



MARYLAND DEPARTMENT OF THE ENVIRONMENT

Solid Waste Program, Suite 605

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October 31, 2013

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Mr. Jonathan S. Flesher, Senior Development Director
Beatty Development Group, LLC
1300 Thames Street, Suite 10
Baltimore, MD 21231

Dear Mr. Flesher:

The Maryland Department of the Environment (MDE) has reviewed the submission entitled "Area 1, Phase 1 Detailed Development Plan" and associated documents (the "DDP"), which provides a project description and the applicable plans for the Exelon Tower, Trading Floor/Garage and Central Plaza Garage project ("Exelon project") dated August 2013, as received on August 12, 2013. Review of these documents indicates that additional information and refinements are required before the plans could be approved. In accordance with Section IV.19.a of the Agreement and Covenant Not to Sue (the "Agreements"), MDE provides the following comments below to assist you in the finalization of the DDP.

The Settling Respondents, as specified in the Certificate of Settling Respondents, dated September 20, 2012, shall respond to the following MDE comments:

I. Comments Concerning the DDP.

A. Requirements for Additional Air Monitoring.

1. We have no comments on the worker protection aspects of the plan for air monitoring and note that this is an area of oversight by the Maryland Occupational Safety and Health Administration (MOSH). Air monitoring on the interior of the site, e.g., in the vicinity of pile-driving activities, may be accomplished in accordance with protocols acceptable to MOSH.
2. We appreciate the efforts made to perform background monitoring for particulates and hexavalent chromium ("Cr⁺⁶"). However, the monitoring performed indicated the possible presence of some Cr⁺⁶ in the ambient air; but also exhibited detection of some Cr⁺⁶ in some of the blanks, and other quality assurance issues were identified by the United States Environmental Protection Agency (EPA) and MDE's Air and Radiation Management Administration. The Department's issues are described in paragraph I.C below. This made it impossible for us to determine the suitability of the proposed monitoring methods and action levels (see additional comments concerning the air monitoring data in the section containing comments on the Air Monitoring Plan, below).



Therefore, we request that additional sampling using the modified California Air Resources Board method CARB-039 be performed immediately, in accordance with the following requirements:

- a. The additional monitoring should be for parallel monitoring using Dustrak DRX8534 for particulates, along with laboratory analysis of particulates for confirmation, and the CARB-039 method at 3 sites satisfactory to MDE and EPA. Please note and address MDE's and EPA's comments concerning particulate monitoring protocols. EPA will provide technical guidance concerning an acceptable air monitoring program.
 - b. The placement of the monitoring equipment must be in accordance with USEPA guidance for air monitoring, including distance from structures and other obstructions that could adversely impact the validity of the collected data, to the extent possible given the urban setting. The Department's Air and Radiation Management Administration can review proposed monitoring point locations with your consultants in the field if requested.
 - c. Use of particulate size analysis need not be performed.
 - d. Raw data should be submitted to EPA and MDE as soon as it is available. A report containing the validated data, and providing an interpretation of the data, must also be submitted following completion of the initial data collection period
 - f. Validation of the data must be performed to the satisfaction of EPA and MDE.
3. The air monitoring plan should utilize the 95% Upper Prediction Limits (UPLs) particulate value, not the 99% UTL, identified during the background monitoring period already established as the particulate monitoring action trigger standard for the perimeter monitoring points.
 4. The air monitoring plan must specifically allow for modifications of the particulate monitoring standard as required by MDE and EPA based on the results of the expanded background monitoring, other monitoring data that may be acquired, and/or the ongoing monitoring program that is subsequently approved. Based on review of the data, the plan must include provisions allowing the agencies to require amendments to the operational procedures, monitoring protocols, and action levels, or to shut the site activities down when monitoring data indicates that this is necessary to protect the public health. Please amend the plan to allow for these requirements.
 5. Provisions for appropriate notifications of nearby neighbors in the event of air monitoring action level criteria exceedances or other weather conditions that result in a cessation of construction activities due to potential dust concentrations, notably the Living Classrooms organization, must be drafted and included in the air monitoring response plans.

B. Comments Concerning the DDP Text.

1. Page 20, Section 4.2 – Schedule – The schedule provided is inadequately detailed. Please provide a specification of all work activities and projects, with a detailed timeline of each subproject. Normally such schedules have been provided to MDE in a spreadsheet form, and must have been prepared by the developer or its contractors.

2. Page 42, Section 6.3.2 – Hydraulic head maintenance system (HMS) design changes – Please describe how the piezometers and vaults be operated during times when power is cut and/or height alterations are made.

C. Comments Concerning Appendix B, Section 1, Air Monitoring Plan, Area 1, Phase 1 Development. A review of the on- and off-site air monitoring that was performed and described in Sections 2 through 5 of the Air Monitoring Plan indicated that there are some operational and analytical issues with the collection of the particulate and hexavalent chromium data. These issues must be addressed through the performance of additional monitoring as addressed in comment I.A above, and revision of the Air Monitoring Plan.

1. The issues concerning the particulate monitoring data are:

a. The location of the monitor at the Baltimore Aquarium appears to be too close two obstructing walls that impede the unobstructed flow of air around the sampler.

b. As part of the size segregation study the NIOSH 500 sampler was equipped with a stream separator that diverted flow in two streams, one through a TSP inlet and another through a PM2.5 inlet. In some samples the mass associated with the PM2.5 size fraction was larger than that associated with TSP. This is clearly in error and does not support the conclusion that the measured ambient hexavalent chromium is associated only with the PM 2.5 size fraction.

c. Part of the pre-construction monitoring included size segregation of particles into TSP, PM10, PM4, PM2.5 and PM1. The reported concentrations for these different size bins were all very similar. This is unexpected and is not consistent with contemporary monitoring results obtained in Baltimore by MDEs monitoring network. There is no discussion or explanation of these results.

d. The correlation between hexavalent chromium and total suspended particles (TSP) in the ambient air during the sampling period was very poor. The same comment applies to the correlation between hexavalent chromium and PM 2.5. However, it is noted that any airborne release of chromium from the subject site due to penetrations of the cap and associated construction activities is likely to be in the form of particulates. Therefore, until a reliable basis for an alternative conclusion is available, any use of particulates as a trigger for controlling the release of chromium from the site should be based on the presumption that all of the particulates above the ambient levels may contain chromium. Consequently, the levels established for taking actions to curtail particulate releases must be predicated on the ambient particulate concentrations.

e. While EPA third-party QA review guidance was followed for validating the hexavalent chromium laboratory results, apparently, no standards or criteria were used to validate the collecting and handling of the particulate matter samples. Appropriate data quality objectives should have been established prior to the study and adhered to in order to assure the quality of the particulate field sampling.

f. There was no documentation that collocated monitors were part of the pre-construction air monitoring. Collocated monitors are needed to evaluate the bias and precision of the measurements. These evaluations are critical to understanding the degree of uncertainty in the measurements and their usefulness in relation to the monitoring objectives.

g. No pre-approved Quality Assurance Project Plan for the PCAM study was provided.

2. The issues concerning the hexavalent chromium data are:

a. Field and media blanks were deployed in a sporadic manner and were not associated or analyzed with every set of samples as specified in the analytical method.

b. Reported hexavalent chromium concentrations, both onsite and offsite, ranged from <0.6 ng/m³ to 23 ng/m³. Onsite maximums range from 4.3 ng/m³ to 8.1 ng/m³. Offsite maximums range from 9.5 ng/m³ to 23 ng/m³. The 23ng/m³ event appears to be an outlier, although there no was no reported investigation into this result. If this single event were discounted, the adjusted overall range would be <0.6 ng/m³ to 13 ng/m³ (adjusted onsite range would remain the same and adjusted offsite range would be from <0.6 ng/m³ to 13 ng/m³). On 38 out of 40 days of onsite hexavalent chromium sampling, at least one site had a concentration of >1 ng/m³. On 26 out of 28 days of offsite hexavalent chromium sampling, at least one site had a concentration of >1 ng/m³. These results appear markedly high when compared against the National Air Toxics Trend (NATTS) site results. The NATTS average urban hexavalent chromium concentration from years 2003-2010 was 0.043 ng/m³ (5,327 measurements). The single highest concentration was 2.97 ng/m³ and only 4 measurements greater than 1 ng/m³ were recorded during that period. The NATTS program uses the CARB 039 method for hexavalent chromium sampling and analysis.

b. A third party QA review of the hexavalent chromium analytical results, based on EPA Region III Level IM1 procedures, indicated that positive biases associated with laboratory blanks and media blanks affected approximately 95 samples. There were approximately 300 hexavalent chromium samples and so it appears that almost one third of the samples were biased high. An additional 22 samples were indicated as biased low due to surpassing holding time limits. There is no mention of the magnitude of these biases and no explanation is provided as to how the quality findings of the above mentioned report may have affected the interpretation of the results of the pre-construction monitoring. Was this considered important? If not, why? What are the procedures for moving forward when laboratory blanks are so high? Would it be possible to rerun these samples?

c. Similarly, there was no explanation of the obvious outliers found in the data and how they might have changed the monitoring results. No statistical summary of the lab control samples and the lab control sample duplicates were provided, further complicating interpretive data analysis. For all of the aforementioned reasons this data is considered to be unreliable.

D. Comments Concerning Appendix B, Section 2, hydraulic head maintenance system (HMS) and transfer station (TS) Contingency Plan

1. Page 1, Section 1.0, Introduction, 3rd paragraph – Please specify how long will it take to obtain replacement equipment, install it, and return the system to operation.

2. Page 2, Section 2.0, General System Operation Description, 2nd paragraph – in the 4th line the terms “inbound” and “outbound” are used – please clarify whether what is meant is “inboard” and “outboard” when referring to piezometers inside and outside of the slurry wall containment.
2. Page 4, Section 3.0, 2nd paragraph – a general statement is made that in the event of water level spikes the TS operator must adjust the system to compensate. Please specify exactly how this will be done, and whether contingency methods been tested. If the HMS system is damaged, what is the expected maximum downtime that the system would not be operational? Please specify how the groundwater gradient be maintained within the requirements set by the Consent Decree and the Covenant Not to Sue.
3. Page 5, Section 4.0 – Level I Contingency Plan -
 - a. The temporary “field house office” is described as being located at various points during the project. Please specify these locations on an appropriate plan sheet. Why can’t one location be identified and used?
 - b. Please ensure that the temporary Ethernet system is tested and found to be operational prior to start of construction.
 - c. Have systems of the same type been operated under conditions expected to prevail during the project?
 - d. If during the project the two control computers, BAW 1 and 2, conflict, how will it be determined which if either is accurate? Have equipment manufacturers been queried regarding the potential impacts of the project on the equipment?
4. Page 6, Section 4.0 – Level I Contingency Plan -
 - a. Please ensure that the dust control system in the electrical/mechanical room is tested prior to project start.
 - b. Please describe how the head maintenance system (HMS) will be operated while the air receiver is being relocated.
5. Page 8, Section 5.0 – Level II Contingency Plan –
 - a. First bullet – in the expected event of an interruption of service of the head maintenance system (HMS) LAN lines, how long will the system be out of service before wireless Ethernet systems are installed and become operational? Will this type of equipment be adversely impacted by construction activities such as pile driving?
 - b. Second bullet – In view of the expectation that service will be interrupted at each HMS vault, would it be preferable to install the wireless Ethernet networks prior to construction and operate the system using that method?
6. Page 10, Section 6.0 – Parts Sourcing –
 - a. How long will it take to order, obtain, set up, test, and return the system to full operation?
 - b. How likely is system malfunction during the project? Shouldn’t spare equipment be maintained onsite since HMS system operation interruptions are expected?

E. Comments Concerning Appendix B, Section 3, Health and Safety Plan

1. Page 8, Section 6.3 - Soil Conditions – The statement is made that COPR was not landfilled at the site, although the 1985 IT report and 1986 NUS report indicate otherwise. Please specify how much COPR was actually disposed onsite, and the locations where was it disposed, to the extent this is known.

2. Page 17, Section 11.1 – Equipment Decontamination – Please specify where containers of decontamination-generated solid and liquid wastes will be stored.
3. Page 19, Section 12.0 – Action Levels - The reports cited above also indicated that COPR may have been disposed in the area underlying the building to be constructed. Particular attention to dust suppression activities will be required in this area to prevent the potential for the release of elevated quantities of chromium contaminated dust/particulate matter. Please include a discussion of this need in any appropriate standard operating procedures and instructions to contractors, and insure that supervisory and field management staff are aware of this need. If COPR should be encountered, not only should great care be taken in the management of the material, but the opportunity for training of field staff to visually identify the material should be taken to the extent that this will not contribute to a release (e.g., when weather conditions allow).
4. Page 13, Section 12.0 - Action Levels –
 - a. 2nd paragraph – Please identify the locations where the particulate air monitoring (PAM) stations are proposed to be located.
 - b. 4th paragraph – All air monitoring data must be provided to MDE immediately upon receipt by the developer. As noted by EPA all data obtained regarding air monitoring should be placed on a website that can be accessed by the public.

F. Comments Concerning Appendix B, Section 4, Material Handling and Management Plan

1. Page 4, Section 2.0 – Environmental Requirements: All imported material must meet MDE/LRP specified standards for materials of this type. See the guidance fact sheet on MDE’s website at [http://www.mde.state.md.us/programs/Land/MarylandBrownfieldVCP/MDVCPInformation/Documents/www.mde.state.md.us/assets/document/Clean%20Imported%20Fill%20Material\(1\).pdf](http://www.mde.state.md.us/programs/Land/MarylandBrownfieldVCP/MDVCPInformation/Documents/www.mde.state.md.us/assets/document/Clean%20Imported%20Fill%20Material(1).pdf).
2. Page 6, Section 3.2 – Erosion and Sediment Controls – 2nd paragraph – MDE’s regulations governing Controlled Hazardous Substances (CHS) require that hazardous waste containers of liquid hazardous wastes be provided at all times with secondary containment, and that inspection logs be maintained, among other requirements – please consult COMAR 26.13.03.05E, and incorporate these requirements into the plans, operating protocols, and specifications.
3. Page 7, Section 3.3 – Excavation – all containers of hazardous waste solids must also be managed in accordance with the requirements of COMAR 26.13.03.05E and other applicable regulations.
4. Page 11, Section 5.1, Stormwater – Noncontact – Has a pretreatment permit or other appropriate authorization been obtained from Baltimore City allowing discharges to the City’s sewer system? If so provide a copy of the permit/authorization to MDE; otherwise provide an explanation why no such documents are required.
5. Page 11, Section 5.2 – Stormwater, Contact Water – Do not allow standing water in to remain in sumps; rather ensure that all potentially contaminated water is pumped to appropriate containers.

6. Page 13, Section 5.4 – 25-Year Storm Event

a. The 1st paragraph mentions discharging impacted water – no such discharge is permitted without first obtaining a National Pollution Discharge Elimination System (NPDES) permit issued by MDE. Provide a copy of the NPDES permit to the Land Management Administration (LMA)/Solid Waste Program (SWP) prior to construction of the tanks.

b. If the liquid in the tanks is CHS, no discharge from the site would be permissible without first obtaining a CHS facility permit from MDE.

c. Please include a plan for the management of contaminated snow/ice is generated that might be encountered in open excavations during cold weather. It is noted that capillary draw-up of chromium salts into the uncontaminated working layer within excavations can occur unless there is a capillary break. Please include a plan for informing field management staff of this possibility, and include arrangements to handle any material so contaminated in the material management plan.

d. The calculations regarding the storage volumes of the proposed modutanks apparently use the total volume of the tanks. How much freeboard if any is required to safely operate the tanks? What would the usable tank volume be in that case? Would any extra tank(s) be required to provide capacity for the 25 and 100 year storms discussed in the Engineering Evaluation (EE)?

7. Page 14, section 6.1 – Soil/debris – Cite data to support the contention that no other CHS than chromium would be found below the cap.

8. It is noted that capillary draw-up of chromium salts into the uncontaminated working layer within excavations could occur unless there is a capillary break between any contaminated material and the clean soil placed in the excavations. Please include a plan for informing field management staff of this possibility, of identifying it when it occurs (e.g., the appearance of a greenish crust at the surface of the soil, etc.) and include arrangements to handle any material so contaminated in the material management plan.

9. Page 15, section 6.3 – Water – Contact and Groundwater - See comment I.E.7.

10. Page 15, section 6.4 – Imported Soil/Aggregates –

a. Please provide copies of all imported fill material analyses to MDE

b. Please comply with the guidelines established by MDE's Land Restoration Program (LRP) regarding imported fill materials. The applicable standards must be added to the specifications, and provisions made for notifying contractors and materials suppliers.

G. Comments Concerning Appendix B, Section 5 – Spill Prevention and Response Plan

1. Page 2, Section 1.1, Background and Purpose – In the event of a spill Honeywell's representative should also be notified at the same time that the developer is notified. Records of all releases must be maintained in the operating log. MDE/SWP must be notified in the event of release(s) of hazardous wastes or hazardous waste-contaminated materials. After hours, the release must be reported to MDE's emergency response line at **(866) 633-4686**.

2. Page 2, Section 1.2 – Consistency with Other Plans - The paragraph contains a statement regarding “the intent of maintaining operation of the HMS and Transfer Station with minimal service interruptions”. Please discuss the conditions under which a service interruption might occur, and steps being taken to avoid them. It would be better to implement a plan that would have no service interruptions.

3. Page 5, Section 4.0 – Liquid Discharge Prevention –
 - a. As indicated above provide any pretreatment permits obtained from Baltimore City.
 - b. What is the total volume of petroleum materials that would be maintained onsite during the project?
4. Page 9, Section 5.0 – Construction Storage and Operations – The 2nd paragraph proposes to store spilled fuels in the groundwater storage tanks. This proposed action is unacceptable. Do not mix petroleum wastes with CHS/maintain separate storage containers for spilled fuels and other petroleum materials.
5. Page 10, Section 5.1 – Disposal of Recovered Materials - 3rd paragraph – MDE’s Emergency Response Division (ERD) would most likely inform the developer to hire a private contractor to recover spilled materials. (ERD can be reached at 1-866-633-4686). The developer should make prearrangements with an appropriate spill response contractor to manage such events. MDE/ERD must be notified should releases occur/that Division will inform the developer of ERD’s response.
6. Page 13, Section 6.3 – Discharge Response Procedures – Last bullet – Presumably the reference to released material not being treated or disposed of refers to offsite management – no treatment or disposal of any waste materials may occur at the site.
7. Page 14, Section 6.3 - Discharge Response Procedures – The last paragraph does not specify where or in what manner spilled materials will be stored. Please provide more information concerning the disposition of these materials.
8. Please contact the Department’s Water Management Administration to determine whether a specific or general industrial stormwater discharge permit will be required for the proposed activities. When the required permit is obtained, please provide a copy to the Solid Waste Program.
9. Page 14, Section 6.4 – Written Notifications – Provide copies of any petroleum spill report to the Land Management Administration’s Oil Control Program, which can be reached at 410-537-3442. After-hours spills should be reported to MDE’s emergency response line at **(866) 633-4686**.

H. Comments Concerning Appendix B, Section 6 – Stormwater Pollution Prevention Plan

1. Page 6, Section 3.0 – Identification of Potential Pollution Sources – Which acid is being used at the site to clean conveyance piping?
2. Page 7, Section 3.2 – Loading and Unloading Operations – All hazardous waste storage operations must be performed in compliance with all relevant requirements specified in COMAR 26.13.
3. Page 8, Section 3.2 - Loading and Unloading Operations – Please specify the entity that will be the actual generator of any hazardous wastes generated at the site.
4. Page 9, Section 4.2.1 – Non Contact Water – The paragraph mentions storing noncontact water that may be contaminated in a frac tank that is normally used to store groundwater. If the tank already contains groundwater then the entire volume of material in the tank would be CHS and must be managed appropriately.

5. Page 10, Section 4.2.2 – Contact Water – As noted above, if contact water is added to a frac tank already containing CHS the entire volume of stored material is CHS, since addition of non-CHS to CHS constitutes impermissible treatment.
6. Page 10, Section 4.2.3 – Stormwater Management System –
 - a. A statement is made that the drainage net is sealed at the edge of the excavation – how will the seal be tested to assure it is tight?
 - b. Has the freeboard been accounted for in calculating the tank storage volume? What is the plan should the modutanks contain CHS?
7. Page 11, Section 4.2.5 – Spill Prevention and Response Procedures – The first bullet states “assess risk”. The first action in a spill response should be to contain the spill.
8. Page 12, Section 4.2.7 – Visual Inspections – Provide to MDE a copy of the general discharge permit.
9. Page 13, Section 4.2.7 - Visual Inspections – The first paragraph mentions that the SWPPP may be revised. This statement must be amended to indicate that no changes to the Plan may be made without prior MDE approval.
10. Page 13, Section 4.3.1 – Oil/Water Separators – Provide design drawings or specifications and proposed locations of all oil/water separators to be installed.
11. Page 14, Section 4.3.3 – Preventative Maintenance –
 - a. Provide the identity of the party responsible for conducting the specified inspections.
 - b. How will these inspections be integrated with those required by the Consent Decree and the Covenant Not to Sue?
 - c. Provide copies of all proposed inspection plans to MDE.
12. Page 15, Section 4.3.4 – Good Housekeeping –
 - a. As there is a potential for spills to occur on unpaved areas, please specify the response plan, which is likely to differ from the cleanup of spills on paved areas.
 - b. What will be done with oil and any sludge or solids collected in the oil/water separators? Please provide proposed procedures for managing these materials.
13. Page 16, Section 4.4 - SWPPP Revision - As noted above do not change the SWPPP without prior MDE approval.
14. Page 17, Section 5.2 – Training requirements – Please specify the entity responsible for conducting the inspections discussed.
15. Page 18, Section 5.2 - Training requirements – What types of materials other than petroleum products and materials associated with the transfer station would be maintained/used onsite?

II. Comments Concerning the Engineering Evaluation (EE).

A. Cover Letter

1. Part 1, Page 1 – 2nd paragraph –
 - a. Specify what the term “OCR” means.
 - b. Provide the basis for the claim that 3.8” settlement will not adversely impact the MMC.
 - c. Will the expected settlement adversely impact the head maintenance system (HMS) and other system components?
2. Part 2, Page 2 – Stormwater Storage Demand - as noted above the calculated volume assumes filling the tank completely. Freeboard must be provided to allow for volumetric expansion due to temperature change etc., so a larger tank or other provisions for additional storage space must be provided and depicted on the plans.
3. Page 4, 1st paragraph – what is the maximum vibration expected, and how much damage to the remedial measures could occur, if any?

B. EE Memo 1

1. Estimated Settlement under Development Fill - Page 6 – Please explain why the “non-detrimental” settlement of the MMC would not be harmful to the hydraulic head maintenance system (HMS) and slurry wall.
2. Figure 1 – Legend – there are two areas marked “4” on the figure. Please rectify this typographical error.

C. EE Memo 2

1. Page 2, last full paragraph – a calculation is provided that indicates that ~3/4 acres will be open during construction. Does this mean that the entire area will be open below the MMC/if not what is the maximum area anticipated to be open at any time?
2. Page 3, 3rd paragraph – since the open excavation > 26,777 ft² would generate a liquid volume that exceeds the maximum tank capacity, assure that the maximum open area is less than the area that would exceed the tank capacity, or provide additional storage capacity.
3. Page 3, Discussion – as noted above does the site have a pretreatment permit from Baltimore City/if so provide a copy to MDE.
4. Figure 2 – It is noted that the rainfall data provided is the period 1903 – 1951. Please provide more recent rainfall data if it is available. Also the print is barely legible in some places; please provide a clear copy.
5. Appendix A- Please specify precisely the total number of piles that will be installed as part of this project.
6. Appendix B – 4th Page – As noted above, the total tank volume is assumed to be available for storage of precipitation. However, freeboard must be provided to allow for expansion.

D. EE Memo 3

1. Page 2, Multimedia Cap – the first paragraph mentions an assumption that site settlement has not altered the slope of the drainage net. An accurate survey should be performed to address this data gap.

2. Page 2, Utility Installation – This paragraph mentions that the multi-media cap (MMC) will be lowered to accommodate the 30” stormdrain. A description of the procedures to be used must be provided, and the locations where this will occur be shown in the plans. This may cause a linear low area in the cap which would cause a saturated zone to form under the utility lines. Please analyze the potential for damage to the utility lines and for adverse impact to the cap, and propose a means of addressing any concerns identified (e.g., draining the lower zone thus created).

E. EE Memo 4

1. Page 2, Sheet Pile Barrier – the 2nd paragraph mentions that settlement of the SB backfill could occur – what effect will this settlement have on its performance, and how much is the maximum expected settlement? Please provide an estimate and the basis for the estimate calculated.

2. Page 4 – equation 1 – define the terms used in the equation on this page.

3. Page 5 – Verticality of sheet pile – Please provide a discussion of the likelihood that the slurry trench walls will be penetrated by the sheetpiles, and the effect if any that would have on the hydraulic barrier performance.

4. Swellseal sheets – 3rd sheet – Please provide documentation of any effect that exposure to water containing the anticipated concentrations of hexavalent chromium (Cr+6) would have on the polyurethane sealant.

F. EE Memo 5

1. sketch SK-1 – the print on this sketch is illegible. Please provide a legible copy.

G. EE Memo 6

1. Page 3 –Tow Truck – This memorandum provides a calculation of loading caused by various vehicles on the plaza garage slab during construction. The truck specifications of vehicles that will and will not be allowed to traverse the floor described must be provided to the construction contractor. The means of preventing heavier vehicles from traversing the floor must be specifically identified.

2. Page 4 – 1st paragraph – This memorandum provides a calculation of loading caused by various vehicles on the plaza garage slab during construction, and finds that vehicles that impose a load greater than the modeled tow truck should not be allowed to traverse the floor due to the potential for damage to the cap layers, but that the modeled tow truck would not cause “undue harm”. Please specify the harm that this would be caused by both the modeled tow truck and the heavier vehicles so that we can evaluate this risk.

3. Sheet 1 – the sketch depicts 5” of concrete and 3” of soil, while the paragraph lists 4” of each. Please identify the conditions actually modeled, and eliminate these discrepancies between the drawing and text.

H. EE Memo 7

1. Page 4 – Water and Soil Container Load Spreading – Explain how it will be assured that CHS containers will be positioned in areas that will not subside or will be damaged by containers in any way. Assure that all the hydraulic head maintenance system (HMS) and any other system components will also be protected from subsidence from any cause.

2. Page 4 – Construction Road Layout – Assure that all vehicle speeds are <15 mph by placing requirement in documents provided to all contractors, etc.
 - I. EE Memo 8 –
 1. This memo is out of sequence in the EE.
 2. Page 2 – Install Permanent Exhaust Fan and Louvers – drawing M4.07 is cited but not provided.
 3. Pump Size, Sump Pump – what will be the referenced change in the length of the pipe? Insure that the correct value is shown on the plans and specifications.
 - J. EE Memo 9
 1. Page 3 – Design of Structural System – 5th paragraph – damage to HMS conduits is mentioned – what type of damage is anticipated and how would such damage be repaired?
 2. Page 3 – Last paragraph – Please describe in detail how probing to locate timber tiebacks will be performed. Please ensure that the HMS, MMC, and any other remedial component will not be damaged by the proposed probing.

III. Comments Concerning “Progress Drawings”.

A. The drawings are marked “not for construction” – drawings that will be issued for construction must be provided to MDE, at least those concerning construction from base of subgrade work to the new surface elevation and the first construction level.

B. Specific Comments. (Alphanumeric designations refer to the drawing numbers.)

1. C1.00 – Note 9 indicates that the “Owner” will be provided access to remedial system components. Since the property will be conveyed to Beatty Development, presumably Honeywell will continue to operate and maintain the remedial system; the company must be granted access to all system components without restriction.
2. C7.30 – the box in the upper right corner references foundation drawings for cap penetration details. Please provide the identification numbers of the specific drawings referenced.
3. C8.00 –
 - a. in the "Erosion and Sediment Control Sequence of Operations" box, note 3, the contractor is directed to prepare a phasing plan for the foundation excavation that complies with the soil and liquid management plans. A copy of the contractor's plan must be provided to MDE.
 - b. Will the “material laydown area” have an asphalt base?
4. F1.01 –
 - a. Earthwork, Note 7 – the second sentence states “use membranes to isolate contaminated soil” – does the term “membrane” refer to the multimedia cap (MMC) membrane system?
 - b. Materials, Note 1 – all replacement stone must be at least equivalent in quality to onsite materials currently in use. All imported materials must meet criteria established by MDE/LMA Land Restoration Program (LRP) standards. Please see the guidance fact sheet on MDE's website at

[http://www.mde.state.md.us/programs/Land/MarylandBrownfieldVCP/MDVCPInformation/Documents/www.mde.state.md.us/assets/document/Clean%20Imported%20Fill%20Material\(1\).pdf](http://www.mde.state.md.us/programs/Land/MarylandBrownfieldVCP/MDVCPInformation/Documents/www.mde.state.md.us/assets/document/Clean%20Imported%20Fill%20Material(1).pdf).

c. Optical Survey, Note 3 – Please insure that a survey of the hydraulic barrier occurs after the sheet piles are installed to check for unforeseen damage or conditions.

d. Optical Survey, Note 5 – what do the terms “threshold value” and “limiting value” mean? What would it mean if the “limiting value” were exceeded?

5. F1.02 –

a. Pile Load testing and Indicator Pile Program – this program sounds similar to that conducted during the spring, and the one proposed to MDE that was commented upon by the Department. Would air monitoring and vibration monitoring be conducted during the tests? Provide plans addressing these matters. Comments made previously by MDE regarding this matter continue to be applicable.

b. Sheet Piles –

i. It appears that sheet piles are to be welded in pairs then driven into place. Will pile driving damage the welds and seals? How would welds and seals be tested for tightness once the sheet piles are driven into position?

ii. Note 16 – the cited work plan must be provided to MDE prior to extraction of any sheet piles.

c. Submittals –

i. There are two notes identified as “6” in the list – provide correct numbering on a revised drawing.

ii. Provide to MDE the information required of the contractor in notes 1, 4, 5, and the first note 6.

iii. All records and submittals by the contractor regarding the other points in this section and elsewhere in the DDP and related documents must be maintained by the developer for review by MDE.

6. F1.03 - Synthetic layer penetrations and repairs -

a. All replacement materials must be at least equal in quality to the materials originally used to construct the MMC.

b. Note 8 – Demonstration – has the required demonstration been performed? If so provide the test results to MDE immediately. If not when will the tests be performed?

c. Note 12 – Installation – all installation standards and specifications must be at least equivalent to those used by Black & Veatch.

d. Note 13 – to what does the word “holiday” in the next to last line of the paragraph refer? Provide the testing summary discussed to MDE.

e. Note 14 - provide the submittals specified in the note to MDE.

7. F1.10 – are any of the borings cited still open or were all abandoned?

8. F1.13 – the drawing indicates that IP-11S will be abandoned – what was the purpose of this piezometer?

9. F1.14 - Specify the exact number of piles that will driven as part of this project, and how many will penetrate the MMC.

10. F1.16 –

a. Note – Stage 1 Demolition Sequence – provide a copy of the hazardous materials assessment performed by the contractor’s consultant.

b. How would the HMS components be protected during partial building demolition, and how will the vaults, tanks and other equipment be accessed during demolition?

c. Please provide a schedule and duration for the demolition of the office side of the building.

11. F1.20 – What do the various shadings on the drawing mean? No key was provided.

12. F1.21 – Note 20 – where exactly will the “Low Platform” be located – it is unclear on the drawing. Dewatering is mentioned – how will the removed water be managed?

13. F1.22 – Typical Existing Conditions – Note 2 indicates that the outboard piezometer communication wiring will be relocated – to what location will the wiring be relocated, and how long with this process take? Provide answers to the same questions regarding the reverse process. Will HMS monitoring be impacted by the relocation projects?

14. F1.23 –

a. Detail 2 – Please specify where exactly the stormwater pipe at location A is located – it is unclear from the drawing what is meant by this detail note.

b. Detail 4 – note 7 – why is there no need to reconnect the piles to the geomembrane? Leaving the cap geomembrane unsealed to any penetrations through the cap is not acceptable.

15. F1.24 –

a. Detail 1 – there is an arrow without a text designation; to what is it referring?

b. Detail 4 – how long will the valley drains be open, and what is the purpose of the “advantage drain”?

c. Detail 5 – what does “super drainage slot” mean?

d. Detail 6 – how can the geomembrane be stretched to cover the longer distance proposed once the Dock Street Platform is installed? If additional cap material is to be added please describe the procedure and show where this will occur.

16. F1.30 –

a. Detail 5 – there appears to be a gap between the floor slab and the cover soil – what will fill the gap, if anything?

B. MMC Repair at Location C – on the sloped area on the right side of the drawing, both the geomembrane dam and cover geotextile arrows appear to point to the wrong layer. Please correct this drawing.

17. F1.31 –

a. Details 2 and 3 – will a sump pump be maintained in the excavated area? If not how would accumulated precipitation and any other accumulated liquids be removed?

b. MMC Repair drawing – the phrase “height strength epoxy” is used where “high strength epoxy” is apparently intended. Please correct this error.

18. F1.41 –

a. Note 2 – refers to drawing F1.07, which is not included in the submittal/provide this drawing.

b. Several piles in the drawing are referred to as “PDA” piles. What does that term mean?

19. F1.53 – Will the various cut-off sheet piles be installed after the hydraulic barrier sheet piles?

20. F1.54- What is the actual extent and location of the proposed “MSE” temporary wall at the plaza garage?

21. EN1.01-

- a. What volume of soil is expected to be stored on the designated stockpile area?
- b. Construction Notes – Note 6 – there may be times when the Transfer Station/Head Maintenance System operator will require unanticipated and unscheduled access to system components – how will such matters be handled? Would construction activities be halted if necessary?

22. EN1.02 –

- a. Note Aa3. - when will BAW-1 be relocated? Where exactly will BAW-2 be located in the transfer station? Why can't the location be determined now?
- b. Note Aa1.1. – the note mentions “regular” inspections of the PLC gasket seal – what does “regular” mean, i.e., how often will inspections be performed?
- c. Note Ab1. – will the proposed procedures be tested prior to any actual real-time need?
- d. Note Ab4. - How long will it take to obtain the required equipment? How long would the affected subsystems be inoperative? What impact would outages have on performance of required monitoring?

23. EN1.03 – Notes for Detail I1, Note 3 – if the flexworks doublewall primary outlet is positioned over the vault manway, how will the interior of the vault be accessed?

24. EN1.04 –

- a. Notes for Detail No. 1, Note 4 – any hazardous wastes accumulated in any sump must be removed to an appropriate storage device immediately upon generation, or else the sumps must be registered with MDE as hazardous waste tanks.
- b. Controls Detail Scenario 3 – in the lower bold font box, the last word is “temporary” – it appears that more text is required to complete the sentence.

25. EN1.05 –

- a. Section Z-Z' – Note 3 indicates that the 480 volt power conduits must be temporarily disconnected. How will power be provided to system components during the disconnection? What impact will the power loss have on HMS operation?
- b. Section Z-Z' – vault walls were coated with stud-liner and connected to the geomembrane. Would the proposed cutting of the vault walls damage the coating or adversely impact the connection to the geomembrane?
- c. Section Z-Z' – will vaults that are being reduced in height have sufficient room afterward for workers performing various jobs inside the vaults? What would be the final inside vertical dimension in the vaults being reduced in height?
- d. Vault 2 Access Port Plan – what will be the vertical distance separating the Wills Street Ramp from the vault V2 covers?

26. EN1.06 –

- a. How will piezometers and other affected remedial system components be operated while height extensions or reductions are being performed?
- b. What will be the vertical distances separating the Wills Street Ramp from the piezometer access ports?

27. EN1.06.01 –

- a. Surface Soil Monitoring Point (SSMP)-4 and SSMP-4A Detail – the proposed design must be at least equivalent to the design of existing SSMP-4 structure.

- b. Section A-A' - JB11 Junction Box Relocation – this design must also be equivalent to the existing one. How long will the junction box be out of service before the new structure is operative, and what impact would the outage have on HMS function?
- c. Typical Sump Detail for Temporary Decon/Stockpile Pad – where will collected contaminated water be transferred? No transfer pipeline is shown on the drawing.

28. EN1.07 –

- a. Tank Area Piping Reroute – Note 4 indicates that the rerouted contaminated groundwater transfer line will pass through occupied space. Is there any way to avoid this design feature? Only properly trained personnel should not be placed in areas where they potentially could be exposed to hazardous wastes.
- b. Temporary Pipe Support Notes – Note 5. – This note indicates that the contractor is responsible for damage to the items to be relocated. What plans does the developer have in place to address repairs of any items? How would the HMS function if the transfer pipes and/or other items are damaged?

29. EN1.09 – Section A-A -

- a. Please identify the volume of material to be removed from the proposed excavations. Specify the exact dimensions of the excavated areas.
- b. Please describe how the excavated area will be kept open during installation of the steel channels and threaded steel rods.
- c. Please describe how the steel channel will be installed below the pipelines without damage to either.
 - d. The proposed excavation is to be performed by hand. Hand excavation may not be possible in all cases due to obstacles (buried concrete etc.). Please describe how the hand excavation will be performed, and what method(s) would be used if hand-excavation proves to be unworkable.

30. During the September 25, 2013 technical review meeting, statements were made indicating that the Dock Street platform being considered might not be installed. Has that matter been decided, and if so what action is planned?

31. General Comments:

- a. What is the total number of piles that will be driven during the project, and how many of those would be inside the hydraulic barrier? What is the maximum number of pile drivers will be active at any time?
- b. How long will the pile driving phase of the project last, and what are the planned work hours during that part of the project?
- c. Regarding HMS components, have equipment manufacturers been contacted to determine whether the system can withstand the effect of pile-driving and other intrusive operations at the site?
- d. How often is the HMS instrumentation calibrated during current operations? Has consideration been given to increasing the calibration frequency during the pile-driving phase to assure that the instruments are operating properly?

32. Comments regarding the Proposed Air Monitoring Program:

- a. As noted in Comment I.A relating to the DDP above, the Proposed Air Monitoring Program must be significantly revised. However, the following are specific issues that were determined with respect to the existing text that also must be addressed during the revision:
- b. Section 4.0, Meteorological Considerations
 - i. page 7 – The last two paragraphs appear to contradict each other, and the accompanying outputs from ProUCL were not provided. Provide the ProUCL outputs and utilize the appropriate statistical test to make all comparisons.

- ii. 2.0 PCAM Study results - the supporting tables and ProUCL outputs presented in Appendix B do not appear to support the tables listed throughout the text. Clarify and provide the appropriate outputs.
- b. Section 6.0 Site Specific Background and Action Levels to be used during intrusive activities, 3.1.2 surface water monitoring, page 3-3: Use of 99% UTLs for the real-time total airborne particulate concentration action level and the site-specific hexavalent chromium background threshold value concentration are not appropriate. Revise the proposal and utilize the 95% Upper Prediction Limits (UPLs) rather than the 99% UTLs.

IV. Issues Relating to the Requirements of the October 24, 2012 MDE Letter Concerning the Conceptual Design Plan (CDP).

- A. MDE noted that an air monitoring station should be placed adjacent to contaminated soil piles – assure that this requirement is met in accordance with MOSH requirements.
- B. The note re Section 7.2.10 noted that the effects on the MMC of releases of any liquids must be stated – this requirement was not addressed in the DDP.
- C. Provide the hours during the day when construction activities will be performed. These hours should be posted on a webpage that can be accessed by the public.
- D. MDE noted that it is expected that weekly construction meetings will be held, and that MDE must be invited to those meetings. Assure that this requirement is met.

We look forward to working with you with respect to the required ongoing air monitoring and the finalization of the DDP in accordance with these comments, and those provided by EPA. If you have any questions in this matter, please refer them to me at 410-537-3315, or via email at ed.dexter@maryland.gov.

Sincerely,



Edward M. Dexter, P.G., Administrator
Solid Waste Program

EMD:JL:ed

cc: Mr. Russell Fish, EPA
Mr. Chris French, Honeywell
Mr. Horacio Tablada
Matthew Zimmerman, Esquire