RESPONSE TO COMMENTS

DETAILED DEVELOPMENT PLAN
WILLS WHARF OFFICE
BALTIMORE WORKS SITE, BALTIMORE, MARYLAND
6 JUNE 2016; REVISED 26 SEPTEMBER 2016

This document provides responses to comments issued by the United States Environmental Protection Agency, Region III (USEPA) on August 9, 2016 and the Maryland Department of the Environment (MDE) on September 1, 2016 and September 8, 2016, relative to the Detailed Development Plan, Wills Wharf Office, Baltimore Works Site, Baltimore, Maryland, dated 6 June 2016.

Each comment is presented verbatim in italics with a direct response to the comment immediately below. The responses have been incorporated into the revised Wills Wharf Office Detailed Development Plan (DDP) as appropriate.

USEPA – REGION III COMMENTS AND RELATED RESPONSES

1. *EE Summary Letter-2016 06 21-Page 2, 4th paragraph. Virgin compression value is omitted.*

   Response:

   See revised summary letter attached to this document indicating total settlement is computed to be on the order of 1.5 to 2.0 inches.

2. *In general this document seems to be out of date. There are unanswered questions in it about the loading on the vaults and promenade sheet piles which appear to be addressed in the plans and DDP.*

   Response:

   The summary letter has been revised as per the DDP drawing set for the Promenade and Vault 3 support construction. See Summary Letter for revisions (same summary letter as for Response to Comment No. 1).

3. *DDP-Page 20, 2nd paragraph. The procedure described in the 15 December 2014 minor mod is for pre drilling, not pit excavations.*

   Response:

   Agreed, this has been revised in the DDP narrative.

4. *Page 27. Correct "closet pile" to closest pile". Same sentence, "drive" should be "driven".*

Response:

Comment noted and revised in DDP narrative.

5. *Page 30, 5.3.8- The bearing pressure of the Wills Street Ramp is close to 2000 psf in some places. Has the roadway been designed to allow construction vehicles access without damaging the MMC? If not, what measures will be in place to prevent accidental access. Will a city fire truck with outriggers be permitted to park on the ramp?*

Response:

Yes, the roadway has been designed to allow construction vehicles access without damaging the MMC. All the streets on Harbor Point are public streets with no restrictions on usage. The streets are designed for HS-20 live load (Baltimore City Standard) and allow fire trucks. Access off the designed area is not permitted and will be controlled with barricades.

At the highest fill location the soil dead load on the geomembrane is 13 ft. fill + 2.5 ft. cover soil = 15.5 ft. soil x 120 pcf = 1860 psf. The HS-20 vehicle wheel load is distributed to only 111 psf (through 15.5 ft of soil). The combined dead load and live load result in 1971 psf, below the 2000 psf allowable value.

6. *Section 7.0: Will BDG's geotechnical firm have a geotechnical engineer on site, with extensive knowledge of earthwork and liner systems, during all intrusive work in Area 1 and the raising of the HB?*

Response:

Yes, a geotechnical engineer will be on site full time for inspection during Area 1 excavation, intrusive work and synthetic layer repair.

7. *Foundation Drawings- DDP-F1.02- It appeared that the Wadit used during the Point Street Apartments job was a better product given the uncertainty of driving piles through the HB and the time restrictions of the Swellseal product. Given the lessons learned why not specify Wadit or equivalent?*

Response:

Agreed. Wadit or equivalent will be the specified sealant for this project. See drawing DDP-F1.02 as part of the revised DDP for revision.

8. *DDP-F1.22- Detail 2- The repair of MMC synthetic layers of sheet pile barrier conflicts with the detail for repair shown on the last page of the 20 March 2015 minor mod submitted in Attachment D. Specifically, one detail shows the lower membrane ending on the western side of the sheet pile and the other shows it going all the way across the HB. Please clarify which will be used. If it is the detail shown on DDP-F1.22 why the change from the minor mod? What is minimum distance from the geomembrane to the sheet pile that will be allowed during construction?*

Response:

The detail has been revised to show the approved sketch from Minor Mod submitted March 20, 2015. See drawing DDP-F1.22 as part of the revised DDP for revision.

9. *DDP F1.30 Pile Connection and Restored MMC below Pile Cap- "Height Strength Epoxy" should be "High Strength".*

Response:

Comment noted and material callout revised on Drawing in the DDP.

10. *DDP F1.53- Please provide a brief description of the sheet pile reinforcement design and how it was arrived at. Is the purpose of the steel plate and concrete solely to close corrosion holes in the wall or do the calculated moments of the new design exceed the capacity of the existing sheet pile? Has the integrity of the wall been investigated below MLLW?*

Response:

Response: The existing sheet pile at the south foot of Wills St. was placed at the time the outboard embankment was constructed, about 1995. The sheeting exhibits corrosion in pockets at MHW-MLW depth. The planned work is intended to prevent against loss of soil as corrosion worsens. The sheet pile was designed as a cantilever. The design does not increase earth pressure acting on the sheet pile. In the revised design the top of the sheet pile is pinned to the pile supported platform, which reduces loading stress on the sheet pile, compared to the cantilever design. The top support reduces bending stress by more than 50%.

MARYLAND DEPARTMENT OF THE ENVIRONMENT'S SOILD WASTE PROGRAM COMMENTS AND RELATED RESPONSES

I. DDP Narrative:

1. *Pages 39-40: It is noted that some of the existing Head Monitoring System (HMS) vaults and Structures will be extended and provided with new locking caps. To whom will the Keys to the locking caps be provided?*

   Response:

   The keys will be provided to Honeywell International, Inc.

2. *Page 41, Section 6.4: The Department must be notified when a well or vault associated with the HMS is taken offline and restored.*

   Response:

   Comment is acknowledged. The Department will be notified when a well or vault associated with the HMS is taken offline and restored.

3. *Please ensure that there is close geotechnical oversight of the protective concrete slab construction over the slurry wall and cap under the Wills Street ramp, the extension of the HMS vaults and wells, and the elements of the cap and slurry wall, in particular.*

   Response:

   Comment is acknowledged. The Developer will ensure that there is close geotechnical oversight of the protective concrete slab construction over the slurry wall and cap under the Wills Street ramp, the extension of the HMS vaults and wells, and the elements of the cap and slurry wall, in particular.

II. Construction Air Monitoring Plan (CAMP), dated April 25, 2016:

1. *Is a webcam showing the site and on-line particulate monitoring and meteorological information to be available for use during the cap penetration period of the construction? This was very helpful in overseeing site operations in the past.*

   Response:

   Yes, a webcam will be maintained and operated for the WW construction project. The operation and maintenance of a webcam has been added to the Construction Air Monitoring Plan (CAMP) in new Section 2.7.

2. *It is noted that monitoring station PWAM-4 is proposed for a location on the southwest corner of the project. It is also noted elsewhere that additional parking for the Thames Street Wharf building may be located in this area. Please ensure that the precise location chosen for the air monitoring station will not be impacted by future temporary parking lot paving and preparation.*

Response:

Comment is acknowledged. As stated in Section 2.1 of the CAMP, The fixed monitoring locations and equipment will be sited, to the extent possible, away from trees, buildings, roadways, or other obstacles that may cause undue influence on the measured concentrations according to 40 CFR Part 58, Appendix E. The location of PWAM-3 (MDE's comment erroneously identifies PWAM-3 as PWAM-4) will be selected to include consideration of future temporary parking lot paving and preparation.

3. *Page 10, Section 5, Dust Control – It is stated that additional corrective actions that may be used for dust control during intrusive activities may be a wind curtain upwind or increased misting downwind. Are there any formal or informal numerical criteria to be used for the implementation of these additional measures, or will they be employed at the discretion of the environmental manager?*

Response:

As noted in the Material Handling and Management Plan (MHMP), additional corrective actions that may be considered to control a dust release during intrusive activities include establishing a wind curtain by attaching fabric to a temporary fence upwind of the work zone, and by increasing the aerosolized water misting downwind of the intrusive activity.

In response to MDE's comment, the following narrative has been added to the MHMP in Section 5 on page 10: "These additional measures will be considered based on site-specific conditions in the event that action levels for Total Particulate Matter (Total PM) persist after implementing the response measures described in Appendix D Quality Assurance Project Plan (QAPP): Standard Operating Procedures for Responses and Notifications to Action Level Exceedances Wills Wharf Office Project."

Note that MDE's comment is to the MHMP not the CAMP.

III. Material Handling and Management Plan, dated April 25, 2016:

1. *Page 12, Section 6.1, Re-use and Storage of Excavated Cover Soil and Aggregate – Makers showing the maximum allowed 8-foot height of the clean soil storage*

piles (e.g., as depicted on Plan Sheet C8.00) must be placed and maintained to ensure that the loading of the pile on the geomembrane, drain, and other elements of the cap does not exceed the limits calculated by Mueser Rutledge for the soil piles used for the Phase I soil storage areas.

Response:

Section 6.1 of the MHMP has been revised to include the following narrative: "As appropriate, markers showing the maximum allowed height of the clean soil storage piles will be placed and maintained as needed to ensure that the loading of the pile on the geomembrane, drain and other elements of the MMC do not exceed the limits calculated by the Geotechnical Engineer and Foundation Designer (Mueser Rutledge Consulting Engineers)." As a matter of convenience, attached to this document is a certification letter from Mueser Rutledge Consulting Engineers (MRCE) dated 27 March 2015 that discusses the limitations on stockpile heights. This letter has been appended to the revised MHMP as Appendix E.

2. *Page 21, Section 7.2, Non-Contact Water – Coverage under the General Permit for Discharges for Tanks, Pipes, and Other Liquid Containment Structures at Facilities Other Than Oil Terminals, or other appropriate discharge permit as determined by the Department's Water Management Administration must be obtained before starting construction.*

Response:

Section 7.2 of the MHMP has been revised to include the following narrative: "General Permit 11HT must be obtained before starting construction."

IV. *Air Monitoring Program Quality Assurance Project Plan (QAPP, dated June 6, 2016:*

1. *Page 2, Approval and Signature Page – A copy of the finalized and signed QAPP must be provided to the Department before starting work.*

Response:

A signed copy of the Approval and Signature Page to the QAPP has been included with the revised DDP.

2. *Page 16, Section 2.1 – Will a webcam showing the site and on-line particulate monitoring and meteorological information to be available for use during the cap penetration period of the construction? This was very helpful in overseeing site*

operations in the past and for resolving discussions related to exceedance in Phase I of the development at the site.

Response:

Yes, a webcam will be maintained and operated for the WW construction project. The operation and maintenance of a webcam has been added to the Construction Air Monitoring Plan (CAMP) in new Section 2.7.

V. *Stormwater Pollution Prevention Plan, Wills Wharf Office Project, dated April 25, 2016:*

1. *Page 4-5, Section 1.1. – Coverage under the General Permit for Discharges from Tanks, Pipes, and Other Liquid Containment Structures at Facilities Other Than Oil Terminals, or other appropriate discharge permit as determined by the Department's Water Management Administration must be obtained before starting construction.*

Response:

Section 1.1 of the Stormwater Pollution Prevention Plan (SWPPP) has been revised to include the following narrative: "General Permit 11HT must be obtained before starting construction."

2. *Section 3.3, Other Potential Pollution Sources, and Section 4.2.1, Contact Water – These sections discuss the use of double-walled pipe for conveying diesel fuel to the emergency generators and contact water to the frac tanks. If piping is used, visual inspections of all joints, elbows, and similar fittings to detect leaks and drip pans or other means to prevent employed.*

Response:

Section 4.2.1 of the SWPPP has been revised to include the following narrative: "Visual inspections will be routinely performed of all joints, elbows, and similar fittings to detect leaks. Drip pans or other means to prevent the escape of liquids during connection and disconnection of hoses at joints, elbows or similar fittings must be employed."

VI. *Plans, received in hard copy August 3, 2016:*

1. *It is not clear from the plan submitted whether it has been approved by the Baltimore City Department of Public Works with respect to the erosion and sediment control features. Please submit documentation of this approval before starting work.*

Response:

Documentation of approval from the Baltimore City Department of Public Works with respect to the erosion and sediment control features will be provided to MDE before starting the work.

MARYLAND DEPARTMENT OF THE ENVIRONMENT VOLUNTARY CLEANUP PROGRAM COMMENTS AND RELATED RESPONSES

1. *The Area 2 Layered Soil Cap (LSC), as described in Section 3.2 of the DDP exists over most of the property subject to the 2007 NFRD. Section 7.2.5 of the DDP refers exclusively to the Materials Handling Management Plan (MHMP) to describe soil management procedures. The MHMP states in Section 1.2 that it governs soil management for "intrusive activities" and then further defines those activities as those which breach the upper geotextile of the Area 2 LSC.*

   While Section 6.0 of the MHMP notes that any material excavated from Area 2 may not be used in a residential setting, the MHMP itself does not appear to describe the material handling for any material from above the upper geotextile (later referred to as "cover soil/aggregate" in Section 6.1) or describe the material handling for any area of Lot 003 not covered by the LSC (referred to as non-designated areas in the DDP) except to state that it will be re-used or, if unsuitable for re-use, may be disposed off-site.

   Section 6.1 of the MHMP should be revised to clearly state that in accordance with the language set forth in the NFRD, no excavated materials from Lot 003 will be reused on any property with a current or future residential use or zoning (including in other areas of the PUD).

   Response:

   The second paragraph of Section 6.0 of the MHMP has been revised to the following: "ERM notes that Maryland's Voluntary Cleanup Program (VCP) prohibits the use of any materials excavated from Area 2 or non-designated areas within the footprint of the Project to be reused in a residential setting unless otherwise approved by the VCP. In the event that the Developer contemplates a restricted residential use in accordance with the NFRD and the reuse of excavated soil as part of the Project, the Developer will submit a request for approval to re-use the soil to MDE along with an environmental management plan that would describe how the soil would be managed by the Project under a restricted residential setting.

   The Project is not a residential setting but a restricted commercial setting as described by Maryland's VCP. Appendix D contains a copy of the VCP 3 August 2007 No Further Requirements Determination (NFRD) applicable to the Project. " Appendix D was added to the revised MHMP.

2. *The discussion of the land use under the VCP in Section 6.0 of the MHMP should be revised to match VCP land uses (i.e. revise the use of the term "mixed commercial" to "restricted commercial use").*

Response:

The second paragraph of Section 6.0 of the MHMP has been revised to the following: "ERM notes that Maryland's Voluntary Cleanup Program (VCP) prohibits the use of any materials excavated from Area 2 or non-designated areas within the footprint of the Project to be reused in a residential setting unless otherwise approved by the VCP. In the event that the Developer contemplates a restricted residential use in accordance with the NFRD and the reuse of excavated soil as part of the Project, the Developer will submit a request for approval to re-use the soil to MDE along with an environmental management plan that would describe how the soil would be managed by the Project under a restricted residential setting.

The Project is not a residential setting but a restricted commercial setting as described by Maryland's VCP. Appendix D contains a copy of the VCP 3 August 2007 No Further Requirements Determination (NFRD) applicable to the Project. " Appendix D was added to the revised MHMP.

ATTACHMENT

REVISED SUMMARY LETTER 21 JUNE 2016
(REVISED 16 SEPTEMBER 2016)

Mueser Rutledge
Consulting Engineers
14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

June 21, 2016 (Revised September 16, 2016)

Beatty Development Group
1300 Thames Street, Suite 10
Baltimore, MD 21231

Attention: Mr. Jonathan Flesher

Re: Engineering Evaluation Report
Wills Street Wharf Building and Ramp
Harbor Point Areas 1 and 2
Baltimore, Maryland
MRCE File No. 12582

Gentlemen:

This Engineering Evaluation (EE) document summarizes analysis of planned development construction for protection of the corrective measures at Area 1. The analyses and evaluations are presented in the attached EE memoranda which summarize detailed assumptions, calculations, and findings.

Memoranda

Memoranda prepared to illustrate the Engineering Evaluation are:

EE Memo 1 – Estimated Settlement and Stress on MMC from Development Fill
EE Memo 2 – Engineering Evaluation of Existing Vaults 3 and 4
EE Memo 3 – Loading on Promenade Sheet Piles
EE Memo 4 – Diverted Flow in Drainage Net from Foundation Construction

1. Estimated Settlement Under Development Fill

Regular weight controlled granular fill is proposed to raise existing grades below Wills Street south of the elevated Plaza Garage structure. The Wills Street alignment is above the S-B Barrier and toe drain straddling the east edge of Area 1 multimedia cap and the west edge of Area 2. The fill will contain development utilities. Existing grade is at Elev. +10 at the south foot of the future Wills Street (inboard of the perimeter embankment) to Elev. +15 at the Plaza Garage interface. Proposed grade is Elev. +13 at the south foot of Wills Street to Elev. +28 at the Plaza Garage. Retaining walls will be constructed to contain the fill at the west and edges. The east face will be supported by the basement walls of new buildings constructed along the east side of the street on Area 2.

Retaining wall foundation types are dictated by the resultant bearing stress on the drainage net and future development adjacent to the retaining wall. Retaining walls bearing on shallow foundations may be used for top of wall less than 11 feet above the drainage net. Retaining walls bearing on pile caps may be used for top of wall between 11 and 16 feet above the drainage net. Fill supported on a relieving platform must be used for top of wall greater than 16 feet above the drainage net.

From the joint with the Plaza Garage to about 300 feet south, the Wills Street alignment is underlain by granular fill over compact sand cretaceous deposits. Proposed grades result in fill heights of 3 to 13 feet. Settlement of less than ½ inch is computed for this condition.

In the area of the turnaround at the south end of Wills Street the granular fill is underlain by organic clay of Stratum O. Proposed grade results in fill heights of about 3 feet. Portions of this area were pre-loaded to Elev. +15 prior to construction of the multimedia cap covering Area 1 (former Baltimore City Pier).

Where planned grades are below the pre-load elevation, settlement results only from recompression and is computed to be less than ½ inch. Where planned grades are above the pre-load elevation, settlement results from virgin compression and secondary compression and is computed to be on the order of 1.5 to 2.0 inches. Settlement magnitude can be tolerated by the MMC and does not result in negative slope at the geomembrane.

2. Loading on Vaults 3 and 4

Regular weight fill is proposed to raise street grades in the immediate vicinity of Vaults 3 and 4. Original design of the vaults assumed a maximum of 5 feet of fill load above the vault. Based on the proposed grades, Vault 3 will receive approximately 13.4 feet of fill which induces unacceptable load. Vault 4 will receive less than 5 feet of fill and induces an acceptable amount of load.

Based on the applied load, the roof and walls of Vault 3 will need to be reinforced or methods for reducing load applied to the vault may be used. For reinforcement, it would be feasible to place a reinforced concrete cap and lightweight fill above the geomembrane to support the fill above the vault.

3. Loading on Promenade Sheet Piles

Regular weight fill is proposed to raise grades and extend the existing Thames Street Wharf Promenade west to the proposed Wills Street Turnaround. The Promenade will run along the alignment of the existing steel sheet pile wall. Achieving proposed grades using granular fill produces unacceptable deflection and induces marginal stability of the sheet pile wall. Additional reinforcement or methods for reducing applied load may be used, A pile supported platform with concrete retaining wall to the south will support the additional fill and not allow for additional loading to the existing sheet pile wall.

4. Diverted Flow in Drainage Net from Foundation Construction

   Given the contours of the drainage net provided in the record drawings, planned pile cap obstructions to drainage net are acceptable, with drainage net flow capacity having a factor of safety above 2.0 for infiltration computed for the 100 year storm.

5. Hydraulic Conductivity of Sheet Pile Barrier

   Sealed interlock steel sheet piles within the existing S-B Barrier are proposed to allow pile driving in close proximity to the barrier. Sheet pile installation should remove any existing arching stresses within the backfill. Prior calculations for the Exelon development demonstrated that an interlocking sheet pile barrier performs as well as the existing soil-bentonite backfill if the soil-bentonite fails to perform due to arching or long-term chemical degradation.

6. Protection of Multimedia Cap from Construction Vehicle Loading

   This analysis evaluated loads from construction vehicles and equipment/concrete supply trucks. A dynamic load was added to the static load. HS-20 and 12 cy concrete truck loading distributed through the 30 inch soil cover imposes bearing stresses below 2,000 lb/sf at the synthetic layers. The cover soil provides a stable environment at the synthetic layers by virtue of high bearing capacity safety factor. Rutting should be repaired to maintain the existing 30 inches of cover soil. Paving is recommended at primary vehicle pathways and where material containers will be repeatedly loaded onto truck carriages to protect against rutting and reduce dust. Large construction equipment requires individual review. For example, driver crawler cranes will require mats to spread concentrated loads when lifting load, but not when moving across the site without load.

We trust that the attached analyses will document allowable construction conditions questions regarding the proposed development on the corrective measures. Please do not hesitate to contact us with any questions.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

Attachments

AMD\PWD\F:\125\12582\Engineering Evaluation\EE Summary Letter.docx cc: Marco Greenberg (BDG)
Chris French (Honeywell)

ATTACHMENT

CERTIFICATION LETTER
MUESER RUTLEDGE CONSULTING ENGINEERS (MRCE)
DATED 27 MARCH 2015

Mueser Rutledge Consulting Engineers

14 Penn Plaza · 225 West 34th Street · New York, NY 10122
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www.mrce.com

March 27, 2015

Beatty Development Group, LLC
1300 Thames Street, Suite 10
Baltimore, MD 21231

Attention: Mr. Jonathan Flesher

Re: Certification
Stock Pile Location Minor Modification
Exelon Office Tower, Trading Floor Garage, and Central Plaza Garage
Former Allied-Signal, Inc. Baltimore Works (new Harbor Point)
Baltimore, Maryland
MRCE File 11896

I, Peter Deming, a licensed professional Engineer in the State of Maryland, working as Partner of the firm Mueser Rutledge Consulting Engineers, certify that to the best of my knowledge and in my professional opinion, the design revision set forth in the attached February 3, 2015 Stockpile Location on Area 1 including Stockpile Location Plan and stockpile control criteria meets the Consent Decree requirements as stated below.

Certification

Pursuant to the Consent Decree by and between the United States Environmental Protection Agency, the Maryland Department of the Environment and Allied- Signal Baltimore Works, as amended, Article V, Paragraph 16, I certify on behalf of Harbor Point Development LLC that the improvements shown in the enclosed Detailed Design Plan documents will not: a) Interfere with the efficacy of the corrective measures or Honeywell's ability to comply with the Performance Standards, the Groundwater Gradient Monitoring Plan, the Surface Water Monitoring Plan, the Environmental Media Monitoring Plan, and the Surface Soil Monitoring Plan, or any other monitoring plan in effect. b) Increase risks to health or the environment from the conditions at the site.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, PE

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MEMORANDUM

Date:	February 3, 2015 (Revised March 30, 2015)
To:	Office
From:	Gina Schoregge
Re:	Stockpile Location on Area 1 Exelon Tower, Trading Floor Garage & Plaza Garage, Baltimore, MD
File:	11896A

MRCE has reviewed the proposed location for soil stockpile addition. The location is acceptable, as summarized below. This memorandum summarizes stockpile control criteria, and makes recommendation for stockpile control.

Exhibits

We have attached the following to illustrate our analyses:

Attachment 1	Drawing No. I-1 - "Criteria for Interim Use Harbor Point Site Area 1 West of Wills St." Dated: September 10, 2003.
Attachment 2	SK-1 - Potential Stockpile Area

References

1. Black and Veatch Harbor Point Project Memorandum from Christian Lavallee, P.E., to Gary Snyder, P.E. "Response to Requested Design Criteria for the Multimedia Cap and Hydraulic Barrier", dated January 30, 2004.

Multimedia Cap and Underlying Materials

The soil cover on Area 1 is 30" above the MMC synthetic layers. The top 6" is a crushed stone (CR-6) and the underlying materials are sand and gravel aggregates (Cover Soil). The Geomembrane is protected by a Drainage Net and Cover Geotextile above, and by a GCL and Cushion Geotextile below. The synthetic layers are underlain with compacted crushed stone (capillary break) and controlled shaping fill. Soil stockpile heights are restricted to application of 2,000 psf overburden at the Drainage Net layer to prevent squeezing the Drainage Net and reducing its water transmissivity. The cover and cushion geotextiles, drainage net and GCL layers are designed to prevent puncture of the geomembrane.

A typical earth fill weighs 125 pcf. Approximately 16 feet of earth fill will apply 2 kips per square foot (ksf). Given the 30" of soil cover now in place, earth fill should be limited to 13.5 ft. A visual gage for observation of stockpile height is recommended if the stockpile is raised above 8 ft.

Subgrade Support

The proposed stockpile area identified on SK-1 placed inboard of the former shoreline and partially on an existing mat foundation to guard against cap settlement. In the additional area identified for proposed stockpile outboard of the original shoreline, a limiting height of 8 feet is recommended due to the potential that some areas of the former building 23 had slab on grade.

Vehicles operating on the cover soil surface should be limited to 15 cubic yard (cy) concrete truck ("Design Truck"); standard trucks permitted on the highway (HS-20, triaxle dump trucks, and tractor trailers) weigh less than that maximum. This allowance was based on the distribution of wheel loads to stresses below 2 ksf at the 30" depth of the synthetic layers.

Demarkation at Base of Soil Stockpile

The base of the stockpile should be identified with a physical demarcation layer similar to the warning layer which is 12" above the synthetic layers of the MMC (brightly colored snow fence or other product). The demarcation is intended to prevent over-excavation on stockpile removal. Excavation should cease at the demarcation layer. Perimeter sediment control around the stockpile are included in the original DDP.

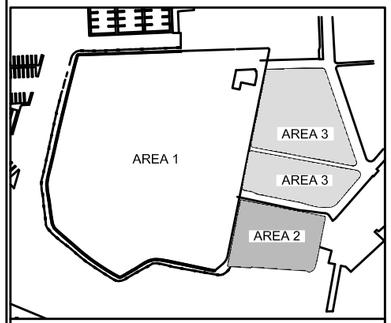
Summary

- Clean soil stockpiles should be no higher than 13.5 feet above existing grade inboard former shoreline and 8 feet above existing grade outboard of former shoreline.
- Place visual gage if stockpile height is extended above 8 ft.
- Provide visual demarcation at base of stockpile to prevent over-excavation on stockpile removal.
- Perimeter sediment control around the stockpile are included in the original DDP.

By: Gina Marie Schoregge

Gina Schoregge

GS:PWD\11896A-40\Stock Pile Memo



PROJECT PHASE PLAN SCALE: 1"=200'

INTERIM USE NOTES FOR PROTECTION OF EXISTING SITE INFRASTRUCTURE

1. Physical Protection:

   Areas and items below are to be physically protected against damage. Protection will be by traffic barriers, concrete block, self-contained free-standing planters, or similar items:

   - HMS vaults which extend above ground surface
   - Gas Vent
   - Lightweight geofoam fill area over Covered Slip outboard of former Building 23.

   Protection by means other than physical barriers are required for the following:

   - Covers to wells and equipment at all locations, shall be locked or tightly bolted closed to protect against tampering.
   - Place 4" parking blocks along edge of pavement to keep vehicular traffic on paved surface. Emergency vehicle access shall not be impeded.

2. Allowable Applied Load Intensity

   The maximum allowable applied load intensity (static or dynamic) on the multimedia cap is 2,000 psf. For traffic limitation, see Note 8.

3. Preservation Of Site Sampling And Monitoring Points

   Maintain availability of site monitoring locations, sampling locations and survey points. Interim use construction and paving over survey points is prohibited, unless replaced in kind or extended through the paving, as approved by Honeywell. Survey monitoring point elevations immediately before and after replacement.

INTERIM SITE IMPROVEMENTS

4. Shallow Trenching and Excavations

   Shallow trenches or local excavations within the cover soil are permitted for installing drainage chases, water lines, utilities, or constructing slabs flush with the pavement surface, etc. All trenching and excavation shall be approved by Honeywell. Excavations over the Multimedia Cap shall be limited in depth to twelve inches below the bottom of the crushed stone cover, or shallower if the visual barrier is encountered. The visual barrier shall not be penetrated. All excavations shall be inspected, and documented in depth and extent and transmitted to Honeywell.

   - Excavations are to be performed by smooth bucket equipment (no plate welded across teeth), under the direct observation of a person approved by Honeywell or designated representative.
   - Remove the stone cover down to the geotextile. Cut and fold back the geotextile. Replace geotextile upon completion.
   - Excavation spoils shall be stockpiled on heavy duty plastic tarps, and removed from the site, or returned to the excavation and compacted to 95% Standard Proctor maximum density.

5. Paving Site Areas

   Parking areas and access roads shall be paved. Concrete and asphalt pavement may be placed directly on the crushed stone surface. The paved areas shall be designed to provide storm drainage by sheet flow off cap without causing erosion of cover materials. Crushed stone or concrete water flow diffusers shall be located in area of erosion as needed. Manholes, other flush mounted access openings, settlement plates and equipment shall be raised with the asphalt pavement as approved by Honeywell. Surveys shall be performed before and after raising settlement plates and resets shall be indicated in the O & M records. All well covers in paved areas shall be designed to accommodate the design traffic load and exclude surface water.

6. Lights

   Light poles may be installed on the cap provided the limitations on excavation and bearing intensity are met, and the light poles are stable. Light poles may be fixed to concrete blocks, or flush mounted slabs as desired. Foundation designs for poles shall be approved by Honeywell.

7. Waterfront Improvements

   Not applicable for interim use.

USE LIMITATIONS

8. Vehicles shall typically operate on paved areas. Occasional use on unpaved areas is permitted. Vehicles are limited to a fully loaded 15 cubic yard capacity concrete truck. Highway permitted HS 20 trucks weigh less than that maximum, and are therefore permitted. Concrete trucks shall not clean out or wash down equipment on Area 1, 2, or 3 Cap. Crane pads shall be supported on mats to limit loads in accordance with Note 2.

9. Plants, bushes, trees, etc. shall be set in planters with sides and bottoms impenetrable to roots.

10. Permanent and semi-permanent generators or other motorized equipment requiring refueling shall be placed on pre-cast or cast-in-place concrete pads with a perimeter lip to retain spilled fuel. During refueling, temporary equipment on asphalt shall be surrounded by a sorbent coil appropriate for the type of fuel used. Temporary equipment requiring refueling on unpaved areas shall be placed on a temporary petroleum resistant plastic or concrete containment with perimeter lip, during refueling. Should a spill of any measurable quantity occur, the spill shall be fully cleaned using sorbent towels and other measures as necessary. Honeywell shall be notified of spills. Used sorbent materials shall be disposed of properly. Fuel containers shall be stored on paved areas with containment berms. LPG bottles have no storage or use limitations.

11. Stakes or spikes which will be driven into the ground shall be no longer than 12 inches. Fence posts shall not be driven into the ground, but must be supported by concrete block bases or other

12. Periodic inspections shall be made by Honeywell or designated representative to verify compliance with these criteria.

LEGEND

- MULTIMEDIA CAP
- DOUBLE - LAYER SYNTHETIC DRAINAGE COMPOSITE
- INFILTRATION TRENCH
- METHANE GAS VENT
- SETTLEMENT PLATE
- TOE DRAIN COLLECTION PIPING
- RIP-RAP
- SOIL-BENTONITE BARRIER
- SETBACK FROM SOIL/BENTONITE AND HMS COMPONENTS
- PIEZOMETER SYSTEM
- MANHOLE JUNCTION
- VAULT JUNCTION WITH PUMPING WELL
- APPROX. LIMIT OF BUILDINGS
- CAP COVER SOIL SAMPLING LOCATION
- DRAINAGE LAYER SAMPLING LOCATION
- 4" PARKING BLOCKS
- EXISTING UNPAVED SERVICE ROAD
- PROPOSED PAVED PARKING/ROAD WAY
- APPROX. LIMIT OF AREAS OF KNOWN OR POTENTIAL SETTLEMENT CONCERN
- APPROX. LIMIT OF AREAS OF DREDGED CHANNEL
- PROPERTY BOUNDARY
- FENCE LINE

GENERAL NOTES:

1. Base drawing provided from available information compiled by Parsons Engineering Science, Inc., acting for Honeywell International Inc.
2. Site use areas shown provide clearance for minor discrepancies in actual locations of buried utilities. Locations of visible utilities shall be confirmed for protection before site work commences.

GRAPHIC SCALE

80' 40' 0 80' 160'

HARBOR POINT
(FORMER HONEYWELL BALTIMORE WORKS)
BALTIMORE MARYLAND

STRUEVER BROTHERS
ECCLES & ROUSE, INC.
BALTIMORE MARYLAND

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 W. 34TH STREET, NY, NY 10122

SCALE	MADE BY I.Y. DATE 9-10-03	FILE NO.
GRAPHIC	CH'KD BY P.W.D. DATE 9-10-03	9487

CRITERIA FOR INTERIM USE
HARBOR POINT SITE AREA 1
WEST OF WILLS ST.

DRAWING NO. I-1

PROPOSED DOCK STREET

PROPOSED WELLS STREET

CAROLINE STREET

THAMES STREET

EXIST. HONEYWELL TRANSFER STATION

MATERIAL LAYDOWN AREA

CLEAN SOIL STOCKPILE AREA

DECONTAMINATION PAD

VEHICLE TURNAROUND LOOP

APPROXIMATE LIMIT OF ABANDONED MAT FOUNDATION

PLAZA GARAGE

FUTURE POINT STREET

PROPOSED STOCKPILE AREA

N: −6225.6
E: 4392.3

N: −6242.2
E: 4474.2

N: −6298.7
E: 4467.8

N: −6342.0
E: 4366.8

227.3'

53.03'

93.7'

N: −6389.9
E: 4602.3

N: −6273.0
E: 4626.1

IMPACTED WATER STORAGE MODU – TANKS

EXISTING SURFACE LOT (TO REMAIN)

CONTAINMENT BERM

ORIGINAL SHORELINE (SEE NOTE 1)

COVERED SLIP

47.85'

130.08'

86.41'

36.67'

TYPE "J" PLATFORM

STOCKPILE LOCATION PLAN

GRAPHIC SCALE

60' 30' 0 60' 120'

NOTES:

1. Compressive Deposits are known to exist outboard of the original shoreline.
2. Extending the stockpile area beyond limits shown requires a detailed understanding of the of the pile supported abandoned structures below existing grade.
3. Clean soil stockpiles should be no higher than 13.5 feet above existing grade.
4. Place visual gage if stockpile height is extended above 8 ft.
5. Provide visual demarcation at base of stockpile to prevent over–excavation on stockpile removal.
6. Base of Stockpile dimensions shown on drawing. Stockpile shall be placed so the side slopes are stable and protected from unravelling.

LEGEND:

– STOCKPILE MAX. 8 FT HEIGHT

– STOCKPILE MAX. 13.5 FT HEIGHT

EXELON BLDG. & PLAZA GARAGE

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

MADE BY: E.C. CH'KD BY: G.S. DATE: 02–03–2015

FILE NUMBER: 11896 DRAWING NUMBER: SK–1

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