE ACCEPTANCE

  Possible concerns the state may have with this response action are that NAPL-impacted soils beneath the shallow ground water table would remain outside of the barrier wall, adjacent to and beneath Harbor Brook.

The state may also be concerned with the loss of wetlands that would need to be restored and/or mitigated due to the placement of the barrier wall.

2.2.3 Cost

The estimated total present value cost for implementing Response Action 2 is $9,504,000, as summarized on Table 2. Costs for remediation and restoration of Upper Harbor Brook and tributary wetlands and drainage channels are common to both Response Actions 2 and 3, and are therefore not shown on Table 2.

2.3 RESPONSE ACTION 3

Response Action 3 would involve temporarily relocating Lower Harbor Brook channel to the east of its current location and the installation of approximately 400 feet of vertical barrier to the east of the existing Lower Harbor Brook Channel as shown on Figure 5. Similar to Response Action 2, the vertical barrier would consist of a sealed-joint sheet pile wall that would be keyed into the silt and clay layer at approximate depths of between 25 ft and 40 ft bgs.

The proposed alignment of the East Wall under Response Action 3 requires relocation of the existing Lower Harbor Brook channel to allow continuous discharge from Upper Harbor Brook to Onondaga Lake. Under this response action, the brook channel will be temporarily relocated as conceptually shown on Figure 5. The permanent relocation and restoration of Lower Harbor Brook will be completed once Upper Harbor Brook and the area outboard of the East Wall (the Outboard Area) have been remediated. A separate EE/CA is currently being prepared by Honeywell which will evaluate alternative response actions for the Outboard Area. The Outboard Area remediation is anticipated to take place at or about the same time as the adjacent Lake area and therefore will follow the remediation work covered under this EE/CA. Permanent relocation and restoration of Lower Harbor Brook will be completed during remediation of the Outboard Area consistent with the lakewide habitat restoration plan.

The existing culvert at the proposed barrier wall would be decommissioned and a new culvert constructed, as shown on Figure 5. The wall, in conjunction with ground water collection and treatment upgradient of the wall, would serve to mitigate further discharges of NAPL and contaminated ground water to Harbor Brook and Onondaga Lake. The wall would encompass the entire downgradient area of NAPL-impacted soils that have been identified in this area.

The final disposition of NAPL-impacted soils upgradient of the wall would be evaluated during the Feasibility Study/Record of Decision for the Wastebed B/Harbor Brook Site. Following the removal activities, the excavated area, including Harbor Brook and the adjacent wetlands, would be restored and/or mitigated, as appropriate, consistent with the lakewide habitat restoration plan.

The manmade drainage channels and tributary wetlands would be remediated and restored as discussed in Section 2.4 of this EE/CA. Upper Harbor Brook would be remediated and restored as discussed in Section 2.5. Evaluation of these components of the response action is presented in Sections 2.4 and 2.5.

2.3.1 Effectiveness

- Overall Protection of Public Health and the Environment

Relocation of the brook is protective of public health and the environment since it would allow installation of the barrier wall to encompass the entire extent of NAPL within the vicinity of Lower Harbor Brook. The barrier wall in conjunction with ground water collection would effectively contain contaminated ground water and NAPL in this area, and mitigate further migration or discharge of these contaminants into Harbor Brook or Onondaga Lake.

There are also significant ecological benefits to be gained from the proposed relocation and eventual permanent restoration of Lower Harbor Brook. Consistent with the lake-wide habitat restoration plan, the relocation would result in increased habitat diversity within the channel system, through increased variability in hydraulic geometry, as well as improved floodplain connectivity.

- Compliance with ARARs

  This response action would be consistent with state and federal ARARs.

- Long-Term Effectiveness and Permanence

  Ultimate relocation of the brook channel as part of the outboard area remediation would be permanent. The barrier wall in conjunction with ground water collection would effectively contain contaminated ground water and NAPL in this area, and mitigate migration or discharge of these contaminants into Harbor Brook or Onondaga Lake.

- Reduction of Toxicity, Mobility, or Volume through Treatment

  There is no treatment component to this response action.

- Short-Term Effectiveness

  Potential risk to the community during relocation of the brook channel and installation of the barrier wall would be associated with dust and vapors. The risk would be minimized through use of public access restrictions and wetting the soils, if necessary, to prevent fugitive dust. The risk to workers during construction would include inhalation of dust and vapors and potential direct contact. The risks to workers during construction would be mitigated through use of proper personal protective equipment. Adverse environmental impacts would be minimized through appropriate methods such as drainage and dust control.

2.3.2 Implementability

- Technical Feasibility

  Response action 3 is technically feasible and would primarily involve shallow excavation and grading activities. Air monitoring and dust control measures to protect site users and the surrounding community from vapors and dust that may be generated during the site work would need to be evaluated during the design.

- Administrative Feasibility

  The personnel necessary for Response Action 3 would be readily available. Permitting or access issues would not be expected to be significant.

- Availability of Services and Materials

  The personnel, equipment, and materials necessary for Response Action 3 would be readily available,

- State Acceptance

  The state may be concerned with the loss of wetlands due that would need to be restored and/or mitigated due to the placement of the barrier wall.

2.3.3 Cost

The estimated total present value cost for implementing Response Action 3 is $6,604,000, as summarized on Table 3. Costs for remediation and restoration of Upper Harbor Brook and tributary wetlands and drainage channels are common to both Response Actions

2 and 3, and are therefore not shown on Table 3.

2.4 REMEDIATION/RESTORATION OF DRAINAGE CHANNELS

As previously described, the removal of sediments from manmade drainage channels and associated wetlands that discharge to Upper Harbor Brook are common to both Response Actions 2 and 3. The drainage channels to be included in the IRM are:

- I-690 Drainage Ditch (and associated wetland WL6)
- Penn-Can Drainage Ditch (and associated wetlands WPC1, 2, and 3)
- Wastebed D/E Drainage Ditch
- Railroad Drainage Ditch 1 (and associated wetlands WRR1 and WRR2)
- Railroad Drainage Ditch 2 (and associated wetlands WRR3, WRR4 and WRR5)

The remediation of the I-690 Drainage Ditch would include cleaning of an existing storm sewer that discharges into this ditch, as shown on Figure 2.

Pre-Design Investigations are planned for these areas to more fully establish design parameters. The general conceptual approach includes removing sediments from the channels and associated wetlands to a depth to be determined during remedial design (e.g. to defined hardened underlying layers, or to the depth required to place isolation barriers and/or substrate suitable for habitat establishment.)

Within areas of observed NAPL (the I-690 and Penn-Can Drainage Ditches), collection trenches would be installed beneath the remediated ditches, with isolation barriers to prevent surface water from infiltrating into the collection trenches. The isolation barriers would be installed to isolate or control impacted soils that may remain in place. Examples may include reactive core barriers (RCB), geosynthetic clay layers, geomembranes, or other materials that will serve to isolate the materials that may remain in place and mitigate the migration of contaminants to the restored ditches. Specific measures would be determined during the design. Although NAPL was observed near the confluence of the Wastebed D/E drainage ditch, ground water collection is not required there due to its proximity to the proposed ground water collection trench adjacent to Harbor Brook. Ground water collection is not proposed at Railroad Ditches 1 and 2 since NAPL has not been observed there. A partial remedial plan of drainage channels in the Upper Harbor Brook area is shown on Figure 6. Conceptual details for the drainage channels are depicted on Figure 7.

The ground water collection trenches included for the I-690 Drainage Ditch and the Penn Can Drainage Ditch would discharge collected ground water either directly to the Willis Avenue Treatment Plant or to the collection system installed in conjunction with the East Wall. This would be accomplished by the installation of small pump stations.

2.4.1 Effectiveness

- OVERALL PROTECTION OF PUBLIC HEALTH AND THE ENVIRONMENT

  Removal of NAPL-impacted sediment from the manmade drainage channels through excavation, with hydraulic control achieved through the use of collection trenches and isolation barriers as described above, would be protective of public health and the environment. This response action would minimize the discharge of contaminated ground water and NAPL to Upper Harbor Brook with subsequent discharge to Onondaga Lake.

- COMPLIANCE WITH ARARS

  This response action would be consistent with state and federal ARARs.

- LONG-TERM EFFECTIVENESS AND PERMANENCE

  Impacted sediment would be permanently removed from the manmade drainage channels. Hydraulic control would prevent

contaminants from entering into the brook and Onondaga Lake.

- REDUCTION OF TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT

  There is no treatment component to this response action.

- SHORT-TERM EFFECTIVENESS

  Potential risk to the community during construction would be associated with dust and removal of the sediment. The risk would be minimized through use of public access restrictions and wetting the soils, if necessary, to prevent fugitive dust. The risk to workers during construction would include inhalation of dust and vapors and potential direct contact. The risks to workers during construction would be mitigated through use of proper personal protective equipment. Adverse environmental impacts would be minimized through appropriate methods such as drainage and dust control.

2.4.2 Implementability

- TECHNICAL FEASIBILITY

  This response action is technically feasible and would primarily involve shallow excavation and grading activities. Air monitoring and dust control measures to protect site users and the surrounding community from vapors and dust that may be generated during the site work would need to be evaluated during the design.

- ADMINISTRATIVE FEASIBILITY

  The personnel would be readily available. Permitting or access issues would not be expected to be significant.

- AVAILABILITY OF SERVICES AND MATERIALS

  The personnel, equipment, and materials necessary for Response Action 3 would be readily available,

- STATE ACCEPTANCE

The state may be concerned with the loss of wetlands in the excavation areas that would need to be restored and/or mitigated.

2.4.3 Cost

Because this remedial element is common to both Response Actions 2 and 3, the cost for removal of sediments from the drainage channels, with construction of collection trenches and isolation barriers, would be the same for both Response Action 2 and 3 and has not been included on Tables 2 and 3.

2.5 REMEDIATION/RESTORATION OF UPPER HARBOR BROOK

As previously described, the remediation and restoration of Upper Harbor Brook is common to both Response Actions 2 and 3. Response Actions 2 and 3 include sediment removal from the open water areas and culverts in the Upper Harbor Brook channel, and establishment of hydraulic control using isolation barriers and ground water collection trenches. The isolation barriers would serve to prevent the reintroduction of contaminants into the brook via ground water discharge, and prevent surface water from the brook from entering and hydraulically overloading the collection trench.

The main Upper Harbor Brook channel would be excavated to remove contaminated sediments to the top of the underlying hard layer or, in its absence, to a depth necessary to allow placement of substrate for restoration of the stream. Upon completion of excavation, isolation barriers would be installed to isolate or control impacted soils that may remain in place. The extent of an artificial barrier (e.g., liner) underlying Upper Harbor Brook will be evaluated during design, and will be minimized to the extent possible. Isolation barrier materials will be selected during design, but may include reactive core barriers (RCB), geosynthetic clay layers, or geomembranes. The existing 72-inch diameter twin culverts beneath I-690 and the CSX tracks would be inspected and sealed or otherwise repaired to mitigate infiltration of ground water. The conceptual approach for the reconstruction of Upper

Harbor Brook is shown on Figure 6, with conceptual details depicted on Figure 7.

The ground water collection trenches would discharge collected ground water either directly to the Willis Avenue Treatment Plant or to the collection systems installed in conjunction with the West and East Walls. This would be accomplished by the installation of small pump stations.

Material excavated would be placed on Wastebed B upgradient of the barrier wall. The final disposition of these soils would be addressed by the FS/Record of Decision for the Wastebed B/Harbor Brook Site.

2.5.1 Effectiveness

- Overall Protection of Public Health and the Environment

  Sediment removal from the open water areas and culverts in the Upper Harbor Brook channel, and establishment of hydraulic control using isolation barriers and ground water collection trenches as described above, would be protective of public health and the environment. This response action would minimize the discharge of contaminated ground water to Onondaga Lake.

- Compliance with ARARs

  This response action would be consistent with state and federal ARARs.

- Long-Term Effectiveness and Permanence

  Impacted sediment would be permanently removed from the manmade drainage channels. Hydraulic control would prevent contaminants from entering into the brook.

- Reduction of Toxicity, Mobility, or Volume through Treatment

  There is no treatment component to this response action.

- Short-Term Effectiveness

  Potential risk to the community during construction would be associated with dust and removal of the sediment. The risk would be minimized through use of public access restrictions and wetting the soils, if necessary, to prevent fugitive dust. The risk to workers during construction would include inhalation of dust and vapors and potential direct contact. The risks to workers during construction would be mitigated through use of proper personal protective equipment. Adverse environmental impacts would be minimized through appropriate methods such as drainage and dust control.

2.5.2 Implementability

- Technical Feasibility

  This response action is technically feasible and would primarily involve shallow excavation and grading activities. Air monitoring and dust control measures to protect site users and the surrounding community from vapors and dust that may be generated during the site work would need to be evaluated during the design.

- Administrative Feasibility

  The personnel would be readily available. Permitting or access issues would not be expected to be significant.

- Availability of Services and Materials

  The personnel, equipment, and materials necessary for Response Action 3 would be readily available,

- State Acceptance

  There are no anticipated concerns with this remedial element.

2.5.3 Cost

Because this remedial element is common to both Response Actions 2 and 3, the cost would be the same for both Response Action 2 and 3 and has not been included on Tables 2 and 3.

3. COMPARATIVE ANALYSIS OF RESPONSE ACTIONS

Response Action 1 would not involve the removal or containment of NAPL or contaminated ground water, and is therefore

not considered for further evaluation since it is not effective in meeting the IRM objectives. The comparative analysis of Response Actions 2 and 3 is presented below.

- Response Action 3 is more effective in minimizing the discharge of NAPL to Onondaga Lake as the entire NAPL plume is contained within the limits of the barrier wall. Under Response Action 2, NAPL-impacted material would remain outside the limits of the barrier wall with the potential of future discharge to Onondaga Lake.
- Although Response Action 2 would include the removal of some NAPL source materials, NAPL-impacted material at depth would remain in place uncontained, creating the potential for further migration. Conversely, the relocation of the lower brook channel per Response Action 3 allows for containment of the entire NAPL-impacted area.
- Response Action 2 is likely more difficult to implement than Response Action 3, due to the need for excavation below the ground water table, the management and handling of additional contaminated soils and ground water, and the greater potential for odor and dust issues.
- Both Response Actions 2 and 3 would create a loss of wetlands due to the placement of the barrier wall that would need to be restored and/or mitigated. Although Response Action 3 would result in a loss of approximately 0.6 acres more of wetlands than Response Action 2, this area would be mitigated consistent with ongoing discussions with the Department relative to the proposed lakewide habitat restoration plan.
- The estimated present value cost for Response Action 2 is $9,504,000, compared to $6,604,000 for Response Action 3. The cost for the Upper Harbor Brook portion is the same for both response actions.

4 RECOMMENDED RESPONSE ACTION

Response Action 3 (barrier wall with temporary relocation of Lower Harbor Brook) is the most effective action in meeting IRM objectives, as its implementation would contain the entire NAPL-impacted area.

Response Action 3 is estimated to be $2,900,000 less than Response Action 2.

Based on these factors, Honeywell recommends that Response Action 3 be implemented as the Interim Remedial Measure for the East Wall alignment and Upper Harbor Brook remediation. NYSDEC and EPA will identify a proposed response action (which may differ from Response Action 3) as a “preferred response action” in the Proposed Response Action Document (PRAD). Following receipt of public comments on the PRAD, NYSDEC and EPA will select a response action in a decision document

Table 1. *Wastebed B/Harbor Brook IRM – IRM and FS Media Summary*

Site Area	IRM Media[1]	FS Media
Lakeshore/AOS #1 Area	Media behind the wall/collection system and the new Harbor Brook channel including: Ground water (migration) NAPL in subsurface soil (migration) Surface water/sediment - I-690 drainage ditch	Ground water (risk, SCGs) NAPL/stained soil (source reduction) Soil inboard of wall[2] Wetland soil/sediment Soil vapor Indoor air
Penn-Can Property	Ground water (migration) NAPL in subsurface soil (migration) Surface water/sediment - Penn-Can drainage ditch Wetland soil	Ground water (risk, SCGs) NAPL (source reduction) Soil Soil vapor Indoor air
Railroad Area	Ground water (migration) NAPL in subsurface soil (migration) Surface water/sediment - Drainage Ditches #1 and 2 Wetland soil	Ground water (risk, SCGs) NAPL (source reduction) Soil
AOS #2	Media behind the wall/collection system including: Ground water (migration) NAPL in subsurface soil (migration) Surface water/sediment - Wastebed D/E Drainage Ditch	Ground water (risk, SCGs) NAPL (source reduction) Soil
Harbor Brook (Open Water Areas #1, 2, 3, 4, and 5, Culverts, and Lower Portion)	Surface water/sediment inboard of barrier wall Seep water NAPL in sediment (migration)	NAPL (source reduction)
East Flume	Surface water	Soil/sediment inboard of the barrier wall[2]
I-690 Storm Drains	Storm water Sediment	NA
SYW-12	NA	Ground water Sludge-like material Wetland soil Soil

(1) Media addressed by IRM will also be discussed in the FS
(2) Soil and sediment outboard of the barrier wall will be addressed in the Outboard Area IRM (a separate EE/CA is being prepared)

Table 2. *Wastebed B/Harbor Brook IRM - Summary of Cost Estimate for Response Action 2*

Response Action 2

Lower Harbor Brook - Barrier Wall with NAPL Extraction

Task	Cost
Response Action 2	
Site Prep (0.7 acres)	$4,760
Excavation and Material Management (11,000 cy)	$1,110,766
Barrier Wall Installation (600 ft)	$2,580,000
Backfill (11,000 cy)	$277,200
Restoration (0.7 acres)	$57,900
Subtotal, Direct Construction Costs	**$4,030,626**
Indirect Construction Costs (28% DCC)	$1,128,575
Engineering, Design, and Const. Oversight (25% DCC and ICC)	$1,289,800
Subtotal, Indirect Costs	**$2,418,376**
Subtotal, Contingency Costs (35% DC and IC)	**$2,257,151**
Subtotal Estimated Capital Costs [1] (rounded)	***$8,710,000***
Annual OM&M Costs (Years 1 - 30)	
Site Inspection/Maintenance	$15,000
Ground Water Treatment (1 gpm @ Willis Ave TP)	$26,280
Subtotal	**$41,280**
Contingency (35%)	$14,448.00
Subtotal	**$55,728**
Project Management (5%)	$2,786
Technical Support (10%)	$5,573
Subtotal, Estimated Annual OM&M Costs (rounded)	***$64,000***
Present Worth of OM&M (7%)	**$794,000**
Total Estimated Present Value - Lower Harbor Brook	**$9,504,000**

Notes:

1. Lower Harbor Brook channel remediation and restoration costs not included as this area will be addressed as part of the Site FS.
2. Upper Harbor Brook and drainage channel remediation and restoration costs not included as those components are common to both response actions.
3. Indirect construction costs are calculated as follows: 13% of total direct construction cost labor plus 15% of total direct construction costs
4. Includes sheeting costs.

Table 3 *. Wastebed B/Harbor Brook IRM - Summary of Cost Estimate for Response Action 3*

Response Action 3

Lower Harbor Brook - Barrier Wall and Harbor Brook Relocation

Task	Cost
Response Action 3	
Site Prep (0.6 acres)	$4,270
Excavation and Material Management (7,000 cy)	$796,342
Barrier Wall Installation (400 ft)	$1,720,000
Culvert Replacement	$150,000
Restoration (0.6 acres)	$21,350
Subtotal, Direct Construction Costs	**$2,691,962**
Indirect Construction Costs (28% DCC)	$753,749
Engineering, Design, and Const. Oversight (25% DCC and ICC)	$861,428
Subtotal, Indirect Costs	**$1,615,177**
Subtotal, Contingency Costs (35% DC and IC)	**$1,507,499**
Subtotal Estimated Capital Costs [1] (rounded)	***$5,810,000***
Annual OM&M Costs (Years 1 - 30)	
Site Inspection/Maintenance	$15,000
Ground Water Treatment (1 gpm @ Willis Ave TP)	$26,280
Subtotal	**$41,280**
Contingency (35%)	$14,448.00
Subtotal	**$55,728**
Project Management (5%)	$2,786
Technical Support (10%)	$5,573
Subtotal, Estimated Annual OM&M Costs (rounded)	***$64,000***
Present Worth of OM&M (7%)	**$794,000**
Total Estimated Present Value - Lower Harbor Brook	**$6,604,000**

Notes:
1. Lower Harbor Brook channel remediation and restoration costs not included as this area will be addressed as part of the Site FS.
2. Upper Harbor Brook and drainage channel remediation and restoration costs not included as those components are common to both response actions.
3. Indirect construction costs are calculated as follow: 13% of total direct construction cost labor plus 15% of total direct construction costs
4. Includes sheeting costs.

FIGURE 1

LEGEND

- HARBOR BROOK SITE
- DREDGE SPOIL AREA
- ADDITIONAL AREA OF STUDY
- WASTEBEDS

HONEYWELL
WASTEBED B/
HARBOR BROOK SITE
GEDDES AND SYRACUSE, NY

SITE LOCATION

N
W E
S

0 225 450 900
Feet

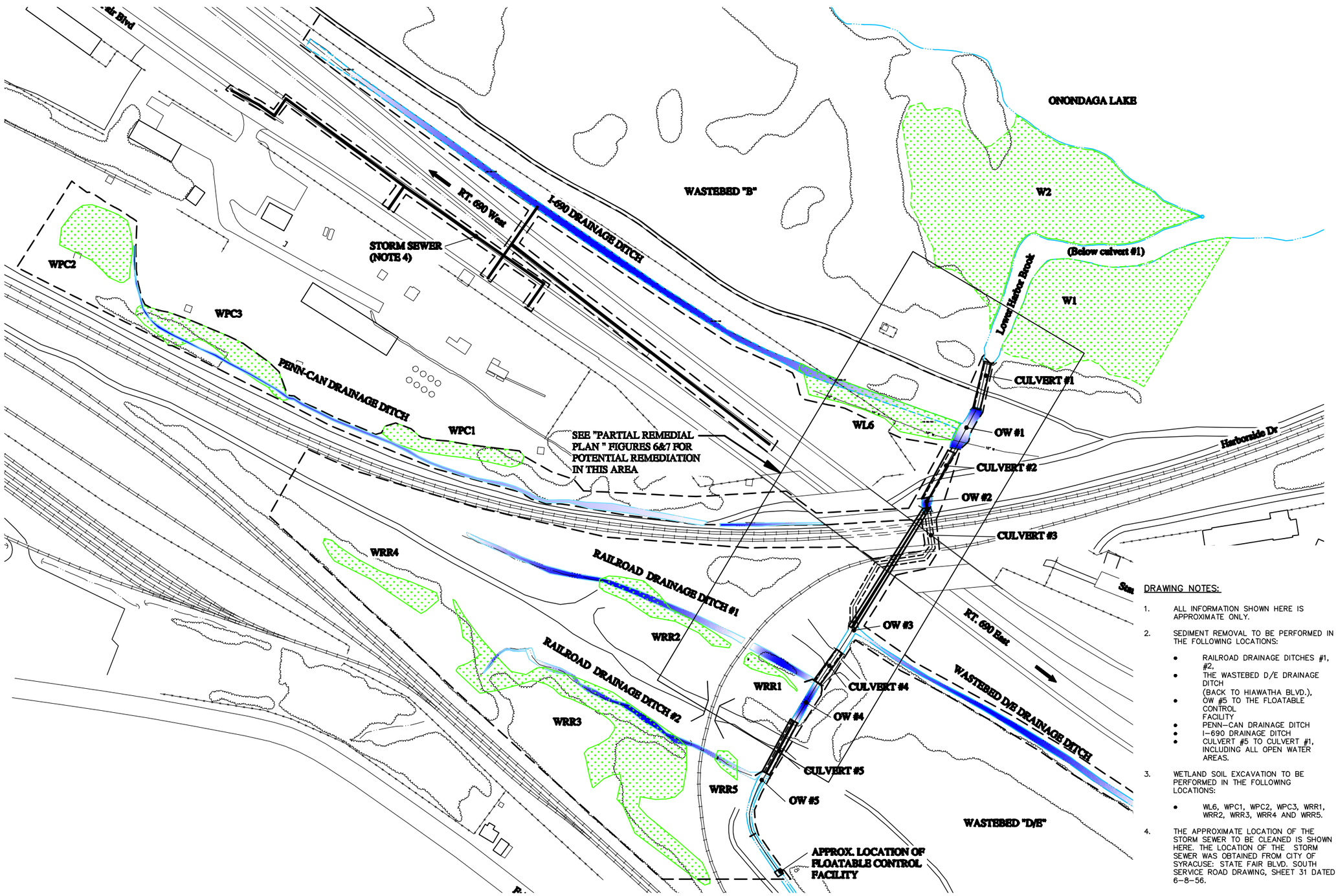
Note: Original base map information obtained from O'Brien & Gere Remedial Investigation Report (November 2007), Figure 2.

PARSONS

290 Elwood Davis Road, Suite 312; Liverpool, NY 13088 315-451-9560

(Q:\GIS\Harbor_Brook_RI\Figure_2\SITE_PLAN.mxd)1/10/2008 -- 1:13:03 PM

FIGURE 2



LEGEND:

- TREE LINE
- FENCE
- RAILROAD
- OW #5 — OPEN WATER
- OPEN WATER/ DRAINAGE DITCH
- WRR3 — DELINEATED WETLAND
- LIMITS OF WORK

DRAWING NOTES:

1. ALL INFORMATION SHOWN HERE IS APPROXIMATE ONLY.
2. SEDIMENT REMOVAL TO BE PERFORMED IN THE FOLLOWING LOCATIONS:
   - RAILROAD DRAINAGE DITCHES #1, #2,
   - THE WASTEBED D/E DRAINAGE DITCH (BACK TO HIAWATHA BLVD.),
   - OW #5 TO THE FLOATABLE CONTROL FACILITY
   - PENN-CAN DRAINAGE DITCH
   - I-690 DRAINAGE DITCH
   - CULVERT #5 TO CULVERT #1, INCLUDING ALL OPEN WATER AREAS.
3. WETLAND SOIL EXCAVATION TO BE PERFORMED IN THE FOLLOWING LOCATIONS:
   - WL6, WPC1, WPC2, WPC3, WRR1, WRR2, WRR3, WRR4 AND WRR5.
4. THE APPROXIMATE LOCATION OF THE STORM SEWER TO BE CLEANED IS SHOWN HERE. THE LOCATION OF THE STORM SEWER WAS OBTAINED FROM CITY OF SYRACUSE: STATE FAIR BLVD. SOUTH SERVICE ROAD DRAWING, SHEET 31 DATED 6-8-56.

HONEYWELL INTERNATIONAL, INC.

WASTEBED B/ HARBOR BROOK IRM TOWN OF GEDDES, SYRACUSE, NY

SITE PLAN

1"=200' 200 0 200

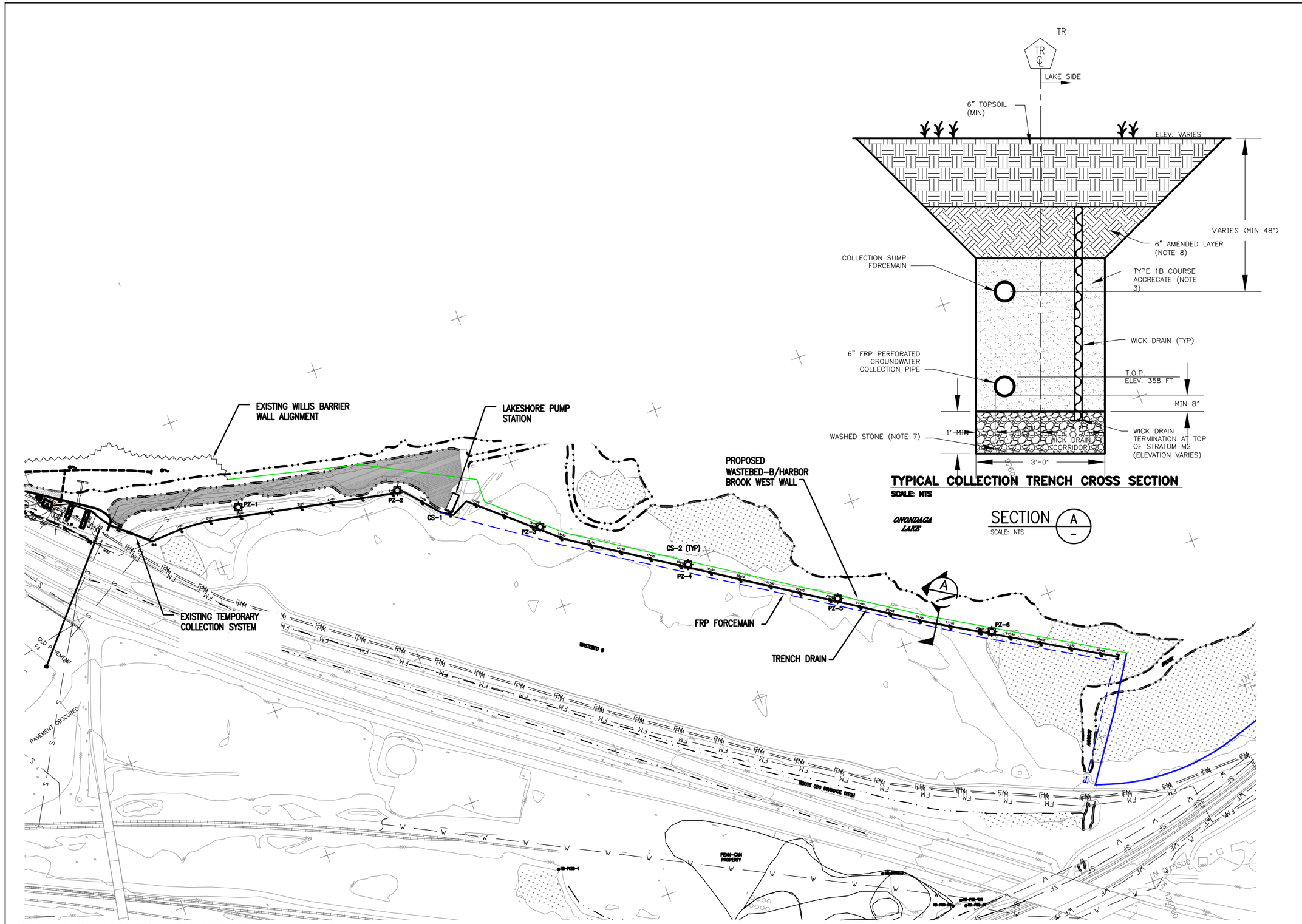
FILE NO. 1163.35685.032
DECEMBER 2009

O'BRIEN & GERE

©2009 O'Brien & Gere Engineers, Inc.

I:\HONEYWELL.1163\35685.WB-B-HARBOR-BR\DWG\FIGURES\35685-032-FIG2-2.DWG

FIGURE 3



FILE NAME: P:\HONEYWELL -SYR\444184 WASTE BED B - HARBOR BROOK\10 TECH\10.1 CAD\444184-SK024.DWG
PLOT DATE: 12/9/2009 12:26 PM PLOTTED BY: HENNESSEY, MARTIN

LEGEND:

- BORING LOCATIONS
- WETLANDS
- WASTEBED B AREA
- WEST WALL ALIGNMENT
- PROPOSED EAST WALL ALIGNMENT

HONEYWELL INTERNATIONAL, INC.

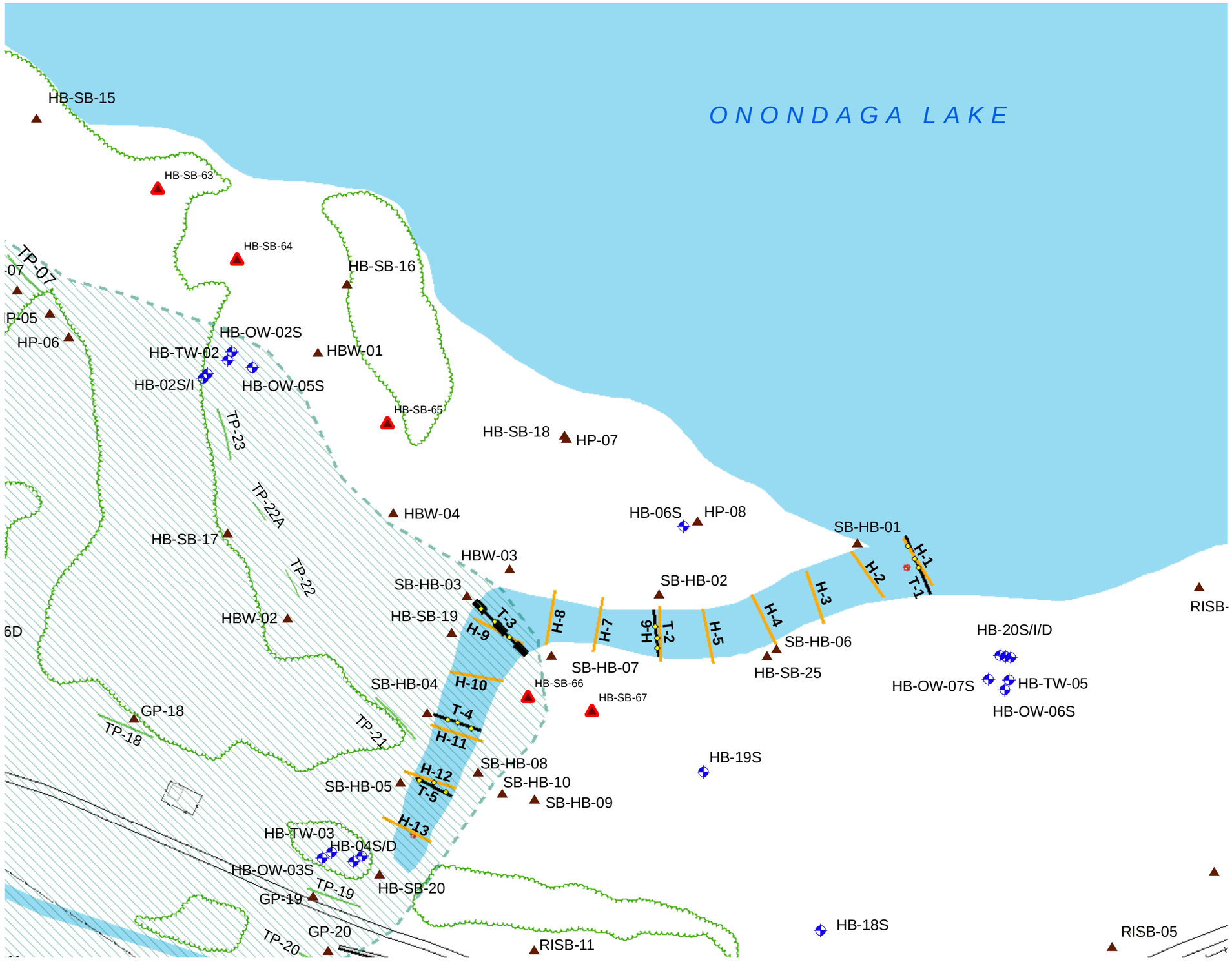
WASTEBED B/ HARBOR BROOK IRM TOWN OF GEDDES, SYRACUSE, NY

WEST WALL/ COLLECTION TRENCH

1"=300' 300 0 300

PARSONS

301 PLAINFIELD ROAD, SUITE 350,
SYRACUSE, N.Y. 13212
315-451-9560



This document was developed in color. Reproduction in B/W may not represent the data as intended.

(Q:\G\SHarbor_Brook_RI\Figure_107\NAPL_marl_update.mxd) 1/11/2008 -- 9:35:41 AM

FIGURE 4

LEGEND

- MONITORING WELLS
- SOIL BORINGS
- RI 2006 Soil Borings (GPS)
- TEST PITS
- SEDIMENT IRM INVESTIGATION SEDIMENT PROBING TRANSECT
- SEDIMENT IRM INVESTIGATION SAMPLING TRANSECT
- SEDIMENT IRM INVESTIGATION SEDIMENT CORE
- APPROXIMATE EXTENT OF NAPL IN MARL

HONEYWELL
WASTEBED B/
HARBOR BROOK SITE
GEDDES AND SYRACUSE, NY

DISTRIBUTION OF NAPL

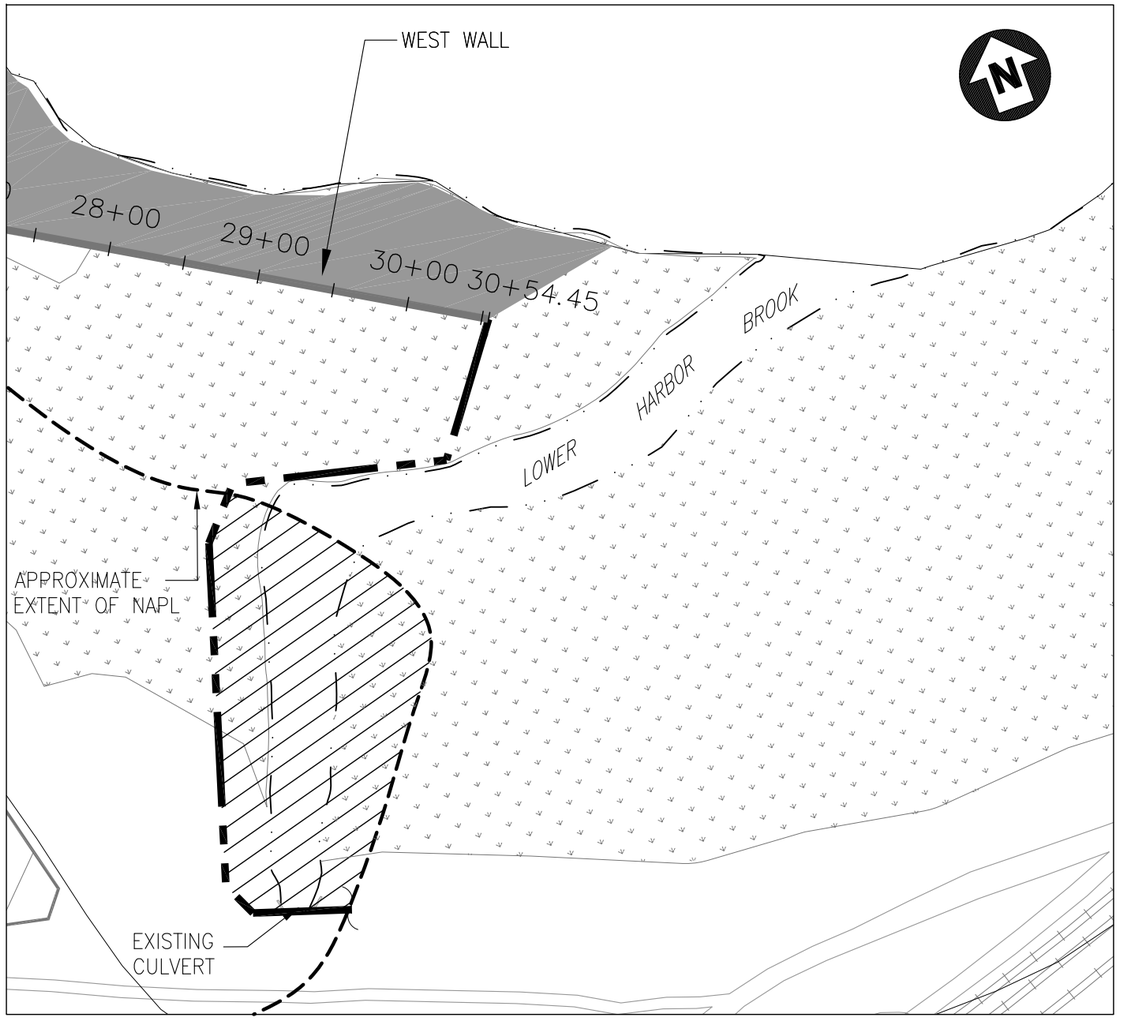
N
W E
S

0 25 50 100 150 200
Feet

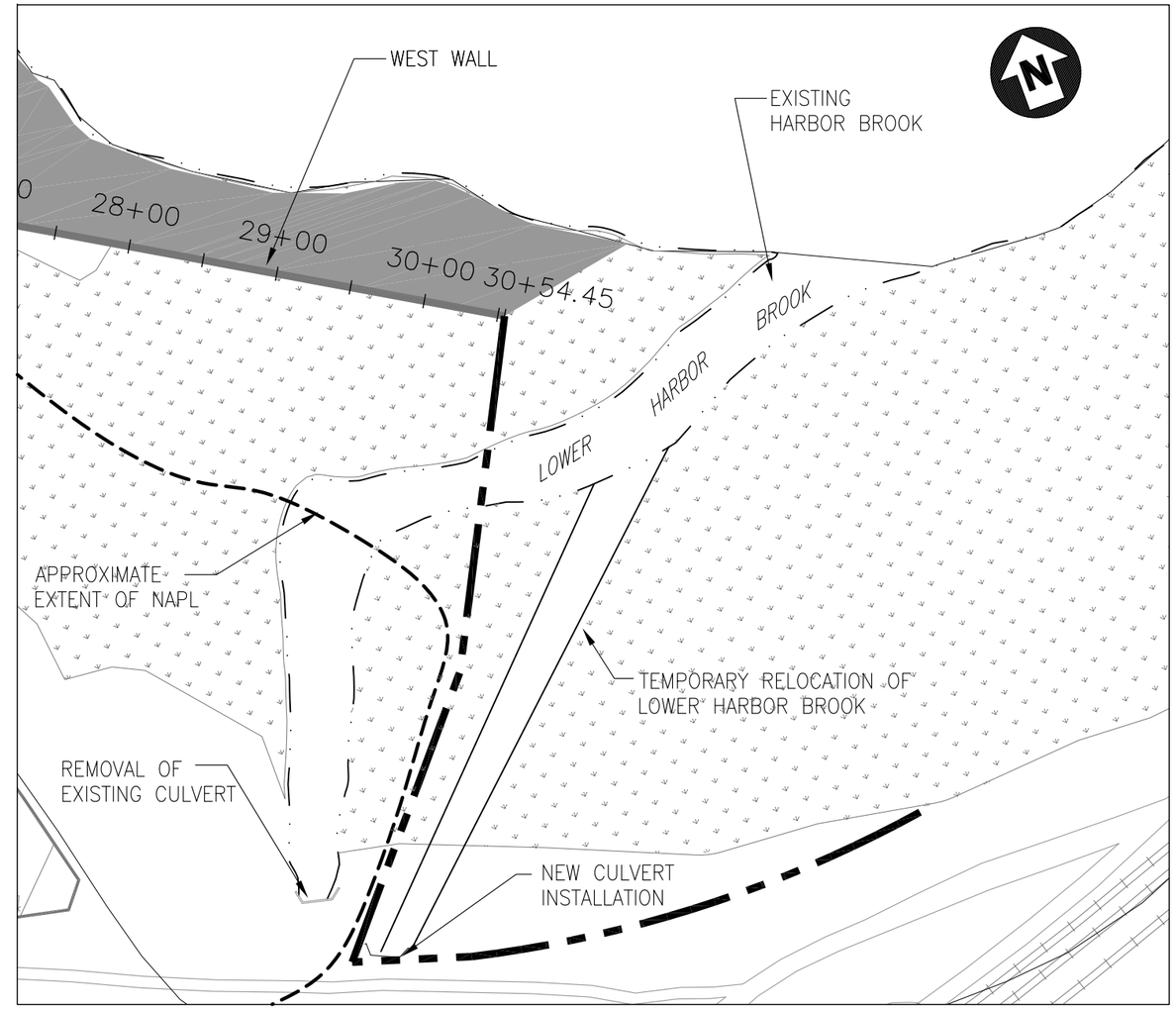
Note: Original base map information obtained from O'Brien & Gere Remedial Investigation Report (November 2007), Figure 107.

PARSONS

290 Elwood Davis Road, Suite 312; Liverpool, NY 13088 315-451-9560



PROPOSED EAST WALL ALIGNMENT
RESPONSE ACTION 2



PROPOSED EAST WALL ALIGNMENT
RESPONSE ACTION 3

100 50 0 100 200

SCALE: 1"=100'

LEGEND

PROPOSED EXCAVATION AREA (WETLAND AREA TO BE RESTORED)

EXISTING WETLAND AREAS

PROPOSED EAST WALL

PROPOSED WEST WALL

APPROXIMATE EXTENT OF NAPL

Preliminary Draft – Settlement Confidential For Discussion Purposes Only

FIGURE 5

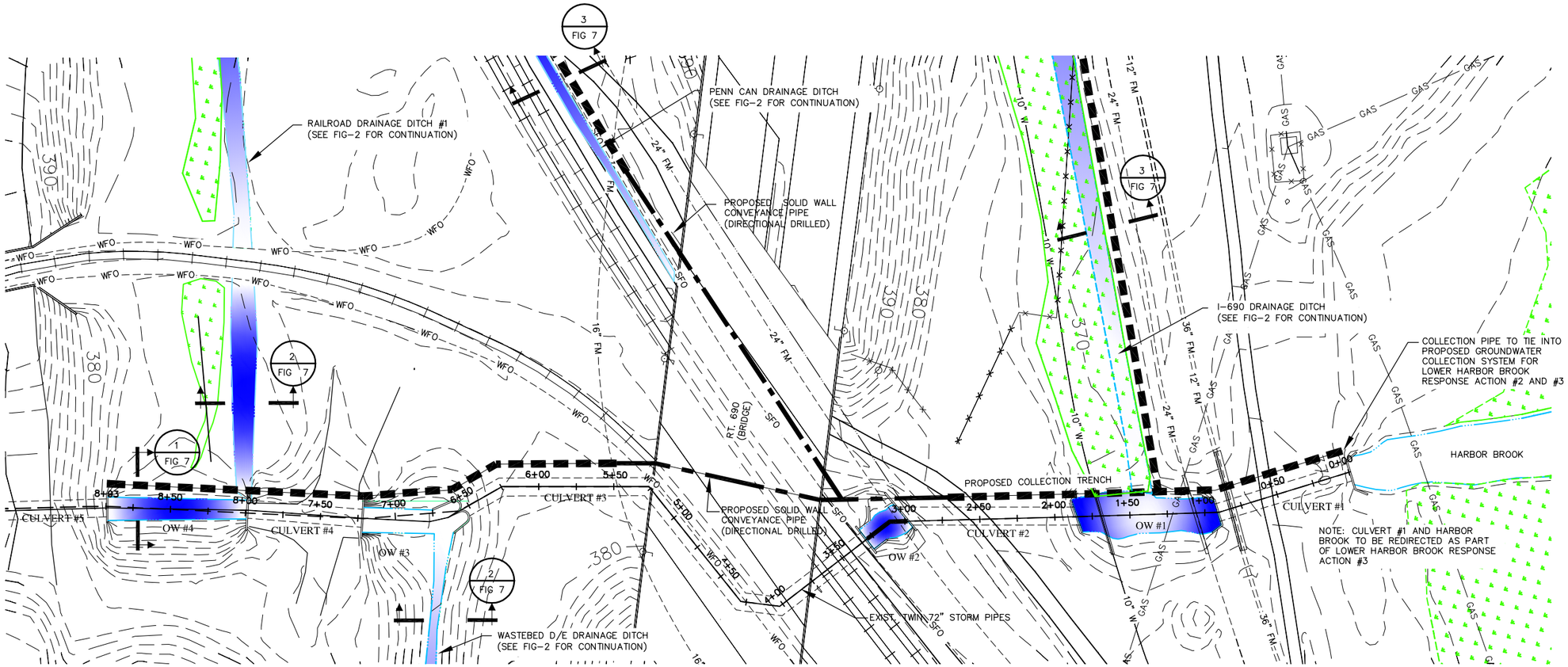
Honeywell WASTEBED B/HARBOR BROOK SITE

PROPOSED EAST WALL ALIGNMENTS

PARSONS
301 PLAINFIELD ROAD, SUITE 350, SYRACUSE, N.Y. 13212 PHONE: 315-451-9560

FILE NAME: P:\HONEYWELL -SYR\441514 - WBB-HB IRM\10 TECHNICAL CATEGORIES\10.1 CAD\441514SK-013.DWG
PLOT DATE: 12/10/2009 9:13 AM PLOTTED BY: RUSSO, JILL

FIGURE 6



PARTIAL REMEDIAL PLAN

SCALE: 1"=40'

LEGEND

- PROPOSED COLLECTION TRENCH
- PROPOSED SOLID WALL CONVEYANCE PIPE
- EXISTING TWIN 72" STORM PIPES
- 380 ELEVATION CONTOUR
- TREE LINE
- FENCE
- GAS — GAS (SUN PIPELINE)
- RAILROAD
- WFO — WILLIAMS FIBER-OPTIC CABLE
- SFO — SPRINT FIBER-OPTIC CABLE
- FM — OCWA WATER MAIN
- OW #5 OPEN WATER DRAINAGE SWALE
- OPEN WATER/ DRAINAGE DITCH
- DELINEATED WETLAND

HONEYWELL
INTERNATIONAL, INC.

WASTEBED B/
HARBOR BROOK IRM
TOWN OF GEDDES,
SYRACUSE, NY

RESPONSE
ACTION #2 AND #3

PARTIAL REMEDIAL
PLAN

1"=80' 80 0 80

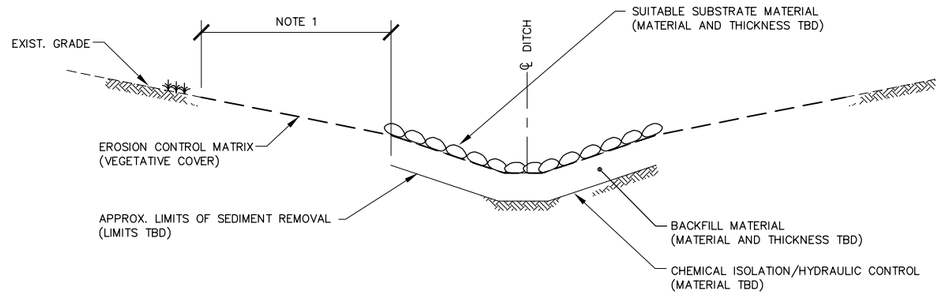
FILE NO. 1163.35685.034
SEPTEMBER 2009

O'BRIEN & GERE

2008 © O'Brien & Gere Engineers, Inc.

I:\HONEYWELL.1163\35685.WB-B-HARBOR-BR\DWG\FIGURES\35685-033-FIG67.DWG

FIGURE 7



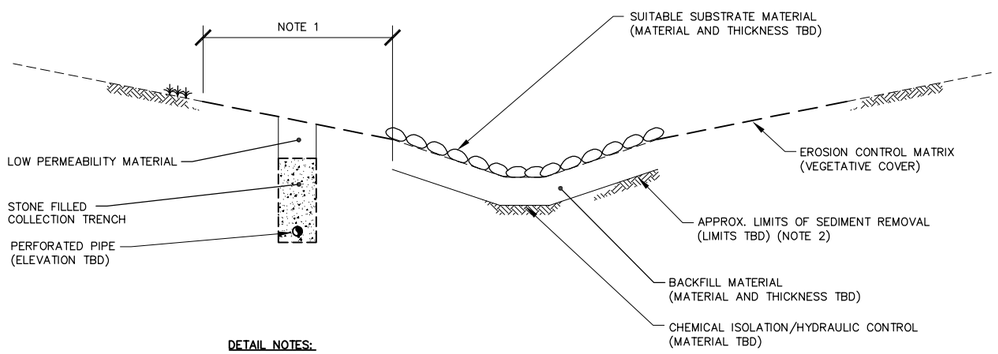
DETAIL NOTES:

1. LIMITS OF EROSION CONTROL MATRIX (VEGETATIVE COVER) TO BE DETERMINED (TYPICAL EACH SIDE OF DITCH)

CONCEPTUAL DRAINAGE DITCH W/ CHEMICAL ISOLATION/HYDRAULIC CONTROL

NOT TO SCALE

2 / FIG–6



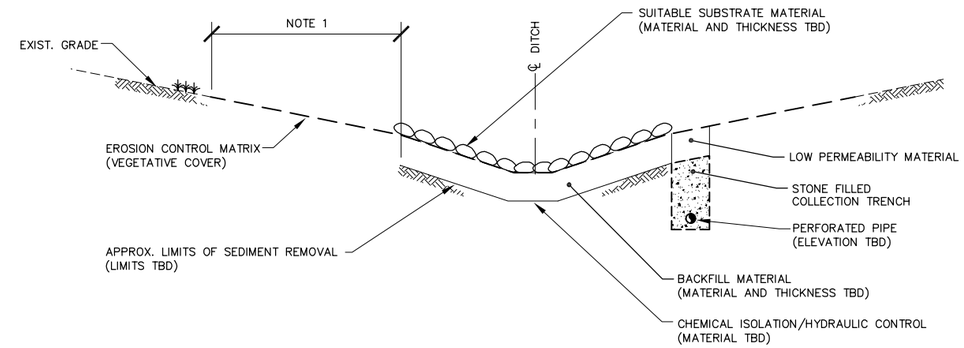
DETAIL NOTES:

1. LIMITS OF EROSION CONTROL MATRIX (VEGETATIVE COVER) TO BE DETERMINED (TYPICAL EACH SIDE OF OPEN WATER AREA)
2. ADDITIONAL EXCAVATION IN OW#3 AND OW#4 PROPOSED TO REMOVE NAPL IMPACTED MATERIAL.

BROOK WITH CHEMICAL ISOLATION/HYDRAULIC CONTROL AND ADJACENT COLLECTION TRENCH

NOT TO SCALE

1 / FIG–6



DETAIL NOTES:

1. LIMITS OF EROSION CONTROL MATRIX (VEGETATIVE COVER) TO BE DETERMINED (TYPICAL EACH SIDE OF DITCH)

CONCEPTUAL DITCH W/CHEMICAL ISOLATION/HYDRAULIC CONTROL AND COLLECTION TRENCH

NOT TO SCALE

3 / FIG–6

NOTE:

1. ALL INFORMATION SHOWN HERE IS SHOWN FOR CONCEPTUAL PURPOSES ONLY. LIMITS, DEPTHS, PIPE SIZES, ETC. SHALL BE PROVIDED DURING THE FINAL DETAILED DESIGN.

HONEYWELL INTERNATIONAL, INC.

WASTEBED B/ HARBOR BROOK IRM TOWN OF GEDDES, SYRACUSE, NY

CONCEPTUAL SECTIONS

FILE NO. 1163.35685.035
DECEMBER 2009

O'BRIEN & GERE

2008 © O'Brien & Gere Engineers, Inc.

I:\HONEYWELL.1163\35685.WB-B-HARBOR-BR\DWG\FIGURES\35685-035-FIG8.DWG

Streamlined Risk Evaluation (SRE)

Streamlined Risk Evaluation

An Engineering Evaluation/Cost Analysis (EE/CA) is being conducted to evaluate alternative alignments for the eastern portion of a barrier wall (East Wall) to be installed downgradient of the Wastebed B/Harbor Brook Site (Site). The proposed IRM for Wastebed B/Harbor Brook calls for the installation of a vertical barrier along the Onondaga Lake shoreline perimeter of Wastebed B and upstream along the west bank of Harbor Brook with a ground water collection system installed within the limits of the vertical barrier. The Wastebed B/Harbor Brook IRM objectives are to:

- Eliminate, to the extent practicable, within the scope of the IRM, the discharge of contaminated ground water and non aqueous phase liquid (NAPL) (and collect NAPL), as feasible into Harbor Brook and Onondaga Lake.
- Eliminate, to the extent practicable, within the scope of the IRM, the potential human health and ecological impacts associated with site constituents of concern.
- Eliminate, to the extent practicable, within the scope of the IRM, potential impacts to fish and wildlife resources associated with on-going Contaminants of Concern from the site.

This Streamlined Risk Assessment (SRE) has been prepared to support the EE/CA.

The study area and sample locations assessed in this SRE are presented on Figures 1 and 2. The objective of the SRE is to provide a thorough and concise evaluation of potential risks to human and ecological receptors assuming no removal or cleanup actions are taken at the Site. It should be noted, however, that while the SRE may indicate risks associated with Site media, the screening was conservative and completed using maximum concentrations and conservative screening criteria. The methods and results of the SRE are provided below.

Human Health Screening – Constituents of Potential Concern (COPCs)

Current and future exposure scenarios in the portion of the Site affected by the proposed IRM include a trespasser, construction worker, surveillance worker, recreational visitor, and, although unlikely, potential future industrial/commercial workers and residents. The future state of the area included in this EE/CA is slated for habitat enhancements, including wetland improvements. In addition to its future use for ecological/nature activities, the area will also likely be used for recreational activities (*e.g.*, biking along a bike trail). To evaluate the potential risks posed to current and likely future receptors, a conservative screening process was applied to identify constituents of potential concern (COPCs) in the surface soil, subsurface soil, sediment, ground water, and surface water of the Site.

To develop a list of COPCs for each of the above media, the maximum detected concentrations of the Site-related constituents were compared to criteria recommended by the New York State Department of Environmental Conservation (NYSDEC, 2007). For sediment, surface soil, and subsurface soil at the Site, the residential soil criteria from the USEPA Region 9 Preliminary Remediation Goals (PRG; USEPA, 2004) and the USEPA Region 3 Risk-Based Concentrations (RBC; USEPA, 2007a) were utilized in the original screening process (O'Brien & Gere, 2008). The USEPA PRG and RBC impact to ground water criteria (dilution attenuation factor of 20) were used as applicable or relevant and appropriate requirements (ARAR)/to be considered (TBC) criteria in the screening process.

Per comment A.4 of the March 12, 2009 NYSDEC letter to Honeywell, the most current IRIS toxicity information is required in the revision of the SRE. As a result, the USEPA Region 3 RBC and Region 9 PRG tables are no longer available and have been replaced with the similar risk-based screening levels *Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites* (USEPA, 2009). These

updated screening levels, were utilized in this document. As in the previous SRE, the screening values applied represented a cancer benchmark of 1×10^{-6} and a hazard quotient of 0.1. Ground water and surface water were compared to RSL for tap water and the maximum contaminant levels (MCLs) were used as ARAR/TBC criteria in the screening process.

For each medium, the constituent was identified as a COPC if the maximum detected constituent concentration exceeded RSL. Otherwise, it was concluded that exposure to the constituent does not represent an unacceptable risk to human health. Naturally occurring compounds were eliminated from the COPC list if they were essential nutrients; therefore calcium, magnesium, potassium, and sodium were not included as human health COPCs. Group A known human carcinogens (*e.g.*, arsenic, benzene, and hexavalent chromium) that were detected were selected as COPCs, regardless of the level at which they were detected. If no RSL screening criterion was available but an ARAR/TBC criterion was available, the latter was used to identify constituents as COPCs. Constituents that were detected but lacked recommended screening criteria were retained as COPCs.

Ecological Screening - Constituents of Potential Ecological Concern

Constituents of potential ecological concern (COPECs) were identified by screening the maximum detected concentrations in Site media against recommended conservative ecologically-based screening criteria and/or guidance values. Surface soils were screened against USEPA Ecological Soil Screening Levels for plants, terrestrial invertebrates, birds, and mammals (USEPA, 2007b), values from Efroymson *et al.*, 1997a and Efroymson *et al.*, 1997b, and NYSDEC *Restricted Use Soil Cleanup Objectives for the Protection of Ecological Resources* (NYCRR, 2006; Table 375-6.8(b)).

Compounds detected in sediment were screened against values found in the NYSDEC *Technical Guidance for Screening Contaminated Sediments*. These criteria included benthic aquatic life chronic toxicity values and wildlife bioaccumulation values (NYSDEC, 1999). Ground water and surface water constituents were screened against the following federal and state criteria:

- National Recommended Water Quality Criteria (USEPA, 2007c) and
- Ambient Water Quality Criteria and Guidance Values for fresh water (fish propagation and wildlife protection) (NYSDEC, 1998).

If the maximum detected constituent concentration exceeded any of the screening criteria, the constituent was identified as a COPEC. Otherwise, it was concluded that exposure to the constituent does not represent an unacceptable risk to ecological receptors. Naturally occurring compounds were eliminated from the COPC list if they were essential nutrients; magnesium and potassium were not included as COPECs. Although calcium and sodium are also naturally occurring essential nutrients, they are major constituents of Solvay waste and have been identified as physical stressors to the lake (NYSDEC, 2002). Consequently, calcium and sodium were retained as COPECs. Constituents that were detected, but lacked recommended screening criteria, were retained as COPECs.

Results

Human Health Screening

Tables 1, 2, 3, 4, and 5 summarize human health COPCs identified for surface soil, subsurface soil, sediment, ground water, and surface water, respectively.

In surface soil (Table 1), 30 detected compounds exceeded conservative screening criteria or are considered Group A (known) human carcinogens. Dioxins (2,3,7,8-TCDD equivalents), arsenic, cyanide, mercury, assorted PAHs, 1,4-dichlorobenzene, and methyl mercury exceeded their RSL by

approximately two or more orders of magnitude. Derivation of the dioxin toxic equivalents is presented in Table A1. Of the 30 surface soil COPCs with screening criteria identified in Table 1, arsenic, mercury, iron, benzene, hexachlorobenzene, benzo(a)pyrene were identified as soil Constituents of Concern (COCs) and were identified as risk drivers in the Onondaga Lake Human Health Risk Assessment (HHRA; NYSDEC 2002a). Also, PCBs, dioxins (2,3,7,8-TCDD equivalents), arsenic, and mercury, which were detected in surface soils, were identified in the HHRA as primary risk drivers associated with the consumption of fish from the lake. This is important because surface soils in the proposed remediation area have the potential to enter the lake and remain at the bottom as sediment.

Subsurface soil contained 36 constituents that are above conservative screening levels or are considered Group A (known) human carcinogens (Table 2). Arsenic, 2-methylnaphthalene, assorted polyaromatic hydrocarbons (PAHs), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and 1,4-dichlorobenzene exceeded their RSL by approximately two or more orders of magnitude. Of the 36 subsurface soil COPCs with screening criteria identified in Table 2, arsenic, iron, mercury, benzo(a)pyrene, and dibenz(a,h)anthracene were identified as subsurface soil COCs and were also identified as risk drivers in the Onondaga Lake HHRA. In addition, arsenic, mercury, and PCBs (which were also detected in subsurface soil) are three of the primary risk drivers associated with the consumption of fish from the lake.

In Harbor Brook sediment, 60 compounds exceeded the conservative screening criteria or are considered Group A (known) human carcinogens (Table 3). Dioxins (2,3,7,8-TCDD equivalents), arsenic, mercury, 4,6-dinitro-2-methylphenol, assorted PAHs, hexachlorobenzene, n-nitroso-di-n-propylamine, and vinyl chloride exceeded their RSL by approximately two or more orders of magnitude. Derivation of the dioxin equivalents is presented in Table A3. Of the 60 sediment COPCs with screening criteria identified in Table 3, dioxins (2,3,7,8-TCDD equivalents), PCBs, antimony, arsenic, cadmium, chromium, iron, mercury, thallium, PAHs, hexachlorobenzene, and naphthalene were identified COCs and also identified in the Onondaga Lake HHRA as risk drivers associated with sediment exposure. PCBs, dioxins (2,3,7,8-TCDD equivalents), arsenic, and mercury also were identified in the HHRA as primary risk drivers associated with the consumption of fish from the lake.

Forty-seven compounds in ground water exceeded the RSL for tap water or are considered known human carcinogens (Table 4). Aluminum, arsenic, barium, cobalt, iron, manganese, thallium, 4,4-DDT, 2,4-dimethylphenol, 2-methylnaphthalene, 4-methylphenol, assorted PAHs, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,4-dichlorobenzene, benzene, ethylbenzene, and xylenes exceeded their RSL by approximately two or more orders of magnitude. Of the 47 ground water COPCs with screening criteria identified in Table 4, arsenic and mercury were identified as COCs and risk drivers in the Onondaga Lake HHRA and were identified as two of the primary risk drivers associated with the consumption of fish from the lake.

In Harbor Brook surface water, 22 compounds in surface water exceeded the RSL for tap water or are considered known human carcinogens (Table 5). Arsenic, assorted PAHs, naphthalene, and benzene exceeded their RSL by approximately two or more orders of magnitude. Of the 22 surface water COPCs with screening criteria identified in Table 5, arsenic and mercury were identified as COCs and risk drivers in the Onondaga Lake HHRA and were identified as two of the primary risk drivers associated with the consumption of fish from the lake.

Ecological Screening

Tables 6, 7, 8, and 9 summarize ecological COPECs identified for surface soil, sediment, surface water, and ground water, respectively.

In surface soil, 37 detected compounds exceeded screening criteria (Table 6). Aluminum, chromium, iron, lead, 4,4'-DDD, and 4,4'-DDT exceeded their respective screening criterion by approximately two or more orders of magnitude. Of the 37 surface soil COPECs with screening criteria identified in Table 6, metals (antimony, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, thallium, zinc, and cyanide), chlorobenzenes, PAHs, chlordane isomers, DDT and metabolites, dieldrin, and PCBs were identified as surface soil COCs in the Onondaga Lake Baseline Ecological Risk Assessment (BERA; NYSDEC 2002b). In addition, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc, were among the risk drivers associated with the potential for phytotoxic effects in soil.

Harbor Brook sediment contained 40 constituents above the screening levels (Table 7). Mercury, toxaphene, 2-methylnaphthalene, fluorene, naphthalene, phenol, and chlorobenzene exceeded their respective screening criterion by approximately two or more orders of magnitude. Of the 40 sediment COPECs with screening criteria identified in Table 7, metals (antimony, arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver, and zinc), benzene, ethylbenzene, toluene, xylenes, chlorobenzenes, PAHs, chlordane isomers, DDT and metabolites, dieldrin, and heptachlor/heptachlor epoxide, were identified as sediment COCs in the Onondaga Lake BERA. In addition, PCBs and dioxins (2,3,7,8-TCDD equivalents) were detected in Site sediment and have been identified as sediment COCs in the Onondaga Lake BERA.

Twenty-one compounds in surface water exceeded screening criteria (Table 8). Mercury, 4,4'-DDD, and naphthalene exceeded their respective screening criterion by approximately 2 or more orders of magnitude. Of the 21 surface water COPECs with screening criteria identified in Table 8, metals (barium, copper, lead, manganese, mercury, zinc, and cyanide), chlorobenzenes, and bis(2-ethylhexyl)phthalate also were identified as exceeding surface water criteria in the Onondaga Lake BERA. In addition metals (antimony, arsenic, chromium, mercury, selenium, vanadium, and zinc), DDT and metabolites, endrin, PCBs, and dioxin/furans were identified in the Onondaga Lake BERA as surface water COCs impacting fish.

Thirty-eight compounds in ground water exceeded surface water screening criteria (Table 9). Aluminum, iron, lead, silver, Aroclor 1260, 4,4'-DDD, 4,4'-DDT, 2-methylnaphthalene, assorted PAHs, bis(2-ethylhexyl)phthalate, naphthalene, and 1,2,4-trimethylbenzene exceeded their respective screening criterion by approximately two or more orders of magnitude. Of the 38 ground water COPECs with screening criteria identified in Table 9, metals (barium, copper, lead, manganese, mercury, zinc, and cyanide), chlorobenzenes, and bis(2-ethylhexyl)phthalate were identified as surface water COCs in the Onondaga Lake BERA. This is particularly important because ground water discharge to Onondaga Lake will impact surface water conditions in the lake.

Conclusions

The identification of COPCs and COPECs indicate that there is a potential threat to human health and the environment. Many of these COCs and COPECs are also identified as COCs in the Onondaga Lake HHRA and BERA (Table 10). Therefore, response actions at the portion of the Site being evaluated by the EE/CA are warranted based on the following factors acknowledged in 40 CFR Section 300.415 (b)(2):

- Potential threat of exposure to nearby human populations, animals, and the food chain from COPCs.
- Unacceptable potential risks due to elevated levels of COPCs in soils sediment, surface water, and ground water.
- Potential threat to public health, welfare, or the environment.
- High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.

- Actual or potential contamination of drinking water supplies or sensitive ecosystems

References

Efroymson, R. A., M. E. Will, G. W. Suter, II, and A. C. Wooten. 1997a. *Toxicological Benchmarks for Contaminants of Potential Concern for Effects on Terrestrial Plants: 1997 Revision*. Oak Ridge National Laboratory, Oak Ridge, Tennessee. ES/ER/TM-85/R3.

Efroymson, R. A., M. E. Will, and G. W. Suter, II. 1997b. *Toxicological Benchmarks for Contaminants of Potential Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Process: 1997 Revision*. Oak Ridge National Laboratory, Oak Ridge, Tennessee, ES/ER/TM-126/R2.

New York Code of Rules and Regulations (NYCRR). *Part 375-6 Restricted Use Soil Cleanup Objectives for the Protection of Ecological Resources*. 6 NYCRR 375. December 14, 2006.

NYSDEC. 1998. Division of Water Technical and Operational Guidance Series (TOGS) – *Ambient Water Quality Standards and Guidance Values and Ground Water Effluent Guidelines* (TOGS 1.1.1). June 1998.

NYSDEC. 1999. *Technical Guidance for Screening Contaminated Sediments*. Division of Fish, Wildlife, and Marine Resources.

NYSDEC, 2002a. *Onondaga Lake Human Health Risk Assessment.* Division of Environmental Remediation. Albany, NY.

NYSDEC, 2002b. *Onondaga Lake Baseline Ecological Risk Assessment.* Division of Environmental Remediation. Albany, NY.

NYSDEC. 2007. Electronic communication from NYSDEC to Parsons. October 23, 2007.

O'Brien & Gere Engineers, Inc. (O'Brien & Gere). 2008. *Engineering Evaluation/Cost Analysis. Interim Remedial Measure. Wastebed B/Harbor Brook Site. Geddes and Syracuse, New York*. O'Brien & Gere Engineers, Inc., East Syracuse, New York.

USEPA. 2004. *Region 9 Preliminary Remediation Goals*. Retrieved from http://www.epa.gov/region09/waste/sfund/prg/.

USEPA. 2007a. *Region 3 Risk-Based Concentration Tables*. Retrieved from http://www.epa.gov/reg3hwmd/risk/human/index.htm.

USEPA. 2007b. *Ecological Soil Screening Levels*. Interim Final. Office of Solid Waste and Emergency Response. Washington, D.C. Retrieved June 2009 from http://www.epa.gov/ecotox/ecossl/.

USEPA, 2007c. *Current National Recommended Water Quality Criteria*. Retrieved June 2009 from http://www.epa.gov/waterscience/criteria/wqcriteria.html.

USEPA. 2009. *Regional Screening Levels for Chemical Contaminants at Superfund Sites*. Retrieved June 2009 from http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm.

Table 1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value[4] (mg/kg)		Potential ARAR/TBC Value[5]	Selected Screening Value[4] (mg/kg)	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion[7]
Wastebed B/Harbor Brook - Surface Soil	DIOXIN/FURAN															
	1746-01-6	2,3,7,8-TCDD Equivalent[8]	4.2	359.9	ng/kg	NA	8/8	-	3.60E-04		4.50E-06	c*	1.50E-07	4.50E-06	Y	ASL
	METALS															
	7429-90-5	ALUMINUM	1870	24400	mg/kg	HB-HBW-03	55/55	-	24400		7.70E+03	n	5.50E+04	7.70E+03	Y	ASL
	7440-36-0	ANTIMONY	0.18 J	2.4 J	mg/kg	HB-GP-38	13/54	0.16-42.5	2.40E+00		3.10E+00	n	2.70E-01	3.10E+00	N	BSL
	7440-38-2	ARSENIC	2.3	34.4	mg/kg	HB-PCSS-1	53/54	7.1-7.1	3.44E+01		3.90E-01	c*	1.30E-03	3.90E-01	Y	TOX
	7440-39-3	BARIUM	18.6 J	879 J	mg/kg	HB-HB-07S	55/55	-	8.79E+02		1.50E+03	n	8.20E+01	1.50E+03	N	BSL
	7440-41-7	BERYLLIUM	0.3 J	1.4	mg/kg	HB-HBW-01	22/54	0.53-3.5	1.40E+00		1.60E+01	n	3.20E+00	1.60E+01	N	BSL
	7440-43-9	CADMIUM	0.034 J	49.3 J	mg/kg	HB-HB-02I	28/54	0.027-3.5	4.93E+01		7.00E+00	n	NV	7.00E+00	Y	ASL
	7440-70-2	CALCIUM	5880	352000	mg/kg	HB-SS-08	55/55	-	3.52E+05		NV		NV	NV	N	NUT
	18540-29-9	CHROMIUM[9]	9.3	191 J	mg/kg	HB-HB-20D	55/55	-	1.91E+02		3.90E+01	c**	2.10E+00	3.90E+01	Y	ASL
	7440-48-4	COBALT	3.4 J	13.3 J	mg/kg	HB-GP-20	38/54	6.61-35.4	1.33E+01		2.30E+00	n	4.90E-01	2.30E+00	Y	ASL
	7440-50-8	COPPER	16	302 J	mg/kg	HB-HB-19S	55/55	-	3.02E+02		3.10E+02	n	4.60E+01	3.10E+02	N	BSL
	57-12-5	CYANIDE	0.96	2.9	mg/kg	HB-GP-20	6/54	0.54-7.3	2.90E+00		1.60E+02	n	2.00E+00	1.60E+02	N	BSL
	7439-89-6	IRON	2690	27900	mg/kg	HB-PCSS-1	55/55	-	2.79E+04		5.50E+03	n	6.40E+02	5.50E+03	Y	ASL
	7439-92-1	LEAD	6.8 J	2320 J	mg/kg	HB-HB-20D	55/55	-	2.32E+03		4.00E+02	nL	NV	4.00E+02	Y	ASL
	7439-95-4	MAGNESIUM	811	107000	mg/kg	HB-HB-08D	55/55	-	1.07E+05		NV		NV	NV	N	NUT
	7439-96-5	MANGANESE	60.6 J	580 J	mg/kg	HB-GP-20	55/55	-	5.80E+02		1.80E+02	n	5.70E+01	1.80E+02	Y	ASL
	7439-97-6	MERCURY[10]	0.05	64.3	mg/kg	HB-SS-08	51/55	0.033-0.0368	6.43E+01		7.80E-01	n	NV	7.80E-01	Y	ASL
	7440-02-0	NICKEL	9.8	73.5 J	mg/kg	HB-HB-20D	55/55	-	7.35E+01		1.50E+02	n	4.80E+01	1.50E+02	N	BSL
	7440-09-7	POTASSIUM	440 J	8170 J	mg/kg	HB-HBW-03	53/54	323.56-323.56	8.17E+03		NV		NV	NV	N	NUT
	7782-49-2	SELENIUM	0.33 J	2.9	mg/kg	HB-PCSS-1	28/52	0.53-5.95	2.09E+02		3.90E+01	n	2.60E-01	3.90E+01	Y	ASL
	7440-22-4	SILVER	0.33 J	27.6 J	mg/kg	HB-HB-02I	12/54	0.079-7.1	2.76E+01		3.90E+01	n	1.60E+00	3.90E+01	N	BSL
	7440-23-5	SODIUM	60.7	12800 J	mg/kg	HB-RISB-05	54/55	568-568	1.28E+04		NV		NV	NV	N	NUT
	7440-28-0	THALLIUM	1.1 J	1.1 J	mg/kg	HB-HBW-01	1/54	0.4-7.1	1.10E+00		5.10E-01	n	1.40E-01	5.10E-01	Y	ASL
	7440-62-2	VANADIUM	8.1 J	49.1	mg/kg	HB-HBW-03	52/54	8.09-35.4	4.91E+01		5.50E+01	n	2.60E+02	5.50E+01	N	BSL
	7440-66-6	ZINC	23.1	635 J	mg/kg	HB-HB-02I	54/54	-	6.35E+02		2.30E+03	n	6.80E+02	2.30E+03	N	BSL
	PCB															
	12674-11-2	AROCLOR-1016	0.003 J	0.1 J	mg/kg	HB-HB-02I	2/54	0.02-3.2	1.00E-01		3.90E-01	n	5.20E-02	3.90E-01	N	BSL
	12672-29-6	AROCLOR-1248	4.42 JN	4.42 JN	mg/kg	HB-SB-65	1/54	0.02-3.2	4.42E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	11097-69-1	AROCLOR-1254	0.006 J	2.4	mg/kg	HB-HB-18S	8/54	0.02-3.2	2.40E+00		2.20E-01	c**	NV	2.20E-01	Y	ASL
	11096-82-5	AROCLOR-1260	0.003 J	2.7	mg/kg	HB-SS-09	25/54	0.02-3.2	2.70E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	PESTICIDE															
	72-54-8	4,4'-DDD	0.001 J	0.73 J	mg/kg	HB-HB-19S	7/55	0.0037-0.32	7.30E-01		2.00E+00	c	NV	2.00E+00	N	BSL
	72-55-9	4,4'-DDE	0.002 J	0.11 J	mg/kg	HB-HB-19S	5/54	0.0037-0.32	1.10E-01		1.40E+00	c	NV	1.40E+00	N	BSL
	50-29-3	4,4'-DDT	0.0064 J	0.39 J	mg/kg	HB-HB-19S	5/54	0.0037-0.32	3.90E-01		1.70E+00	c*	NV	1.70E+00	N	BSL
	57-74-9	CHLORDANE[11]	0.0063 J	0.05 J	mg/kg	HB-HB-02I	2/53	0.0019-0.16	5.00E-02		1.60E+00		NV	1.60E+00	N	BSL
	12789-03-6	CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	0.0059 J	0.12 J	mg/kg	HB-HB-19S	4/54	0.0019-0.16	1.20E-01		1.60E+00	c*	3.30E-02	1.60E+00	N	BSL
	60-57-1	DIELDRIN	0.0045 J	0.11	mg/kg	HB-HB-18S	2/54	0.0037-0.32	1.10E-01		3.00E-02	c	NV	3.00E-02	Y	ASL
	53494-70-5	ENDRIN KETONE[12]	0.39	0.56	mg/kg	HB-SS-11	2/54	0.0037-0.32	5.60E-01		1.80E+00	n	NV	1.80E+00	N	BSL
	1024-57-3	HEPTACHLOR EPOXIDE	0.052 J	0.052 J	mg/kg	HB-HB-19S	1/54	0.0019-0.16	5.20E-02		5.30E-02	c*	7.90E-05	5.30E-02	N	BSL

Table 1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value[4] (mg/kg)		Potential ARAR/TBC Value[5]	Selected Screening Value[4] (mg/kg)	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion[7]
Wastebed B/Harbor Brook - Surface Soil	SVOC															
	34METPH	3&4-METHYLPHENOL	0.044 J	0.091 J	mg/kg	HB-HB-02I	2/52	0.36-180	9.10E-02		NV		NV	NV	Y	NTX
	65-85-0	BENZOIC ACID	0.049 J	1.7 J	mg/kg	HB-HBW-02	7/18	1.8-29	1.70E+00		2.40E+05	nm	NV	2.40E+05	N	BSL
	100-51-6	BENZYL ALCOHOL	0.28 J	0.28 J	mg/kg	HB-HB-08D	1/52	0.36-180	2.80E-01		3.10E+03	n	4.20E+00	3.10E+03	N	BSL
	105-67-9	2,4-DIMETHYLPHENOL	0.043 J	0.043 J	mg/kg	HB-HB-15	1/53	0.36-180	4.30E-02		1.20E+02	n	1.20E+00	1.20E+02	N	BSL
	91-57-6	2-METHYLNAPHTHALENE	0.055 J	6.2 J	mg/kg	HB-SS-08	31/53	0.36-180	6.20E+00		3.10E+01	n	9.00E-01	3.10E+01	N	BSL
	106-47-8	4-CHLOROANILINE	0.12 J	0.49 J	mg/kg	HB-SS-10	2/53	0.36-180	4.90E-01		2.40E+00	c	NV	2.40E+00	N	BSL
	83-32-9	ACENAPHTHENE	0.053 J	5 J	mg/kg	HB-HB-19S	15/53	0.36-180	5.00E+00		3.40E+02	n	2.70E+01	3.40E+02	N	BSL
	208-96-8	ACENAPHTHYLENE	0.08 J	7.7 J	mg/kg	HB-HB-19S	31/53	0.36-180	7.70E+00		NV		NV	NV	Y	NTX
	120-12-7	ANTHRACENE	0.049 J	12 J	mg/kg	HB-HB-19S	37/54	0.36-180	1.20E+01		1.70E+03	n	4.50E+02	1.70E+03	N	BSL
	56-55-3	BENZO(A)ANTHRACENE	0.057 J	26 J	mg/kg	HB-HB-19S	46/54	0.36-180	2.60E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	50-32-8	BENZO(A)PYRENE	0.056 J	29 J	mg/kg	HB-HB-19S	46/55	0.36-180	2.90E+01		1.50E-02	c	4.60E-03	1.50E-02	Y	ASL
	205-99-2	BENZO(B)FLUORANTHENE	0.081 J	23 J	mg/kg	HB-HB-19S	47/55	0.36-180	2.30E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	191-24-2	BENZO(G,H,I)PERYLENE	0.037 J	19 J	mg/kg	HB-HB-19S	44/54	0.36-180	1.90E+01		NV		NV	NV	Y	NTX
	207-08-9	BENZO(K)FLUORANTHENE	0.066 J	22 J	mg/kg	HB-HB-19S	43/54	0.36-180	2.20E+01		1.50E+00	c	NV	1.50E+00	Y	ASL
	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	0.063 J	4.4 J	mg/kg	HB-HB-02I	10/53	0.36-180	4.40E+00		3.50E+01	c*	1.60E+00	3.50E+01	N	BSL
	85-68-7	BUTYLBENZYL PHTHALATE	0.052 J	0.2 J	mg/kg	HB-HBW-03	4/53	0.36-180	2.00E-01		2.60E+02	c*	NV	2.60E+02	N	BSL
	86-74-8	CARBAZOLE	0.042 J	5.7 J	mg/kg	HB-HB-19S	25/53	0.36-180	5.70E+00		NV		NV	NV	Y	NTX
	218-01-9	CHRYSENE	0.07 J	34 J	mg/kg	HB-HB-19S	48/55	0.36-180	3.40E+01		1.50E+01	c	NV	1.50E+01	Y	ASL
	53-70-3	DIBENZO(A,H)ANTHRACENE	0.079 J	6.2 J	mg/kg	HB-HB-19S	30/53	0.36-180	6.20E+00		1.50E-02	c	NV	1.50E-02	Y	ASL
	132-64-9	DIBENZOFURAN	0.045 J	3.7 J	mg/kg	HB-RISB-04	21/53	0.36-180	3.70E+00		NV		NV	NV	Y	NTX
	84-74-2	DI-N-BUTYL PHTHALATE	0.044 J	0.044 J	mg/kg	HB-HB-15	1/53	0.36-180	4.40E-02		6.10E+02	n	1.10E+01	6.10E+02	N	BSL
	117-84-0	DI-N-OCTYL PHTHALATE	0.3 J	0.3 J	mg/kg	HB-HBW-03	1/53	0.36-180	3.00E-01		NV		NV	NV	Y	NTX
	206-44-0	FLUORANTHENE	0.094 J	77 J	mg/kg	HB-HB-19S	49/55	0.36-180	7.70E+01		2.30E+02	n	2.10E+02	2.30E+02	N	BSL
	86-73-7	FLUORENE	0.058 J	6.8 J	mg/kg	HB-HB-19S	17/54	0.36-180	6.80E+00		2.30E+02	n	3.30E+01	2.30E+02	N	BSL
	118-74-1	HEXACHLOROBENZENE	0.19 J	4.1 J	mg/kg	HB-HBW-02	6/53	0.36-180	4.10E+00		3.00E-01	c	2.90E-04	3.00E-01	Y	ASL
	193-39-5	INDENO(1,2,3-CD)PYRENE	0.055 J	17 J	mg/kg	HB-HB-19S	42/54	0.36-180	1.70E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	91-20-3	NAPHTHALENE	0.012	100	mg/kg	HB-SS-08	42/75	0.005-160	1.00E+02		3.90E+00	c*	NV	3.90E+00	Y	ASL
	85-01-8	PHENANTHRENE	0.054 J	61 J	mg/kg	HB-HB-19S	47/55	0.36-180	6.10E+01		NV		NV	NV	Y	NTX
	108-95-2	PHENOL	0.27 J	0.93 J	mg/kg	HB-HB-06S	3/53	0.36-180	9.30E-01		1.80E+03	n	8.10E+00	1.80E+03	N	BSL
	129-00-0	PYRENE	0.085 J	59 J	mg/kg	HB-HB-19S	49/55	0.36-180	5.90E+01		1.70E+02	n	1.50E+02	1.70E+02	N	BSL
	VOC															
	135-98-8	SEC-BUTYLBENZENE	0.002 J	0.002 J	mg/kg	HB-HBW-04	1/21	0.003-0.005	2.00E-03		NV		NV	NV	Y	NTX
	95-63-6	1,2,4-TRIMETHYLBENZENE	0.0008 J	0.006 J	mg/kg	HB-HBW-04	2/21	0.003-0.005	6.00E-03		6.70E+00	n	2.40E-02	6.70E+00	N	BSL
	108-67-8	1,3,5-TRIMETHYLBENZENE	0.003 J	0.003 J	mg/kg	HB-HBW-04	1/21	0.003-0.005	3.00E-03		4.70E+00	n	2.00E-02	4.70E+00	N	BSL
	108-87-2	METHYLCYCLOHEXANE	0.33 J	0.33 J	mg/kg	HB-SB-65	1/1	-	3.30E-01		NV		NV	NV	Y	NTX
	99-87-6	P-ISOPROPYLTOLUENE	0.002 J	0.009 J	mg/kg	HB-GP-38	3/21	0.003-0.006	9.00E-03		NV		NV	NV	Y	NTX
	120-82-1	1,2,4-TRICHLOROBENZENE	0.5 J	48 J	mg/kg	HB-SS-11	12/74	0.005-180	4.80E+01		8.70E+00	n	1.30E-02	8.70E+00	Y	ASL
	95-50-1	1,2-DICHLOROBENZENE	0.002 J	210	mg/kg	HB-SS-11	20/74	0.003-12	2.10E+02		2.00E+03	ns	4.00E-01	2.00E+03	N	BSL
	541-73-1	1,3-DICHLOROBENZENE	0.001 J	7	mg/kg	HB-SB-65	7/74	0.003-180	7.00E+00		NV		NV	NV	Y	NTX
	106-46-7	1,4-DICHLOROBENZENE	0.009 J	350	mg/kg	HB-SS-11	27/74	0.003-7.5	3.50E+02		2.60E+00	c	4.60E-04	2.60E+00	Y	ASL
	78-93-3	2-BUTANONE	0.005 J	0.047 J	mg/kg	HB-HB-20D	12/54	0.0093-1.7	4.70E-02		2.80E+04	ns	NV	2.80E+04	N	BSL
	67-64-1	ACETONE	0.004 J	0.37 J	mg/kg	HB-XSS-1	20/55	0.011-1.7	3.70E-01		6.10E+03	n	4.40E+00	6.10E+03	N	BSL

Table 1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening(2) (mg/kg)	Background Value(3)	RSL Screening Toxicity Value(4) (mg/kg)		Potential ARAR/TBC Value(5)	Selected Screening Value(4) (mg/kg)	COPC Flag (Y/N)(6)	Rationale for Selection or Deletion(7)
	71-43-2	BENZENE	0.0008 J	1.4	mg/kg	HB-SB-65	16/54	0.003-0.036	1.40E+00		1.10E+00	c*	2.30E-04	1.10E+00	Y	TOX
	75-15-0	CARBON DISULFIDE	0.0021 J	0.11 J	mg/kg	HB-SB-65	2/33	0.0093-0.073	1.10E-01		6.70E+02	ns	NV	6.70E+02	N	BSL
	108-90-7	CHLOROBENZENE	0.002 J	3.4	mg/kg	HB-SB-65	17/55	0.003-0.017	3.40E+00		3.10E+01	n	6.80E-02	3.10E+01	N	BSL
	156-59-2	CIS-1,2-DICHLOROETHENE	0.0026 J	0.0026 J	mg/kg	HB-HB-20D	1/54	0.003-0.42	2.60E-03		7.80E+01	n	2.10E-02	7.80E+01	N	BSL
	100-41-4	ETHYLBENZENE	0.0017 J	0.41 J	mg/kg	HB-SB-65	6/55	0.003-0.017	4.10E-01		5.70E+00	c	1.90E-03	5.70E+00	N	BSL
	98-82-8	ISOPROPYLBENZENE	0.13 J	0.13 J	mg/kg	HB-SB-65	1/22	0.003-0.006	1.30E-01		2.20E+03	ns	NV	2.20E+03	N	BSL
	75-09-2	METHYLENE CHLORIDE	0.0021 J	0.16	mg/kg	HB-HBW-01	9/54	0.002-0.83	1.60E-01		1.10E+01	c	1.20E-03	1.10E+01	N	BSL
	95-47-6	O-XYLENE	0.0018 J	0.11 J	mg/kg	HB-RISB-05	4/33	0.0047-0.017	1.10E-01		5.30E+03	ns	NV	5.30E+03	N	BSL
	100-42-5	STYRENE	0.0052 J	0.0052 J	mg/kg	HB-HB-20D	1/54	0.003-0.42	5.20E-03		6.50E+03	ns	1.20E-01	6.50E+03	N	BSL
	127-18-4	TETRACHLOROETHENE	0.0005 J	0.0005 J	mg/kg	HB-GP-30	1/54	0.003-0.42	5.00E-03		5.70E-01	c	5.20E-05	5.70E-01	N	BSL
	108-88-3	TOLUENE	0.0008 J	0.68	mg/kg	HB-SB-65	13/55	0.0028-0.036	6.80E-01		5.00E+03	ns	7.60E-01	5.00E+03	N	BSL
	79-01-6	TRICHLOROETHENE	0.0005 J	0.002 J	mg/kg	HB-HBW-04	2/54	0.003-0.42	2.00E-03		2.80E+00	c	6.10E-04	2.80E+00	N	BSL
	XYLENES1314	XYLENES, M & P(13)	0.0033 J	0.22 J	mg/kg	HB-RISB-05	8/33	0.0047-0.036	2.20E-01		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL
	1330-20-7	XYLENES, TOTAL	0.0007 J	2.1	mg/kg	HB-SB-65	7/22	0.003-0.005	2.10E+00		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL
	OTHER															
	6165-52-2	1-PHENYL-1-(2,4-DIMETHYLPHENYL) ETHANE	150	150	mg/kg	HB-SB-65	1/1	-	1.50E+02		NV		NV	NV	Y	NTX
	3717-68-8	1-PHENYL-1-(4-METHYLPHENYL) ETHANE	44	44	mg/kg	HB-SB-65	1/1	-	4.40E+01		NV		NV	NV	Y	NTX
	112-40-3	DODECANE	590 J	1100 J	mg/kg	HB-RISB-04	2/4	450-640	1.10E+03		NV		NV	NV	Y	NTX
	22967-92-6	METHYL MERCURY	0.864	96.1	mg/kg	HB-SS-08	16/16	-	9.61E+01		7.80E-01	n	NV	7.80E-01	Y	ASL

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Maximum detected concentration
(3) N/A - No background screening performed.
(4) Screening values are for residential soil and represent cancer benchmark of 1E-06 and HQ=0.1
(USEPA April 2009 RSL Screening Toxicity Values).
(5) Soil screening level for migration to ground water. Minimum of risk-based and MCL-based soil screening levels
(USEPA April 2009 RSL Screening Toxicity Values). Based on DAF = 1.
(6) Constituents selected as constituents of potential concern (COPC) if they are not an essential nutrient and either if Concentration Used for Screening exceeds
Selected Screening Value, if there is no Selected Screening Value, or if constituent is a Group A carcinogen.
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information; TOX = Group A carcinogen. Deletion Rationale: BSL - Below Screening Level, NUT - Essential Nutrient.
(8) Based on use of WHO toxicity equivalency factors for dioxins and dioxin-like compounds from Van Den Berg et al. (2006). See Table A1
(9) Toxicity values reflect those of Hexavalent Chromium (CAS # 18540-29-9)
(10) Toxicity values reflect those of Methyl Mercury (CAS # 22967-92-6)
(11) Toxicity values reflect those of Constituents of Chlordane (CAS # 12789-03-6)
(12) Toxicity values reflect those of Endrin (CAS # 72-20-8)
(13) Toxicity values reflect those of Total Xylenes (CAS # 1330-20-7)
Rows highlighted yellow indicate constituents selected as COPCs based on the following selection rationale: ASL or TOX.
Rows highlighted orange indicate constituents selected as COPCs based on the following selection rationale: NTX.

Definitions:
NV: No Value
NTX: No toxicity information
ASL: Above screening level
BSL: Below screening level
NUT: Compound is an essential nutrient
TBC: To Be Considered
TOX: Group A carcinogen (automatically screened in as COPC)
ARAR: Applicable or Relevant and Appropriate Requirements
c = cancer
c* = cancer, where n SL < 100X c SL
c** = cancer, where n SL < 10X c SL
n = noncancer
m = concentration may exceed ceiling limit
s = concentration may exceed Csat
L = see EPA RSL user guide on lead

TABLE A1.
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL WASTEBED B/HARBOR BROOK SITE- HUMAN HEALTH RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

CAS Numbers	Chemical	Toxic Equivalency Factor (1)	Minimum Concentration (ng/kg)	Maximum Concentration (ng/kg)	2,3,7,8-TCDD Equivalent (Min) (ng/kg)	2,3,7,8-TCDD Equivalent (Max) (ng/kg)
35822-46-9	1,2,3,4,6,7,8-HPCDD	0.01	24.416	528.876	0.2	5.3
67562-39-4	1,2,3,4,6,7,8-HPCDF	0.01	5.857	201.137	0.1	2.0
55673-89-7	1,2,3,4,7,8,9-HPCDF	0.01	0.717	57.162	0.0	0.6
39227-28-6	1,2,3,4,7,8-HXCDD	0.1	0.488	90.395	0.0	9.0
70648-26-9	1,2,3,4,7,8-HXCDF	0.1	1.939	348.307	0.2	34.8
57653-85-7	1,2,3,6,7,8-HXCDD	0.1	1.904	218.606	0.2	21.9
57117-44-9	1,2,3,6,7,8-HXCDF	0.1	0.648	99.834	0.1	10.0
19408-74-3	1,2,3,7,8,9-HXCDD	0.1	1.276	129.133	0.1	12.9
72918-21-9	1,2,3,7,8,9-HXCDF	0.1	1.195	65.808	0.1	6.6
40321-76-4	1,2,3,7,8-PECDD	1	0.927	129.77	0.9	129.8
57117-41-6	1,2,3,7,8-PECDF	0.03	1.077	214.534	0.0	6.4
60851-34-5	2,3,4,6,7,8-HXCDF	0.1	0.71	48.036	0.1	4.8
57117-31-4	2,3,4,7,8-PECDF	0.3	1.182	230.971	0.4	69.3
1746-01-6	2,3,7,8-TCDD	1	1.49	16.073	1.5	16.1
51207-31-9	2,3,7,8-TCDF	0.1	2.641	299.1	0.3	29.9
3268-87-9	OCDD	0.0003	133.435	1686.9	0.0	0.5
39001-02-0	OCDF	0.0003	14.329	84.0	0.0	0.03
Total					4.2	359.9

NOTES:

TCDD/F = Tetra Chlorinated Dibenzo-p-dioxins/Dibenzofurans
PeCDD/F = Penta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HxCDD/F = Hexa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HpCDD/F = Hepta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
OCDD/F = Octa Chlorinated Dibenzo-p-dioxins/Dibenzofurans

(1) Van den berg, Martin, et al. 2006. ***The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds. Toxicological Sciences 93(2), 223–241.***

Table 2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SUBSURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Subsurface Soil (>2-10 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value[4] (mg/kg)		Potential ARAR/TBC Value[5]	Selected Screening Value[4] (mg/kg)	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion[7]
Wastebed B/Harbor Brook - Subsurface Soil	METALS															
	7429-90-5	ALUMINUM	910	24900	mg/kg	HB-TP-30	18/18	-	2.49E+04		7.70E+03	n	5.50E+04	7.70E+03	Y	ASL
	7440-36-0	ANTIMONY	0.24 J	1.9 J	mg/kg	HB-TP-24	10/18	0.19-11	1.90E+00		3.10E+00	n	2.70E-01	3.10E+00	N	BSL
	7440-38-2	ARSENIC	2	20.1	mg/kg	HB-TP-22	17/18	1.9-1.9	2.01E+01		3.90E-01	c*	1.30E-03	3.90E-01	Y	TOX
	7440-39-3	BARIUM	4.8 J	726 J	mg/kg	HB-TP-18	18/18	-	7.26E+02		1.50E+03	n	8.20E+01	1.50E+03	N	BSL
	7440-41-7	BERYLLIUM	0.09 J	1	mg/kg	HB-TP-30	18/18	-	1.00E+00		1.60E+01	n	3.20E+00	1.60E+01	N	BSL
	7440-43-9	CADMIUM	0.061 J	69.4 J	mg/kg	HB-TP-18	8/18	0.031-1.9	6.94E+01		7.00E+00	n	NV	7.00E+00	Y	ASL
	7440-70-2	CALCIUM	14500	383000	mg/kg	HB-TP-23	18/18	-	3.83E+05		NV		NV	NV	N	NUT
	18540-29-9	CHROMIUM[8]	4	306 J	mg/kg	HB-TP-18	18/18	-	3.06E+02		3.90E+01	c**	2.10E+00	3.90E+01	Y	TOX
	7440-48-4	COBALT	0.55 J	13.5	mg/kg	HB-TP-30	18/18	-	1.35E+01		2.30E+00	n	4.90E-01	2.30E+00	Y	ASL
	7440-50-8	COPPER	5.4	629 J	mg/kg	HB-TP-18	18/18	-	6.29E+02		3.10E+02	n	4.60E+01	3.10E+02	Y	ASL
	57-12-5	CYANIDE	0.97	30.9 J	mg/kg	HB-TP-39	9/18	0.62-0.97	3.09E+01		1.60E+02	n	2.00E+00	1.60E+02	N	BSL
	7439-89-6	IRON	3000	34400 J	mg/kg	HB-TP-30	18/18	-	3.44E+04		5.50E+03	n	6.40E+02	5.50E+03	Y	ASL
	7439-92-1	LEAD	8 J	1600 J	mg/kg	HB-TP-18	18/18	-	1.60E+03		4.00E+02	nL	NV	4.00E+02	Y	ASL
	7439-95-4	MAGNESIUM	3700	46500	mg/kg	HB-TP-26	18/18	-	4.65E+04		NV		NV	NV	N	NUT
	7439-96-5	MANGANESE	119	1390	mg/kg	HB-TP-30	18/18	-	1.39E+03		1.80E+02	n	5.70E+01	1.80E+02	Y	ASL
	7439-97-6	MERCURY[9]	0.057 J	8.5 J	mg/kg	HB-TP-22	16/18	0.037-0.039	8.50E+00		7.80E-01	n	NV	7.80E-01	Y	ASL
	7440-02-0	NICKEL	3.4 J	98.6 J	mg/kg	HB-TP-18	18/18	-	9.86E+01		1.50E+02	n	4.80E+01	1.50E+02	N	BSL
	7440-09-7	POTASSIUM	280 J	4360	mg/kg	HB-TP-30	17/18	16.7-16.7	4.36E+03		NV		NV	NV	N	NUT
	7782-49-2	SELENIUM	0.47 J	8.3	mg/kg	HB-TP-24	16/18	0.49-1.9	8.30E+00		3.90E+01	n	2.60E-01	3.90E+01	N	BSL
	7440-22-4	SILVER	0.2 J	102 J	mg/kg	HB-TP-18	5/18	0.091-1.9	1.02E+02		3.90E+01	n	1.60E+00	3.90E+01	Y	ASL
	7440-23-5	SODIUM	162 J	6090	mg/kg	HB-TP-23	18/18	-	6.09E+03		NV		NV	NV	N	NUT
	7440-28-0	THALLIUM	0.74 J	1.4 J	mg/kg	HB-TP-20	2/18	0.46-3.7	1.40E+00		5.10E-01	n	1.40E-01	5.10E-01	Y	ASL
	7440-62-2	VANADIUM	2.3 J	33.4	mg/kg	HB-TP-30	18/18	-	3.34E+01		5.50E+01	n	2.60E+02	5.50E+01	N	BSL
	7440-66-6	ZINC	37.2	2310 J	mg/kg	HB-TP-18	17/18	14-14	2.31E+03		2.30E+03	n	6.80E+02	2.30E+03	Y	ASL
	7440-62-2	VANADIUM	2.3 J	15	mg/kg	HB-SB-67	3/3	-	1.50E+01		5.50E+01	n	2.60E+02	5.50E+01	N	BSL
	7440-66-6	ZINC	75	137 J	mg/kg	HB-RISB-16	2/3	14-14	1.37E+02		2.30E+03	n	6.80E+02	2.30E+03	N	BSL
	PCB															
	11097-69-1	AROCLOR-1254	6 J	6 J	mg/kg	HB-TP-18	1/18	0.02-0.318	6.00E+00		2.20E-01	c**	NV	2.20E-01	Y	ASL
	11096-82-5	AROCLOR-1260	0.007 J	0.7 J	mg/kg	HB-TP-21	9/18	0.02-4	7.00E-01		2.20E-01	c	NV	2.20E-01	Y	ASL
	SVOC															
	92-52-4	1,1'-BIPHENYL	0.61 J	28 J	mg/kg	HB-SB-66	2/2	-	2.80E+01		3.90E+03	ns	NV	3.90E+03	N	BSL
	105-67-9	2,4-DIMETHYLPHENOL	6.4 J	6.4 J	mg/kg	HB-TP-21	1/18	0.42-920	6.40E+00		1.20E+02	n	1.20E+00	1.20E+02	N	BSL
	91-57-6	2-METHYLNAPHTHALENE	0.066 J	3800 J	mg/kg	HB-TP-22	15/18	0.42-1.2	3.80E+03		3.10E+01	n	9.00E-01	3.10E+01	Y	ASL
	95-48-7	2-METHYLPHENOL	4.2 J	4.2 J	mg/kg	HB-TP-21	1/18	0.00001-920	4.20E+00		3.10E+02	n	2.00E+00	3.10E+02	N	BSL
	34METPH	3&4-METHYLPHENOL	0.28 J	72 J	mg/kg	HB-TP-18	3/16	0.42-920	7.20E+01		NV		NV	NV	Y	NTX
	106-47-8	4-CHLOROANILINE	3.5 J	3.5 J	mg/kg	HB-TP-18	1/18	0.42-920	3.50E+00		2.40E+00	c	NV	2.40E+00	Y	ASL
	106-44-5	4-METHYLPHENOL	0.39 J	0.39 J	mg/kg	HB-SB-67	1/2	62-62	3.90E-01		3.10E+01	n	1.90E-01	3.10E+01	N	BSL
	83-32-9	ACENAPHTHENE	0.055 J	940 J	mg/kg	HB-TP-22	11/18	0.42-7.7	9.40E+02		3.40E+02	n	2.70E+01	3.40E+02	Y	ASL
	208-96-8	ACENAPHTHYLENE	0.05 J	850 J	mg/kg	HB-TP-22	13/18	0.42-2.1	8.50E+02		NV		NV	NV	Y	NTX
	120-12-7	ANTHRACENE	0.082 J	810 J	mg/kg	HB-TP-22	14/18	0.42-1.2	8.10E+02		1.70E+03	n	4.50E+02	1.70E+03	N	BSL
	56-55-3	BENZO(A)ANTHRACENE	0.17 J	350 J	mg/kg	HB-TP-22	15/18	0.42-1.2	3.50E+02		1.50E-01	c	NV	1.50E-01	Y	ASL
	50-32-8	BENZO(A)PYRENE	0.14 J	150 J	mg/kg	HB-TP-22	14/18	0.42-62	1.50E+02		1.50E-02	c	4.60E-03	1.50E-02	Y	ASL
	205-99-2	BENZO(B)FLUORANTHENE	0.25 J	210 J	mg/kg	HB-TP-22	14/18	0.42-62	2.10E+02		1.50E-01	c	NV	1.50E-01	Y	ASL
	191-24-2	BENZO(G,H,I)PERYLENE	0.11 J	2.9 J	mg/kg	HB-TP-21	13/18	0.42-920	2.90E+00		NV		NV	NV	Y	NTX
	207-08-9	BENZO(K)FLUORANTHENE	0.069 J	5 J	mg/kg	HB-TP-21	13/18	0.42-920	5.00E+00		1.50E+00	c	NV	1.50E+00	Y	ASL
	65-85-0	BENZOIC ACID	0.13 J	7.4 J	mg/kg	HB-TP-23	3/15	2.1-4600	7.40E+00		2.40E+05	nm	NV	2.40E+05	N	BSL
	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	0.11 J	9.5 J	mg/kg	HB-TP-18	2/18	0.093-920	9.50E+00		3.50E+01	c*	1.60E+00	3.50E+01	N	BSL
	86-74-8	CARBAZOLE	0.081 J	220 J	mg/kg	HB-TP-22	12/18	0.42-5.2	2.20E+02		NV		NV	NV	Y	NTX
	218-01-9	CHRYSENE	0.19 J	290 J	mg/kg	HB-TP-22	15/18	0.42-1.2	2.90E+02		1.50E+01	c	NV	1.50E+01	Y	ASL
	53-70-3	DIBENZO(A,H)ANTHRACENE	0.07 J	1 J	mg/kg	HB-TP-21	8/18	0.42-920	1.00E+00		1.50E-02	c	NV	1.50E-02	Y	ASL

Table 2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SUBSURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Subsurface Soil (>2-10 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening(2) (mg/kg)	Background Value(3)	RSL Screening Toxicity Value(4) (mg/kg)		Potential ARAR/TBC Value(5)	Selected Screening Value(4) (mg/kg)	COPC Flag (Y/N)(6)	Rationale for Selection or Deletion(7)
Wastebed B/Harbor Brook - Subsurface Soil	132-64-9	DIBENZOFURAN	0.058 J	1400 J	mg/kg	HB-TP-22	13/18	0.42-5.2	1.40E+03		NV		NV	NV	Y	NTX
	84-74-2	DI-N-BUTYL PHTHALATE	0.11 J	0.11 J	mg/kg	HB-TP-24	1/18	0.42-920	1.10E-01		6.10E+02	n	1.10E+01	6.10E+02	N	BSL
	206-44-0	FLUORANTHENE	0.29 J	1400 J	mg/kg	HB-TP-22	15/18	0.42-1.2	1.40E+03		2.30E+02	n	2.10E+02	2.30E+02	Y	ASL
	86-73-7	FLUORENE	0.088 J	1800 J	mg/kg	HB-TP-22	11/18	0.42-5.2	1.80E+03		2.30E+02	n	3.30E+01	2.30E+02	Y	ASL
	118-74-1	HEXACHLOROBENZENE	9 J	9 J	mg/kg	HB-TP-23	1/18	0.00001-920	9.00E+00		3.00E-01	c	2.90E-04	3.00E-01	Y	ASL
	193-39-5	INDENO(1,2,3-CD)PYRENE	0.095 J	3.2 J	mg/kg	HB-TP-21	13/18	0.42-920	3.20E+00		1.50E-01	c	NV	1.50E-01	Y	ASL
	91-20-3	NAPHTHALENE	0.007 J	12000 J	mg/kg	HB-TP-22	22/34	0.006-1.2	1.20E+04		3.90E+00	c*	NV	3.90E+00	Y	ASL
	85-01-8	PHENANTHRENE	0.092 J	3500 J	mg/kg	HB-TP-22	14/18	0.42-25	3.50E+03		NV		NV	NV	Y	NTX
	108-95-2	PHENOL	0.096 J	6.5 J	mg/kg	HB-TP-21	4/18	0.42-920	6.50E+00		1.80E+03	n	8.10E+00	1.80E+03	N	BSL
	129-00-0	PYRENE	0.27 J	950 J	mg/kg	HB-TP-22	15/18	0.42-1.2	9.50E+02		1.70E+02	n	1.50E+02	1.70E+02	Y	ASL
	VOC															
	71-55-6	1,1,1-TRICHLOROETHANE	0.004 J	0.004 J	mg/kg	HB-TP-19	1/18	0.003-17	4.00E-03		9.00E+03	ns	7.20E-02	9.00E+03	N	BSL
	120-82-1	1,2,4-TRICHLOROBENZENE	0.39 J	9.3 J	mg/kg	HB-TP-23	3/34	0.006-920	9.30E+00		8.70E+00	n	1.30E-02	8.70E+00	Y	ASL
	95-63-6	1,2,4-TRIMETHYLBENZENE	0.002 J	390 J	mg/kg	HB-TP-22	7/16	0.003-0.009	3.90E+02		6.70E+00	n	2.40E-02	6.70E+00	Y	ASL
	95-50-1	1,2-DICHLOROBENZENE	0.012 J	40 J	mg/kg	HB-TP-18	7/34	0.003-920	4.00E+01		2.00E+03	ns	4.00E-01	2.00E+03	N	BSL
	108-67-8	1,3,5-TRIMETHYLBENZENE	0.001 J	160	mg/kg	HB-TP-22	7/16	0.003-0.009	1.60E+02		4.70E+00	n	2.00E-02	4.70E+00	Y	ASL
	541-73-1	1,3-DICHLOROBENZENE	0.59	1.2 J	mg/kg	HB-TP-21	2/34	0.003-920	1.20E+00		NV		NV	NV	Y	NTX
	106-46-7	1,4-DICHLOROBENZENE	0.002 J	34 J	mg/kg	HB-TP-23	8/34	0.00001-920	3.40E+01		2.60E+00	c	4.60E-04	2.60E+00	Y	ASL
	78-93-3	2-BUTANONE	0.007 J	0.073 J	mg/kg	HB-SB-67	4/18	0.012-69	7.30E-02		2.80E+04	ns	NV	2.80E+04	N	BSL
	95-49-8	2-CHLOROTOLUENE	0.029	0.029	mg/kg	HB-TP-21	1/16	0.003-17	2.90E-02		1.60E+03	ns	NV	1.60E+03	N	BSL
	106-43-4	4-CHLOROTOLUENE	0.022	0.022	mg/kg	HB-TP-21	1/16	0.003-17	2.20E-02		5.50E+03	ns	NV	5.50E+03	N	BSL
	67-64-1	ACETONE	0.037 J	0.25	mg/kg	HB-SB-67	4/18	0.013-69	2.50E-01		6.10E+03	n	4.40E+00	6.10E+03	N	BSL
	71-43-2	BENZENE	0.001 J	71	mg/kg	HB-TP-22	8/18	0.003-5.8	7.10E+01		1.10E+00	c*	2.30E-04	1.10E+00	Y	TOX
	75-25-2	BROMOFORM	4.2 J	4.2 J	mg/kg	HB-TP-22	1/18	0.003-5.8	4.20E+00		6.10E+01	c*	NV	6.10E+01	N	BSL
	104-51-8	BUTYLBENZENE	0.043	6.8 J	mg/kg	HB-TP-18	2/16	0.003-17	6.80E+00		NV		NV	NV	Y	NTX
	75-15-0	CARBON DISULFIDE	0.0058	0.0058	mg/kg	HB-SB-67	1/2	0.94-0.94	5.80E-03		6.70E+02	ns	NV	6.70E+02	N	BSL
	108-90-7	CHLOROBENZENE	0.029	0.9 J	mg/kg	HB-TP-22	3/18	0.003-5.8	9.00E-01		3.10E+01	n	6.80E-02	3.10E+01	N	BSL
	110-82-7	CYCLOHEXANE	0.0023 J	0.0023 J	mg/kg	HB-SB-67	1/2	0.94-0.94	2.30E-03		7.20E+03	ns	NV	7.20E+03	N	BSL
	100-41-4	ETHYLBENZENE	0.016	35	mg/kg	HB-TP-22	7/18	0.003-0.016	3.50E+01		5.70E+00	c	1.90E-03	5.70E+00	Y	ASL
	98-82-8	ISOPROPYLBENZENE	0.005	8.1 J	mg/kg	HB-TP-22	7/18	0.003-0.016	8.10E+00		2.20E+03	ns	NV	2.20E+03	N	BSL
	108-87-2	METHYLCYCLOHEXANE	0.0055	0.54 J	mg/kg	HB-SB-66	2/2	-	5.40E-01		NV		NV	NV	Y	NTX
	75-09-2	METHYLENE CHLORIDE	0.03 J	0.089	mg/kg	HB-TP-26	4/18	0.005-35	8.90E-02		1.10E+01	c	1.20E-03	1.10E+01	N	BSL
	103-65-1	N-PROPYLBENZENE	0.001 J	7.9 J	mg/kg	HB-TP-22	5/16	0.003-0.016	7.90E+00		NV		NV	NV	Y	NTX
	99-87-6	P-ISOPROPYLTOLUENE	0.02	8.7 J	mg/kg	HB-TP-18	4/16	0.003-0.016	8.70E+00		NV		NV	NV	Y	NTX
	135-98-8	SEC-BUTYLBENZENE	0.53	2.7 J	mg/kg	HB-TP-18	2/16	0.003-17	2.70E+00		NV		NV	NV	Y	NTX
	100-42-5	STYRENE	0.004 J	98	mg/kg	HB-TP-22	4/18	0.003-5.8	9.80E+01		6.50E+03	ns	1.20E-01	6.50E+03	N	BSL
	98-06-6	TERT-BUTYLBENZENE	0.033	0.033	mg/kg	HB-TP-23	1/16	0.003-17	3.30E-02		NV		NV	NV	Y	NTX
	108-88-3	TOLUENE	0.002 J	240	mg/kg	HB-TP-22	8/18	0.003-0.009	2.40E+02		5.00E+03	ns	7.60E-01	5.00E+03	N	BSL
	1330-20-7	XYLENES, TOTAL	0.008	490	mg/kg	HB-TP-22	8/18	0.003-0.009	4.90E+02		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL
	OTHER															
	6165-52-2	1-PHENYL-1-(2,4-DIMETHYLPHENYL) ETHANE	2.3	2.3	mg/kg	HB-SB-67	1/2	62-62	2.30E+00		NV		NV	NV	Y	NTX
	3717-68-8	1-PHENYL-1-(4-METHYLPHENYL) ETHANE	0.87 J	0.87 J	mg/kg	HB-SB-67	1/2	62-62	8.70E-01		NV		NV	NV	Y	NTX

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Maximum detected concentration
(3) N/A - No background screening performed.
(4) Screening values are for residential soil and represent cancer benchmark of 1E-06 and HQ=0.1
(USEPA April 2009 RSL Screening Toxicity Values).
(5) Soil screening level for migration to ground water. Minimum of risk-based and MCL-based soil screening levels
(USEPA April 2009 RSL Screening Toxicity Values). Based on DAF = 1.
(6) Constituents selected as constituents of potential concern (COPC) if they are not an essential nutrient and either if Concentration Used for Screening exceeds
Selected Screening Value, if there is no Selected Screening Value, or if constituent is a Group A carcinogen.
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information; TOX = Group A carcinogen. Deletion Rationale: BSL - Below Screening Level, NUT - Essential Nutrient.
(8) Toxicity values reflect those of Hexavalent Chromium (CAS # 18540-29-9)
(9) Toxicity values reflect those of Methyl Mercury (CAS # 22967-92-6)

Rows highlighted yellow indicate constituents selected as COPCs based on the following selection rationale: ASL or TOX.
Rows highlighted orange indicate constituents selected as COPCs based on the following selection rationale: NTX.

Definitions:
NV: No Value
NTX: No toxicity information
ASL: Above screening level
BSL: Below screening level
NUT: Compound is an essential nutrient
TBC: To Be Considered
TOX: Group A carcinogen (automatically screened in as COPC)
ARAR: Applicable or Relevant and Appropriate Requirements
c = cancer
c* = cancer, where n SL < 100X c SL
c** = cancer, where n SL < 10X c SL
n = noncancer
m = concentration may exceed ceiling limit
s = concentration may exceed Csat
L = see EPA RSL user guide on lead

Table 3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value [4]		Potential ARAR/TBC Value[5]	Selected Screening Value [4]	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion [7]
Wastebed B/Harbor Brook - Surface Sediment	DIOXIN/FURAN															
	1746-01-6	2,3,7,8-TCDD Equivalent[8]	1.1	123.4	ng/kg		37/37	-	1.23E-04		4.50E-06	c*	1.50E-07	4.50E-06	Y	ASL
	METALS															
	7429-90-5	ALUMINUM	566 J	7330 J	mg/kg	HB-HBSED-04	55/55	-	7.33E+03		7.70E+03	n	5.50E+04	7.70E+03	N	BSL
	7440-36-0	ANTIMONY	0.45 J	1.2 J	mg/kg	HB-H1	6/55	0.23-22.2	1.20E+00		3.10E+00	n	2.70E-01	3.10E+00	N	BSL
	7440-38-2	ARSENIC	1.6	9.6 J	mg/kg	HB-HBSED-04	49/55	1.05-3.7	9.60E+00		3.90E-01	c*	1.30E-03	3.90E-01	Y	TOX
	7440-39-3	BARIUM	14.4 J	659 J	mg/kg	HB-HBSED-18	55/55	-	6.59E+02		1.50E+03	n	8.20E+01	1.50E+03	N	BSL
	7440-41-7	BERYLLIUM	0.085 J	1.9	mg/kg	HB-T-2-1	22/55	0.08-1.9	1.90E+00		1.60E+01	n	3.20E+00	1.60E+01	N	BSL
	7440-43-9	CADMIUM	0.27 J	19.2	mg/kg	HB-T-3-3	32/55	0.049-1.9	1.92E+01		7.00E+00	n	NV	7.00E+00	Y	ASL
	7440-70-2	CALCIUM	72900	413000 J	mg/kg	HB-HBSED-02	55/55	-	4.13E+05		NV		NV	NV	N	NUT
	18540-29-9	CHROMIUM[9]	2.7 J	534 J	mg/kg	HB-HBSED-12	55/55	-	5.34E+02		3.90E+01	c**	2.10E+00	3.90E+01	Y	ASL
	7440-48-4	COBALT	0.97 J	12.6 J	mg/kg	HB-T-2-3	27/55	0.5-18.5	1.26E+01		2.30E+00	n	4.90E-01	2.30E+00	Y	ASL
	7440-50-8	COPPER	3.7 J	308	mg/kg	HB-CSXSED-2	53/53	-	3.08E+02		3.10E+02	n	4.60E+01	3.10E+02	N	BSL
	57-12-5	CYANIDE	0.79	15.6 J	mg/kg	HB-HBSED-13	13/55	0.56-2.69	1.56E+01		1.60E+02	n	2.00E+00	1.60E+02	N	BSL
	7439-89-6	IRON	1580 J	21200	mg/kg	HB-CSXSED-2	55/55	-	2.12E+04		5.50E+03	n	6.40E+02	5.50E+03	Y	ASL
	7439-92-1	LEAD	5.9 J	479	mg/kg	HB-T-4-1	51/51	-	4.79E+02		4.00E+02	nL	NV	4.00E+02	Y	ASL
	7439-95-4	MAGNESIUM	5120 J	59100	mg/kg	HB-T-5-2	55/55	-	5.91E+04		NV		NV	NV	N	NUT
	7439-96-5	MANGANESE	33.1	664 J	mg/kg	HB-HBSED-01	55/55	-	6.64E+02		1.80E+02	n	5.70E+01	1.80E+02	Y	ASL
	7439-97-6	MERCURY[10]	0.05 J	52	mg/kg	HB-T-5-3	52/55	0.04-0.062	5.20E+01		7.80E-01	n	NV	7.80E-01	Y	ASL
	7440-02-0	NICKEL	1.8 J	64.4	mg/kg	HB-T-5-3	47/55	7.1-14.8	6.44E+01		1.50E+02	n	4.80E+01	1.50E+02	N	BSL
	7440-09-7	POTASSIUM	147 J	1490 J	mg/kg	HB-HBSED-05	46/55	323-742	1.49E+03		NV		NV	NV	N	NUT
	7782-49-2	SELENIUM	0.4 J	4.9 J	mg/kg	HB-S-2	26/55	0.31-4.6	4.90E+00		3.90E+01	n	2.60E-01	3.90E+01	N	BSL
	7440-22-4	SILVER	0.14 J	9.8	mg/kg	HB-T-5-3	12/55	0.12-3.7	9.80E+00		3.90E+01	n	1.60E+00	3.90E+01	N	BSL
	7440-23-5	SODIUM	261 J	5730 J	mg/kg	HB-HBSED-05	49/55	782-1880	5.73E+03		NV		NV	NV	N	NUT
	7440-28-0	THALLIUM	0.37 J	4.9 J	mg/kg	HB-S-2	4/55	0.33-3.7	4.90E+00		5.10E-01	n	1.40E-01	5.10E-01	Y	ASL
	7440-62-2	VANADIUM	1.7 J	23.1 J	mg/kg	HB-HBSED-05	45/55	7.2-18.5	2.31E+01		5.50E+01	n	2.60E+02	5.50E+01	N	BSL
	7440-66-6	ZINC	7.28	958	mg/kg	HB-H4	55/55	-	9.58E+02		2.30E+03	n	6.80E+02	2.30E+03	N	BSL
	PCB															
	12674-11-2	AROCLOR-1016	0.52	1.2	mg/kg	HB-H5	6/55	0.03-0.32	1.20E+00		3.90E-01	n	5.20E-02	3.90E-01	Y	ASL
	11104-28-2	AROCLOR-1221	1	2.5	mg/kg	HB-H5	6/55	0.03-0.32	2.50E+00		1.70E-01	c	NV	1.70E-01	Y	ASL
	11141-16-5	AROCLOR-1232	0.52	1.2	mg/kg	HB-H5	6/55	0.03-0.32	1.20E+00		1.70E-01	c	NV	1.70E-01	Y	ASL
	53469-21-9	AROCLOR-1242	0.52	1.2	mg/kg	HB-H5	6/55	0.03-0.32	1.20E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	12672-29-6	AROCLOR-1248	0.12	1.2	mg/kg	HB-H5	8/55	0.03-0.32	1.20E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	11097-69-1	AROCLOR-1254	0.09 J	1.2	mg/kg	HB-H5	13/55	0.03-0.32	1.20E+00		2.20E-01	c**	NV	2.20E-01	Y	ASL
	11096-82-5	AROCLOR-1260	0.01 J	3.7	mg/kg	HB-T-2-3	26/55	0.04-0.32	3.70E+00		2.20E-01	c	NV	2.20E-01	Y	ASL
	PESTICIDE															
	72-54-8	4,4'-DDD	0.007 J	0.079	mg/kg	HB-H3	9/55	0.006-0.09	7.90E-02		2.00E+00	c	NV	2.00E+00	N	BSL
	72-55-9	4,4'-DDE	0.003 J	0.021	mg/kg	HB-H5	10/55	0.008-0.09	2.10E-02		1.40E+00	c	NV	1.40E+00	N	BSL
	50-29-3	4,4'-DDT	0.008 J	0.089	mg/kg	HB-H7	7/55	0.005-0.09	8.90E-02		1.70E+00	c*	NV	1.70E+00	N	BSL
	309-00-2	ALDRIN	0.0045	0.053	mg/kg	HB-H6	6/55	0.003-0.043	5.30E-02		2.90E-02	c*	NV	2.90E-02	Y	ASL
	319-84-6	ALPHA-BHC	0.026	0.062	mg/kg	HB-H5	6/55	0.003-0.043	6.20E-02		7.70E-02	c	NV	7.70E-02	N	BSL
	319-85-7	BETA-BHC	0.026	0.062	mg/kg	HB-H5	6/55	0.003-0.043	6.20E-02		2.70E-01	c	NV	2.70E-01	N	BSL
	57-74-9	CHLORDANE[11]	0.022	0.053	mg/kg	HB-H6	7/55	0.003-0.043	5.30E-02		1.60E+00	c*	3.30E-02	1.60E+00	N	BSL
	12789-03-6	CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	0.004	0.038	mg/kg	HB-H1	9/55	0.003-0.043	3.80E-02		1.60E+00	c*	3.30E-02	1.60E+00	N	BSL
	319-86-8	DELTA-BHC	0.026	0.062	mg/kg	HB-H5	6/55	0.003-0.043	6.20E-02		NV		NV	NV	Y	NTX
	60-57-1	DIELDRIN	0.011	0.11	mg/kg	HB-H6	7/55	0.005-0.09	1.10E-01		3.00E-02	c	NV	3.00E-02	Y	ASL
	959-98-8	ENDOSULFAN I	0.0078	0.062	mg/kg	HB-H5	6/55	0.003-0.043	6.20E-02		NV		NV	NV	Y	NTX
	33213-65-9	ENDOSULFAN II	0.0087	0.12	mg/kg	HB-H5	6/55	0.005-0.09	1.20E-01		NV		NV	NV	Y	NTX

Table 3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value [4]		Potential ARAR/TBC Value[5]	Selected Screening Value [4]	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion [7]
Wastebed B/Harbor Brook - Sediment	1031-07-8	ENDOSULFAN SULFATE	0.052	0.12	mg/kg	HB-H5	7/55	0.005-0.09	1.20E-01		NV		NV	NV	Y	NTX
	72-20-8	ENDRIN	0.027	0.11	mg/kg	HB-H6	6/55	0.005-0.09	1.10E-01		1.80E+00	n	4.30E-02	1.80E+00	N	BSL
	7421-93-4	ENDRIN ALDEHYDE[12]	0.003	0.1	mg/kg	HB-H6	6/55	0.005-0.09	1.00E-01		1.80E+00	n	4.30E-02	1.80E+00	N	BSL
	53494-70-5	ENDRIN KETONE[12]	0.052	0.12	mg/kg	HB-H5	6/55	0.005-0.09	1.20E-01		1.80E+00	n	4.30E-02	1.80E+00	N	BSL
	58-89-9	GAMMA-BHC (LINDANE)	0.0057	0.053	mg/kg	HB-H6	6/55	0.003-0.043	5.30E-02		5.20E-01	c*	4.30E-04	5.20E-01	N	BSL
	76-44-8	HEPTACHLOR	0.0013	0.053	mg/kg	HB-H6	6/55	0.003-0.043	5.30E-02		1.10E-01	c	1.60E-03	1.10E-01	N	BSL
	1024-57-3	HEPTACHLOR EPOXIDE	0.0046	0.03	mg/kg	HB-H3	6/55	0.003-0.043	3.00E-02		5.30E-02	c*	7.90E-05	5.30E-02	N	BSL
	72-43-5	METHOXYCHLOR	0.26	0.62	mg/kg	HB-H5	6/55	0.03-0.4	6.20E-01		3.10E+01	n	3.40E+00	3.10E+01	N	BSL
	8001-35-2	TOXAPHENE	2.6	6.2	mg/kg	HB-H5	6/55	0.03-0.83	6.20E+00		4.40E-01	c	1.20E-02	4.40E-01	Y	ASL
	SVOC															
	108-60-1	2,2'-OXYBIS(1-CHLOROPROPANE)	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		3.50E+00	c	NV	3.50E+00	Y	ASL
	95-95-4	2,4,5-TRICHLOROPHENOL	0.94	45	mg/kg	HB-H5	6/54	0.43-30	4.50E+01		6.10E+02	n	9.40E+00	6.10E+02	N	BSL
	88-06-2	2,4,6-TRICHLOROPHENOL	0.38	18	mg/kg	HB-H5	6/54	0.43-30	1.80E+01		4.40E+01	c**	NV	4.40E+01	N	BSL
	120-83-2	2,4-DICHLOROPHENOL	0.38	18	mg/kg	HB-H5	6/55	0.43-30	1.80E+01		1.80E+01	n	1.80E-01	1.80E+01	N	BSL
	105-67-9	2,4-DIMETHYLPHENOL	0.16 J	23	mg/kg	HB-T-3-3	11/54	0.43-30	2.30E+01		1.20E+02	n	1.20E+00	1.20E+02	N	BSL
	51-28-5	2,4-DINITROPHENOL	0.94	45	mg/kg	HB-H5	6/55	2.1-150	4.50E+01		1.20E+01	n	6.80E-02	1.20E+01	Y	ASL
	121-14-2	2,4-DINITROTOLUENE	0.38	18	mg/kg	HB-H5	6/55	0.43-30	1.80E+01		1.60E+00	c*	NV	1.60E+00	Y	ASL
	606-20-2	2,6-DINITROTOLUENE	0.38	18	mg/kg	HB-H5	6/55	0.43-30	1.80E+01		6.10E+00	n	3.40E-02	6.10E+00	Y	ASL
	91-58-7	2-CHLORONAPHTHALENE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		6.30E+03	ns	NV	6.30E+03	N	BSL
	95-57-8	2-CHLOROPHENOL	0.38	18	mg/kg	HB-H5	6/54	0.083-11	1.80E+01		3.90E+01	n	2.00E-01	3.90E+01	N	BSL
	91-57-6	2-METHYLNAPHTHALENE	0.077 J	220	mg/kg	HB-H7	44/55	0.49-11	2.20E+02		3.10E+01	n	9.00E-01	3.10E+01	Y	ASL
	95-48-7	2-METHYLPHENOL	0.2 J	15	mg/kg	HB-H6	14/54	0.083-11	1.50E+01		3.10E+02	n	2.00E+00	3.10E+02	N	BSL
	88-74-4	2-NITROANILINE	0.94	45	mg/kg	HB-H5	6/55	0.17-58	4.50E+01		1.80E+01	n	3.30E-02	1.80E+01	Y	ASL
	88-75-5	2-NITROPHENOL	0.38	18	mg/kg	HB-H5	6/54	0.43-30	1.80E+01		NV		NV	NV	Y	NTX
	34METPH	3&4-METHYLPHENOL	0.13	15	mg/kg	HB-H6	17/54	0.083-11	1.50E+01		NV		NV	NV	Y	NTX
	91-94-1	3,3'-DICHLOROBENZIDINE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		1.10E+00	c	NV	1.10E+00	Y	ASL
	99-09-2	3-NITROANILINE	0.94	45	mg/kg	HB-H5	6/55	2.1-150	4.50E+01		NV		NV	NV	Y	NTX
	534-52-1	4,6-DINITRO-2-METHYLPHENOL	0.94	45	mg/kg	HB-H5	6/54	2.1-150	4.50E+01		6.10E-01	n	5.10E-03	6.10E-01	Y	ASL
	101-55-3	4-BROMOPHENYL PHENYL ETHER	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV		NV	NV	Y	NTX
	59-50-7	4-CHLORO-3-METHYLPHENOL	0.38	18	mg/kg	HB-H5	6/54	0.43-30	1.80E+01		NV		NV	NV	Y	NTX
	106-47-8	4-CHLOROANILINE	0.38	18	mg/kg	HB-H5	6/48	0.083-11	1.80E+01		2.40E+00	c	NV	2.40E+00	Y	ASL
	7005-72-3	4-CHLOROPHENYL PHENYL ETHER	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV		NV	NV	Y	NTX
	100-01-6	4-NITROANILINE	0.94	45	mg/kg	HB-H5	6/55	2.1-150	4.50E+01		2.40E+01	c*	NV	2.40E+01	Y	ASL
	100-02-7	4-NITROPHENOL	0.94	45	mg/kg	HB-H5	6/54	2.1-150	4.50E+01		NV		NV	NV	Y	NTX
	83-32-9	ACENAPHTHENE	0.058	91	mg/kg	HB-HBSED-19	47/55	0.57-4	9.10E+01		3.40E+02	n	2.70E+01	3.40E+02	N	BSL
	208-96-8	ACENAPHTHYLENE	0.064	51	mg/kg	HB-S-1	43/55	0.55-5.8	5.10E+01		NV		NV	NV	Y	NTX
	120-12-7	ANTHRACENE	0.1	72	mg/kg	HB-S-1	46/55	0.57-7.3	7.20E+01		1.70E+03	n	4.50E+02	1.70E+03	N	BSL
	56-55-3	BENZO(A)ANTHRACENE	0.086 J	28	mg/kg	HB-H6	48/55	0.57-11	2.80E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	50-32-8	BENZO(A)PYRENE	0.078 J	25	mg/kg	HB-T-5-1	49/55	0.57-5.2	2.50E+01		1.50E-02	c	4.60E-03	1.50E-02	Y	ASL
	205-99-2	BENZO(B)FLUORANTHENE	0.063 J	37	mg/kg	HB-H6	51/55	1.2-5.2	3.70E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	191-24-2	BENZO(G,H,I)PERYLENE	0.18 J	14	mg/kg	HB-T-5-1	45/55	0.57-11	1.40E+01		NV		NV	NV	Y	NTX
	207-08-9	BENZO(K)FLUORANTHENE	0.15 J	21	mg/kg	HB-T-5-1	48/55	0.57-5.2	2.10E+01		1.50E+00	c	NV	1.50E+00	Y	ASL
	111-91-1	BIS(2-CHLOROETHOXY)METHANE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		1.80E+01	n	2.30E-02	1.80E+01	N	BSL
	111-44-4	BIS(2-CHLOROETHYL)ETHER	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		1.90E-01	c	NV	1.90E-01	Y	ASL
	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	0.061	15	mg/kg	HB-H6	32/55	0.28-7.3	1.50E+01		3.50E+01	c*	1.60E+00	3.50E+01	N	BSL
	85-68-7	BUTYLBENZYL PHTHALATE	0.21 J	18	mg/kg	HB-H5	7/55	0.083-11	1.80E+01		2.60E+02	c*	NV	2.60E+02	N	BSL

Table 3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening[2] (mg/kg)	Background Value[3]	RSL Screening Toxicity Value [4]		Potential ARAR/TBC Value[5]	Selected Screening Value [4]	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion [7]
Wastebed B/Harbor Brook - Sediment	86-74-8	CARBAZOLE	0.063	18	mg/kg	HB-H6	43/55	0.55-5.8	1.80E+01		NV		NV	NV	Y	NTX
	218-01-9	CHRYSENE	0.059 J	39	mg/kg	HB-H6	52/55	1.2-4	3.90E+01		1.50E+01	c	NV	1.50E+01	Y	ASL
	53-70-3	DIBENZO(A,H)ANTHRACENE	0.068 J	18	mg/kg	HB-H5	39/55	0.55-11	1.80E+01		1.50E-02	c	NV	1.50E-02	Y	ASL
	132-64-9	DIBENZOFURAN	0.076 J	100	mg/kg	HB-S-1	47/55	0.57-11	1.00E+02		NV		NV	NV	Y	NTX
	84-66-2	DIETHYL PHTHALATE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		4.90E+03	n	1.30E+01	4.90E+03	N	BSL
	131-11-3	DIMETHYL PHTHALATE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV		NV	NV	Y	NTX
	84-74-2	DI-N-BUTYL PHTHALATE	0.059	18	mg/kg	HB-H5	12/55	0.13-11	1.80E+01		6.10E+02	n	1.10E+01	6.10E+02	N	BSL
	117-84-0	DI-N-OCTYL PHTHALATE	0.088 J	18	mg/kg	HB-H5	7/55	0.083-11	1.80E+01		NV		NV	NV	Y	NTX
	206-44-0	FLUORANTHENE	0.089 J	90	mg/kg	HB-S-1	54/55	1.3-1.3	9.00E+01		2.30E+02	n	2.10E+02	2.30E+02	N	BSL
	86-73-7	FLUORENE	0.085 J	110	mg/kg	HB-S-1	45/55	0.083-4	1.10E+02		2.30E+02	n	3.30E+01	2.30E+02	N	BSL
	118-74-1	HEXACHLOROBENZENE	0.52	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		3.00E-01	c	2.90E-04	3.00E-01	Y	ASL
	87-68-3	HEXACHLOROBUTADIENE	0.38	18	mg/kg	HB-H5	6/63	0.009-11	1.80E+01		6.20E+00	c**	NV	6.20E+00	Y	ASL
	77-47-4	HEXACHLOROCYCLOPENTADIENE	0.38	18	mg/kg	HB-H5	6/55	0.43-30	1.80E+01		3.70E+01	n	1.80E-01	3.70E+01	N	BSL
	67-72-1	HEXACHLOROETHANE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		3.50E+01	c**	NV	3.50E+01	N	BSL
	193-39-5	INDENO(1,2,3-CD)PYRENE	0.17 J	14	mg/kg	HB-T-5-1	44/55	0.57-11	1.40E+01		1.50E-01	c	NV	1.50E-01	Y	ASL
	78-59-1	ISOPHORONE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		5.10E+02	c*	NV	5.10E+02	N	BSL
	91-20-3	NAPHTHALENE	0.095 J	420	mg/kg	HB-H7	52/63	0.009-7.1	4.20E+02		3.90E+00	c*	NV	3.90E+00	Y	ASL
	98-95-3	NITROBENZENE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		4.40E+00	c*	NV	4.40E+00	Y	ASL
	621-64-7	N-NITROSO-DI-N-PROPYLAMINE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		6.90E-02	c	NV	6.90E-02	Y	ASL
	86-30-6	N-NITROSODIPHENYLAMINE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		9.90E+01	c	NV	9.90E+01	N	BSL
	87-86-5	PENTACHLOROPHENOL	0.94	45	mg/kg	HB-H5	6/53	2.1-150	4.50E+01		3.00E+00	c	3.90E-03	3.00E+00	Y	ASL
	85-01-8	PHENANTHRENE	0.13 J	260	mg/kg	HB-S-1	52/55	0.57-1.3	2.60E+02		NV		NV	NV	Y	NTX
	108-95-2	PHENOL	0.23	18	mg/kg	HB-H5	17/54	0.083-11	1.80E+01		1.80E+03	n	8.10E+00	1.80E+03	N	BSL
	129-00-0	PYRENE	0.079 J	61	mg/kg	HB-S-1	52/55	1.2-4	6.10E+01		1.70E+02	n	1.50E+02	1.70E+02	N	BSL
	VOC															
	71-55-6	1,1,1-TRICHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		9.00E+03	ns	7.20E-02	9.00E+03	N	BSL
	79-34-5	1,1,2,2-TETRACHLOROETHANE	0.011	3	mg/kg	HB-H3	6/56	0.004-7.4	3.00E+00		5.90E-01	c	NV	5.90E-01	Y	ASL
	79-00-5	1,1,2-TRICHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		1.10E+00	c	8.20E-05	1.10E+00	Y	ASL
	75-34-3	1,1-DICHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		3.40E+00	c	NV	3.40E+00	N	BSL
	120-82-1	1,2,4-TRICHLOROBENZENE	3.4	8.1	mg/kg	HB-T-5-3	2/57	0.009-11	8.10E+00		8.70E+00	n	1.30E-02	8.70E+00	N	BSL
	95-63-6	1,2,4-TRIMETHYLBENZENE	0.041	4.3 J	mg/kg	HB-HBSED-12	3/8	0.004-0.051	4.30E+00		6.70E+00	n	2.40E-02	6.70E+00	N	BSL
	95-50-1	1,2-DICHLOROBENZENE	0.006 J	18	mg/kg	HB-H5	10/63	0.004-11	1.80E+01		2.00E+03	ns	4.00E-01	2.00E+03	N	BSL
	107-06-2	1,2-DICHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		4.50E-01	c	4.40E-05	4.50E-01	Y	ASL
	78-87-5	1,2-DICHLOROPROPANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		9.30E-01	c*	1.30E-04	9.30E-01	Y	ASL
	108-67-8	1,3,5-TRIMETHYLBENZENE	0.11	1.6 J	mg/kg	HB-HBSED-12	3/8	0.004-0.051	1.60E+00		4.70E+00	n	2.00E-02	4.70E+00	N	BSL
	541-73-1	1,3-DICHLOROBENZENE	0.43	18	mg/kg	HB-H5	7/63	0.004-11	1.80E+01		NV		NV	NV	Y	NTX
	106-46-7	1,4-DICHLOROBENZENE	0.002 J	29	mg/kg	HB-T-5-3	13/63	0.004-11	2.90E+01		2.60E+00	c	4.60E-04	2.60E+00	Y	ASL
	78-93-3	2-BUTANONE	0.0049 J	3	mg/kg	HB-H3	21/59	0.016-15	3.00E+00		2.80E+04	ns	NV	2.80E+04	N	BSL
	591-78-6	2-HEXANONE	0.011	3	mg/kg	HB-H3	6/56	0.009-15	3.00E+00		NV		NV	NV	Y	NTX
	108-10-1	4-METHYL-2-PENTANONE	0.011	3	mg/kg	HB-H3	6/56	0.009-15	3.00E+00		5.30E+03	ns	NV	5.30E+03	N	BSL
	67-64-1	ACETONE	0.003	3	mg/kg	HB-H3	39/59	0.021-30	3.00E+00		6.10E+03	n	4.40E+00	6.10E+03	N	BSL
	71-43-2	BENZENE	0.0026 J	29	mg/kg	HB-T-5-3	33/56	0.004-4.8	2.90E+01		1.10E+00	c*	2.30E-04	1.10E+00	Y	TOX
	75-27-4	BROMODICHLOROMETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		2.80E-01	c	NV	2.80E-01	Y	ASL
	75-25-2	BROMOFORM	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		6.10E+01	c*	NV	6.10E+01	N	BSL
	74-83-9	BROMOMETHANE	0.011	3	mg/kg	HB-H3	6/55	0.0074-7.4	3.00E+00		7.90E-01	n	2.20E-03	7.90E-01	Y	ASL
	75-15-0	CARBON DISULFIDE	0.001	3	mg/kg	HB-H3	16/49	0.016-15	3.00E+00		6.70E+02	ns	NV	6.70E+02	N	BSL
	56-23-5	CARBON TETRACHLORIDE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		2.50E-01	c	7.90E-05	2.50E-01	Y	ASL
	108-90-7	CHLOROBENZENE	0.001	240	mg/kg	HB-T-5-3	15/55	0.004-7.4	2.40E+02		3.10E+01	n	6.80E-02	3.10E+01	Y	ASL
	124-48-1	CHLORODIBROMOMETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		7.00E-01	c	NV	7.00E-01	Y	ASL
	75-00-3	CHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.0074-7.4	3.00E+00		1.50E+04	ns	NV	1.50E+04	N	BSL
	67-66-3	CHLOROFORM	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		3.00E-01	c	NV	3.00E-01	Y	ASL
	74-87-3	CHLOROMETHANE	0.011	3	mg/kg	HB-H3	6/55	0.0074-7.4	3.00E+00		1.20E+01	n	4.90E-02	1.20E+01	N	BSL
	156-59-2	CIS-1,2-DICHLOROETHENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		7.80E+01	n	2.10E-02	7.80E+01	N	BSL
	10061-01-5	CIS-1,3-DICHLOROPROPENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV		NV	NV	Y	NTX
	100-41-4	ETHYLBENZENE	0.0031 J	26	mg/kg	HB-H6	35/55	0.004-4.8	2.60E+01		5.70E+00	c	1.90E-03	5.70E+00	Y	ASL

Table 3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Surface Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening(2) (mg/kg)	Background Value(3)	RSL Screening Toxicity Value (4)		Potential ARAR/TBC Value(5)	Selected Screening Value (4)	COPC Flag (Y/N)(6)	Rationale for Selection or Deletion (7)
Wastebed B/Harbor Brook - Sediment	98-82-8	ISOPROPYLBENZENE	0.029 J	0.029 J	mg/kg	HB-HBSED-11	1/8	0.004-2.8	2.90E-02		2.20E+03	ns	NV	2.20E+03	N	BSL
	75-09-2	METHYLENE CHLORIDE	0.003 J	9.5	mg/kg	HB-T-3-2	9/56	0.0074-140	9.50E+00		1.10E+01	c	1.20E-03	1.10E+01	N	BSL
	103-65-1	N-PROPYLBENZENE	0.024 J	0.024 J	mg/kg	HB-HBSED-11	1/8	0.004-2.8	2.40E-02		NV		NV	NV	Y	NTX
	95-47-6	O-XYLENE	0.0023 J	74	mg/kg	HB-T-5-3	25/41	0.0084-4.8	7.40E+01		5.30E+03	ns	NV	5.30E+03	N	BSL
	99-87-6	P-ISOPROPYLTOLUENE	0.001 J	0.017 J	mg/kg	HB-HBSED-11	3/8	0.004-2.8	1.70E-02		NV		NV	NV	Y	NTX
	100-42-5	STYRENE	0.003 J	3	mg/kg	HB-H3	13/55	0.004-7.4	3.00E+00		6.50E+03	ns	1.20E-01	6.50E+03	N	BSL
	127-18-4	TETRACHLOROETHENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		5.70E-01	c	5.20E-05	5.70E-01	Y	ASL
	108-88-3	TOLUENE	0.002 J	88	mg/kg	HB-T-5-3	32/55	0.004-4.8	8.80E+01		5.00E+03	ns	7.60E-01	5.00E+03	N	BSL
	156-60-5	TRANS-1,2-DICHLOROETHENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		1.10E+01	n	3.20E-02	1.10E+01	N	BSL
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV		NV	NV	Y	NTX
	79-01-6	TRICHLOROETHENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		2.80E+00	c	6.10E-04	2.80E+00	Y	ASL
	75-01-4	VINYL CHLORIDE	0.011	3	mg/kg	HB-H3	6/55	0.0074-7.4	3.00E+00		6.00E-02	c	5.60E-06	6.00E-02	Y	ASL
	XYLENES1314	XYLENES, M & P (13)	0.0035 J	240	mg/kg	HB-T-5-3	28/41	0.0084-4.8	2.40E+02		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL
	1330-20-7	XYLENES, TOTAL	0.001 J	81	mg/kg	HB-H6	11/14	0.004-0.051	8.10E+01		6.00E+02	ns	2.30E-01	6.00E+02	N	BSL

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Maximum detected concentration
(3) N/A - No background screening performed.
(4) Screening values are for residential soil and represent cancer benchmark of 1E-06 and HQ=0.1 (USEPA April 2009 RSL Screening Toxicity Values).
(5) Soil screening level for migration to ground water. Minimum of risk-based and MCL-based soil screening levels (USEPA April 2009 RSL Screening Toxicity Values).
(6) Constituents selected as constituents of potential concern (COPC) if they are not an essential nutrient and either if Concentration Used for Screening exceeds Selected Screening Value, if there is no Selected Screening Value, or if constituent is a Group A carcinogen.
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information; TOX = Group A carcinogen. Deletion Rationale: BSL - Below Screening Level, NUT - Essential Nutrient.
(8) Based on use of WHO toxicity equivalency factors for dioxins and dioxin-like compounds from Van den Berg et al. (2006); see Table A3
(9) Toxicity values reflect those of Hexavalent Chromium (CAS # 18540-29-9)
(10) Where mercury is not speciated, toxicity values reflect those of Methyl Mercury (CAS # 22967-92-6)
(11) Toxicity values reflect those of Constituents of Chlordane (CAS # 12789-03-6)
(12) Toxicity values reflect those of Endrin (CAS # 72-20-8)
(13) Toxicity values reflect those of Total Xylenes (CAS # 1330-20-7)
Rows highlighted yellow indicate constituents selected as COPCs based on the following selection rationale: ASL or TOX.
Rows highlighted orange indicate constituents selected as COPCs based on the following selection rationale: NTX.

Definitions:
NV: No Value
NTX: No toxicity information
ASL: Above screening level
BSL: Below screening level
NUT: Compound is an essential nutrient
TBC: To Be Considered
TOX: Group A carcinogen (automatically screened in as COPC)
ARAR: Applicable or Relevant and Appropriate Requirements
c = cancer
c* = cancer, where n SL < 100X c SL
c** = cancer, where n SL < 10X c SL
n = noncancer
m = concentration may exceed ceiling limit
s = concentration may exceed Csat
L = see EPA RSL user guide on lead

TABLE A3.
DERIVATION OF TOXIC EQUIVALENTS FOR DIOXINS
HONEYWELL WASTEBED B/HARBOR BROOK SITE- HUMAN HEALTH RISK ASSESSMENT
SURFACE SEDIMENT - GEDDES, NY

CAS Numbers	Chemical	Toxic Equivalency Factor (1)	Minimum Concentration (ng/kg)	Maximum Concentration (ng/kg)	2,3,7,8-TCDD Equivalent (Min) (ng/kg)	2,3,7,8-TCDD Equivalent (Max) (ng/kg)
35822-46-9	1,2,3,4,6,7,8-HPCDD	0.01	0.543	1645.9	0.005	16.5
67562-39-4	1,2,3,4,6,7,8-HPCDF	0.01	0.391	856.0	0.004	8.6
55673-89-7	1,2,3,4,7,8,9-HPCDF	0.01	0.325	54.6	0.003	0.5
39227-28-6	1,2,3,4,7,8-HXCDD	0.1	0.277	33.3	0.028	3.3
70648-26-9	1,2,3,4,7,8-HXCDF	0.1	0.173	90.244	0.017	9.0
57653-85-7	1,2,3,6,7,8-HXCDD	0.1	0.181	226.0	0.018	22.6
57117-44-9	1,2,3,6,7,8-HXCDF	0.1	0.386	29.579	0.039	3.0
19408-74-3	1,2,3,7,8,9-HXCDD	0.1	0.667	66.3	0.067	6.6
72918-21-9	1,2,3,7,8,9-HXCDF	0.1	0.157	20.203	0.016	2.0
40321-76-4	1,2,3,7,8-PECDD	1	0.378	12.6	0.378	12.6
57117-41-6	1,2,3,7,8-PECDF	0.03	0.155	54.334	0.005	1.6
60851-34-5	2,3,4,6,7,8-HXCDF	0.1	0.322	17.076	0.032	1.7
57117-31-4	2,3,4,7,8-PECDF	0.3	0.179	65.727	0.054	19.7
1746-01-6	2,3,7,8-TCDD	1	0.419	3.0	0.419	3.0
51207-31-9	2,3,7,8-TCDF	0.1	0.239	63.5	0.024	6.4
3268-87-9	OCDD	0.0003	3.417	19500.0	0.001	5.9
39001-02-0	OCDF	0.0003	0.574	1480.0	0.000	0.44
Total					1.1	123.4

NOTES:

TCDD/F = Tetra Chlorinated Dibenzo-p-dioxins/Dibenzofurans
PeCDD/F = Penta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HxCDD/F = Hexa Chlorinated Dibenzo-p-dioxins/Dibenzofurans
HpCDD/F = Hepta Chlorinated Dibenzo-p-dioxins/Dibenzofurans
OCDD/F = Octa Chlorinated Dibenzo-p-dioxins/Dibenzofurans

(1) Van den berg, Martin, et al. 2006. ***The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds. Toxicological Sciences 93(2), 223–241.***

Table 4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
GROUND WATER - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Water
Exposure Medium: Ground Water

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (ug/L)[2]	Background Value[3]	RSL Screening Toxicity Value (ug/L)[4]		Potential ARAR/TBC Value (ug/L)[5]	Selected Screening Value (ug/L)	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion[7]
Wastebed B/Harbor Brook - Ground Water	METALS															
	7429-90-5	ALUMINUM	0.046 J	291 J	mg/L	HB-HB-04D	34/40	0.118-4	2.91E+05		3.70E+03	n	NV	3.70E+03	Y	ASL
	7440-38-2	ARSENIC	0.0037 J	0.102	mg/L	HB-HB-04D	7/51	0.0016-0.4	1.02E+02		4.50E-02	c	1.00E+01	4.50E-02	Y	TOX
	7440-39-3	BARIUM	0.018 J	20.3	mg/L	HB-HB-06S	47/51	0.003-0.02	2.03E+04		7.30E+02	n	2.00E+03	7.30E+02	Y	ASL
	7440-41-7	BERYLLIUM	0.00022 J	0.00084 J	mg/L	HB-HP-08	4/51	0.000076-0.4	8.40E-01		7.30E+00	n	4.00E+00	7.30E+00	N	BSL
	7440-43-9	CADMIUM	0.00067 J	0.0169	mg/L	HB-HB-04D	4/51	0.00024-0.4	1.69E+01		1.80E+01		5.00E+00	1.80E+01	N	BSL
	7440-70-2	CALCIUM	37.6	7970	mg/L	HB-HB-06S	51/51	-	7.97E+06		NV		NV	NV	N	NUT
	18540-29-9	CHROMIUM[8]	0.0024 J	0.334	mg/L	HB-HB-04D	23/49	0.004-0.2	3.34E+02		1.10E+01	n	NV	1.10E+01	Y	ASL
	7440-48-4	COBALT	0.0029 J	0.133	mg/L	HB-HB-04D	4/51	0.00093-2	1.33E+02		1.10E+00	n	NV	1.10E+00	Y	ASL
	7440-50-8	COPPER	0.0022 J	0.504	mg/L	HB-HB-04D	20/51	0.0049-0.4	5.04E+02		1.50E+02	n	1.30E+03	1.50E+02	Y	ASL
	57-12-5	CYANIDE	0.0108	0.047	mg/L	HB-HB-08I	11/51	0.01-0.01	4.70E+01		7.30E+01	n	2.00E+02	7.30E+01	N	BSL
	7439-89-6	IRON	0.029 J	446 J	mg/L	HB-HB-04D	49/51	0.1-0.3	4.46E+05		2.60E+03	n	NV	2.60E+03	Y	ASL
	7439-92-1	LEAD	0.0012 J	0.291	mg/L	HB-HB-04D	16/51	0.00066-0.4	2.91E+02		NV		1.50E+01	NV	Y	NTX
	7439-95-4	MAGNESIUM	0.12 J	925 J	mg/L	HB-HB-04D	49/51	1.31-1.5	9.25E+05		NV		NV	NV	N	NUT
	7439-96-5	MANGANESE	0.0038 J	16.1 J	mg/L	HB-HB-04D	43/51	0.0087-0.05	1.61E+04		8.80E+01	n	NV	8.80E+01	Y	ASL
	7439-97-6	MERCURY[9]	0.000037 J	0.0062	mg/L	HB-HB-02S	14/51	0.00018-0.0026	6.20E+00		3.70E-01	n	NV	3.70E-01	Y	ASL
	7440-02-0	NICKEL	0.0018 J	0.27	mg/L	HB-HB-04D	18/51	0.04-2	2.70E+02		7.30E+01	n	NV	7.30E+01	Y	ASL
	7440-09-7	POTASSIUM	1.2 J	580 J	mg/L	HB-HB-20D	49/51	0.81-2	5.80E+05		NV		NV	NV	N	NUT
	7782-49-2	SELENIUM	0.0026 J	0.0059	mg/L	HB-HB-08S	3/51	0.0018-0.4	5.90E+00		1.80E+01	n	5.00E+01	1.80E+01	N	BSL
	7440-22-4	SILVER	0.00099 J	0.0136	mg/L	HB-HB-08S	3/51	0.00073-0.4	1.36E+01		1.80E+01	n	NV	1.80E+01	N	BSL
	7440-23-5	SODIUM	13.2	75520	mg/L	HB-HB-20D	51/51	-	7.55E+07		NV		NV	NV	N	NUT
	7440-28-0	THALLIUM	0.0064 J	0.0883 J	mg/L	HB-HB-02I	2/51	0.0036-0.8	8.83E+01		2.40E-01	n	2.00E+00	2.40E-01	Y	ASL
	7440-62-2	VANADIUM	0.0014 J	0.568	mg/L	HB-HB-04D	15/51	0.05-2	5.68E+02		2.60E+01	n	NV	2.60E+01	Y	ASL
	7440-66-6	ZINC	0.0032 J	0.784	mg/L	HB-HB-04D	15/51	0.0097-0.8	7.84E+02		1.10E+03	n	NV	1.10E+03	N	BSL
	PCB															
	11096-82-5	AROCLOR-1260	0.07 J	0.5 J	ug/l	HB-HP-07	3/51	0.5-1	5.00E-01		3.40E-02	c	NV	3.40E-02	Y	ASL
	PESTICIDE															
	72-54-8	4,4'-DDD	0.025 J	0.025 J	ug/l	HB-HB-18S	1/51	0.093-2.1	2.50E-02		2.80E-01	c	NV	2.80E-01	Y	BSL
	50-29-3	4,4'-DDT	20 J	20 J	ug/l	HB-HB-04S	1/51	0.093-2.1	2.00E+01		2.00E-01	c*	NV	2.00E-01	Y	ASL
	319-84-6	ALPHA-BHC	0.17 JN	0.17 JN	ug/l	HB-HB-06S	1/51	0.047-1	1.70E-01		1.10E-02	c	NV	1.10E-02	Y	ASL
	SVOC															
	92-52-4	1,1'-BIPHENYL	4 J	83 J	ug/l	HB-HB-04S	4/14	10-23	8.30E+01		1.80E+02	n	NV	1.80E+02	N	BSL
	105-67-9	2,4-DIMETHYLPHENOL	1.5 J	7500	ug/l	HB-HB-02S	20/51	9.4-23	7.50E+03		7.30E+01	n	NV	7.30E+01	Y	ASL
	95-57-8	2-CHLOROPHENOL	1 J	1 J	ug/l	HB-HP-07	1/51	9.4-1000	1.00E+00		1.80E+01	n	NV	1.80E+01	N	BSL
	91-57-6	2-METHYLNAPHTHALENE	1.5 J	9800	ug/l	HB-HB-04S	30/50	9.5-23	9.80E+03		1.50E+01	n	NV	1.50E+01	Y	ASL
	95-48-7	2-METHYLPHENOL	1.2 J	8000	ug/l	HB-HB-02S	26/51	9.5-19	8.00E+03		1.80E+02	n	NV	1.80E+02	Y	ASL
	34METPH	3&4-METHYLPHENOL	1 J	16000	ug/l	HB-HB-02S	26/37	9.5-10	1.60E+04		NV		NV	NV	Y	NTX
	106-44-5	4-METHYLPHENOL	2 J	12000	ug/l	HB-HB-02S	8/14	10-11	1.20E+04		1.80E+01	n	NV	1.80E+01	Y	ASL
	83-32-9	ACENAPHTHENE	1.1 J	2200	ug/l	HB-HB-04S	27/51	9.5-1000	2.20E+03		2.20E+02	n	NV	2.20E+02	Y	ASL
	208-96-8	ACENAPHTHYLENE	1.4 J	2700	ug/l	HB-HB-04S	14/50	9.4-970	2.70E+03		NV		NV	NV	Y	NTX
	120-12-7	ANTHRACENE	1.3 J	2000	ug/l	HB-HB-04S	14/51	9.5-1000	2.00E+03		1.10E+03	n	NV	1.10E+03	Y	ASL
	100-52-7	BENZALDEHYDE	2.3 J	13 J	ug/l	HB-HB-02S	2/14	10-100	1.30E+01		3.70E+02	n	NV	3.70E+02	N	BSL
	56-55-3	BENZO(A)ANTHRACENE	1.1 J	690 J	ug/l	HB-HB-04S	7/51	9.4-1000	6.90E+02		2.90E-02	c	NV	2.90E-02	Y	ASL
	50-32-8	BENZO(A)PYRENE	6 J	310 J	ug/l	HB-HB-04S	4/51	9.4-1000	3.10E+02		2.90E-03	c	2.00E-01	2.90E-03	Y	ASL
	205-99-2	BENZO(B)FLUORANTHENE	6 J	240 J	ug/l	HB-HB-04S	5/51	9.4-1000	2.40E+02		2.90E-02	c	NV	2.90E-02	Y	ASL
	191-24-2	BENZO(G,H,I)PERYLENE	2 J	2 J	ug/l	-HP-08, HB-HP	2/51	9.4-1000	2.00E+00		NV		NV	NV	Y	NTX
	207-08-9	BENZO(K)FLUORANTHENE	6 J	340 J	ug/l	HB-HB-04S	3/51	9.4-1000	3.40E+02		2.90E-01	c	NV	2.90E-01	Y	ASL
	65-85-0	BENZOIC ACID	2 J	2300 J	ug/l	HB-HB-02S	2/9	50-5000	2.30E+03		1.50E+04	n	NV	1.50E+04	N	BSL
	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	1 J	110	ug/l	HB-HB-08S	21/51	3-1000	1.10E+02		4.80E+00	c	6.00E+00	4.80E+00	Y	ASL
	86-74-8	CARBAZOLE	1 J	840 J	ug/l	HB-HB-04S	24/50	9.4-23	8.40E+02		NV		NV	NV	Y	NTX
	218-01-9	CHRYSENE	8 J	590 J	ug/l	HB-HB-04S	6/51	9.4-1000	5.90E+02		2.90E+00	c	NV	2.90E+00	Y	ASL
	53-70-3	DIBENZO(A,H)ANTHRACENE	2 J	2 J	ug/l	HB-HP-07	1/51	9.4-1000	2.00E+00		2.90E-03	c	NV	2.90E-03	Y	ASL
	132-64-9	DIBENZOFURAN	1.2 J	3400	ug/l	HB-HB-04S	25/51	9.5-970	3.40E+03		NV		NV	NV	Y	NTX
	84-74-2	DI-N-BUTYL PHTHALATE	1 J	3.7 J	ug/l	HB-HB-20I	3/51	9.4-1000	3.70E+00		3.70E+02	n	NV	3.70E+02	N	BSL

Table 4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - HUMAN HEALTH RISK ASSESSMENT
GROUND WATER - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Water
Exposure Medium: Ground Water

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (ug/L)(2)	Background Value (3)	RSL Screening Toxicity Value (ug/L)(4)		Potential ARAR/TBC Value (ug/L)(5)	Selected Screening Value (ug/L)	COPC Flag (Y/N)(6)	Rationale for Selection or Deletion(7)
Wastebed B/Harbor Brook - Ground Water	206-44-0	FLUORANTHENE	0.97 J	3200	ug/l	HB-HB-04S	17/51	9.5-1000	3.20E+03		1.50E+02	n	NV	1.50E+02	Y	ASL
	86-73-7	FLUORENE	1.2 J	4200	ug/l	HB-HB-04S	27/51	9.5-970	4.20E+03		1.50E+02	n	NV	1.50E+02	Y	ASL
	87-68-3	HEXACHLOROBUTADIENE	1 J	1 J	ug/l	HB-HB-07S	1/59	1-1000	1.00E+00		8.60E-01	c*	NV	8.60E-01	Y	ASL
	193-39-5	INDENO(1,2,3-CD)PYRENE	2 J	110 J	ug/l	HB-HB-04S	3/51	9.4-1000	1.10E+02		2.90E-02	c	NV	2.90E-02	Y	ASL
	91-20-3	NAPHTHALENE	1	35000	ug/l	HB-HB-04S	39/55	9.5-11	3.50E+04		1.40E-01	c*	NV	1.40E-01	Y	ASL
	85-01-8	PHENANTHRENE	2 J	8300	ug/l	HB-HB-04S	29/51	9.5-730	8.30E+03		NV		NV	NV	Y	NTX
	108-95-2	PHENOL	1.4 J	18000	ug/l	HB-HB-02S	31/50	9.5-19	1.80E+04		1.10E+03	n	NV	1.10E+03	Y	ASL
	129-00-0	PYRENE	1.1 J	1900	ug/l	HB-HB-04S	14/51	9.5-1000	1.90E+03		1.10E+02	n	NV	1.10E+02	Y	ASL
	VOC															
	87-61-6	1,2,3-TRICHLOROBENZENE	1 J	1 J	ug/l	HB-HB-07S	1/9	1-100	1.00E+00		NV		NV	NV	Y	NTX
	120-82-1	1,2,4-TRICHLOROBENZENE	1 J	5 J	ug/l	HB-HP-07	3/59	1-1000	5.00E+00		8.20E-01	n	7.00E+01	8.20E-01	Y	ASL
	95-63-6	1,2,4-TRIMETHYLBENZENE	0.1 J	640	ug/l	HB-HB-08I	8/9	0.5-0.5	6.40E+02		1.50E+00	n	NV	1.50E+00	Y	ASL
	95-50-1	1,2-DICHLOROBENZENE	2.8	28	ug/l	HB-HP-07	8/60	0.5-1000	2.80E+01		3.70E+01	n	6.00E+02	3.70E+01	N	BSL
	108-67-8	1,3,5-TRIMETHYLBENZENE	0.9 J	240	ug/l	HB-HB-08I	7/9	0.5-0.5	2.40E+02		1.20E+00	n	NV	1.20E+00	Y	ASL
	541-73-1	1,3-DICHLOROBENZENE	3.6	14	ug/l	HB-HP-07	7/60	0.5-1000	1.40E+01		NV		NV	NV	Y	NTX
	106-46-7	1,4-DICHLOROBENZENE	0.12 J	75	ug/l	HB-HP-07	16/60	0.5-1000	7.50E+01		4.30E-01	c	7.50E+01	4.30E-01	Y	ASL
	78-93-3	2-BUTANONE	2.03 J	41 J	ug/l	HB-HB-20I	7/51	10-5000	4.10E+01		7.10E+02	n	NV	7.10E+02	N	BSL
	591-78-6	2-HEXANONE	1.96 J	6.28	ug/l	HB-HB-20D	2/51	5-2500	6.28E+00		NV		NV	NV	Y	NTX
	106-43-4	4-CHLOROTOLUENE	2 J	2 J	ug/l	HB-HB-06S	1/9	0.5-50	2.00E+00		2.60E+02	n	NV	2.60E+02	N	BSL
	108-10-1	4-METHYL-2-PENTANONE	1.29 J	2.11 J	ug/l	HB-HB-20I	3/51	5-2500	2.11E+00		2.00E+02	n	NV	2.00E+02	N	BSL
	67-64-1	ACETONE	2.33 J	460 J	ug/l	HB-HB-04S	23/51	10-5000	4.60E+02		2.20E+03	n	NV	2.20E+03	N	BSL
	71-43-2	BENZENE	0.34 J	3900	ug/l	HB-HB-02S	29/51	0.5-50	3.90E+03		4.10E-01	c	5.00E+00	4.10E-01	N	TOX
	75-15-0	CARBON DISULFIDE	0.23 J	2.9 J	ug/l	HB-HB-18S	4/42	0.5-500	2.90E+00		1.00E+02	n	NV	1.00E+02	N	BSL
	108-90-7	CHLOROBENZENE	0.11 J	32	ug/l	HB-HB-06S	8/51	0.5-250	3.20E+01		9.10E+00	n	1.00E+02	9.10E+00	Y	ASL
	75-00-3	CHLOROETHANE	4.3 J	32.6	ug/l	HB-HB-20D	5/51	1-500	3.26E+01		2.10E+03	n	NV	2.10E+03	N	BSL
	67-66-3	CHLOROFORM	0.13 J	0.13 J	ug/l	HB-HB-20S	1/51	0.5-250	1.30E-01		1.90E-01	c	NV	1.90E-01	N	BSL
	156-59-2	CIS-1,2-DICHLOROETHENE	1 J	1 J	ug/l	HB-HB-06S	1/51	0.5-250	1.00E+00		3.70E+01	n	7.00E+01	3.70E+01	N	BSL
	100-41-4	ETHYLBENZENE	0.11 J	350	ug/l	HB-HB-04S	28/51	0.5-50	3.50E+02		1.50E+00	c	7.00E+02	1.50E+00	Y	ASL
	98-82-8	ISOPROPYLBENZENE	0.11 J	17 J	ug/l	HB-HB-08I	6/23	0.5-250	1.70E+01		6.80E+01	n	NV	6.80E+01	N	BSL
	1634-04-4	METHYL TERT-BUTYL ETHER	0.22 J	0.5	ug/l	HB-HB-18S	4/14	0.5-250	5.00E-01		1.20E+01	c	NV	1.20E+01	N	BSL
	103-65-1	N-PROPYLBENZENE	1 J	12 J	ug/l	HB-HB-08I	2/9	0.5-50	1.20E+01		NV			NV	Y	NTX
	95-47-6	O-XYLENE	4.3 J	870	ug/l	HB-HB-04S	10/28	5-50	8.70E+02		1.40E+02	n	NV	1.40E+02	Y	ASL
	99-87-6	P-ISOPROPYLTOLUENE	0.8 J	4 J	ug/l	HB-HP-08	2/9	0.5-50	4.00E+00		NV		NV	NV	Y	NTX
	135-98-8	SEC-BUTYLBENZENE	1 J	4 J	ug/l	-HP-08, HB-HP	3/9	0.5-50	4.00E+00		NV		NV	NV	Y	NTX
	100-42-5	STYRENE	0.4 J	850	ug/l	HB-HB-02S	16/51	0.5-50	8.50E+02		1.60E+02	n	1.00E+02	1.60E+02	Y	ASL
	108-88-3	TOLUENE	0.2 J	5740	ug/l	HB-HB-02S	28/51	0.5-50	5.74E+03		2.30E+02	n	1.00E+03	2.30E+02	Y	ASL
	XYLENES1314	XYLENES, M & P(10)	1.1 J	2300	ug/l	HB-HB-04S	10/28	5-50	2.30E+03		2.00E+01	n	1.00E+04	2.00E+01	Y	ASL
	1330-20-7	XYLENES, TOTAL	0.2 J	3380	ug/l	HB-HB-02S	19/23	0.5-1	3.38E+03		2.00E+01	n	1.00E+04	2.00E+01	Y	ASL
	OTHER															
	79-20-9	METHYL ACETATE	0.36 J	6.46	ug/l	HB-HB-20D	2/14	0.5-250	6.46E+00		3.70E+03	n	NV	3.70E+03	N	BSL

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Concentration used for screening is the maximum detected concentration.
(3) N/A - No background screening performed.
(4) Screening values are for tap water and represent cancer benchmark of 1E-06 and HQ=0.1 (USEPA April 2009 RSL Screening Toxicity Values).
(5) MCL screening level (USEPA April 2009 Screening Toxicity Values).
(6) Constituents selected as constituents of potential concern (COPC) if they are not an essential nutrient and either if Concentration Used for Screening exceeds Selected Screening Value, if there is no Selected Screening Value, or if constituent is a Group A carcinogen.
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information; TOX = Group A carcinogen. Deletion Rationale: BSL - Below Screening Level, NUT - Essential Nutrient.
(8) Toxicity values reflect those of Hexavalent Chromium (CAS # 18540-29-9).
(9) Where mercury is not speciated, toxicity values reflect those of Methyl Mercury (CAS # 22967-92-6)
(10) M&P Xylenes screened against toxicity values for Total Xylenes (CAS# 1330-20-7)
Rows highlighted yellow indicate constituents selected as COPCs based on the following selection rationale: ASL, TOX, or ARAR/TBC.
Rows highlighted orange indicate constituents selected as COPCs based on the following selection rationale: NTX.

Definitions:
NV: No Value
NTX: No toxicity information
ASL: Above screening level
BSL: Below screening level
NUT: Compound is an essential nutrient
TBC: To Be Considered
TOX: Group A carcinogen (automatically screened in as COPC)
ARAR: Applicable or Relevant and Appropriate Requirements
c = cancer
c* = cancer, where n SL < 100X c SL
c** = cancer, where n SL < 10X c SL
n = noncancer

Table 5
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE- HUMAN HEALTH RISK ASSESSMENT
SURFACE WATER - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Water
Exposure Medium: Surface Water

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier) [1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (ug/L) [2]	Background Value [3]	RSL Screening Toxicity Value (ug/L)[4]		Potential ARAR/TBC Value (ug/L)	Selected Screening Value (ug/L)	COPC Flag (Y/N)[6]	Rationale for Selection or Deletion [7]
Wastebed B/Harbor Brook - Surface Water	METALS															
	7429-90-5	ALUMINUM	0.0153 J	2.13	mg/L	HB-HBSW-05	13/28	0.0118-0.1	2.13E+03		3.70E+03	n	NV	3.70E+03	N	BSL
	7440-36-0	ANTIMONY	0.0015	0.0016 J	mg/L	HB-HBSW-06	2/28	0.0014-0.06	1.60E+00		1.50E+00	n	6.00E+00	1.50E+00	Y	ASL
	7440-38-2	ARSENIC	0.0018	0.0118	mg/L	HB-HBSW-01	5/28	0.0016-0.01	1.18E+01		4.50E-02	c	1.00E+01	4.50E-02	Y	TOX
	7440-39-3	BARIUM	0.0091 J	0.129	mg/L	HB-HBSW-07	27/28	0.02-0.02	1.29E+02		7.30E+02	n	2.00E+03	7.30E+02	N	BSL
	7440-41-7	BERYLLIUM	0.00008 J	0.00038 J	mg/L	HB-HBSW-06	4/28	0.000076-0.005	3.80E-01		7.30E+00	n	4.00E+00	7.30E+00	N	BSL
	7440-43-9	CADMIUM	0.00016	0.00016	mg/L	HB-HBSW-06	1/28	0.00024-0.005	1.60E-01		1.80E+01		5.00E+00	1.80E+01	N	BSL
	7440-70-2	CALCIUM	36.7	542	mg/L	HB-HBSW-12	28/28	-	5.42E+05		NV		NV	NV	N	NUT
	7440-47-3	CHROMIUM[8]	0.0015 J	0.0111	mg/L	HB-HBSW-12	11/28	0.01-0.01	1.11E+01		1.10E+01	n	NV	1.10E+01	Y	ASL
	7440-48-4	COBALT	0.00058	0.00058	mg/L	HB-HBSW-06	1/28	0.00093-0.05	5.80E-01		1.10E+00	n	NV	1.10E+00	N	BSL
	7440-50-8	COPPER	0.0017 J	0.0225	mg/L	HB-HBSW-05	8/28	0.00093-0.02	2.25E+01		1.50E+02	n	1.30E+03	1.50E+02	N	BSL
	57-12-5	CYANIDE	0.01	0.065	mg/L	HB-HBSW-12	7/28	0.01-0.01	6.50E+01		7.30E+01	n	2.00E+02	7.30E+01	N	BSL
	7439-89-6	IRON	0.0112 J	12.28 J	mg/L	HB-HBSW-07	25/28	0.1-0.1	1.23E+04		2.60E+03	n	NV	2.60E+03	Y	ASL
	7439-92-1	LEAD	0.0016 J	0.0363	mg/L	HB-HBSW-05	10/28	0.00066-0.005	3.63E+01		0.00E+00	0.00E+00	1.50E+01	NV	Y	NTX
	7439-95-4	MAGNESIUM	0.227 J	50.5	mg/L	HB-HBSW-08	28/28	-	5.05E+04		NV		NV	NV	N	NUT
	7439-96-5	MANGANESE	0.0166	1.8	mg/L	HB-HBSW-01	21/28	0.0014-0.01	1.80E+03		8.80E+01	n	NV	8.80E+01	Y	ASL
	7439-97-6	MERCURY[9]	0.0000019	0.00048	mg/L	HB-HBSW-12	14/40	0.00018-0.0002	4.80E-01		5.70E-02	n	2.00E+00	5.70E-02	Y	ASL
	7440-02-0	NICKEL	0.00079 J	0.0029 J	mg/L	HB-HBSW-01	11/28	0.04-0.04	2.90E+00		7.30E+01	n	NV	7.30E+01	N	BSL
	7440-09-7	POTASSIUM	3 J	16.7	mg/L	IBSW-11, HB-HBS	28/28	-	1.67E+04		NV		NV	NV	N	NUT
	7782-49-2	SELENIUM	0.002 J	0.0031 J	mg/L	HB-HBSW-12	7/28	0.0018-0.01	3.10E+00		1.80E+01	n	5.00E+01	1.80E+01	N	BSL
	7440-22-4	SILVER	0.00034	0.00034	mg/L	HB-HBSW-06	1/28	0.00073-0.01	3.40E-01		1.80E+01	n	NV	1.80E+01	N	BSL
	7440-23-5	SODIUM	53	902	mg/L	HB-HBSW-05	28/28	-	9.02E+05		NV		NV	NV	N	NUT
	7440-28-0	THALLIUM	0.0038	0.0038	mg/L	HB-HBSW-06	1/28	0.0036-0.01	3.80E+00		2.40E-01	n	2.00E+00	2.40E-01	Y	ASL
	7440-62-2	VANADIUM	0.0003	0.0037 J	mg/L	HB-HBSW-13	6/28	0.00039-0.05	3.70E+00		2.60E+01	n	NV	2.60E+01	N	BSL
	7440-66-6	ZINC	0.0082 J	0.0685	mg/L	HB-HBSW-05	7/28	0.002-0.02	6.85E+01		1.10E+03	n	NV	1.10E+03	N	BSL
	PESTICIDES															
	72-54-8	4,4'-DDD	0.21	0.21	ug/l	HB-HBSW-13	1/27	0.093-0.22	2.10E-01		2.80E-01	c	NV	2.80E-01	N	BSL
	SVOC															
	105-67-9	2,4-DIMETHYLPHENOL	2.5 J	11 J	ug/l	HB-HBSW-12	4/27	9.3-220	1.10E+01		7.30E+01	n	NV	7.30E+01	N	BSL
	91-57-6	2-METHYLNAPHTHALENE	1 J	160 J	ug/l	HB-HBSW-12	11/27	9.3-11	1.60E+02		1.50E+01	n	NV	1.50E+01	Y	ASL
	95-48-7	2-METHYLPHENOL	2 J	97 J	ug/l	HB-HBSW-12	6/27	9.3-11	9.70E+01		1.80E+02	n	NV	1.80E+02	N	BSL
	34METPH	3&4-METHYLPHENOL	1 J	210 J	ug/l	HB-HBSW-12	6/27	9.3-11	2.10E+02		NV		NV	NV	Y	NTX
	83-32-9	ACENAPHTHENE	3.4 J	27	ug/l	HB-HBSW-06	8/27	9.3-11	2.70E+01		2.20E+02	n	NV	2.20E+02	N	BSL
	208-96-8	ACENAPHTHYLENE	1.1 J	21	ug/l	HB-HBSW-03	6/27	9.3-220	2.10E+01		NV		NV	NV	Y	NTX
	120-12-7	ANTHRACENE	3.8 J	3.8 J	ug/l	HB-HBSW-08	1/27	9.3-220	3.80E+00		1.10E+03	n	NV	1.10E+03	N	BSL
	56-55-3	BENZO(A)ANTHRACENE	1 J	1.6 J	ug/l	HB-HBSW-05	2/28	9.3-220	1.60E+00		2.90E-02	c	NV	2.90E-02	Y	ASL
	50-32-8	BENZO(A)PYRENE	1.2 J	2 J	ug/l	HB-HBSW-05	2/28	9.3-220	2.00E+00		2.90E-03	c	2.00E-01	2.90E-03	Y	ASL
	205-99-2	BENZO(B)FLUORANTHENE	1.2 J	1.6 J	ug/l	HB-HBSW-05	2/28	9.3-220	1.60E+00		2.90E-02	c	NV	2.90E-02	Y	ASL
	191-24-2	BENZO(G,H,I)PERYLENE	1.9 J	1.9 J	ug/l	HB-HBSW-05	1/27	9.3-220	1.90E+00		NV		NV	NV	Y	NTX
	207-08-9	BENZO(K)FLUORANTHENE	1.6 J	1.6 J	ug/l	HB-HBSW-05	1/27	9.3-220	1.60E+00		2.90E-01	c	NV	2.90E-01	Y	ASL
	65-85-0	BENZOIC ACID	2 J	4 J	ug/l	HB-HBSW-03	2/6	51-53	4.00E+00		1.50E+04	n	NV	1.50E+04	N	BSL
	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	5.2 J	7.8 J	ug/l	HB-HBSW-06	2/27	9.3-220	7.80E+00		4.80E+00	c	6.00E+00	4.80E+00	Y	ASL
	86-74-8	CARBAZOLE	2.4 J	30 J	ug/l	HB-HBSW-12	7/27	9.3-11	3.00E+01		NV		NV	NV	Y	NTX
	218-01-9	CHRYSENE	1.1 J	2 J	ug/l	HB-HBSW-05	4/28	9.3-220	2.00E+00		2.90E+00	c	NV	2.90E+00	N	BSL
	132-64-9	DIBENZOFURAN	1.2 J	35 J	ug/l	HB-HBSW-12	7/27	9.3-11	3.50E+01		NV		NV	NV	Y	NTX

Table 5
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE- HUMAN HEALTH RISK ASSESSMENT
SURFACE WATER - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Water
Exposure Medium: Surface Water

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier) (1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (ug/L) (2)	Background Value (3)	RSL Screening Toxicity Value (ug/L)(4)		Potential ARAR/TBC Value (ug/L)	Selected Screening Value (ug/L)	COPC Flag (Y/N)(6)	Rationale for Selection or Deletion (7)
Wastebed B/Harbor Brook - Surface Water	117-84-0	DI-N-OCTYL PHTHALATE	8.6 J	8.6 J	ug/l	HB-HBSW-06	1/27	9.3-220	8.60E+00		NV		NV	NV	Y	NTX
	206-44-0	FLUORANTHENE	1.7 J	3.7 J	ug/l	HB-HBSW-05	5/28	9.3-220	3.70E+00		1.50E+02	n	NV	1.50E+02	N	BSL
	86-73-7	FLUORENE	2.2 J	27 J	ug/l	HB-HBSW-12	8/27	9.3-11	2.70E+01		1.50E+02	n	NV	1.50E+02	N	BSL
	193-39-5	INDENO(1,2,3-CD)PYRENE	1.4 J	1.4 J	ug/l	HB-HBSW-05	1/27	9.3-220	1.40E+00		2.90E-02	c	NV	2.90E-02	Y	ASL
	91-20-3	NAPHTHALENE	1 J	2200	ug/l	HB-HBSW-06	19/36	1-11	2.20E+03		1.40E-01	c*	NV	1.40E-01	Y	ASL
	85-01-8	PHENANTHRENE	1.3 J	27 J	ug/l	HB-HBSW-12	10/27	9.3-11	2.70E+01		NV		NV	NV	Y	NTX
	108-95-2	PHENOL	1.5 J	700	ug/l	HB-HBSW-12	8/27	9.3-11	7.00E+02		1.10E+03	n	NV	1.10E+03	N	BSL
	129-00-0	PYRENE	1.6 J	4.4 J	ug/l	HB-HBSW-08	5/28	9.3-220	4.40E+00		1.10E+02	n	NV	1.10E+02	N	BSL
	VOC															
	95-63-6	1,2,4-TRIMETHYLBENZENE	0.2 J	67	ug/l	HB-HBSW-12	7/10	0.5-0.5	6.70E+01		1.50E+00	n	NV	1.50E+00	Y	ASL
	108-67-8	1,3,5-TRIMETHYLBENZENE	0.2 J	26	ug/l	HB-HBSW-12	5/10	0.5-12	2.60E+01		1.20E+00	n	NV	1.20E+00	Y	ASL
	78-93-3	2-BUTANONE	1 J	2 J	ug/l	HB-HBSW-12	2/27	10-250	2.00E+00		7.10E+02	n	NV	7.10E+02	N	BSL
	67-64-1	ACETONE	3 J	17 J	ug/l	HB-HBSW-12	8/27	10-250	1.70E+01		2.20E+03	n	NV	2.20E+03	N	BSL
	71-43-2	BENZENE	0.1 J	130	ug/l	HB-HBSW-12	13/27	0.5-5	1.30E+02		4.10E-01	c	5.00E+00	4.10E-01	N	TOX
	156-59-2	CIS-1,2-DICHLOROETHENE	0.2 J	0.3 J	ug/l	HB-HBSW-09	4/27	0.5-12	3.00E-01		3.70E+01	n	7.00E+01	3.70E+01	N	BSL
	100-41-4	ETHYLBENZENE	0.1 J	21	ug/l	HB-HBSW-12	9/27	0.5-5	2.10E+01		1.50E+00	c	7.00E+02	1.50E+00	Y	ASL
	95-47-6	O-XYLENE	11	53	ug/l	HB-HBSW-12	3/17	5-5	5.30E+01		1.40E+02	n	NV	1.40E+02	N	BSL
	100-42-5	STYRENE	0.1 J	22	ug/l	HB-HBSW-12	8/27	0.5-12	2.20E+01		1.60E+02	n	1.00E+02	1.60E+02	N	BSL
	108-88-3	TOLUENE	0.3 J	270	ug/l	HB-HBSW-12	15/27	0.5-5	2.70E+02		2.30E+02	n	1.00E+03	2.30E+02	Y	ASL
	XYLENES1314	XYLENES, M & P(10)	1.2 J	140	ug/l	HB-HBSW-12	6/17	5-5	1.40E+02		2.00E+01	n	1.00E+04	2.00E+01	Y	ASL
	1330-20-7	XYLENES, TOTAL	0.4 J	300	ug/l	HB-HBSW-12	9/10	0.5-0.5	3.00E+02		2.00E+01	n	1.00E+04	2.00E+01	Y	ASL

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Concentration used for screening is the maximum detected concentration.
(3) N/A - No background screening performed.
(4) Screening values are for tap water and represent cancer benchmark of 1E-06 and HQ=0.1 (USEPA April 2009 RSL Screening Toxicity Values).
(5) MCL screening level (USEPA April 2009 Screening Toxicity Values).
(6) Constituents selected as constituents of potential concern (COPC) if they are not an essential nutrient and either if Concentration Used for Screening exceeds Selected Screening Value, if there is no Selected Screening Value, or if constituent is a Group A carcinogen.
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information; TOX = Group A carcinogen. Deletion Rationale: BSL - Below Screening Level, NUT - Essential Nutrient.
(8) Toxicity values reflect those of Hexavalent Chromium (CAS # 18540-29-9).
(9) Toxicity values reflect those of Methyl Mercury (CAS # 22967-92-6), mercury (Method 9010B/9014) and high resolution mercury (USEPA Method 1669) were grouped together for this evaluation.
(10) M&P Xylenes screened against toxicity values for Total Xylenes (CAS# 1330-20-7)

Rows highlighted yellow indicate constituents selected as COPCs based on the following selection rationale: ASL, TOX, or ARAR/TBC.
Rows highlighted orange indicate constituents selected as COPCs based on the following selection rationale: NTX.

Definitions:
NV: No Value
NTX: No toxicity information
ASL: Above screening level
BSL: Below screening level
NUT: Compound is an essential nutrient
TBC: To Be Considered
TOX: Group A carcinogen (automatically screened in as COPC)
ARAR: Applicable or Relevant and Appropriate Requirements
c = cancer
c* = cancer, where n SL < 100X c SL
c** = cancer, where n SL < 10X c SL
n = noncancer
m = concentration may exceed ceiling limit
s = concentration may exceed Csat
L = see EPA RSL user guide on lead

Table 6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE- ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)	Background Value	USEPA Ecological Soil Screening Levels - Plants[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Invertebrates[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Aves[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Mammals[a] (mg/kg dw)	Microorganisms and microbial processes (Table 2)[b] (mg/kg)	Earthworms (Table 1)[b] (mg/kg)	Terrestrial Plants[c] (mg/kg)	NYSDEC: Restricted Use Soil Cleanup Objectives for Protection of Ecological Resources[d] (mg/kg)	Potential ARAR/TBC Value	Selected Screening Value[e]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[f]
	DIOXINS/FURANS																					
Harbor Brook - Surface Soil	1746-01-6	2,3,7,8-TCDD Equivalent[g]	4.2	359.9	ng/kg		8/8		3.60E-04		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	METALS																					
	7429-90-5	ALUMINUM	1870	24400	mg/Kg	HB-HBW-03	55/55	-	2.44E+04		NV	NV	NV	NV	6.00E+02	NV	5.00E+01	NV		5.00E+01	Y	ASL
	7440-36-0	ANTIMONY	0.18 J	2.4 J	mg/Kg	HB-GP-38	13/54	0.16-42.5	2.40E+00		NV	7.80E+01	NV	2.70E-01	-	NV	5.00E+00	NV		2.70E-01	Y	ASL
	7440-38-2	ARSENIC	2.3	34.4	mg/Kg	HB-PCSS-1	53/54	7.1-7.1	3.44E+01		1.80E+01	NV	4.30E+01	4.60E+01	1.00E+02	NV	1.00E+01	1.30E+01		1.00E+01	Y	ASL
	7440-39-3	BARIUM	18.6 J	879 J	mg/Kg	HB-HB-07S	55/55	-	8.79E+02		NV	3.30E+02	NV	2.00E+03	3.00E+03	NV	NV	4.33E+02		3.30E+02	Y	ASL
	7440-41-7	BERYLLIUM	0.3 J	1.4	mg/Kg	HB-HBW-01	22/54	0.53-3.5	1.40E+00		NV	4.00E+01	NV	2.10E+01	NV	NV	1.00E+01	1.00E+01		1.00E+01	N	BSL
	7440-43-9	CADMIUM	0.034 J	49.3 J	mg/Kg	HB-HB-02I	28/54	0.027-3.5	4.93E+01		3.20E+01	1.40E+02	7.70E-01	3.60E-01	2.00E+01	NV	4.00E+00	4.00E+00		3.60E-01	Y	ASL
	7440-70-2	CALCIUM	5880	352000	mg/Kg	HB-SS-08	55/55	-	3.52E+05		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	KPS
	7440-47-3	CHROMIUM	9.3	191 J	mg/Kg	HB-HB-20D	55/55	-	1.91E+02		NV	NV	2.60E+01	3.40E+01	1.00E+01	NV	1.00E+00	1.00E+00		1.00E+00	Y	ASL
	7440-48-4	COBALT	3.4 J	13.3 J	mg/Kg	HB-GP-20	38/54	6.61-35.4	1.33E+01		1.30E+01	NV	1.20E+02	2.30E+02	1.00E+03	NV	2.00E+01	NV		1.30E+01	Y	ASL
	7440-50-8	COPPER	16	302 J	mg/Kg	HB-HB-19S	55/55	-	3.02E+02		7.00E+01	8.00E+01	2.80E+01	4.90E+01	1.00E+02	NV	1.00E+02	5.00E+01		2.80E+01	Y	ASL
	57-12-5	CYANIDE	0.96	2.9	mg/Kg	HB-GP-20	6/54	0.54-7.3	2.90E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	7439-89-6	IRON	2690	27900	mg/Kg	HB-PCSS-1	55/55	-	2.79E+04		NV	NV	NV	NV	2.00E+02	NV	NV	NV		2.00E+02	Y	ASL
	7439-92-1	LEAD	6.8 J	2320 J	mg/Kg	HB-HB-20D	55/55	-	2.32E+03		1.20E+02	1.70E+03	1.10E+01	5.60E+01	9.00E+02	NV	5.00E+01	6.30E+01		1.10E+01	Y	ASL
	7439-95-4	MAGNESIUM	811	107000	mg/Kg	HB-HB-08D	55/55	-	1.07E+05		NV	NV	NV	NV	NV	NV	NV	NV		NV	N	NUT
	7439-96-5	MANGANESE	60.6 J	580 J	mg/Kg	HB-GP-20	55/55	-	5.80E+02		2.20E+02	4.50E+02	4.30E+03	4.00E+03	1.00E+02	NV	5.00E+02	1.60E+03		1.00E+02	Y	ASL
	7439-97-6	MERCURY	0.05	64.3	mg/kg	HB-SS-08	51/55	0.033-0.0368	6.43E+01		NV	NV	NV	NV	-	NV	NV	1.80E-01		NV	Y	NTX
	7440-02-0	NICKEL	9.8	73.5 J	mg/Kg	HB-HB-20D	55/55	-	7.35E+01		3.80E+01	2.80E+02	2.10E+02	1.30E+02	9.00E+01	NV	3.00E+01	3.00E+01		3.00E+01	Y	ASL
	7440-09-7	POTASSIUM	440 J	8170 J	mg/Kg	HB-HBW-03	53/54	323.56-323.56	8.17E+03		NV	NV	NV	NV	NV	NV	NV	NV		NV	N	NUT
	7782-49-2	SELENIUM	0.33 J	2.9	mg/Kg	HB-PCSS-1	28/52	0.53-5.95	2.90E+00		5.20E-01	4.10E+00	1.20E+00	6.30E-01	1.00E+02	NV	1.00E+00	3.90E+00		5.20E-01	Y	ASL
	7440-22-4	SILVER	0.33 J	27.6 J	mg/Kg	HB-HB-02I	12/54	0.079-7.1	2.76E+01		5.60E+02	NV	4.20E+00	1.40E+01	5.00E+01	NV	2.00E+00	2.00E+00		2.00E+00	Y	ASL
	7440-23-5	SODIUM	60.7	12800 J	mg/Kg	HB-RISB-05	54/55	568-568	1.28E+04		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	KPS
	7440-28-0	THALLIUM	1.1 J	1.1 J	mg/Kg	HB-HBW-01	1/54	0.4-7.1	1.10E+00		NV	NV	NV	NV	NV	NV	1.00E+00	NV		1.00E+00	Y	ASL
	7440-62-2	VANADIUM	8.1 J	49.1	mg/Kg	HB-HBW-03	52/54	8.09-35.4	4.91E+01		NV	NV	7.80E+00	2.80E+02	2.00E+01	NV	2.00E+00	NV		2.00E+00	Y	ASL
	7440-66-6	ZINC	23.1	635 J	mg/Kg	HB-HB-02I	54/54	-	6.35E+02		1.60E+02	1.20E+02	4.60E+01	7.90E+01	1.00E+02	NV	5.00E+01	1.09E+02		4.60E+01	Y	ASL
	PCB																					
	12674-11-2	AROCLOR-1016	0.003 J	0.1 J	mg/kg	HB-HB-02I	2/54	0.02-3.2	1.00E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	12672-29-6	AROCLOR-1248	4.42 JN	4.42 JN	mg/kg	HB-SB-65	1/54	0.02-3.2	4.42E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	11097-69-1	AROCLOR-1254	0.006 J	2.4	mg/kg	HB-HB-18S	8/54	0.02-3.2	2.40E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	11096-82-5	AROCLOR-1260	0.003 J	2.7	mg/kg	HB-SS-09	25/54	0.02-3.2	2.70E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
		Sum of Aroclors (Total PCBs)	0.003 J	5.97	mg/kg	HB-SB-65	28/54	NA	5.97E+00		NV	NV	NV	NV	NV	NV	NV	1.00E+00		1.00E+00	Y	ASL
	PESTICIDES																					
	57-74-9	CHLORDANE	0.0063 J	0.05 J	mg/kg	HB-HB-02I	2/53	0.0019-0.16	5.00E-02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	12789-03-6	CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	0.0059 J	0.12 J	mg/kg	HB-HB-19S	4/54	0.0019-0.16	1.20E-01		NV	NV	NV	NV	NV	NV	NV	1.30E+00		NV	Y	NTX
	72-54-8	4,4'-DDD	0.001 J	0.73 J	mg/kg	HB-HB-19S	7/55	0.0037-0.32	7.30E-01		NV	NV	9.30E-02	2.10E-02	NV	NV	NV	3.30E-03		3.30E-03	Y	ASL
	72-55-9	4,4'-DDE	0.002 J	0.11 J	mg/kg	HB-HB-19S	5/54	0.0037-0.32	1.10E-01		NV	NV	9.30E-02	2.10E-02	NV	NV	NV	3.30E-03		3.30E-03	Y	ASL
	50-29-3	4,4'-DDT	0.0064 J	0.39 J	mg/kg	HB-HB-19S	5/54	0.0037-0.32	3.90E-01		NV	NV	9.30E-02	2.10E-02	NV	NV	NV	3.30E-03		3.30E-03	Y	ASL
	60-57-1	DIELDRIN	0.0045 J	0.11	mg/kg	HB-HB-18S	2/54	0.0037-0.32	1.10E-01		NV	NV	2.20E-02	4.90E-03	NV	NV	NV	6.00E-03		4.90E-03	Y	ASL
	53494-70-5	ENDRIN KETONE	0.39	0.56	mg/kg	HB-SS-11	2/54	0.0037-0.32	5.60E-01		NV	NV	NV	NV	NV	NV	NV	1.40E-02		NV	Y	NTX
	1024-57-3	HEPTACHLOR EPOXIDE	0.052 J	0.052 J	mg/kg	HB-HB-19S	1/54	0.0019-0.16	5.20E-02		NV	NV	NV	NV	NV	NV	NV	1.40E-01		NV	Y	NTX
	SVOC																					
	34METPH	3&4-METHYLPHENOL	0.044 J	0.091 J	mg/kg	HB-HB-02I	2/52	0.36-180	9.10E-02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	65-85-0	BENZOIC ACID	0.049 J	1.7 J	mg/kg	HB-HBW-02	7/18	1.8-29	1.70E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	100-51-6	BENZYL ALCOHOL	0.28 J	0.28 J	mg/kg	HB-HB-08D	1/52	0.36-180	2.80E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	105-67-9	2,4-DIMETHYLPHENOL	0.043 J	0.043 J	mg/kg	HB-HB-15	1/53	0.36-180	4.30E-02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	91-57-6	2-METHYLNAPHTHALENE	0.055 J	6.2 J	mg/kg	HB-SS-08	31/53	0.36-180	6.20E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	106-47-8	4-CHLOROANILINE	0.12 J	0.49 J	mg/kg	HB-SS-10	2/53	0.36-180	4.90E-01		NV	NV	NV	NV	NV	1.00E+02	NV	NV		1.00E+02	N	BSL
	83-32-9	ACENAPHTHENE	0.053 J	5 J	mg/kg	HB-HB-19S	15/53	0.36-180	5.00E+00		NV	2.90E+01	NV	1.00E+02	NV	NV	NV	2.00E+01		2.00E+01	N	BSL
	208-96-8	ACENAPHTHYLENE	0.08 J	7.7 J	mg/kg	HB-HB-19S	31/53	0.36-180	7.70E+00		NV	2.90E+01	NV	1.00E+02	NV	NV	2.00E+01	NV		2.00E+01	N	BSL
	120-12-7	ANTHRACENE	0.049 J	12 J	mg/kg	HB-HB-19S	37/54	0.36-180	1.20E+01		NV	2.90E+01	NV	1.00E+02	NV	NV	NV	NV		2.90E+01	N	BSL
	56-55-3	BENZO(A)ANTHRACENE	0.057 J	26 J	mg/kg	HB-HB-19S	46/54	0.36-180	2.60E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	50-32-8	BENZO(A)PYRENE	0.056 J	29 J	mg/kg	HB-HB-19S	46/55	0.36-180	2.90E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	2.60E+00		1.10E+00	Y	ASL
	205-99-2	BENZO(B)FLUORANTHENE	0.081 J	23 J	mg/kg	HB-HB-19S	47/55	0.36-180	2.30E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	191-24-2	BENZO(G,H,I)PERYLENE	0.037 J	19 J	mg/kg	HB-HB-19S	44/54	0.36-180	1.90E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	207-08-9	BENZO(K)FLUORANTHENE	0.066 J	22 J	mg/kg	HB-HB-19S	43/54	0.36-180	2.20E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	0.063 J	4.4 J	mg/kg	HB-HB-02I	10/53	0.36-180	4.40E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	85-68-7	BUTYLBENZYL PHTHALATE	0.052 J	0.2 J	mg/kg	HB-HBW-03	4/53	0.36-180	2.00E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	86-74-8	CARBAZOLE	0.042 J	5.7 J	mg/kg	HB-HB-19S	25/53	0.36-180	5.70E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	218-01-9	CHRYSENE	0.07 J	34 J	mg/kg	HB-HB-19S	48/55	0.36-180	3.40E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	53-70-3	DIBENZO(A,H)ANTHRACENE	0.079 J	6.2 J	mg/kg	HB-HB-19S	30/53	0.36-180	6.20E+00		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	132-64-9	DIBENZOFURAN	0.045 J	3.7 J	mg/kg	HB-RISB-04	21/53	0.36-180	3.70E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	84-74-2	DI-N-BUTYL PHTHALATE	0.044 J	0.044 J	mg/kg	HB-HB-15	1/53	0.36-180	4.40E-02		NV	NV	NV	NV	NV	NV	2.00E+02	NV		2.00E+02	N	BSL
	117-84-0	DI-N-OCTYL PHTHALATE	0.3 J	0.3 J	mg/kg	HB-HBW-03	1/53	0.36-180	3.00E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	206-44-0	FLUORANTHENE	0.094 J	77 J	mg/kg	HB-HB-19S	49/55	0.36-180	7.70E+01		NV	2.90E+01	NV	1.00E+02	NV	3.00E+01	NV	NV		2.90E+01	Y	ASL
	86-73-7	FLUORENE	0.058 J	6.8 J	mg/kg	HB-HB-19S	17/54	0.36-180	6.80E+00		NV	NV	NV	NV	NV	NV	NV	3.00E+01		3.00E+01	N	BSL
	118-74-1	HEXACHLOROBENZENE	0.19 J	4.1 J	mg/kg	HB-HBW-02	6/53	0.36-180	4.10E+00		NV	NV	NV	NV	1.00E+03	NV	NV	NV		1.00E+03	N	BSL
	193-39-5	INDENO(1,2,3-CD)PYRENE	0.055 J	17 J	mg/kg	HB-HB-19S	42/54	0.36-180	1.70E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL
	91-20-3	NAPHTHALENE	0.012	100	mg/kg	HB-SS-08	42/75	0.005-160	1.00E+02		NV	2.90E+01	NV	1.00E+02	NV	NV	NV	NV		2.90E+01	Y	ASL
	85-01-8	PHENANTHRENE	0.054 J	61 J	mg/kg	HB-HB-19S	47/55	0.36-180	6.10E+01		NV	2.90E+01	NV	1.00E+02	NV	NV	NV	NV		2.90E+01	Y	ASL
	108-95-2	PHENOL	0.27 J	0.93 J	mg/kg	HB-HB-06S	3/53	0.36-180	9.30E-01		NV	NV	NV	NV	1.00E+02	3.00E+01	7.00E+01	3.00E+01		3.00E+01	N	BSL
	129-00-0	PYRENE	0.085 J	59 J	mg/kg	HB-HB-19S	49/55	0.36-180	5.90E+01		NV	1.80E+01	NV	1.10E+00	NV	NV	NV	NV		1.10E+00	Y	ASL

Table 6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE- ECOLOGICAL RISK ASSESSMENT
SURFACE SOIL - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)	Maximum Concentration (Qualifier)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)	Background Value	USEPA Ecological Soil Screening Levels - Plants[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Invertebrates[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Aves[a] (mg/kg dw)	USEPA Ecological Soil Screening Levels - Mammals[a] (mg/kg dw)	Microorganisms and microbial processes (Table 2)[b] (mg/kg)	Earthworms (Table 1)[b] (mg/kg)	Terrestrial Plants[c] (mg/kg)	NYSDEC: Restricted Use Soil Cleanup Objectives for Protection of Ecological Resources[d] (mg/kg)	Potential ARAR/TBC Value	Selected Screening Value[e]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[f]
	VOC																					
Harbor Brook - Surface Soil	135-98-8	SEC-BUTYLBENZENE	0.002 J	0.002 J	mg/kg	HB-HBW-04	1/21	0.003-0.005	2.00E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	95-63-6	1,2,4-TRIMETHYLBENZENE	0.0008 J	0.006 J	mg/kg	HB-HBW-04	2/21	0.003-0.005	6.00E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	108-67-8	1,3,5-TRIMETHYLBENZENE	0.003 J	0.003 J	mg/kg	HB-HBW-04	1/21	0.003-0.005	3.00E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	108-87-2	METHYLCYCLOHEXANE	0.33 J	0.33 J	mg/kg	HB-SB-65	1/1	-	3.30E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	99-87-6	P-ISOPROPYLTOLUENE	0.002 J	0.009 J	mg/kg	HB-GP-38	3/21	0.003-0.006	9.00E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	120-82-1	1,2,4-TRICHLOROBENZENE	0.5 J	48 J	mg/kg	HB-SS-11	12/74	0.005-180	4.80E+01		NV	NV	NV	NV	NV	2.00E+01	NV	NV		2.00E+01	Y	ASL
	95-50-1	1,2-DICHLOROBENZENE	0.002 J	210	mg/kg	HB-SS-11	20/74	0.003-12	2.10E+02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	541-73-1	1,3-DICHLOROBENZENE	0.001 J	7	mg/kg	HB-SB-65	7/74	0.003-180	7.00E+00		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	106-46-7	1,4-DICHLOROBENZENE	0.009 J	350	mg/kg	HB-SS-11	27/74	0.003-7.5	3.50E+02		NV	NV	NV	NV	NV	2.00E+01	NV	2.00E+01		2.00E+01	Y	ASL
	78-93-3	2-BUTANONE	0.005 J	0.047 J	mg/kg	HB-HB-20D	12/54	0.0093-1.7	4.70E-02		NV	NV	NV	NV	NV	NV	NV	1.00E+02		1.00E+02	N	BSL
	67-64-1	ACETONE	0.004 J	0.37 J	mg/kg	HB-XSS-1	20/55	0.011-1.7	3.70E-01		NV	NV	NV	NV	NV	NV	NV	2.20E+00		2.20E+00	N	BSL
	71-43-2	BENZENE	0.0008 J	1.4	mg/kg	HB-SB-65	16/54	0.003-0.036	1.40E+00		NV	NV	NV	NV	NV	NV	NV	7.00E+01		7.00E+01	N	BSL
	75-15-0	CARBON DISULFIDE	0.0021 J	0.11 J	mg/kg	HB-SB-65	2/33	0.0093-0.073	1.10E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	108-90-7	CHLOROBENZENE	0.002 J	3.4	mg/kg	HB-SB-65	17/55	0.003-0.017	3.40E+00		NV	NV	NV	NV	NV	4.00E+01	NV	4.00E+01		4.00E+01	N	BSL
	156-59-2	CIS-1,2-DICHLOROETHENE	0.0026 J	0.0026 J	mg/kg	HB-HB-20D	1/54	0.003-0.42	2.60E-03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	100-41-4	ETHYLBENZENE	0.0017 J	0.41 J	mg/kg	HB-SB-65	6/55	0.003-0.017	4.10E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	98-82-8	ISOPROPYLBENZENE	0.13 J	0.13 J	mg/kg	HB-SB-65	1/22	0.003-0.006	1.30E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	75-09-2	METHYLENE CHLORIDE	0.0021 J	0.16	mg/kg	HB-HBW-01	9/54	0.002-0.83	1.60E-01		NV	NV	NV	NV	NV	NV	NV	1.20E+01		1.20E+01	N	BSL
	95-47-6	O-XYLENE	0.0018 J	0.11 J	mg/kg	HB-RISB-05	4/33	0.0047-0.017	1.10E-01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	100-42-5	STYRENE	0.0052 J	0.0052 J	mg/kg	HB-HB-20D	1/54	0.003-0.42	5.20E-03		NV	NV	NV	NV	NV	NV	3.00E+02	NV		3.00E+02	N	BSL
	127-18-4	TETRACHLOROETHENE	0.0005 J	0.0005 J	mg/kg	HB-GP-30	1/54	0.003-0.42	5.00E-04		NV	NV	NV	NV	NV	NV	NV	2.00E+00		2.00E+00	N	BSL
	108-88-3	TOLUENE	0.0008 J	0.68	mg/kg	HB-SB-65	13/55	0.0028-0.036	6.80E-01		NV	NV	NV	NV	NV	NV	2.00E+02	3.60E+01		3.60E+01	N	BSL
	79-01-6	TRICHLOROETHENE	0.0005 J	0.002 J	mg/kg	HB-HBW-04	2/54	0.003-0.42	2.00E-03		NV	NV	NV	NV	NV	NV	NV	2.00E+00		2.00E+00	N	BSL
	XYLENES1314	XYLENES, M & P[h]	0.0033 J	0.22 J	mg/kg	HB-RISB-05	8/33	0.0047-0.036	2.20E-01		NV	NV	NV	NV	NV	NV	NV	2.60E-01		2.60E-01	N	BSL
	1330-20-7	XYLENES, TOTAL	0.0007 J	2.1	mg/kg	HB-SB-65	7/22	0.003-0.005	2.10E+00		NV	NV	NV	NV	NV	NV	NV	2.60E-01		2.60E-01	Y	ASL
	OTHER																					
	6165-52-2	1-PHENYL-1-(2,4-DIMETHYLPHENYL) ETHANE	150	150	mg/kg	HB-SB-65	1/1	-	1.50E+02		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	3717-68-8	1-PHENYL-1-(4-METHYLPHENYL) ETHANE	44	44	mg/kg	HB-SB-65	1/1	-	4.40E+01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	112-40-3	DODECANE	590 J	1100 J	mg/kg	HB-RISB-04	2/4	450-640	1.10E+03		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX
	22967-92-6	METHYL MERCURY	0.864	96.1	mg/kg	HB-SS-08	16/16	-	9.61E+01		NV	NV	NV	NV	NV	NV	NV	NV		NV	Y	NTX

Notes:
a: Values are from USEPA (2007) Ecological Soil Screening Levels (Available at: http://www.epa.gov/ecotox/ecossl/).
b: Values are from Efroymson ***et al***. 1997b.
c: Values are from Efroymson ***et al***. 1997a.
d: Values are from NYSDEC, 2006 (6 NYCRR Subpart 375-6) Remedial Program Soil Cleanup Objectives.
e: Minimum of screening criteria
f: Compounds are selected as COPECs if the selected screening concentration is greater than the selected criteria or if there are no screening criteria available.
g: Based on use of WHO toxicity equivalency factors for dioxins and dioxin-like compounds from Van den Berg et al. (2006); see Table A1.
h: Criteria for total xylenes utilized.

- = 100% detection frequency
Rows highlighted yellow indicate constituents selected as COPECs based on the following selection rationale: ASL.
Rows highlighted orange indicate constituents selected as COPECs based on the following selection rationale: NTX.

Definitions:
ARAR: Applicable or Relevant and Appropriate Requirements
CAS: Chemical Abstact Service
COPEC: Compound of Potential Ecological Concern
NUT: Compound is an essential nutrient and not screened in
NV: No Value
PCB: Polychlorinated Biphenyls
COPEC = Constituent of potential ecological concern
SVOC: Semi-Volatile Organic Compounds
TBC: To Be Considered
USEPA: United States Environmental Protection Agency
VOC: Volatile Organic Compounds
NYSDEC: New York State Department of Environmental Conservation

ASL = Above screening level
BSL = Below screening level
NTX = No toxicity information
KPS = Known physical stressor
J = estimated value
N = tentatively identified compound.

Table 7
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)[2]	Background Value[3]	NYSDEC Benthic Aquatic Life, Chronic Toxicity Values (mg/kg)[4]	NYSDEC Wildlife Bioaccumulation Values (mg/kg)(4)	Potential ARAR/TBC Value	Selected Screening Value[5]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[6]
Harbor Brook - Sediment	DIOXIN/FURAN															
		2,3,7,8-TCDD Equivalent	1.1	123.4	ng/kg		37/37		1.23E-04		NV	NV		NV	Y	NTX
	METALS															
	7429-90-5	ALUMINUM	566 J	7330 J	mg/kg	HB-HBSED-04	55/55	-	7.33E+03		NV	NV		NV	Y	NTX
	7440-36-0	ANTIMONY	0.45 J	1.2 J	mg/kg	HB-H1	6/55	0.23-22.2	1.20E+00		2.00E+00	NV		2.00E+00	N	BSL
	7440-38-2	ARSENIC	1.6	9.6 J	mg/kg	HB-HBSED-04	49/55	1.05-3.7	9.60E+00		6.00E+00	NV		6.00E+00	Y	ASL
	7440-39-3	BARIUM	14.4 J	659 J	mg/kg	HB-HBSED-18	55/55	-	6.59E+02		NV	NV		NV	Y	NTX
	7440-41-7	BERYLLIUM	0.085 J	1.9	mg/kg	HB-T-2-1	22/55	0.08-1.9	1.90E+00		NV	NV		NV	Y	NTX
	7440-43-9	CADMIUM	0.27 J	19.2	mg/kg	HB-T-3-3	32/55	0.049-1.9	1.92E+01		6.00E-01	NV		6.00E-01	Y	ASL
	7440-70-2	CALCIUM	72900	413000 J	mg/kg	HB-HBSED-02	55/55	-	4.13E+05		NV	NV		NV	Y	KPS
	7440-47-3	CHROMIUM	2.7 J	534 J	mg/kg	HB-HBSED-12	55/55	-	5.34E+02		2.60E+01	NV		2.60E+01	Y	ASL
	7440-48-4	COBALT	0.97 J	12.6 J	mg/kg	HB-T-2-3	27/55	0.5-18.5	1.26E+01		NV	NV		NV	Y	NTX
	7440-50-8	COPPER	3.7 J	308	mg/kg	HB-CSXSED-2	53/53	-	3.08E+02		1.60E+01	NV		1.60E+01	Y	ASL
	57-12-5	CYANIDE	0.79	15.6 J	mg/kg	HB-HBSED-13	13/55	0.56-2.69	1.56E+01		NV	NV		NV	Y	NTX
	7439-89-6	IRON	1580 J	21200	mg/kg	HB-CSXSED-2	55/55	-	2.12E+04		2.00E+04	NV		2.00E+04	Y	ASL
	7439-92-1	LEAD	5.9 J	479	mg/kg	HB-T-4-1	51/51	-	4.79E+02		3.10E+01	NV		3.10E+01	Y	ASL
	7439-95-4	MAGNESIUM	5120 J	59100	mg/kg	HB-T-5-2	55/55	-	5.91E+04		NV	NV		NV	N	NUT
	7439-96-5	MANGANESE	33.1	664 J	mg/kg	HB-HBSED-01	55/55	-	6.64E+02		4.60E+02	NV		4.60E+02	Y	ASL
	7439-97-6	MERCURY	0.05 J	52	mg/kg	HB-T-5-3	52/55	0.04-0.062	5.20E+01		1.50E-01	NV		1.50E-01	Y	ASL
	7440-02-0	NICKEL	1.8 J	64.4	mg/kg	HB-T-5-3	47/55	7.1-14.8	6.44E+01		1.60E+01	NV		1.60E+01	Y	ASL
	7440-09-7	POTASSIUM	147 J	1490 J	mg/kg	HB-HBSED-05	46/55	323-742	1.49E+03		NV	NV		NV	N	NUT
	7782-49-2	SELENIUM	0.4 J	4.9 J	mg/kg	HB-S-2	26/55	0.31-4.6	4.90E+00		NV	NV		NV	Y	NTX
	7440-22-4	SILVER	0.14 J	9.8	mg/kg	HB-T-5-3	12/55	0.12-3.7	9.80E+00		1.00E+00	NV		1.00E+00	Y	ASL
	7440-23-5	SODIUM	261 J	5730 J	mg/kg	HB-HBSED-05	49/55	782-1880	5.73E+03		NV	NV		NV	Y	KPS
	7440-28-0	THALLIUM	0.37 J	4.9 J	mg/kg	HB-S-2	4/55	0.33-3.7	4.90E+00		NV	NV		NV	Y	NTX
	7440-62-2	VANADIUM	1.7 J	23.1 J	mg/kg	HB-HBSED-05	45/55	7.2-18.5	2.31E+01		NV	NV		NV	Y	NTX
	7440-66-6	ZINC	7.28	958	mg/kg	HB-H4	55/55	-	9.58E+02		1.20E+02	NV		1.20E+02	Y	ASL
	PCB															
	12674-11-2	AROCLOR-1016	0.52	1.2	mg/kg	HB-H5	6/55	0.03-0.32	1.20E+00		NV	NV		NV	Y	NTX
	11104-28-2	AROCLOR-1221	1	2.5	mg/kg	HB-H5	6/55	0.03-0.32	2.50E+00		NV	NV		NV	Y	NTX
	11141-16-5	AROCLOR-1232	0.52	1.2	mg/kg	HB-H5	6/55	0.03-0.32	1.20E+00		NV	NV		NV	Y	NTX
	53469-21-9	AROCLOR-1242	0.52	1.2	mg/kg	HB-H5	6/55	0.03-0.32	1.20E+00		NV	NV		NV	Y	NTX
	12672-29-6	AROCLOR-1248	0.12	1.2	mg/kg	HB-H5	8/55	0.03-0.32	1.20E+00		NV	NV		NV	Y	NTX
	11097-69-1	AROCLOR-1254	0.09 J	1.2	mg/kg	HB-H5	13/55	0.03-0.32	1.20E+00		NV	NV		NV	Y	NTX
	11096-82-5	AROCLOR-1260	0.01 J	3.7	mg/kg	HB-T-2-3	26/55	0.04-0.32	3.70E+00		NV	NV		NV	Y	NTX
	PESTICIDE															
	72-54-8	4,4'-DDD	0.007 J	0.079	mg/kg	HB-H3	9/55	0.006-0.09	7.90E-02		NV	NV		NV	Y	NTX
	72-55-9	4,4'-DDE	0.003 J	0.021	mg/kg	HB-H5	10/55	0.008-0.09	2.10E-02		NV	NV		NV	Y	NTX
	50-29-3	4,4'-DDT	0.008 J	0.089	mg/kg	HB-H7	7/55	0.005-0.09	8.90E-02		NV	NV		NV	Y	NTX
	309-00-2	ALDRIN	0.0045	0.053	mg/kg	HB-H6	6/55	0.003-0.043	5.30E-02		NV	4.48E-02		4.48E-02	Y	ASL
	319-84-6	ALPHA-BHC	0.026	0.062	mg/kg	HB-H5	6/55	0.003-0.043	6.20E-02		NV	NV		NV	Y	NTX
	319-85-7	BETA-BHC	0.026	0.062	mg/kg	HB-H5	6/55	0.003-0.043	6.20E-02		NV	NV		NV	Y	NTX
	57-74-9	CHLORDANE	0.022	0.053	mg/kg	HB-H6	7/55	0.003-0.043	5.30E-02		NV	NV		NV	Y	NTX
	12789-03-6	CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	0.004	0.038	mg/kg	HB-H1	9/55	0.003-0.043	3.80E-02		NV	NV		NV	Y	NTX
	319-86-8	DELTA-BHC	0.026	0.062	mg/kg	HB-H5	6/55	0.003-0.043	6.20E-02		NV	NV		NV	Y	NTX
	60-57-1	DIELDRIN	0.011	0.11	mg/kg	HB-H6	7/55	0.005-0.09	1.10E-01		NV	4.48E-02		4.48E-02	Y	ASL
	959-98-8	ENDOSULFAN I	0.0078	0.062	mg/kg	HB-H5	6/55	0.003-0.043	6.20E-02		NV	NV		NV	Y	NTX
	33213-65-9	ENDOSULFAN II	0.0087	0.12	mg/kg	HB-H5	6/55	0.005-0.09	1.20E-01		NV	NV		NV	Y	NTX
	1031-07-8	ENDOSULFAN SULFATE	0.052	0.12	mg/kg	HB-H5	7/55	0.005-0.09	1.20E-01		NV	NV		NV	Y	NTX
	72-20-8	ENDRIN	0.027	0.11	mg/kg	HB-H6	6/55	0.005-0.09	1.10E-01		2.33E-01	4.66E-02		4.66E-02	Y	ASL
	7421-93-4	ENDRIN ALDEHYDE	0.003	0.1	mg/kg	HB-H6	6/55	0.005-0.09	1.00E-01		NV	NV		NV	Y	NTX
	53494-70-5	ENDRIN KETONE	0.052	0.12	mg/kg	HB-H5	6/55	0.005-0.09	1.20E-01		NV	NV		NV	Y	NTX
	58-89-9	GAMMA-BHC (LINDANE)	0.0057	0.053	mg/kg	HB-H6	6/55	0.003-0.043	5.30E-02		3.49E-03	8.73E-02		3.49E-03	Y	ASL

Table 7
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)[2]	Background Value[3]	NYSDEC Benthic Aquatic Life, Chronic Toxicity Values (mg/kg)[4]	NYSDEC Wildlife Bioaccumulation Values (mg/kg)(4)	Potential ARAR/TBC Value	Selected Screening Value[5]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[6]
Harbor Brook - Sediment	76-44-8	HEPTACHLOR	0.0013	0.053	mg/kg	HB-H6	6/55	0.003-0.043	5.30E-02		5.82E-03	1.75E-03		1.75E-03	Y	ASL
	1024-57-3	HEPTACHLOR EPOXIDE	0.0046	0.03	mg/kg	HB-H3	6/55	0.003-0.043	3.00E-02		5.82E-03	1.75E-03		1.75E-03	Y	ASL
	72-43-5	METHOXYCHLOR	0.26	0.62	mg/kg	HB-H5	6/55	0.03-0.4	6.20E-01		3.49E-02	NV		3.49E-02	Y	ASL
	8001-35-2	TOXAPHENE	2.6	6.2	mg/kg	HB-H5	6/55	0.03-0.83	6.20E+00		5.82E-04	NV		5.82E-04	Y	ASL
	SVOC															
	108-60-1	2,2'-OXYBIS(1-CHLOROPROPANE)	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	95-95-4	2,4,5-TRICHLOROPHENOL	0.94	45	mg/kg	HB-H5	6/54	0.43-30	4.50E+01		NV	NV		NV	Y	NTX
	88-06-2	2,4,6-TRICHLOROPHENOL	0.38	18	mg/kg	HB-H5	6/54	0.43-30	1.80E+01		NV	NV		NV	Y	NTX
	120-83-2	2,4-DICHLOROPHENOL	0.38	18	mg/kg	HB-H5	6/55	0.43-30	1.80E+01		NV	NV		NV	Y	NTX
	105-67-9	2,4-DIMETHYLPHENOL	0.16 J	23	mg/kg	HB-T-3-3	11/54	0.43-30	2.30E+01		NV	NV		NV	Y	NTX
	51-28-5	2,4-DINITROPHENOL	0.94	45	mg/kg	HB-H5	6/55	2.1-150	4.50E+01		NV	NV		NV	Y	NTX
	121-14-2	2,4-DINITROTOLUENE	0.38	18	mg/kg	HB-H5	6/55	0.43-30	1.80E+01		NV	NV		NV	Y	NTX
	606-20-2	2,6-DINITROTOLUENE	0.38	18	mg/kg	HB-H5	6/55	0.43-30	1.80E+01		NV	NV		NV	Y	NTX
	91-58-7	2-CHLORONAPHTHALENE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	95-57-8	2-CHLOROPHENOL	0.38	18	mg/kg	HB-H5	6/54	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	91-57-6	2-METHYLNAPHTHALENE	0.077 J	220	mg/kg	HB-H7	44/55	0.49-11	2.20E+02		1.98E+00	NV		1.98E+00	Y	ASL
	95-48-7	2-METHYLPHENOL	0.2 J	15	mg/kg	HB-H6	14/54	0.083-11	1.50E+01		NV	NV		NV	Y	NTX
	88-74-4	2-NITROANILINE	0.94	45	mg/kg	HB-H5	6/55	0.17-58	4.50E+01		NV	NV		NV	Y	NTX
	88-75-5	2-NITROPHENOL	0.38	18	mg/kg	HB-H5	6/54	0.43-30	1.80E+01		NV	NV		NV	Y	NTX
	34METPH	3&4-METHYLPHENOL	0.13	15	mg/kg	HB-H6	17/54	0.083-11	1.50E+01		NV	NV		NV	Y	NTX
	91-94-1	3,3'-DICHLOROBENZIDINE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	99-09-2	3-NITROANILINE	0.94	45	mg/kg	HB-H5	6/55	2.1-150	4.50E+01		NV	NV		NV	Y	NTX
	534-52-1	4,6-DINITRO-2-METHYLPHENOL	0.94	45	mg/kg	HB-H5	6/54	2.1-150	4.50E+01		NV	NV		NV	Y	NTX
	101-55-3	4-BROMOPHENYL PHENYL ETHER	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	59-50-7	4-CHLORO-3-METHYLPHENOL	0.38	18	mg/kg	HB-H5	6/54	0.43-30	1.80E+01		NV	NV		NV	Y	NTX
	106-47-8	4-CHLOROANILINE	0.38	18	mg/kg	HB-H5	6/48	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	7005-72-3	4-CHLOROPHENYL PHENYL ETHER	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	100-01-6	4-NITROANILINE	0.94	45	mg/kg	HB-H5	6/55	2.1-150	4.50E+01		NV	NV		NV	Y	NTX
	100-02-7	4-NITROPHENOL	0.94	45	mg/kg	HB-H5	6/54	2.1-150	4.50E+01		NV	NV		NV	Y	NTX
	83-32-9	ACENAPHTHENE	0.058	91	mg/kg	HB-HBSED-19	47/55	0.57-4	9.10E+01		8.15E+00	NV		8.15E+00	Y	ASL
	208-96-8	ACENAPHTHYLENE	0.064	51	mg/kg	HB-S-1	43/55	0.55-5.8	5.10E+01		NV	NV		NV	Y	NTX
	120-12-7	ANTHRACENE	0.1	72	mg/kg	HB-S-1	46/55	0.57-7.3	7.20E+01		6.23E+00	NV		6.23E+00	Y	ASL
	56-55-3	BENZO(A)ANTHRACENE	0.086 J	28	mg/kg	HB-H6	48/55	0.57-11	2.80E+01		6.98E-01	NV		6.98E-01	Y	ASL
	50-32-8	BENZO(A)PYRENE	0.078 J	25	mg/kg	HB-T-5-1	49/55	0.57-5.2	2.50E+01		NV	NV		NV	Y	NTX
	205-99-2	BENZO(B)FLUORANTHENE	0.063 J	37	mg/kg	HB-H6	51/55	1.2-5.2	3.70E+01		NV	NV		NV	Y	NTX
	191-24-2	BENZO(G,H,I)PERYLENE	0.18 J	14	mg/kg	HB-T-5-1	45/55	0.57-11	1.40E+01		NV	NV		NV	Y	NTX
	207-08-9	BENZO(K)FLUORANTHENE	0.15 J	21	mg/kg	HB-T-5-1	48/55	0.57-5.2	2.10E+01		NV	NV		NV	Y	NTX
	111-91-1	BIS(2-CHLOROETHOXY)METHANE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	111-44-4	BIS(2-CHLOROETHYL)ETHER	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	0.061	15	mg/kg	HB-H6	32/55	0.28-7.3	1.50E+01		1.16E+01	NV		1.16E+01	Y	ASL
	85-68-7	BUTYLBENZYL PHTHALATE	0.21 J	18	mg/kg	HB-H5	7/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	86-74-8	CARBAZOLE	0.063	18	mg/kg	HB-H6	43/55	0.55-5.8	1.80E+01		NV	NV		NV	Y	NTX
	218-01-9	CHRYSENE	0.059 J	39	mg/kg	HB-H6	52/55	1.2-4	3.90E+01		NV	NV		NV	Y	NTX
	53-70-3	DIBENZO(A,H)ANTHRACENE	0.068 J	18	mg/kg	HB-H5	39/55	0.55-11	1.80E+01		NV	NV		NV	Y	NTX
	132-64-9	DIBENZOFURAN	0.076 J	100	mg/kg	HB-S-1	47/55	0.57-11	1.00E+02		NV	NV		NV	Y	NTX
	84-66-2	DIETHYL PHTHALATE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	131-11-3	DIMETHYL PHTHALATE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	84-74-2	DI-N-BUTYL PHTHALATE	0.059	18	mg/kg	HB-H5	12/55	0.13-11	1.80E+01		NV	NV		NV	Y	NTX
	117-84-0	DI-N-OCTYL PHTHALATE	0.088 J	18	mg/kg	HB-H5	7/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	206-44-0	FLUORANTHENE	0.089 J	90	mg/kg	HB-S-1	54/55	1.3-1.3	9.00E+01		5.94E+01	NV		5.94E+01	Y	ASL
	86-73-7	FLUORENE	0.085 J	110	mg/kg	HB-S-1	45/55	0.083-4	1.10E+02		4.66E-01	NV		4.66E-01	Y	ASL
	118-74-1	HEXACHLOROBENZENE	0.52	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		3.24E+02	6.98E-01		6.98E-01	Y	ASL

Table 7
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)[2]	Background Value[3]	NYSDEC Benthic Aquatic Life, Chronic Toxicity Values (mg/kg)[4]	NYSDEC Wildlife Bioaccumulation Values (mg/kg)(4)	Potential ARAR/TBC Value	Selected Screening Value[5]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[6]
Harbor Brook - Sediment	87-68-3	HEXACHLOROBUTADIENE	0.38	18	mg/kg	HB-H5	6/63	0.009-11	1.80E+01		3.20E-01	2.33E-01		2.33E-01	Y	ASL
	77-47-4	HEXACHLOROCYCLOPENTADIENE	0.38	18	mg/kg	HB-H5	6/55	0.43-30	1.80E+01		2.56E-01	NV		2.56E-01	Y	ASL
	67-72-1	HEXACHLOROETHANE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	193-39-5	INDENO(1,2,3-CD)PYRENE	0.17 J	14	mg/kg	HB-T-5-1	44/55	0.57-11	1.40E+01		NV	NV		NV	Y	NTX
	78-59-1	ISOPHORONE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	91-20-3	NAPHTHALENE	0.095 J	420	mg/kg	HB-H7	52/63	0.009-7.1	4.20E+02		1.75E+00	NV		1.75E+00	Y	ASL
	98-95-3	NITROBENZENE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	621-64-7	N-NITROSO-DI-N-PROPYLAMINE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	86-30-6	N-NITROSODIPHENYLAMINE	0.38	18	mg/kg	HB-H5	6/55	0.083-11	1.80E+01		NV	NV		NV	Y	NTX
	87-86-5	PENTACHLOROPHENOL	0.94	45	mg/kg	HB-H5	6/53	2.1-150	4.50E+01		2.33E+00	NV		2.33E+00	Y	ASL
	85-01-8	PHENANTHRENE	0.13 J	260	mg/kg	HB-S-1	52/55	0.57-1.3	2.60E+02		6.98E+00	NV		6.98E+00	Y	ASL
	108-95-2	PHENOL	0.23	18	mg/kg	HB-H5	17/54	0.083-11	1.80E+01		2.91E-02	NV		2.91E-02	Y	ASL
	129-00-0	PYRENE	0.079 J	61	mg/kg	HB-S-1	52/55	1.2-4	6.10E+01		5.59E+01	NV		5.59E+01	Y	ASL
	VOC															
	71-55-6	1,1,1-TRICHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	79-34-5	1,1,2,2-TETRACHLOROETHANE	0.011	3	mg/kg	HB-H3	6/56	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	79-00-5	1,1,2-TRICHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	75-34-3	1,1-DICHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	120-82-1	1,2,4-TRICHLOROBENZENE	3.4	8.1	mg/kg	HB-T-5-3	2/57	0.009-11	8.10E+00		NV	NV		NV	Y	NTX
	95-63-6	1,2,4-TRIMETHYLBENZENE	0.041	4.3 J	mg/kg	HB-HBSED-12	3/8	0.004-0.051	4.30E+00		NV	NV		NV	Y	NTX
	95-50-1	1,2-DICHLOROBENZENE	0.006 J	18	mg/kg	HB-H5	10/63	0.004-11	1.80E+01		NV	NV		NV	Y	NTX
	107-06-2	1,2-DICHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	78-87-5	1,2-DICHLOROPROPANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	108-67-8	1,3,5-TRIMETHYLBENZENE	0.11	1.6 J	mg/kg	HB-HBSED-12	3/8	0.004-0.051	1.60E+00		NV	NV		NV	Y	NTX
	541-73-1	1,3-DICHLOROBENZENE	0.43	18	mg/kg	HB-H5	7/63	0.004-11	1.80E+01		NV	NV		NV	Y	NTX
	106-46-7	1,4-DICHLOROBENZENE	0.002 J	29	mg/kg	HB-T-5-3	13/63	0.004-11	2.90E+01		NV	NV		NV	Y	NTX
	78-93-3	2-BUTANONE	0.0049 J	3	mg/kg	HB-H3	21/59	0.016-15	3.00E+00		NV	NV		NV	Y	NTX
	591-78-6	2-HEXANONE	0.011	3	mg/kg	HB-H3	6/56	0.009-15	3.00E+00		NV	NV		NV	Y	NTX
	108-10-1	4-METHYL-2-PENTANONE	0.011	3	mg/kg	HB-H3	6/56	0.009-15	3.00E+00		NV	NV		NV	Y	NTX
	67-64-1	ACETONE	0.003	3	mg/kg	HB-H3	39/59	0.021-30	3.00E+00		NV	NV		NV	Y	NTX
	71-43-2	BENZENE	0.0026 J	29	mg/kg	HB-T-5-3	33/56	0.004-4.8	2.90E+01		1.63E+00	NV		1.63E+00	Y	ASL
	75-27-4	BROMODICHLOROMETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	75-25-2	BROMOFORM	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	74-83-9	BROMOMETHANE	0.011	3	mg/kg	HB-H3	6/55	0.0074-7.4	3.00E+00		NV	NV		NV	Y	NTX
	75-15-0	CARBON DISULFIDE	0.001	3	mg/kg	HB-H3	16/49	0.016-15	3.00E+00		NV	NV		NV	Y	NTX
	56-23-5	CARBON TETRACHLORIDE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	108-90-7	CHLOROBENZENE	0.001	240	mg/kg	HB-T-5-3	15/55	0.004-7.4	2.40E+02		2.04E-01	NV		2.04E-01	Y	ASL
	124-48-1	CHLORODIBROMOMETHANE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	75-00-3	CHLOROETHANE	0.011	3	mg/kg	HB-H3	6/55	0.0074-7.4	3.00E+00		NV	NV		NV	Y	NTX
	67-66-3	CHLOROFORM	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	74-87-3	CHLOROMETHANE	0.011	3	mg/kg	HB-H3	6/55	0.0074-7.4	3.00E+00		NV	NV		NV	Y	NTX
	156-59-2	CIS-1,2-DICHLOROETHENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	10061-01-5	CIS-1,3-DICHLOROPROPENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	100-41-4	ETHYLBENZENE	0.0031 J	26	mg/kg	HB-H6	35/55	0.004-4.8	2.60E+01		1.40E+00	NV		1.40E+00	Y	ASL
	98-82-8	ISOPROPYLBENZENE	0.029 J	0.029 J	mg/kg	HB-HBSED-11	1/8	0.004-2.8	2.90E-02		6.98E-01	NV		6.98E-01	N	BSL
	75-09-2	METHYLENE CHLORIDE	0.003 J	9.5	mg/kg	HB-T-3-2	9/56	0.0074-140	9.50E+00		NV	NV		NV	Y	NTX
	103-65-1	N-PROPYLBENZENE	0.024 J	0.024 J	mg/kg	HB-HBSED-11	1/8	0.004-2.8	2.40E-02		NV	NV		NV	Y	NTX
	95-47-6	O-XYLENE	0.0023 J	74	mg/kg	HB-T-5-3	25/41	0.0084-4.8	7.40E+01		NV	NV		NV	Y	NTX
	99-87-6	P-ISOPROPYLTOLUENE	0.001 J	0.017 J	mg/kg	HB-HBSED-11	3/8	0.004-2.8	1.70E-02		NV	NV		NV	Y	NTX
	100-42-5	STYRENE	0.003 J	3	mg/kg	HB-H3	13/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	127-18-4	TETRACHLOROETHENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX

Table 7
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
SEDIMENT - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Soil - Sediment
Exposure Medium: Sediment (0-1 ft bgs)

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/kg)(2)	Background Value(3)	NYSDEC Benthic Aquatic Life, Chronic Toxicity Values (mg/kg)(4)	NYSDEC Wildlife Bioaccumulation Values (mg/kg)(4)	Potential ARAR/TBC Value	Selected Screening Value(5)	COPEC Flag (Y/N)	Rationale for Selection or Deletion(6)
Harbor Brook - Sediment	108-88-3	TOLUENE	0.002 J	88	mg/kg	HB-T-5-3	32/55	0.004-4.8	8.80E+01		2.85E+00	NV		2.85E+00	Y	ASL
	156-60-5	TRANS-1,2-DICHLOROETHENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	10061-02-6	TRANS-1,3-DICHLOROPROPENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	79-01-6	TRICHLOROETHENE	0.011	3	mg/kg	HB-H3	6/55	0.004-7.4	3.00E+00		NV	NV		NV	Y	NTX
	75-01-4	VINYL CHLORIDE	0.011	3	mg/kg	HB-H3	6/55	0.0074-7.4	3.00E+00		NV	NV		NV	Y	NTX
	XYLENES1314	XYLENES, M & P(7)	0.0035 J	240	mg/kg	HB-T-5-3	28/41	0.0084-4.8	2.40E+02		5.35E+00	NV		5.35E+00	Y	ASL
	1330-20-7	XYLENES, TOTAL	0.001 J	81	mg/kg	HB-H6	11/14	0.004-0.051	8.10E+01		5.35E+00	NV		5.35E+00	Y	ASL

NOTES:
(1) J - estimated value; N - tentatively identified compound.
(2) Concentration used for screening is the maximum detected concentration.
(3) N/A - No background screening performed.
(4) Values are from NYSDEC (1999) Technical Guidance for Screening Contaminated Sediments. Metals data are Lowest Effect Levels. Criteria for organic compounds presented in NYSDEC (1999) in units of mg/kg of organic carbon were converted to mg/kg of sediment using the Site average sediment Total Organic Carbon (TOC) content of 5.8%.
(5) The Screening Toxicity Value represents the minimum of the NYSDEC Values
(6) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information. Deletion Rationale: BSL - Below Screening Level; NUT - Compound is an essential nutrient
Compounds are selected as COPECs if the selected screening concentration is greater than the selected criteria or if there are no screening criteria available.
(7) Screening value is for total xylenes.
- = Compound detected in 100% of samples.
Rows highlighted yellow indicate constituents selected as COPECs based on the following selection rationale: ASL.
Rows highlighted orange indicate constituents selected as COPECs based on the following selection rationale: NTX.

Definitions:
ARAR: Applicable or Relevant and Appropriate Requirements
CAS: Chemical Abstact Service
COPEC: Compound of Potential Ecological Concern
NUT: Compound is an essential nutrient and not screened in
NV: No Value
NYSDEC: New York State Department of Environmental Conservation
PCB: Polychlorinated Biphenyls
SVOC: Semi-Volatile Organic Compounds
TBC: To Be Considered
USEPA: United States Environmental Protection Agency
VOC: Volatile Organic Compounds
ASL = Above screening level
BSL = Below screening level
NTX = No toxicity information
KPS = Known physical stressor

Table 8
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE- ECOLOGICAL RISK ASSESSMENT
SURFACE WATER - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Water
Exposure Medium: Surface Water

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/L)[2]	Background Value[3]	National Recommended Water Quality Criteria- Freshwater CCC (mg/L)[4]	NYSDEC Ambient Water Quality Criteria and Guidance Values (fish propagation) (mg/L)[5]	NYSDEC Ambient Water Quality Criteria and Guidance Values (wildlife protection) (mg/L)[5]	Potential ARAR/ TBC Value	Selected Screening Value (mg/L)[6]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[7]
Harbor Brook - Surface Water	METALS																
	7429-90-5	ALUMINUM	0.0153 J	2.13	mg/L	HB-HBSW-05	13/28	0.0118-0.1	2.13E+00		8.70E-02	1.00E-01	NV		8.70E-02	Y	ASL
	7440-36-0	ANTIMONY	0.0015	0.0016 J	mg/L	HB-HBSW-06	2/28	0.0014-0.06	1.60E-03		NV	NV	NV		NV	Y	NTX
	7440-38-2	ARSENIC	0.0018	0.0118	mg/L	HB-HBSW-01	5/28	0.0016-0.01	1.18E-02		1.50E-01	1.50E-01	NV		1.50E-01	N	BSL
	7440-39-3	BARIUM	0.0091 J	0.129	mg/L	HB-HBSW-07	27/28	0.02-0.02	1.29E-01		NV	NV	NV		NV	Y	NTX
	7440-41-7	BERYLLIUM	0.00008 J	0.00038 J	mg/L	HB-HBSW-06	4/28	0.000076-0.005	3.80E-04		NV	1.10E+00	NV		1.10E+00	N	BSL
	7440-43-9	CADMIUM	0.00016	0.00016	mg/L	HB-HBSW-06	1/28	0.00024-0.005	1.60E-04		2.50E-04	1.11E-02	NV		2.50E-04	N	BSL
	7440-70-2	CALCIUM	36.7	542	mg/L	HB-HBSW-12	28/28	-	5.42E+02		NV	NV	NV		NV	Y	KPS
	7440-47-3	CHROMIUM	0.0015 J	0.0111	mg/L	HB-HBSW-12	11/28	0.01-0.01	1.11E-02		1.10E-02	4.24E-01	NV		1.10E-02	N	NUT
	7440-48-4	COBALT	0.00058	0.00058	mg/L	HB-HBSW-06	1/28	0.00093-0.05	5.80E-04		NV	5.00E-03	NV		5.00E-03	N	BSL
	7440-50-8	COPPER	0.0017 J	0.0225	mg/L	HB-HBSW-05	8/28	0.00093-0.02	2.25E-02		9.00E-03	5.52E-02	NV		9.00E-03	Y	ASL
	57-12-5	CYANIDE	0.01	0.065	mg/L	HB-HBSW-12	7/28	0.01-0.01	6.50E-02		NV	5.20E-03	NV		5.20E-03	Y	ASL
	7439-89-6	IRON	0.0112 J	12.28 J	mg/L	HB-HBSW-07	25/28	0.1-0.1	1.23E+01		1.00E+00	3.00E-01	NV		3.00E-01	Y	ASL
	7439-92-1	LEAD	0.0016 J	0.0363	mg/L	HB-HBSW-05	10/28	0.00066-0.005	3.63E-02		2.50E-03	3.46E-02	NV		2.50E-03	Y	ASL
	7439-95-4	MAGNESIUM	0.227 J	50.5	mg/L	HB-HBSW-08	28/28	-	5.05E+01		NV	NV	NV		NV	N	NUT
	7439-96-5	MANGANESE	0.0166	1.8	mg/L	HB-HBSW-01	21/28	0.0014-0.01	1.80E+00		NV	NV	NV		NV	Y	NTX
	7439-97-6	MERCURY[9]	0.0000019	0.00048	mg/L	HB-HBSW-12	14/40	0.00018-0.0002	4.80E-04		7.70E-04	7.70E-04	2.60E-06		2.60E-06	Y	ASL
	7440-02-0	NICKEL	0.00079 J	0.0029 J	mg/L	HB-HBSW-01	11/28	0.04-0.04	2.90E-03		5.20E-02	3.12E-01	NV		5.20E-02	N	BSL
	7440-09-7	POTASSIUM	3 J	16.7	mg/L	HB-HBSW-11, HB-HBSW-12	28/28	-	1.67E+01		NV	NV	NV		NV	N	NUT
	7782-49-2	SELENIUM	0.002 J	0.0031 J	mg/L	HB-HBSW-12	7/28	0.0018-0.01	3.10E-03		5.00E-03	4.60E-03	NV		4.60E-03	N	BSL
	7440-22-4	SILVER	0.00034	0.00034	mg/L	HB-HBSW-06	1/28	0.00073-0.01	3.40E-04		NV	1.00E-04	NV		1.00E-04	Y	ASL
	7440-23-5	SODIUM	53	902	mg/L	HB-HBSW-05	28/28	-	9.02E+02		NV	NV	NV		NV	Y	KPS
	7440-28-0	THALLIUM	0.0038	0.0038	mg/L	HB-HBSW-06	1/28	0.0036-0.01	3.80E-03		NV	8.00E-03	NV		8.00E-03	N	BSL
	7440-62-2	VANADIUM	0.0003	0.0037 J	mg/L	HB-HBSW-13	6/28	0.00039-0.05	3.70E-03		NV	1.40E-02	NV		1.40E-02	N	BSL
	7440-66-6	ZINC	0.0082 J	0.0685	mg/L	HB-HBSW-05	7/28	0.002-0.02	6.85E-02		1.20E-01	4.68E-01	NV		1.20E-01	N	BSL
	PESTICIDE																
	72-54-8	4,4'-DDD	0.21	0.21	ug/l	HB-HBSW-13	1/27	0.093-0.22	2.10E-04		NV	1.10E-08	NV		1.10E-08	Y	ASL
	SVOC																
	105-67-9	2,4-DIMETHYLPHENOL	2.5 J	11 J	ug/l	HB-HBSW-12	4/27	9.3-220	1.10E-02		NV	NV	NV		NV	Y	NTX
	91-57-6	2-METHYLNAPHTHALENE	1 J	160 J	ug/l	HB-HBSW-12	11/27	9.3-11	1.60E-01		NV	4.70E-03	NV		4.70E-03	Y	ASL
	95-48-7	2-METHYLPHENOL	2 J	97 J	ug/l	HB-HBSW-12	6/27	9.3-11	9.70E-02		NV	NV	NV		NV	Y	NTX
	34METPH	3&4-METHYLPHENOL	1 J	210 J	ug/l	HB-HBSW-12	6/27	9.3-11	2.10E-01		NV	NV	NV		NV	Y	NTX
	83-32-9	ACENAPHTHENE	3.4 J	27	ug/l	HB-HBSW-06	8/27	9.3-11	2.70E-02		NV	5.30E-03	NV		5.30E-03	Y	ASL
	208-96-8	ACENAPHTHYLENE	1.1 J	21	ug/l	HB-HBSW-03	6/27	9.3-220	2.10E-02		NV	NV	NV		NV	Y	NTX
	120-12-7	ANTHRACENE	3.8 J	3.8 J	ug/l	HB-HBSW-08	1/27	9.3-220	3.80E-03		NV	3.80E-03	NV		3.80E-03	N	BSL
	56-55-3	BENZO(A)ANTHRACENE	1 J	1.6 J	ug/l	HB-HBSW-05	2/28	9.3-220	1.60E-03		NV	3.00E-05	NV		3.00E-05	Y	ASL
	50-32-8	BENZO(A)PYRENE	1.2 J	2 J	ug/l	HB-HBSW-05	2/28	9.3-220	2.00E-03		NV	NV	NV		NV	Y	NTX
	205-99-2	BENZO(B)FLUORANTHENE	1.2 J	1.6 J	ug/l	HB-HBSW-05	2/28	9.3-220	1.60E-03		NV	NV	NV		NV	Y	NTX
	191-24-2	BENZO(G,H,I)PERYLENE	1.9 J	1.9 J	ug/l	HB-HBSW-05	1/27	9.3-220	1.90E-03		NV	NV	NV		NV	Y	NTX
	207-08-9	BENZO(K)FLUORANTHENE	1.6 J	1.6 J	ug/l	HB-HBSW-05	1/27	9.3-220	1.60E-03		NV	NV	NV		NV	Y	NTX
	65-85-0	BENZOIC ACID	2 J	4 J	ug/l	HB-HBSW-03	2/6	51-53	4.00E-03		NV	NV	NV		NV	Y	NTX
	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	5.2 J	7.8 J	ug/l	HB-HBSW-06	2/27	9.3-220	7.80E-03		NV	6.00E-04	NV		6.00E-04	Y	ASL
	86-74-8	CARBAZOLE	2.4 J	30 J	ug/l	HB-HBSW-12	7/27	9.3-11	3.00E-02		NV	NV	NV		NV	Y	NTX
	218-01-9	CHRYSENE	1.1 J	2 J	ug/l	HB-HBSW-05	4/28	9.3-220	2.00E-03		NV	NV	NV		NV	Y	NTX
	132-64-9	DIBENZOFURAN	1.2 J	35 J	ug/l	HB-HBSW-12	7/27	9.3-11	3.50E-02		NV	NV	NV		NV	Y	NTX
	117-84-0	DI-N-OCTYL PHTHALATE	8.6 J	8.6 J	ug/l	HB-HBSW-06	1/27	9.3-220	8.60E-03		NV	NV	NV		NV	Y	NTX
	206-44-0	FLUORANTHENE	1.7 J	3.7 J	ug/l	HB-HBSW-05	5/28	9.3-220	3.70E-03		NV	NV	NV		NV	Y	NTX
	86-73-7	FLUORENE	2.2 J	27 J	ug/l	HB-HBSW-12	8/27	9.3-11	2.70E-02		NV	5.40E-04	NV		5.40E-04	Y	ASL
	193-39-5	INDENO(1,2,3-CD)PYRENE	1.4 J	1.4 J	ug/l	HB-HBSW-05	1/27	9.3-220	1.40E-03		NV	NV	NV		NV	Y	NTX
	91-20-3	NAPHTHALENE	1 J	2200	ug/l	HB-HBSW-06	19/36	1-11	2.20E+00		NV	1.30E-02	NV		1.30E-02	Y	ASL
	85-01-8	PHENANTHRENE	1.3 J	27 J	ug/l	HB-HBSW-12	10/27	9.3-11	2.70E-02		NV	5.00E-03	NV		5.00E-03	Y	ASL
	108-95-2	PHENOL	1.5 J	700	ug/l	HB-HBSW-12	8/27	9.3-11	7.00E-01		NV	NV	NV		NV	Y	NTX
	129-00-0	PYRENE	1.6 J	4.4 J	ug/l	HB-HBSW-08	5/28	9.3-220	4.40E-03		NV	4.60E-03	NV		4.60E-03	N	BSL

Table 8
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE- ECOLOGICAL RISK ASSESSMENT
SURFACE WATER - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Water
Exposure Medium: Surface Water

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/L)(2)	Background Value(3)	National Recommended Water Quality Criteria- Freshwater CCC (mg/L)(4)	NYSDEC Ambient Water Quality Criteria and Guidance Values (fish propagation) (mg/L)(5)	NYSDEC Ambient Water Quality Criteria and Guidance Values (wildlife protection) (mg/L)(5)	Potential ARAR/ TBC Value	Selected Screening Value (mg/L)(6)	COPEC Flag (Y/N)	Rationale for Selection or Deletion(7)
Harbor Brook - Surface Water	VOC																
	95-63-6	1,2,4-TRIMETHYLBENZENE	0.2 J	67	ug/l	HB-HBSW-12	7/10	0.5-0.5	6.70E-02		NV	5.00E-03	NV		NV	Y	NTX
	108-67-8	1,3,5-TRIMETHYLBENZENE	0.2 J	26	ug/l	HB-HBSW-12	5/10	0.5-12	2.60E-02		NV	5.00E-03	NV		5.00E-03	Y	ASL
	78-93-3	2-BUTANONE	1 J	2 J	ug/l	HB-HBSW-12	2/27	10-250	2.00E-03		NV	NV	NV		NV	Y	NTX
	67-64-1	ACETONE	3 J	17 J	ug/l	HB-HBSW-12	8/27	10-250	1.70E-02		NV	NV	NV		NV	Y	NTX
	71-43-2	BENZENE	0.1 J	130	ug/l	HB-HBSW-12	13/27	0.5-5	1.30E-01		NV	2.10E-01	NV		2.10E-01	N	BSL
	156-59-2	CIS-1,2-DICHLOROETHENE	0.2 J	0.3 J	ug/l	HB-HBSW-09	4/27	0.5-12	3.00E-04		NV	NV	NV		NV	Y	NTX
	100-41-4	ETHYLBENZENE	0.1 J	21	ug/l	HB-HBSW-12	9/27	0.5-5	2.10E-02		NV	1.70E-02	NV		1.70E-02	Y	ASL
	95-47-6	O-XYLENE	11	53	ug/l	HB-HBSW-12	3/17	5-5	5.30E-02		NV	6.50E-02	NV		6.50E-02	N	BSL
	100-42-5	STYRENE	0.1 J	22	ug/l	HB-HBSW-12	8/27	0.5-12	2.20E-02		NV	NV	NV		NV	Y	NTX
	108-88-3	TOLUENE	0.3 J	270	ug/l	HB-HBSW-12	15/27	0.5-5	2.70E-01		NV	1.00E-01	NV		1.00E-01	Y	ASL
	XYLENES1314	XYLENES, M & P(8)	1.2 J	140	ug/l	HB-HBSW-12	6/17	5-5	1.40E-01		NV	6.50E-02	NV		6.50E-02	Y	ASL
	1330-20-7	XYLENES, TOTAL	0.4 J	300	ug/l	HB-HBSW-12	9/10	0.5-0.5	3.00E-01		NV	6.50E-02	NV		6.50E-02	Y	ASL

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Concentration used for screening is the maximum detected concentration.
(3) N/A - No background screening performed.
(4) Values are from USEPA, 2007. Current National Recommended Water Quality Criteria. Available online at: http://www.epa.gov/waterscience/criteria/wqcriteria.html
(5) Values are from NYSDEC TOGS 111, New York State Ambient Water Quality Criteria and Guidance Values, 1998. The lowest of the standard and guidance values was utilized. For hardness dependent values, maximum detected hardness (as CaCO3) of 840 mg/L used as representative surface water hardness.
(6) The Screening Toxicity Value represents the minimum of the NYSDEC Values
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information. Deletion Rationale: BSL - Below Screening Level; NUT - Compound is an essential nutrient Compounds are selected as COPECs if the selected screening concentration is greater than the selected criteria or if there are no screening criteria available.
(8) Screening value is for total xylenes.
(9) Mercury (Method 9010B/9014) and high resolution mercury (USEPA Method 1669) were grouped together for this evaluation.
- = Compound detected in 100% of samples.
Rows highlighted yellow indicate constituents selected as COPECs based on the following selection rationale: ASL.
Rows highlighted orange indicate constituents selected as COPECs based on the following selection rationale: NTX.

Definitions:
ARAR: Applicable or Relevant and Appropriate Requirements
CAS: Chemical Abstact Service
COPEC: Compound of Potential Ecological Concern
NUT: Compound is an essential nutrient and not screened in
NV: No Value
NYSDEC: New York State Department of Environmental Conservation
SVOC: Semi-Volatile Organic Compounds
TBC: To Be Considered
USEPA: United States Environmental Protection Agency
VOC: Volatile Organic Compounds
ASL = Above screening level
BSL = Below screening level
NTX = No toxicity information
KPS = Known physical stressor

Table 9
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
GROUND WATER - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Water
Exposure Medium: Ground Water

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)[1]	Maximum Concentration (Qualifier)[1]	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/L)[2]	Background Value[3]	National Recommended Water Quality Criteria- Freshwater CCC (mg/L)[4]	NYSDEC Ambient Water Quality Criteria and Guidance Values (fish propogation) (mg/L)[5]	NYSDEC Ambient Water Quality Criteria and Guidance Values (wildlife protection) (mg/L)[5]	Potential ARAR/TBC Value	Selected Screening Value (ug/L)[6]	COPEC Flag (Y/N)	Rationale for Selection or Deletion[7]
Ground Water	METALS																
	7429-90-5	ALUMINUM	0.046 J	291 J	mg/L	HB-HB-04D	34/40	0.118-4	2.91E+02		8.70E-02	1.00E-01	NV		8.70E-02	Y	ASL
	7440-38-2	ARSENIC	0.0037 J	0.102	mg/L	HB-HB-04D	7/51	0.0016-0.4	1.02E-01		1.50E-01	1.50E-01	NV		1.50E-01	N	BSL
	7440-39-3	BARIUM	0.018 J	20.3	mg/L	HB-HB-06S	47/51	0.003-0.02	2.03E+01		NV	NV	NV		NV	Y	NTX
	7440-41-7	BERYLLIUM	0.00022 J	0.00084 J	mg/L	HB-HP-08	4/51	0.000076-0.4	8.40E-04		NV	1.10E+00	NV		1.10E+00	N	BSL
	7440-43-9	CADMIUM	0.00067 J	0.0169	mg/L	HB-HB-04D	4/51	0.00024-0.4	1.69E-02		2.50E-04	8.39E-02	NV		2.50E-04	Y	ASL
	7440-70-2	CALCIUM	37.6	7970	mg/L	HB-HB-06S	51/51	-	7.97E+03		NV	NV	NV		NV	Y	KPS
	7440-47-3	CHROMIUM	0.0024 J	0.334	mg/L	HB-HB-04D	23/49	0.004-0.2	3.34E-01		NV	3.48E+00	NV		3.48E+00	N	BSL
	7440-48-4	COBALT	0.0029 J	0.133	mg/L	HB-HB-04D	4/51	0.00093-2	1.13E-01		NV	5.00E-03	NV		5.00E-03	Y	ASL
	7440-50-8	COPPER	0.0022 J	0.504	mg/L	HB-HB-04D	20/51	0.0049-0.4	5.04E-01		9.00E-03	4.97E-01	NV		9.00E-03	Y	ASL
	57-12-5	CYANIDE	0.0108	0.047	mg/L	HB-HB-08I	11/51	0.01-0.01	4.70E-02		NV	5.20E-03	NV		5.20E-03	Y	ASL
	7439-89-6	IRON	0.029 J	446 J	mg/L	HB-HB-04D	49/51	0.1-0.3	4.46E+02		1.00E+00	3.00E-01	NV		3.00E-01	Y	ASL
	7439-92-1	LEAD	0.0012 J	0.291	mg/L	HB-HB-04D	16/51	0.00066-0.4	2.91E-01		2.50E-03	2.01E-01	NV		2.50E-03	Y	ASL
	7439-95-4	MAGNESIUM	0.12 J	925 J	mg/L	HB-HB-04D	49/51	1.31-1.5	9.25E+02		NV	NV	NV		NV	N	NUT
	7439-96-5	MANGANESE	0.0038 J	16.1 J	mg/L	HB-HB-04D	43/51	0.0087-0.05	1.61E+01		NV	NV	NV		NV	Y	NTX
	7439-97-6	MERCURY	0.000037 J	0.0062	mg/L	HB-HB-02S	14/51	0.00018-0.0026	6.20E-03		7.70E-04	NV	NV		7.70E-04	Y	ASL
	7440-02-0	NICKEL	0.0018 J	0.27	mg/L	HB-HB-04D	18/51	0.04-2	2.70E-01		5.20E-02	2.75E+00	NV		5.20E-02	Y	ASL
	7440-09-7	POTASSIUM	1.2 J	580 J	mg/L	HB-HB-20D	49/51	0.81-2	5.80E+02		NV	NV	NV		NV	N	NUT
	7782-49-2	SELENIUM	0.0026 J	0.0059	mg/L	HB-HB-08S	3/51	0.0018-0.4	5.90E-03		5.00E-03	4.60E-03	NV		4.60E-03	Y	ASL
	7440-22-4	SILVER	0.00099 J	0.0136	mg/L	HB-HB-08S	3/51	0.00073-0.4	1.36E-02		NV	1.00E-04	NV		1.00E-04	Y	ASL
	7440-23-5	SODIUM	13.2	75520	mg/L	HB-HB-20D	51/51	-	7.55E+04		NV	NV	NV		NV	Y	KPS
	7440-28-0	THALLIUM	0.0064 J	0.0883 J	mg/L	HB-HB-02I	2/51	0.0036-0.8	8.83E-02		NV	8.00E-03	NV		8.00E-03	Y	ASL
	7440-62-2	VANADIUM	0.0014 J	0.568	mg/L	HB-HB-04D	15/51	0.05-2	5.68E-01		NV	1.40E-02	NV		1.40E-02	Y	ASL
	7440-66-6	ZINC	0.0032 J	0.784	mg/L	HB-HB-04D	15/51	0.0097-0.8	7.84E-01		1.20E-01	4.17E+00	NV		1.20E-01	Y	ASL
	PCB																
	11096-82-5	AROCLOR-1260	0.07 J	0.5 J	ug/l	HB-HP-07	3/51	0.5-1	5.00E-04		1.40E-05	NV	1.20E-07		1.20E-07	Y	ASL
	PESTICIDE																
	72-54-8	4,4'-DDD	0.025 J	0.025 J	ug/l	HB-HB-18S	1/51	0.093-2.1	2.50E-05		NV	1.10E-08	NV		1.10E-08	Y	ASL
	50-29-3	4,4'-DDT	20 J	20 J	ug/l	HB-HB-04S	1/51	0.093-2.1	2.00E-02		1.00E-06	1.10E-08	NV		1.10E-08	Y	ASL
	319-84-6	ALPHA-BHC	0.17 JN	0.17 JN	ug/l	HB-HB-06S	1/51	0.047-1	1.70E-04		NV	NV	NV		NV	Y	NTX
	SVOC																
	92-52-4	1,1'-BIPHENYL	4 J	83 J	ug/L	HB-HB-04S	4/14	10-23	8.30E-02		NV	NV	NV		NV	Y	NTX
	105-67-9	2,4-DIMETHYLPHENOL	1.5 J	7500	ug/l	HB-HB-02S	20/51	9.4-23	7.50E+00		NV	NV	NV		NV	Y	NTX
	95-57-8	2-CHLOROPHENOL	1 J	1 J	ug/l	HB-HP-07	1/51	9.4-1000	1.00E-03		NV	NV	NV		NV	Y	NTX
	91-57-6	2-METHYLNAPHTHALENE	1.5 J	9800	ug/l	HB-HB-04S	30/50	9.5-23	9.80E+00		NV	4.70E-03	NV		4.70E-03	Y	ASL
	95-48-7	2-METHYLPHENOL	1.2 J	8000	ug/l	HB-HB-02S	26/51	9.5-19	8.00E+00		NV	NV	NV		NV	Y	NTX
	34METPH	3&4-METHYLPHENOL	1 J	16000	ug/l	HB-HB-02S	26/37	9.5-10	1.60E+01		NV	NV	NV		NV	Y	NTX
	106-44-5	4-METHYLPHENOL	2 J	12000	ug/l	HB-HB-02S	8/14	10-11	1.20E+01		NV	NV	NV		NV	Y	NTX
	83-32-9	ACENAPHTHENE	1.1 J	2200	ug/l	HB-HB-04S	27/51	9.5-1000	2.20E+00		NV	5.30E-03	NV		5.30E-03	Y	ASL
	208-96-8	ACENAPHTHYLENE	1.4 J	2700	ug/l	HB-HB-04S	14/50	9.4-970	2.70E+00		NV	NV	NV		NV	Y	NTX
	120-12-7	ANTHRACENE	1.3 J	2000	ug/l	HB-HB-04S	14/51	9.5-1000	2.00E+06		NV	3.80E-03	NV		3.80E-03	Y	ASL
	100-52-7	BENZALDEHYDE	2.3 J	13 J	ug/L	HB-HB-02S	2/14	10-100	1.30E-02		NV	NV	NV		NV	Y	NTX
	56-55-3	BENZO(A)ANTHRACENE	1.1 J	690 J	ug/l	HB-HB-04S	7/51	9.4-1000	6.90E-01		NV	3.00E-05	NV		3.00E-05	Y	ASL
	50-32-8	BENZO(A)PYRENE	6 J	310 J	ug/l	HB-HB-04S	4/51	9.4-1000	3.10E-01		NV	NV	NV		NV	Y	NTX
	205-99-2	BENZO(B)FLUORANTHENE	6 J	240 J	ug/l	HB-HB-04S	5/51	9.4-1000	2.40E-01		NV	NV	NV		NV	Y	NTX
	191-24-2	BENZO(G,H,I)PERYLENE	2 J	2 J	ug/l	HB-HP-08, HB-HP-07	2/51	9.4-1000	2.00E-03		NV	NV	NV		NV	Y	NTX
	207-08-9	BENZO(K)FLUORANTHENE	6 J	340 J	ug/l	HB-HB-04S	3/51	9.4-1000	3.40E-01		NV	NV	NV		NV	Y	NTX
	65-85-0	BENZOIC ACID	2 J	2300 J	ug/l	HB-HB-02S	2/9	50-5000	2.30E+00		NV	NV	NV		NV	Y	NTX
	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	1 J	110	ug/l	HB-HB-08S	21/51	3-1000	1.10E-01		NV	6.00E-04	NV		6.00E-04	Y	ASL
	86-74-8	CARBAZOLE	1 J	840 J	ug/l	HB-HB-04S	24/50	9.4-23	8.40E-01		NV	NV	NV		NV	Y	NTX
	218-01-9	CHRYSENE	8 J	590 J	ug/l	HB-HB-04S	6/51	9.4-1000	5.90E-01		NV	NV	NV		NV	Y	NTX
	53-70-3	DIBENZO(A,H)ANTHRACENE	2 J	2 J	ug/l	HB-HP-07	1/51	9.4-1000	2.00E-03		NV	NV	NV		NV	Y	NTX
	132-64-9	DIBENZOFURAN	1.2 J	3400	ug/l	HB-HB-04S	25/51	9.5-970	3.40E+00		NV	NV	NV		NV	Y	NTX
	84-74-2	DI-N-BUTYL PHTHALATE	1 J	3.7 J	ug/l	HB-HB-20I	3/51	9.4-1000	3.70E-03		NV	NV	NV		NV	Y	NTX
	206-44-0	FLUORANTHENE	0.97 J	3200	ug/l	HB-HB-04S	17/51	9.5-1000	3.20E+00		NV	NV	NV		NV	Y	NTX
	86-73-7	FLUORENE	1.2 J	4200	ug/l	HB-HB-04S	27/51	9.5-970	4.20E+00		NV	5.40E-04	NV		5.40E-04	Y	ASL
	87-68-3	HEXACHLOROBUTADIENE	1 J	1 J	ug/l	HB-HB-07S	1/59	1-1000	1.00E-03		NV	1.00E-03	NV		1.00E-03	N	BSL
	193-39-5	INDENO(1,2,3-CD)PYRENE	2 J	110 J	ug/l	HB-HB-04S	3/51	9.4-1000	1.10E-01		NV	NV	NV		NV	Y	NTX
	91-20-3	NAPHTHALENE	1	35000	ug/l	HB-HB-04S	39/55	9.5-11	3.50E+01		NV	1.30E-02	NV		1.30E-02	Y	ASL
	85-01-8	PHENANTHRENE	2 J	8300	ug/l	HB-HB-04S	29/51	9.5-730	8.30E+00		NV	5.00E-03	NV		5.00E-03	Y	ASL
	108-95-2	PHENOL	1.4 J	18000	ug/l	HB-HB-02S	31/50	9.5-19	1.80E+01		NV	NV	NV		NV	Y	NTX
	129-00-0	PYRENE	1.1 J	1900	ug/l	HB-HB-04S	14/51	9.5-1000	1.90E+00		NV	4.60E-03	NV		4.60E-03	Y	ASL

Table 9
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN
HONEYWELL WASTEBED B/HARBOR BROOK SITE - ECOLOGICAL RISK ASSESSMENT
GROUND WATER - GEDDES, NY

Scenario Timeframe: Current/Future
Medium: Water
Exposure Medium: Ground Water

Exposure Point	CAS Numbers	Chemical	Minimum Concentration (Qualifier)(1)	Maximum Concentration (Qualifier)(1)	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (mg/L)(2)	Background Value(3)	National Recommended Water Quality Criteria- Freshwater CCC (mg/L)(4)	NYSDEC Ambient Water Quality Criteria and Guidance Values (fish propogation) (mg/L)(5)	NYSDEC Ambient Water Quality Criteria and Guidance Values (wildlife protection) (mg/L)(5)	Potential ARAR/TBC Value	Selected Screening Value (ug/L)(6)	COPEC Flag (Y/N)	Rationale for Selection or Deletion(7)
Ground Water	VOC																
	87-61-6	1,2,3-TRICHLOROBENZENE	1 J	1 J	ug/l	HB-HB-07S	1/9	1-100	1.00E-03		NV	5.00E-03	NV		5.00E-03	N	BSL
	120-82-1	1,2,4-TRICHLOROBENZENE	1 J	5 J	ug/l	HB-HP-07	3/59	1-1000	5.00E-03		NV	5.00E-03	NV		5.00E-03	N	BSL
	95-63-6	1,2,4-TRIMETHYLBENZENE	0.1 J	640	ug/l	HB-HB-08I	8/9	0.5-0.5	6.40E-01		NV	5.00E-03	NV		5.00E-03	Y	ASL
	95-50-1	1,2-DICHLOROBENZENE	2.8	28	ug/l	HB-HP-07	8/60	0.5-1000	2.80E-02		NV	5.00E-03	NV		5.00E-03	Y	ASL
	108-67-8	1,3,5-TRIMETHYLBENZENE	0.9 J	240	ug/l	HB-HB-08I	7/9	0.5-0.5	2.40E-01		NV	NV	NV		NV	Y	NTX
	541-73-1	1,3-DICHLOROBENZENE	3.6	14	ug/l	HB-HP-07	7/60	0.5-1000	1.40E-02		NV	5.00E-03	NV		5.00E-03	Y	ASL
	106-46-7	1,4-DICHLOROBENZENE	0.12 J	75	ug/l	HB-HP-07	16/60	0.5-1000	7.50E-02		NV	5.00E-03	NV		5.00E-03	Y	ASL
	78-93-3	2-BUTANONE	2.03 J	41 J	ug/l	HB-HB-20I	7/51	10-5000	4.10E-02		NV	NV	NV		NV	Y	NTX
	591-78-6	2-HEXANONE	1.96 J	6.28	ug/l	HB-HB-20D	2/51	5-2500	6.28E-03		NV	NV	NV		NV	Y	NTX
	106-43-4	4-CHLOROTOLUENE	2 J	2 J	ug/l	HB-HB-06S	1/9	0.5-50	2.00E-03		NV	NV	NV		NV	Y	NTX
	108-10-1	4-METHYL-2-PENTANONE	1.29 J	2.11 J	ug/l	HB-HB-20I	3/51	5-2500	2.11E-03		NV	NV	NV		NV	Y	NTX
	67-64-1	ACETONE	2.33 J	460 J	ug/l	HB-HB-04S	23/51	10-5000	4.60E-01		NV	NV	NV		NV	Y	NTX
	71-43-2	BENZENE	0.34 J	3900	ug/l	HB-HB-02S	29/51	0.5-50	3.90E+00		NV	2.10E-01	NV		2.10E-01	Y	ASL
	75-15-0	CARBON DISULFIDE	0.23 J	2.9 J	ug/l	HB-HB-18S	4/42	0.5-500	2.90E-03		NV	NV	NV		NV	Y	NTX
	108-90-7	CHLOROBENZENE	0.11 J	32	ug/l	HB-HB-06S	8/51	0.5-250	3.20E-02		NV	5.00E-03	NV		5.00E-03	Y	ASL
	75-00-3	CHLOROETHANE	4.3 J	32.6	ug/l	HB-HB-20D	5/51	1-500	3.26E-02		NV	NV	NV		NV	Y	NTX
	67-66-3	CHLOROFORM	0.13 J	0.13 J	ug/l	HB-HB-20S	1/51	0.5-250	1.30E-04		NV	NV	NV		NV	Y	NTX
	156-59-2	CIS-1,2-DICHLOROETHENE	1 J	1 J	ug/l	HB-HB-06S	1/51	0.5-250	1.00E-03		NV	NV	NV		NV	Y	NTX
	100-41-4	ETHYLBENZENE	0.11 J	350	ug/l	HB-HB-04S	28/51	0.5-50	3.50E-01		NV	1.70E-02	NV		1.70E-02	Y	ASL
	98-82-8	ISOPROPYLBENZENE	0.11 J	17 J	ug/l	HB-HB-08I	6/23	0.5-250	1.70E-02		NV	2.60E-03	NV		2.60E-03	Y	ASL
	1634-04-4	METHYL TERT-BUTYL ETHER	0.22 J	0.5	ug/l	HB-HB-18S	4/14	0.5-250	5.00E-04		NV	NV	NV		NV	Y	NTX
	103-65-1	N-PROPYLBENZENE	1 J	12 J	ug/l	HB-HB-08I	2/9	0.5-50	1.20E-02		NV	NV	NV		NV	Y	NTX
	95-47-6	O-XYLENE	4.3 J	870	ug/l	HB-HB-04S	10/28	5-50	8.70E-01		NV	6.50E-02	NV		6.50E-02	Y	ASL
	99-87-6	P-ISOPROPYLTOLUENE	0.8 J	4 J	ug/l	HB-HP-08	2/9	0.5-50	4.00E-03		NV	NV	NV		NV	Y	NTX
	135-98-8	SEC-BUTYLBENZENE	1 J	4 J	ug/l	HB-HP-08, HB-HP-07	3/9	0.5-50	4.00E-03		NV	NV	NV		NV	Y	NTX
	100-42-5	STYRENE	0.4 J	850	ug/l	HB-HB-02S	16/51	0.5-50	8.50E-01		NV	NV	NV		NV	Y	NTX
	108-88-3	TOLUENE	0.2 J	5740	ug/l	HB-HB-02S	28/51	0.5-50	5.74E+00		NV	1.00E-01	NV		1.00E-01	Y	ASL
	XYLENES1314	XYLENES, M & P(8)	1.1 J	2300	ug/l	HB-HB-04S	10/28	5-50	2.30E+00		NV	6.50E-02	NV		6.50E-02	Y	ASL
	1330-20-7	XYLENES, TOTAL	0.2 J	3380	ug/l	HB-HB-02S	19/23	0.5-1	3.38E+00		NV	6.50E-02	NV		6.50E-02	Y	ASL
	OTHER																
	79-20-9	METHYL ACETATE	0.36 J	6.46	ug/l	HB-HB-20D	2/14	0.5-250	6.46E+00		NV	NV	NV		NV	Y	NTX

NOTES:
(1) J - estimated value; N - tentatively identified at an estimated value
(2) Concentration used for screening is the maximum detected concentration.
(3) N/A - No background screening performed.
(4) Values are from USEPA, 2007. Current National Recommended Water Quality Criteria. Available online at: http://www.epa.gov/waterscience/criteria/wqcriteria.html
(5) Values are from NYSDEC TOGS 111, New York State Ambient Water Quality Criteria and Guidance Values, 1998. The lowest of the standard and guidance values was utilized. For hardness dependent values, maximum detected hardness (as $CaCO_3$) of 11000 mg/L used as representative surface water hardness.
(6) The Screening Toxicity Value represents the minimum of the NYSDEC Values
(7) Selection Rationale: ASL - Above Screening Level; NTX - No Toxicity Information. Deletion Rationale: BSL - Below Screening Level; NUT - Compound is an essential nutrient Compounds are selected as COPECs if the selected screening concentration is greater than the selected criteria or if there are no screening criteria available.
(8) Screening value is for total xylenes.
- = Compound detected in 100% of samples.
Rows highlighted yellow indicate constituents selected as COPECs based on the following selection rationale: ASL.
Rows highlighted orange indicate constituents selected as COPECs based on the following selection rationale: NTX.

Definitions:
ARAR: Applicable or Relevant and Appropriate Requirements
CAS: Chemical Abstact Service
COPEC: Compound of Potential Ecological Concern
NUT: Compound is an essential nutrient and not screened in
NV: No Value
NYSDEC: New York State Department of Environmental Conservation
PCB: Polychlorinated Biphenyls
SVOC: Semi-Volatile Organic Compounds
TBC: To Be Considered
USEPA: United States Environmental Protection Agency
VOC: Volatile Organic Compounds
ASL = Above screening level
BSL = Below screening level
NTX = No toxicity information
KPS = Known physical stressor

Table 10
Wastebed B/Harbor Brook IRM
Upper Harbor Brook EE/CA
Onondaga Lake and Wastebed B/Harbor Brook COC Comparison

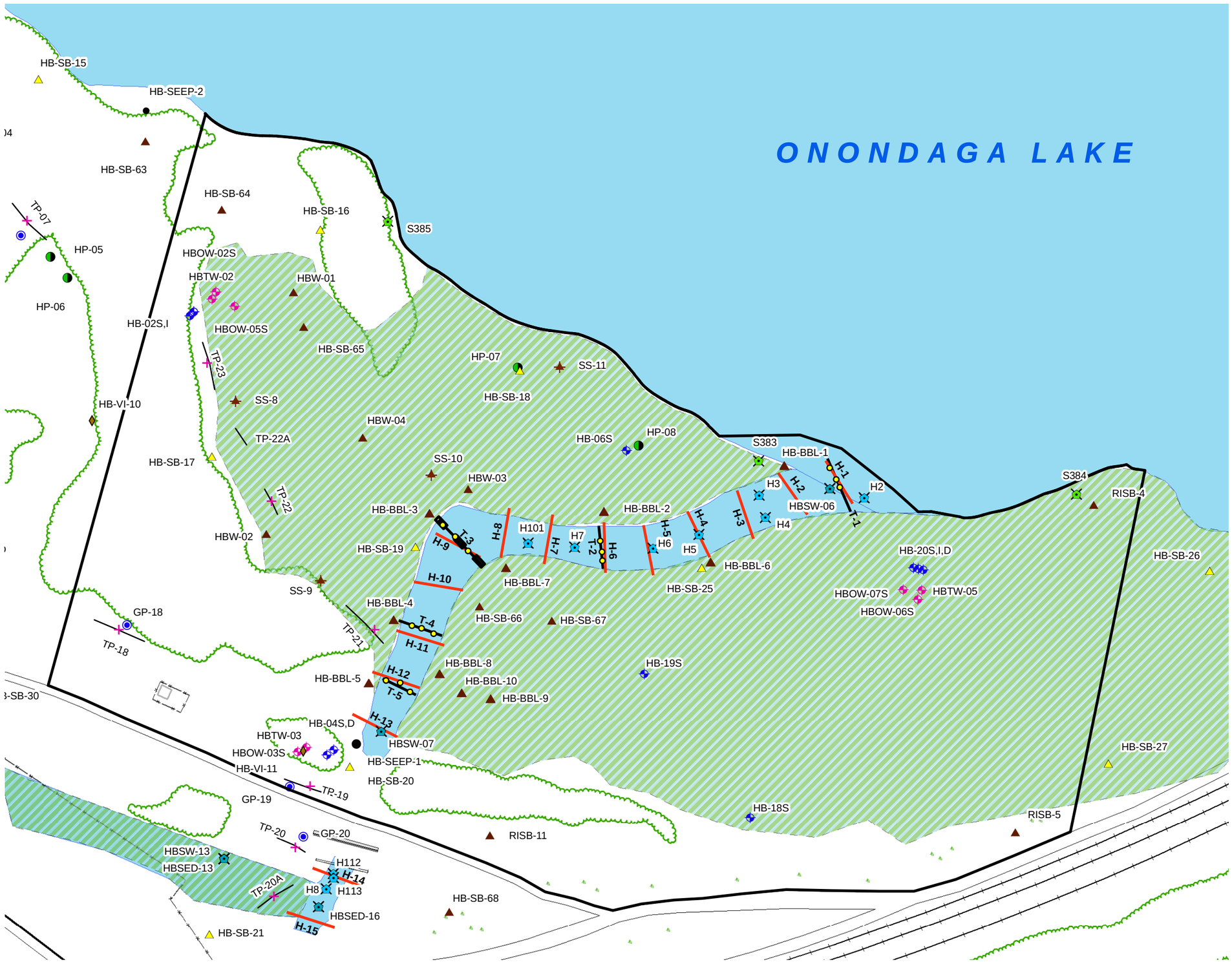
	Onondaga Lake COCs		Wastebed B/Harbor Brook EE/CA COCs								
			EE/CA Streamlined Human Health Risk Evaluation					EE/CA Streamlined Ecological Risk Evaluation			
Chemical	**BERA**	**HHRA**	**Surface Soil**	**Subsurface Soil**	**Sediment**	**Ground Water**	**Surface Water**	**Surface Soil**	**Sediment**	**Ground Water**	**Surface Water**
Metals											
Aluminum	N	Y	Y	Y	N	Y	N	Y	NTX	Y	Y
Antimony	Y	Y	N	N	N	N	Y	Y	NTX	N	NTX
Arsenic	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Barium	Y	Y	Y	Y	Y	Y	N	Y	NTX	NTX	NTX
Cadmium	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N
Chromium	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N
Copper	Y	Y	N	Y	N	Y	N	Y	Y	Y	Y
Iron	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lead	Y	Y	Y	Y	Y	NTX	NTX	Y	Y	Y	Y
Manganese	Y	Y	Y	Y	Y	Y	Y	Y	Y	NTX	NTX
Mercury	Y	Y	Y	Y	Y	Y	NTX	NTX	Y	Y	Y
Methylmercury	Y	Y	Y	NA	NA	NA	NA	NTX	NA	NA	NA
Nickel	Y	Y	N	N	N	Y	N	Y	Y	Y	N
Selenium	Y	Y	Y	N	N	N	N	Y	NTX	Y	N
Silver	Y	N	N	Y	N	N	N	Y	Y	Y	Y
Thallium	Y	Y	Y	Y	Y	Y	Y	Y	NTX	Y	N
Vanadium	Y	Y	Y	Y	Y	Y	Y	Y	NTX	Y	N
Zinc	Y	Y	N	N	N	N	N	Y	Y	Y	N
Cyanide	Y	Y	N	N	N	N	N	NTX	NTX	Y	Y
Volatile Organic Compounds											
Benzene	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N
Bromodichloromethane	N	Y	N	N	Y	N	N	N	NTX	N	N
Chlorobenzene	Y	Y	N	N	Y	Y	N	N	Y	Y	N
Chloroform	N	Y	N	N	Y	N	N	N	NTX	N	N
Dichlorobenzenes	Y	Y	Y	Y	Y	Y	N	Y	NTX	Y	N
Ethylbenzene	Y	N	N	N	N	Y	N	NTX	Y	Y	Y
Methylene chloride	N	Y	N	N	Y	N	N	N	NTX	N	N
Toluene	Y	Y	N	N	N	Y	Y	N	Y	Y	Y
Trichlorobenzenes	Y	Y	Y	Y	Y	Y	N	Y	NTX	N	N
Xylene isomers	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Semivolatile Organic Compunds											
Bis(2-ethylhexyl)phthalate	Y	Y	N	N	N	Y	Y	NTX	Y	Y	Y
Dibenzofuran	Y	Y	N	Y	Y	Y	Y	NTX	NTX	NTX	NTX
Hexachlorobenzene	Y	Y	Y	Y	Y	N	N	N	Y	N	N
Phenol	Y	N	N	N	N	Y	N	N	Y	NTX	NTX
Polyaromatic Hydrocarbon (total)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Pesticides/Polychlorinated Biphenyls											

Table 10
Wastebed B/Harbor Brook IRM
Upper Harbor Brook EE/CA
Onondaga Lake and Wastebed B/Harbor Brook COC Comparison

	Onondaga Lake COCs		Wastebed B/Harbor Brook EE/CA COCs								
			EE/CA Streamlined Human Health Risk Evaluation					EE/CA Streamlined Ecological Risk Evaluation			
Chemical	**BERA**	**HHRA**	**Surface Soil**	**Subsurface Soil**	**Sediment**	**Ground Water**	**Surface Water**	**Surface Soil**	**Sediment**	**Ground Water**	**Surface Water**
Aldrin	Y	Y	N	N	Y	N	N	N	Y	N	N
Chlordane Isomers	Y	Y	N	N	N	N	N	NTX	NTX	N	N
DDT and metabolites	Y	Y	N	N	N	Y	N	Y	NTX	Y	Y
Dieldrin	Y	Y	Y	N	Y	N	N	Y	Y	N	N
Endrin	Y	N	N	N	N	N	N	NTX	Y	N	N
Hexachlorocyclohexanes	Y	Y	N	N	N	Y	N	N	Y	NTX	N
Heptachlor and heptachlor epoxide	Y	Y	N	N	N	N	N	NTX	Y	N	N
Polychlorinated biphenyls (total)	Y	Y	Y	Y	Y	Y	N	NTX	NTX	Y	N
Dioxins/Furans											
Total dioxins/furans	Y	Y	Y	NA	Y	N	N	NTX	NTX	N	N

Y - Site COC, Exceeds criteria
N - Not a Site COC, No criteria exceedence
NTX - No toxicity screening information available
NA - No analytic data available

T:\1163_HONEYWELL\SYRACUSE\MXD\39597\HB-BLOWUP.MXD



This document was developed in color. Reproduction in B/W may not represent the data as intended.

PLOT DATE: 11/30/2007 JPS DIV 730

FIGURE 1

LEGEND

- BBL SEDIMENT CORE SAMPLE
- BBL SEDIMENT SAMPLING LOCATION FOR IRM

LOCATION TYPE

- CATCH BASIN
- GEOTECHNICAL/TEST BORINGS
- GEOPROBE
- HYDROPUNCH
- MONITORING WELL
- TEST WELL/OBSERVATION WELL
- SEEP
- SOIL BORING
- SURFACE SOIL
- SOIL VAPOR
- SURFACE WATER/SEDIMENT
- TEST PIT SAMPLE
- WETLAND SEDIMENT
- DELINEATED WETLAND
- STUDY AREA

HONEYWELL
WASTEBED B/HARBOR BROOK
STREAMLINED RISK EVALUATION
GEDDES AND SYRACUSE, NY

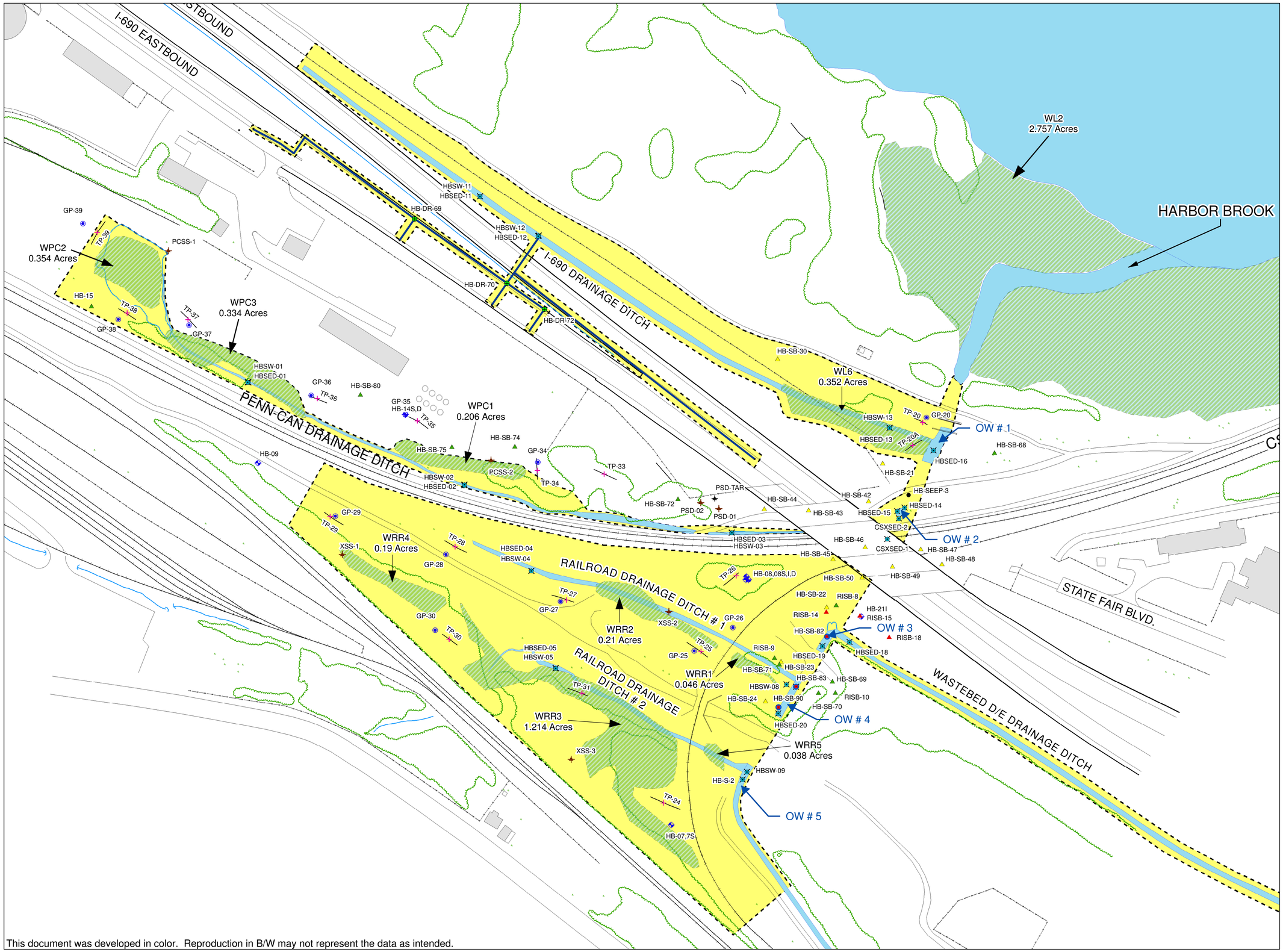
SAMPLE LOCATIONS

0 50 100 200
Feet

DECEMBER 2007
1163.39597

O'BRIEN & GERE

FIGURE 2



LEGEND

HISTORIC LOCATIONS

- CATCH BASIN
- GEOTECHNICAL/TEST BORINGS
- GEOPROBE
- MONITORING WELL
- TEST WELL/OBSERVATION WELL
- SEDIMENT BORING
- SEEP
- SOIL BORING
- SOIL BORING (NOT SAMPLED/VISUAL ONLY)
- SURFACE SOIL
- SURFACE WATER/SEDIMENT
- TAR
- TEST PIT SAMPLE
- STORM SEWER
- WL1 DELINEATED WETLAND
- STUDY AREA

N

HONEYWELL
WASTEBED B/HARBOR BROOK
STREAMLINED
RISK EVALUATION
GEDDES AND SYRACUSE, NY

SAMPLE LOCATIONS

0 50 100 200
Feet

JULY 2009
1163.42071

O'BRIEN & GERE

This document was developed in color. Reproduction in B/W may not represent the data as intended.

PATH: I:\Honeywell\1163\STDS\GIS\Harborbrook\MXD\SRE\SRE_StudyArea-SampLoc.mxd

NAME: ReidLS

DATE: 7/14/2009 8:36:55 AM

360° Engineering and Project Delivery Solutions

All materials printed on recycled paper.

O'BRIEN & GERE
www.obg.com