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May 30, 2019

**VIA EMAIL**

Alison Cucco, Chair  
Jersey City Environmental Commission  
575 State Route #440  
Jersey City, New Jersey 07305

Dear Ms. Cucco:

I am pleased to submit this letter as a follow-up to my April 16, 2019 presentation before the Commission at which time the Commission requested additional information concerning four topics. In preparing this letter I have relied upon input from Weston Solutions, Inc. (“Weston”). Weston is my Technical Consultant, appointed pursuant to an Order of the Superior Court of New Jersey, Hudson County, entered in 2009. Representatives of the City of Jersey City, PPG and the New Jersey Department of Environmental Protection (“NJDEP”) also assisted in the preparation of this letter.

1. Status of the Blood Monitoring Study

At the April 16 meeting, questions were asked by members of the public and the Commission regarding the status of the blood monitoring study (“Study”) conducted between 2010-2016 by the Environmental and Occupational Health Sciences Institute at the Rutgers School of Public Health (“EOHSI”). EOHSI was originally contracted by my predecessor, Site Administrator Michael McCabe, in June 2010 to perform the Study in connection with the cleanup of the PPG chrome sites. Participation in the program was voluntary. Upon my appointment as Site Administrator in January, 2016, I renewed the contract with EOHSI so that the Study could be continued. The results of the Study were summarized in a report by EOHSI dated December 6, 2016, entitled “Results of the Blood Monitoring Program at the Garfield Avenue Chromium (VI) Remediation Sites” (the “EOHSI Report”).<sup>1</sup>

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<sup>1</sup>The EOHSI Report can be found on the Chromium Cleanup Partnership web site at [www.chromiumcleanup.com](http://www.chromiumcleanup.com).

Pursuant to the Study, the first blood samples were collected in July, 2010 by EOHSI from community residents who, prior to, and at that time of the blood draw, resided in a defined Study Area located in proximity to the Garfield Avenue Site<sup>2</sup>. The Study Area consisted of the area from the Garfield Avenue Site west to Ocean Avenue; south to Bayview Avenue and north to Bramhall Avenue. Blood samples were then collected annually by EOHSI up to and including 2016. The samples were analyzed by an independent laboratory.

There were originally 42 persons who participated at the outset of the Study. During the period from the initial sampling in 2010 until the seventh and final annual round of sampling in 2016, the number of volunteers declined from 42 to 28. A total of 21 persons participated in all of seven rounds of sampling.

It is significant that the initial round of blood sampling was conducted in June/July of 2010, before the start of remediation activities at the GAG Sites<sup>3</sup>. All of the 2010 blood sample results were below the 2.0 micrograms per liter ( $\mu\text{g/L}$ ) limit of detection of the analytical method being used by the laboratory at that time. (2.0 micrograms per liter is equivalent to 2 parts per billion). Results from the remaining six rounds of sampling, commencing in February/March 2011 (after the excavation activities had commenced) through June/July 2016 did not evidence an increase in the blood chromium levels of the participants, despite the fact that PPG dug up and hauled away approximately 1 million tons of chromium contaminated soil and debris during the Study period.

The EOHSI Report concluded that the protective measures implemented at the cleanup sites were effective. Those protective measures included and continue to include the following:

- Setting stringent limits on airborne dust and chromium;
- Monitoring air quality 24/7;
- Water misting work areas to suppress dust;
- Spraying surfaces with dust suppression materials;
- Pressure-washing trucks in a protected area before exiting the site; and
- Covering open excavations and stockpiles when not being worked.

The original program director of the Study was Dr. Paul J. Liroy, PhD, a preeminent scientist specializing in human exposure to airborne toxic pollutants. He was one of the key scientists who examined health impacts on first responders and workers in the wake of the World Trade Center 9/11 attacks. He, unfortunately, died in 2015. He was replaced by his colleague, Dr. Robert Laumbach, M.D., Assistant Professor, Department of Environmental and

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<sup>2</sup> The “Garfield Avenue Site” generally refers to the former chrome production facility located at and/or near 880 Garfield Avenue, Jersey City, Hudson County, New Jersey. This letter may refer to the Garfield Avenue Site or the “Garfield Avenue Group of Sites” or the “GAG Sites,” which is the group of sites in proximity to the Garfield Avenue Site, consisting of sites east of Garfield Avenue, south of the Hudson-Berge Light Rail track (NJ Transit line), west of Pacific Avenue and north of Caven Point Avenue.

<sup>3</sup> See footnote 2 for a definition of the “GAG Sites.”

Occupational Health, Rutgers School of Public Health. Dr. Laumbach, the author of the EOHSI Report, concluded that the results from the six-year study “support the conclusion that the work practices, dust suppression activities and the air monitoring program for controlling potential exposures to Chromium(VI) during the site remediation activities provided effective protection for residents in the Study Area.”

Based upon the conclusions in the EOHSI Report I recommended in my “Update to the May 2010 Health Exposure Study Recommendation” dated June 2, 2018<sup>4</sup> that “no further health testing activities are planned at this time.” My recommendation was made with input from representatives of NJDEP, the City of Jersey City and PPG.

In the absence of any scientific based reason to resume the Study, and especially in the absence of any request from any of the participants in or not in the Study to do so, I have no plan at this time to resume the Study.

Two members of the public at the Commission’s meeting expressed an interest in having their own medical professionals take samples of their blood to assess chromium levels. It goes without saying that any person is free to have their blood tested by their own medical professionals for any reason whatsoever. Should information be brought to my attention resulting from any such medical examinations indicating a need for further action on my part, I will take such action as may be required.

2. Residential Inspection Program/Concerns About Eminent Domain/Condemnation.

As I explained at the April 16 meeting, a total of 79 property owners were enrolled in the residential inspection program (“Program”) since its inception in 2010. All of the property owners were contacted by PPG and its consultants. Some decided not to participate in the Program; others who did participate had their properties studied, sampled and/or remediated. CCPW<sup>5</sup> was not identified at any of the properties that were inspected. Hexavalent chromium (not CCPW) was identified at 7 sites at levels that exceeded the applicable cleanup criteria. PPG remediated those 7 sites on a voluntary basis even though no CCPW was detected. Because a few years have passed since a request was made by property owners to enroll in the Program, I discontinued it in 2018. However, as stated in my Update report referenced in section 1 of this letter, I am amenable to re-opening the Program on a case-by-case basis, upon a showing of good cause to do so.

At the April 16 meeting a member of the public indicated that she and others did not enroll in the Program (or perhaps enrolled and later decided not to have their properties studied)

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<sup>4</sup> A copy of my Update was supplied to the Commission and can be found on the Chromium Cleanup Partnership web site at [www.chromiumcleanup.com](http://www.chromiumcleanup.com).

<sup>5</sup> Chromate chemical production waste (CCPW) is a by-product generated from the production of sodium dichromate. It was used as construction fill material at many sites in Hudson County. Also known as chromium ore processing residue (COPR), CCPW contains hexavalent chromium.

out of fear of losing their properties to an eminent domain/condemnation proceeding. I had not previously heard of that concern.

Eminent domain or condemnation generally describes the power of a state, municipal or other governmental agency to take private property for public use without providing just compensation. I have consulted with lawyers that practice in the field of condemnation law. None of them thought that the State of New Jersey, City of Jersey City or any other governmental agency could legally attempt to condemn the property of a resident that entered into the Program.

The fact is that 7 properties were remediated under the Program. None of those properties were condemned or “taken” via eminent domain.

### 3. Despite PPG’s Cleanup Efforts, Will Any Hexavalent Chromium That May Be Left in the Ground Present a Risk to Residential Uses at the PPG Chromium Sites.

Concern was expressed at the April 16 meeting about the fact that some hexavalent chromium may remain in soil and groundwater upon the completion of PPG’s cleanup efforts. Questions were raised whether residual hexavalent chromium could present a risk to residential development at the PPG sites.

PPG is conducting the remediation of its chromium sites in accordance with the most stringent requirements established by the NJDEP. The remedies being implemented are protective of human health and the environment. Nevertheless, environmental cleanups of this level of complexity and magnitude generally take a long period of time to complete, and may not necessarily restore a site to “pristine” conditions. Therefore, residual contamination that may remain in soil or groundwater during and after the cleanup process must be managed and monitored to ensure that the remedial measures remain protective of human health and the environment over time. To better illustrate how these measures are being accomplished at the PPG chromium sites, below is an overview of the remediation work done to date, as well as measures to ensure protectiveness over time at the GAG Sites slated for future residential redevelopment in the near future.

#### ***Removal of CCPW Source Material***

The primary source of hexavalent chromium contamination at the PPG chromium sites is CCPW. CCPW includes waste materials known as Chromite Ore Processing Residue (“COPR”) and green-grey mud. Over the years, these waste materials were deposited at the PPG chromium sites as fill material for various uses. The high levels of hexavalent chromium within these waste materials leached over time into the soil and groundwater.

To address the CCPW source material and contaminated soils at the PPG chromium sites, the recommended remedy was full excavation and removal of these materials combined with off-site treatment and disposal. The full excavation approach was the remedial alternative preferred

by the NJDEP and the City of Jersey City. This approach was supported by the community in 2010 before the onset of the remediation. It was also considered to be the most amenable for supporting the planned residential redevelopment at the GAG Sites due to its high level of effectiveness and ability to meet the aggressive remediation timelines set forth by the Master Schedule.<sup>6</sup> The overall goals of this full excavation remedy were as follows:

- Elimination of potential exposure to hexavalent chromium in CCPW source materials due to direct contact or windborne dust;
- Removal of source materials and hexavalent chromium-contaminated soils that adversely affect groundwater quality; and
- Establishing site conditions suitable for future uses of the GAG Sites.

The excavation remedy implemented by PPG must comply with the regulatory requirements set forth by the NJDEP, namely the “20/20 Chromium Policy” (memorandum from Lisa Jackson, Commissioner, February 8, 2007). A requirement of the 20/20 Chromium Policy, among other things, is to remediate hexavalent chromium contamination in soils to the NJDEP’s soil cleanup criterion of 20 parts per million (“ppm”) to a depth of 20 feet below the ground surface. The 20/20 Chromium Policy allows for the remediation to be accomplished by way of excavation or by in-situ treatment of the soils to levels at or below a concentration of 20 ppm, which is the cleanup criterion for hexavalent chromium in soil established by the 20/20 Chromium Policy. The 20/20 Chromium Policy allows for hexavalent chromium levels to remain in soils above 20 ppm so long as these soils are 20 feet below the ground surface.

At the GAG Sites, the CCPW source material and contaminated soils were fully excavated by PPG, as required by the 20/20 Chromium Policy, using conventional earth-moving equipment to varying depths below ground surface as dictated by a number of factors. These factors included: (1) removal of hexavalent chromium in soil above 20 (ppm) in accordance with the 20/20 Chromium Policy, (2) removal of all visible CCPW source material, (3) excavation to a depth at which competent meadow mat is present (typically at 15 feet to 20 feet below ground surface), and (4) excavation of all CCPW source material to a maximum vertical depth limit of 35 feet below ground surface in areas where competent meadow mat is absent. The meadow mat is an organic peat-like layer that acts as a natural barrier to chrome migration. The organic material in the meadow mat also has the capacity to convert hexavalent chromium to trivalent chromium which is the less mobile and non-toxic form of chromium. For these reasons, the meadow mat, if competent and of sufficient thickness, was protected from damage during the excavation activities to the extent practicable due to its beneficial properties.

All excavated areas at the PPG chromium sites, including the GAG Sites, were and continue to be backfilled with material that satisfies NJDEP’s regulatory definition of “clean fill.” In many of the excavation areas, PPG used a material called dense graded aggregate (“DGA”) which was compacted to a level deemed satisfactory for redevelopment purposes. In

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<sup>6</sup> Pursuant to a Partial Consent Judgment Concerning the PPG Sites (JCO) entered by the Superior Court of New Jersey on June 26, 2009, I am authorized as Site Administrator to establish a “Master Schedule” governing the timing of the remediation of the PPG chromium sites.

excavated areas at the GAG Sites where the highest levels of contaminated groundwater existed in the shallow zone, the DGA backfill material was amended or supplemented, prior to emplacement in the excavation, with a non-toxic iron reductant material called FerroBlack®-H. The FerroBlack®-H is a treatment material which helps to convert (i.e., reduce) hexavalent chromium to trivalent chromium. Trivalent chromium is a relatively immobile and non-toxic form of chromium. Once emplaced into the excavation in areas where the water table is higher than the bottom of the excavation, the clean backfill and FerroBlack®-H admixture begins to immediately treat the impacted groundwater. Because the treatment properties of the FerroBlack®-H admixture are long-lasting, the admixture will continue to treat the groundwater over the long term and will protect the clean backfill from becoming re-contaminated by remaining residual groundwater impacts.

### ***Groundwater Remediation***

The deposit of CCPW waste at the PPG chromium sites over a period of decades has contaminated the groundwater at these sites. At the GAG Sites, for study purposes, the groundwater was divided into the following zones: shallow, intermediate, deep, and bedrock.

The shallow groundwater zone typically extends to less than 20 feet deep. The intermediate groundwater zone is typically 20 feet to 40 feet deep. The deep groundwater zone is typically 40 feet deep to up to 100 feet (the top of bedrock).

The shallow zone, which is the zone above the meadow mat layer (if present), was the most highly contaminated groundwater zone at the GAG Sites due to the fact that it was in direct contact with the deposited CCPW waste. The intermediate, deep and bedrock groundwater zones were contaminated primarily through the downward migration of hexavalent chromium that leached from the CCPW source material through areas where the meadow mat layer was not in existence (e.g., in the area of the GAG Sites where the former Morris Canal breached the meadow mat).

The full excavation of CCPW source material and contaminated soils at the GAG Sites, coupled with the amendment of the clean backfill with FerroBlack®-H, has resulted in a significant improvement in shallow zone groundwater quality. In fact, chromium concentrations in most of the shallow groundwater at the GAG Sites are already below the NJDEP's groundwater quality standard of 70 parts per billion ("ppb") for total chromium. It is hoped that all of the shallow groundwater at the GAG Sites will achieve this standard within the next several years. It is worth noting that the groundwater beneath the GAG Sites is not used as a source of drinking water.

At the end of 2017, PPG initiated a groundwater interim remedial measure ("IRM") at one of the GAG Sites (Site 114) for the shallow, intermediate, and deep groundwater zones. The IRM was designed to occur in multiple phases (i.e., Phases I, II, and III). Each phase consists of approximately 1 year of groundwater extraction via pumping (and treated aboveground via an on-site treatment plant) combined with in-situ groundwater treatment via the injection of

treatment agents into the various zones through wells, followed by 2 years of groundwater monitoring to evaluate the effectiveness of the treatment. In the shallow groundwater zone, an emulsified vegetable oil (“EVO”) solution was injected. In the intermediate and deep groundwater zones a combination of groundwater extraction and injection of a water and molasses solution are currently being used. Both the EVO and molasses solutions are food sources which stimulate naturally-occurring microorganism activity to promote the permanent conversion of hexavalent chromium to trivalent chromium. These processes are harmless to the environment. Coupled with the injection of EVO and molasses, the extraction of impacted groundwater from the intermediate and deep zones permanently removes chromium mass from the groundwater.

Phase I is anticipated to be completed by the end of 2020. Phase II is planned for 2019 to 2022, and Phase III for 2020 to 2023. While the IRM is not the final groundwater remedy for the entirety of the GAG Sites, it is actively treating the groundwater in the most highly impacted areas. Information from the groundwater IRM work will be used to develop the design of the final groundwater remedy for the entirety of the GAG Sites by the spring 2021 timeframe. The site-wide groundwater remedy may include a combination of various components, including groundwater extraction, in-situ groundwater treatment, containment barriers and monitored natural attenuation (i.e., the dissipation of chromium through natural processes).

### ***Measures to Ensure Protectiveness for Remaining Impacts***

Essentially all CCPW source materials and contaminated soils containing hexavalent chromium above remedial standards at the PPG chromium sites will be excavated and disposed off-site at secure licensed disposal facilities. However, certain areas exist at the GAG Sites, or in the vicinity of the GAG Sites, which are inaccessible for full excavation and removal of CCPW source material and contaminated soils. Examples of inaccessible areas at the GAG Sites include main roadways such as Garfield Avenue, the Hudson Bergen Light Rail tracks, and nearby properties with active business operations. Full excavation in these areas could compromise sensitive infrastructure such as underground utilities or building structures, and could result in negative impacts to the community. The inaccessible areas will not be used for residential development.

The CCPW impacts within inaccessible areas will be thoroughly investigated to determine the extent of impacts. Measures such as containment systems, protective barriers or in-situ treatment will be evaluated to support the selection of the most highly protective measure for any CCPW that will remain in place. Considerations will be made for the particular effectiveness of a measure in preventing human exposure to the remaining CCPW source material and its ability to prevent any further impacts from the source material to groundwater over time. Additionally, plans may be made to fully remediate the soils consistent with the remedial plans implemented at the rest of the GAG Sites at some time in the future (e.g., if future activities make these areas accessible).

The process of remediating chromium impacts in groundwater may take a significant period of time. While treatment is taking place, in limited areas where chromium concentrations in groundwater still remain above the NJDEP cleanup standard of 70 ppb total chromium under certain conditions, PPG is installing a protective layer above the groundwater table called a capillary break as part of the restoration of the sites.

A capillary break is designed to prevent the upward migration of dissolved hexavalent chromium in groundwater through capillary action (i.e., capillary rise). The 20/20 Chromium Policy requires the use of a capillary break under certain circumstances. The capillary break acts as a barrier to the upward migration of hexavalent chromium from groundwater, through the soil, to the ground surface and building interiors. Installing a capillary break prevents direct human exposure to hexavalent chromium that may be deposited by the evaporation of water on porous surfaces (more commonly referred to as “blooms”). Capillary breaks can either be impermeable or permeable, and can be constructed from various materials such as coarse stone or an impermeable synthetic liner. PPG is using various types of capillary breaks in areas at the GAG Sites as technical circumstances dictate. Prior to the use of these capillary breaks during the design stage, PPG performed comprehensive field pilot testing on different types of capillary break materials that could be used in various situations at the site. This testing involved the collection of data over multiple seasons and changing site conditions, to support the selection of the optimal, and most protective, materials to use in the construction of the capillary breaks.

Assuming the chromium levels in the shallow groundwater still exceed NJDEP’s cleanup standard of 70 ppb for total chromium at the time of commencement of development of the GAG Sites, the developer will have to consider whether any structures that are part of the development could be impacted by the presence of chromium in the groundwater. If so, the developer will need to ensure that any remaining groundwater contamination will not impact occupants of the structures by designing the appropriate protective elements into its construction. The developer will also need to ensure that the construction renders intact all of the protective measures implemented by PPG in accordance with NJDEP requirements. Given the fact that the soils at the GAG Sites have been remediated to the NJDEP hexavalent chromium cleanup criterion of 20 ppm and that the shallow groundwater is presently nearing compliance with the NJDEP groundwater standard of 70 ppb for total chromium, risks to future occupants of any residential structures located at the GAG Sites are not anticipated. Furthermore, the developer has recently informed me that the proposed construction of the buildings at the GAG Sites will be of “slab on grade” construction, with minimal intrusion of the building structure into the subsurface. Such construction will further reduce the likelihood of these structures coming in contact with the remaining residual chromium impacts at the GAG Sites.

4. Will the Public Be Assured that the PPG Chromium Sites Are Monitored in the Future to Prevent Environmental and Public Health Risks.

After the final remedies for the soil and groundwater at the PPG chromium sites are approved and implemented, residual chromium contamination will remain in certain areas as described in Item #3 of this letter. Although the NJDEP prefers complete and permanent removal

or destruction of contamination sources at contaminated sites, certain complete and permanent remedies may be technically infeasible as is the case at the GAG Sites. To ensure protection of human health and the environment over the long term in these cases, NJDEP's rules and regulations require the implementation and maintenance of site-specific engineering controls, institutional controls, soil remedial action permits and groundwater remedial action permits. A brief explanation of each of these particular items is provided below.

### ***Engineering and Institutional Controls***

Engineering controls are physical protective measures that can be used as a component of the final soil or groundwater remedy where residual contaminants remain above NJDEP criteria or standards. They typically consist of physical structures that contain or stabilize contamination to ensure the effectiveness of the remedial action over time by both controlling the potential spread of contamination and preventing human contact with residual contamination. Engineering controls proposed for soil at the GAG Sites include cap containment systems, barrier walls, and other physical measures. Engineering controls that may be proposed as part of the final groundwater remedy at the GAG Sites include capillary breaks, containment through barrier walls, hydraulic control via pumping, and monitoring systems.

Institutional controls (or administrative and legal controls) provide notice to the public that contaminants remain above the NJDEP's remedial standards. For contaminated soils, the institutional controls may take the form of a Deed Notice or a Notice in Lieu of Deed Notice (for roadways), and for groundwater these controls may take the form of a Classification Exception Area ("CEA"), which protects the public by providing notification of the presence of contaminated groundwater. These controls include mechanisms to limit human activities at or near a contaminated site to ensure the protectiveness of the remedial action over time.

### ***Soil and Groundwater Remedial Action Permits***

The use of engineering and institutional controls requires systems and reporting procedures to be in place to ensure long-term monitoring and maintenance of those controls. The ongoing responsibility to monitor and maintain the controls primarily lies with the party responsible for implementing the remedy, but also with the current property owner. Following the final approval by NJDEP of the soil and groundwater remedies for the PPG chromium sites, the NJDEP ensures that the responsible party (i.e., PPG) and the property owner implement ongoing monitoring and maintenance through the use of Soil Remedial Action Permits ("Soil RAP") and/or Groundwater Remedial Action Permits ("Groundwater RAP"). The Soil RAP and Groundwater RAP obligate the permit holders, which will include PPG and the property owner as co-permittee, to perform certain activities until such time that the soil or groundwater contaminants achieve NJDEP's most stringent applicable regulatory criteria or standards.

A Soil RAP is required any time that engineering or institutional controls are developed as a component of a soil remedial action. A Soil RAP requires the responsible party to perform periodic visual inspections of all components of each engineering control implemented relative

to the soil remedy to ensure it continues to operate as designed, repair any shortcomings or issues observed during the inspection process, and certify to the NJDEP that the engineering controls and institutional controls continue to be protective of human health and the environment. For the GAG Sites, for instance, after the soil remedy is finalized and complete, a Soil RAP will require PPG to perform these inspections on an annual basis at a minimum, and provide certifications to the NJDEP every 2 years. These certifications will also include a determination that the deed notice or other institutional controls remain in place and are protective, as required.

A Soil RAP would also require PPG to establish financial assurance for any remedial action that includes an engineering control. The financial assurance mechanism ensures that monies are set aside to pay for monitoring, maintenance, and repair of engineering controls for as long as they are needed (to a maximum of 30 years). In accordance with NJDEP requirements, each financial assurance mechanism must take the form of one of the following: (1) a remediation trust fund agreement, (2) an environmental insurance policy, (3) a line of credit agreement, (4) a letter of credit, or (5) a self-guarantee.

To address any remaining groundwater contamination at the PPG chromium sites, a Groundwater RAP will be required. A Groundwater RAP is required by NJDEP whenever groundwater contamination exceeding the NJDEP's remedial standards remains after the remedial action has been finalized and demonstrated to be protective of human health and the environment. Similar to a Soil RAP, a Groundwater RAP would require PPG to perform periodic monitoring of the remaining groundwater impacts at the PPG chromium sites, as well as any treatment system that may be a component of the ongoing site-wide groundwater remedy. The Groundwater RAP would also require PPG to establish a financial assurance mechanism to pay for the costs associated with ongoing monitoring, maintenance or treatment for the anticipated period of time (to a maximum of 30 years) for the groundwater remedy to achieve NJDEP's applicable remedial standards. The same methods of financial assurance that are acceptable for a Soil RAP would be allowed for Groundwater RAP, except that a self-guarantee is not allowed to document financial assurance under a Groundwater RAP.

Each Groundwater RAP also requires that a CEA be established. A CEA is an administrative control that identifies the boundaries of groundwater impacts and the contaminants which exceed the remedial standards within those boundaries. The boundaries and contaminants associated with each CEA in New Jersey are maintained by the NJDEP in a state-wide database. Like a Soil RAP, a Groundwater RAP requires certification on a 2-year schedule to document that the groundwater remedy continues to be protective of the environment and human health, and that the CEA remains in place as required. In June 2018, as part of the remediation of groundwater at the GAG Sites, PPG established a CEA for the groundwater zones. The CEA will remain in place until such time that all contaminants in groundwater at the GAG Sites are below their respective remediation standards.

If certain changes to a remediation area occur after establishment of the Soil RAP or Groundwater RAP, PPG is required to notify the NJDEP and a permit modification may be needed. For significant changes (e.g., constructing a building on previously vacant land in an

area with a Soil RAP and a deed notice) PPG would also need to modify the Soil RAP and update the deed notice. Minor changes, such as a temporary disruption of an engineering control which is repaired to original condition (e.g., during installation of a lawn sprinkler system) would only require notification to the NJDEP as part of the 2-year protectiveness certification immediately following the temporary disruption.

If, after a period of time, the soil and/or groundwater remedies achieve remedial standards, PPG will document that all applicable remedial standards have been met to the satisfaction of NJDEP. At that time, the deed notice (in the case of soil) or CEA (in the case of groundwater) can be lifted, and the applicable Soil RAP or Groundwater RAP would be terminated.

I hope that this information satisfies the Commission's request for additional information. Should the Commission require any further information concerning any of the topics addressed above, please do not hesitate to contact me. We invite you to post this letter to the Commission's web site, if you desire. I will be posting this letter to the Chromium Cleanup Partnership web site. ([www.chromiumcleanup.com](http://www.chromiumcleanup.com)).

Thank you for your consideration and courtesies.

Sincerely,

*/s/ Ronald J. Riccio*

Ronald J. Riccio  
Site Administrator