

## **Appendix F**

### **Exhibit A - Excavation Plan**



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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JON S. CORZINE


*Governor*

LISA P. JACKSON

*Commissioner*

**MEMORANDUM**

TO: Irene Kropp, Assistant Commissioner  
Site Remediation and Waste Management

FROM: Lisa P Jackson, Commissioner 

DATE: February 8, 2007

SUBJECT: Chromium Moratorium

Please be advised that I am lifting the moratorium former Commissioner Bradley M. Campbell placed on the issuance of No Further Action letters (NFAs) and subsequently on Remedial Action Workplans (RAWPs) for sites or portions of sites presenting chromium contamination. I am making this decision based on the conclusions of the NJDEP Chromium Workgroup which found that the 1998 chromium cleanup criteria were based on sound science.

As a result of public health concerns raised by citizens at a November 2003 community meeting dealing with remediation of chromate ore sites in Jersey City and potential exposure to hexavalent chromium, former Commissioner Campbell, promised the community that the Department would review the science behind the existing standards. In March 2004, former Commissioner Campbell directed the Assistant Commissioner of the Site Remediation and Waste Management Program (Program) to suspend issuance of NFAs for sites or portions of sites presenting chromium contamination. This directive allowed the Program to seek a waiver from the Commissioner if protection of public health and the environment or other conditions militated a departure of that policy. This direction was made in conjunction with the establishment of a work group to evaluate the Department's existing guidance and, if necessary, develop new soil cleanup standards for hexavalent and trivalent chromium. The workgroup was charged with reviewing the technical basis for the current chromium cleanup criteria. Four subgroups were formed and directed to address issues associated with: 1) analytical chemistry; 2) environmental chemistry; 3) risk assessment and 4) air and dust transport.

In December 2004, a draft report was submitted to former Commissioner Campbell. The draft report was peer reviewed in January 2005, and was made available for public comment. Comments from peer reviewers and the public were reviewed and revisions to

the draft report were completed in May 2005. The report has been available on the Department's website in its draft form at [www.state.nj.us/dep/dsr/chromium](http://www.state.nj.us/dep/dsr/chromium).

It is the conclusions/recommendations of this May 2005 draft that form the basis for my decision to modify the existing NFA moratorium. In addition to lifting the moratorium, I will be reinstating the risk assessment subgroup once the U.S. Department of Health and Human Services, National Toxicology Program's study of hexavalent chromium is completed. The risk assessment subgroup will evaluate any new information to see if it warrants the development of new chromium standards for soils. At the conclusion of their assessment, the May 2005 draft report will be updated as necessary and finalized.

Specifically, I am modifying the existing chromium policy to apply to sites or portions of sites, taking into account the intended future uses, as follows:

- An unconditional NFA approval relative to chromium can be issued for soils if 1) hexavalent chromium contamination in excess of 20 ppm is excavated and removed from the site and 2) any remaining chromium contamination that fails the SPLP test for impact to ground water is excavated and removed, from the site or treated and left on site provided the treated chromium will not fail the SPLP test in the future. An unconditional NFA approval relative to chromium can also be issued for soils if hexavalent chromium contamination in excess of 20ppm is treated and left on site provided the resulting concentration of hexavalent chromium in the soil remains below 20 ppm (i.e., no "rebound effect" for hexavalent chromium)
- An unconditional NFA approval relative to chromium can be issued for ground water when there is no ground water contamination above the ground water quality standard for chromium. In addition, as noted above, all existing on site and off-site sources of chromium contamination producing an exceedance of the ground water quality standard must be remediated.
- A conditional NFA (limited restricted use, restricted use) for soils and/or groundwater relative to chromium can be issued at a site or that portion of a site which have or will have residential, day care or educational uses when 1) hexavalent chromium soil contamination in excess of 20 ppm is excavated to a depth of 20 feet below grade or to the depth of the lowest point any underground structure made of porous material (whichever is greater), or if hexavalent chromium soil contamination is treated and left on site to a depth of 20 feet below grade or to a depth of the lowest point of any underground structure made of porous material (whichever is greater) provided the concentration of hexavalent chromium in such soil remains below 20 ppm (i.e., no "rebound effect" for hexavalent chromium), 2) a capillary break is put into place to prevent any crystallization of chromate on soil surfaces or subsurface building walls or floors, 3) any remaining chromium contamination left on site to a depth of 20 feet below grade or to a depth of the lowest point of any underground structure made of porous material (whichever is greater) must pass and continue to the SPLP test., **and** 4) ground water contamination and any on site sources of chromium ground

water contamination below a depth of 20 feet below grade or to a depth of the lowest point of any underground structure made of porous material (whichever is greater) are controlled, contained or treated, through the use of conventional or innovative technologies, and a Classification Exception Area is established. As contamination would be left on site in this situation, a deed notice would be required. As always, the property owner has to agree to a deed restriction. Financial assurance must be in place for the operation and maintenance of institutional and engineering controls for duration of the intended treatment, containment, or controls.

A conditional NFA (limited restricted use, restricted use) for soils and/or groundwater can be issued at a site or that portion of a site which have or will have commercial/industrial/open space uses consistent with the technical regulations and oversight regulations.

Remedial action plans that result in unconditional NFAs may be prioritized over those plans that do not. Assistant Director approval is required for remedial action workplan approvals which will result in conditional NFAs. Assistant Commissioner approval is required for remedial action workplan approvals that request alternate remedial standards for soils or any other proposed remedial action not addressed in this policy.



## State of New Jersey

### DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHRIS CHRISTIE  
Governor

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BOB MARTIN  
Commissioner

8/13/13

W. Michael McCabe  
Site Administrator  
Jersey City PPG Chromium Sites

Re: Updated Method to Determine Compliance with the Department's Chromium Policy  
Garfield Avenue Group – Sites 114, 132, 133, 135, 137, and 143  
Jersey City, New Jersey

Dear Mr. McCabe:

The New Jersey Department of Environmental Protection (Department) is sending this letter to formally update the method to be employed by PPG to determine compliance with Lisa P. Jackson's February 8, 2007 Memorandum (referred to as the "Chromium Policy") during the remedial activities at the Garfield Avenue Group sites.

The updated memorandum attached to this letter supersedes the prior version sent to you on 9/13/12. The Department has determined that the components of the attached memorandum, including Figures 3-1, 3-1A, and 3-2, shall be incorporated into the final *Remedial Action Work Plan (Soil); Garfield Avenue Group – Sites 114, 132, 133, 135, 137 and 143; Jersey City, New Jersey*, as well as all applicable current and future Technical Execution Plans for the Garfield Avenue Group sites.

If you have any questions regarding this matter, contact me at (609) 984-2905.

Sincerely,

Thomas J. Cozzi, Assistant Director  
Site Remediation DEP

C: Brian McPeak, Project Manager  
Dave Doyle, DEP

## Updated Method to Determine Compliance with Chromium Policy

As discussed between the New Jersey Department of Environmental Protection (Department) and PPG Industries, Inc. (PPG), this update is intended to clarify the current method by which PPG can show compliance with the Department's Chromium Policy.

During the July 17, 2012 meeting between Mark Terrill of PPG, the Department, the Site Administrator, and various other organizations, PPG requested that the Department identify specifically how PPG can document compliance with the Department's Chromium Policy. While the Department believes this issue has previously been discussed in detail in the past<sup>1</sup>, i.e., the Department has stated that validated analytical data are required to document compliance with the Chromium Policy, this memorandum was developed to supplement earlier discussions on specifically how PPG shall characterize soils to a depth of 20 ft bgs or meadow mat. Subsequently, on September 1, 2012, PPG sent a draft white paper to the Department and the Site Administrator with AECOM's draft *Analysis of Issues Related to Meadow Mat Definition and Sampling Requirements* (Rev 3, August 31, 2012).

The procedures outlined in this memo, used in conjunction with the remedial strategy presented in the April 2012 Remedial Action Work Plan (RAWP), including Figure 3-1 as revised and Figure 3-1A (attached), describes the methods that shall be used to satisfy the Department that the Chromium Policy is being met at the Garfield Avenue Group of sites. This question is of particular concern at the Garfield Avenue Group of sites, where the fill patterns suggest that contamination does not follow the "typical" depositional or migration pattern such that a clean shallower sample would provide a reasonable assumption that the deeper samples would also be clean.

The issue specifically in question is where the remedial excavation will cease prior to achieving the depth of (the shallower of) meadow mat (Figure 3-1) or undisturbed native deposits (as defined in Figure 3-1A) or 20 feet (ft) below ground surface (bgs). Should the remedial excavation continue to the meadow mat, then PPG should implement the remedy as described in the RAWP (e.g., scrape the meadow mat with a flat-bladed bucket, collect a post-excavation sample from the meadow mat, and act appropriately based on the findings of the sample results). Additional samples beneath the meadow mat and above 20 ft bgs would not be required in these areas. This concept would also hold true for undisturbed native deposits as described in Figure 3-1A, attached. Samples beneath the undisturbed native deposits and above 20 ft bgs also would not be required provided all requirements shown in Figure 3-1A have been met. However, if remedial excavation will cease at an elevation shallower than 20 ft bgs without reaching meadow mat or undisturbed native deposits, soil samples and validated analytical data are required to document that hexavalent chromium ( $\text{Cr}^{+6}$ ) does not remain at concentrations greater than 20

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<sup>1</sup> e.g., during 3/23/12 meeting, in 5/11/12 Department comments on RAWP specific to Figure 3-1.

milligrams per kilogram (mg/kg) at depths above 20 ft bgs to ensure compliance with the Department's Chromium Policy. Figure 3-2, attached, describes the sampling required in each 30-ft by 30-ft cell to document compliance with the Chromium Policy.

For each 30-ft by 30-ft cell, in those instances where PPG believes the remediation will be complete prior to reaching the shallower of meadow mat or undisturbed native deposits or 20 ft bgs, there are four potential scenarios:

1. Meadow mat (defined as an estuarine depositional unit predominantly made up of peat) or undisturbed native deposits (defined as undisturbed native deposits at a depth of 2 feet Mean Sea Level (msl) or deeper with a minimum thickness of 1 foot) are present at a thickness of greater than 1 foot.
2. Meadow mat or undisturbed native deposits are present at a thickness of less than 1 foot.
3. Undisturbed native deposits are present with thickness of less than 1 foot, but lies directly over and in contact with meadow mat, and the combined thickness of the undisturbed native deposits and meadow mat are greater than 1 foot.
4. Meadow mat and undisturbed native deposits are absent.

For clarity sake, the requirements for each scenario, and how to achieve them will be described below. Also note that, consistent with Department guidance and previous statements, all analytical data representing final elevation remedial confirmation (including those at depth intervals below the final pit-bottom depth) must be validated. If PPG chooses to backfill the excavation pending validation, PPG bears the risk of potentially having to remove the emplaced backfill to increase the excavation depth if post-backfill validation indicates that the data upon which the terminal depth was reached are not valid, and validated data from resampling (e.g., from soil boring installed through backfill) cannot confirm that the Chromium Policy requirements of  $\text{Cr}^{+6}$  concentrations of less than 20 mg/kg have been met for depths shallower than 20 ft bgs.

It is noted that previously-collected validated data (e.g., remedial investigation data, samples collected during installation of dewatering wells, etc.) collected within the cell, from the appropriate depth intervals, may be used in lieu of the samples needed to document compliance with the Chromium Policy.

1. Meadow mat or undisturbed native deposits are present at a thickness of one foot or more:

Where meadow mat or undisturbed native deposits are present, PPG must collect samples, on two-foot intervals, between the anticipated terminal elevation of the cell's excavation and meadow mat or undisturbed native deposits (note that previously-collected, validated data may be used, where appropriate, in lieu of one or more required samples). The newly-collected samples may be collected either through a pre-excavation boring program, or following remedial excavation from either a test pit installed within the cell or a boring

installed through the cell's pit bottom. For samples collected via soil boring (either pre- or post-excavation borings), sample depth intervals must be corrected for compression within the boring core. Where soil samples are collected post-excavation, the sampling intervals must include one soil sample from the 0-6-inch depth interval below the pit bottom. In all cases, the 6-inch interval immediately overlying the meadow mat or the undisturbed native deposits must be included in the samples.

All samples must be analyzed for hexavalent chromium ( $\text{Cr}^{+6}$ ), oxidation reduction potential (ORP), and pH. Consistent with the confirmation sampling program requirements established in the April 2012 Southwest Area Technical Execution Plan (SW Area TEP) and the RAWP, 10% of the confirmation samples must also be analyzed for full compound list volatile and semivolatile organic compounds and target analyte list metals. Additionally, analysis for polychlorinated biphenyls must be performed in each 30-ft by 30-ft cell where PCBs were historically detected at concentrations exceeding the most stringent remedial criteria. Note that while all samples must be collected for  $\text{Cr}^{+6}$ , ORP, and pH, only those samples which represent the final terminal elevation of the cells must be sample for the additional parameters on a 10% frequency.

2. Meadow mat or undisturbed native deposits are present at a thickness of less than 1 foot:

Consistent with Section 3.2 of the SW Area TEP, if undisturbed native deposits are less than 1 ft thick, they will be considered not to be present. In this instance, the procedures identified in scenario 4, below, shall be followed. However, if meadow mat is present at a thickness of less than one foot (at a depth of +2 feet msl or deeper), PPG may collect one sample from the native materials lying directly below the meadow mat in addition to the required samples from immediately above meadow mat and within the meadow mat, in lieu of continuing sampling on 2-ft intervals through a depth of 20 ft bgs. Provided that all samples meet the remedial goal of 20 mg/kg  $\text{Cr}^{+6}$ , additional deeper samples will not be required.

3. Undisturbed native deposits are present at a thickness of less than 1 foot; however these soils directly overly and are in contact with meadow mat **and** the combined thickness of the undisturbed native deposits and meadow mat are 1 foot or more:

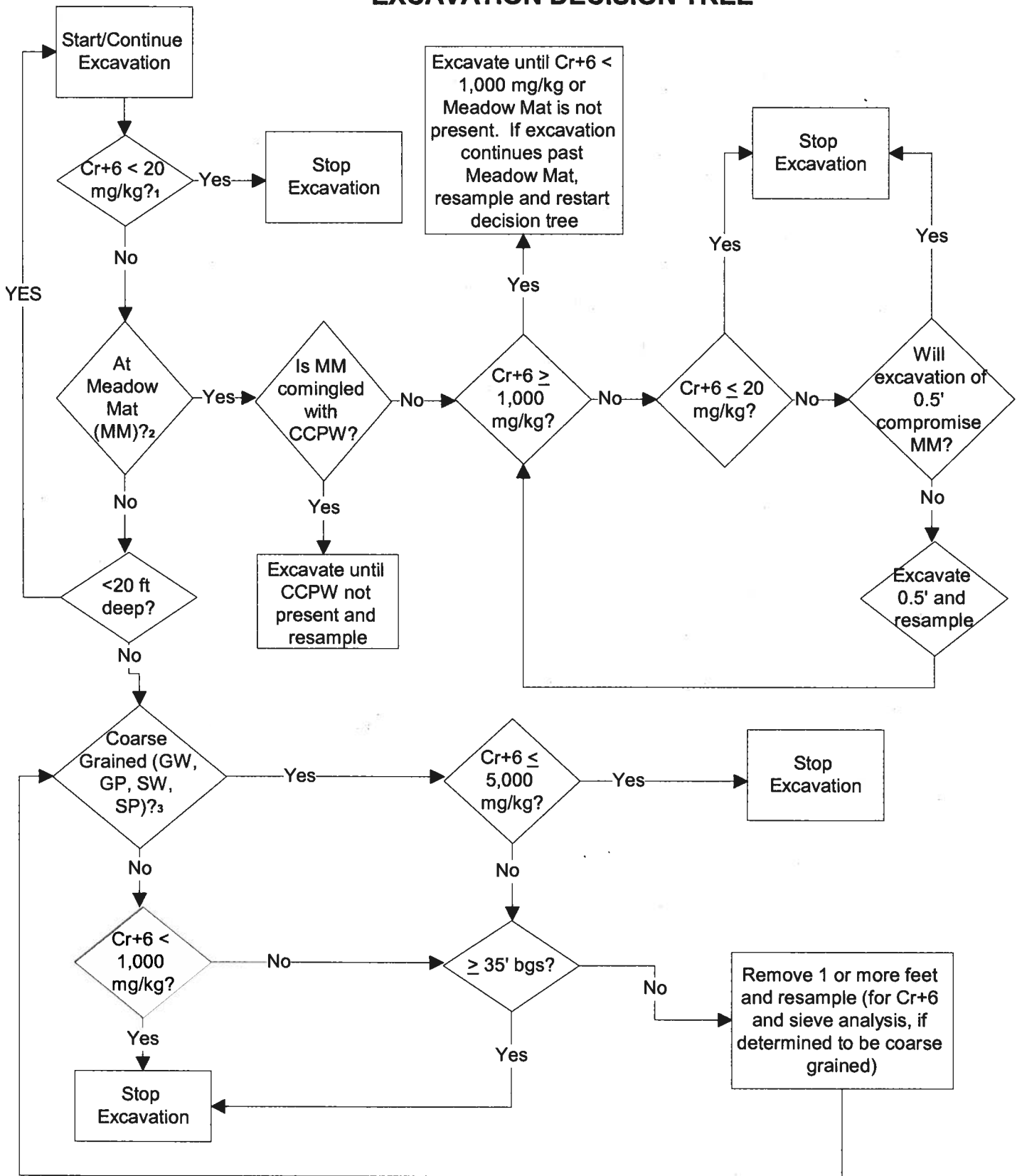
In this instance, the procedures identified in scenario 1, above, shall be followed.

4. Meadow mat and undisturbed native deposits are absent:

The sampling procedures and methods identified in Section 3.2 (Sampling when Meadow Mat is Absent) of the SW Area TEP shall be followed.

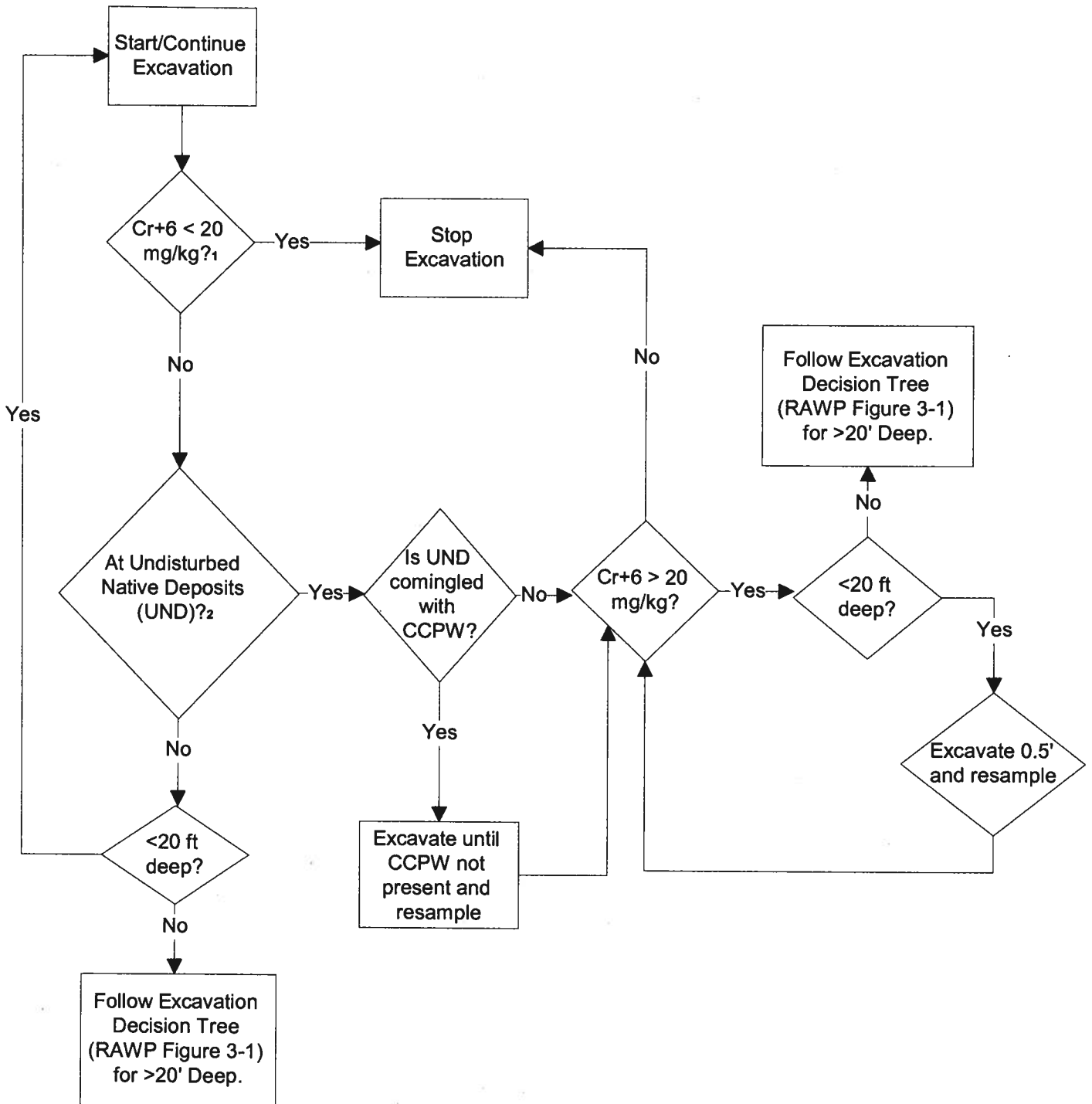


**FIGURE 3-1  
EXCAVATION DECISION TREE**



1. Due to the heterogeneity of the fill material, soil must be characterized to a depth of 20' bgs or MM.
2. See Figure 3-1A for Undisturbed Native Deposits.
3. Unified Soil Classification System (GW = Well Graded Gravel or Gravel with Sand, GP = Poorly Graded Gravel or Gravel with Sand, SW = Well Graded Sand or Sand with Gravel, SP = Poorly Graded Sand or Sand with Gravel)

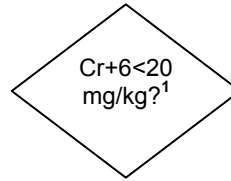
**FIGURE 3-1A  
UNDISTURBED NATIVE DEPOSITS  
EXCAVATION DECISION TREE**



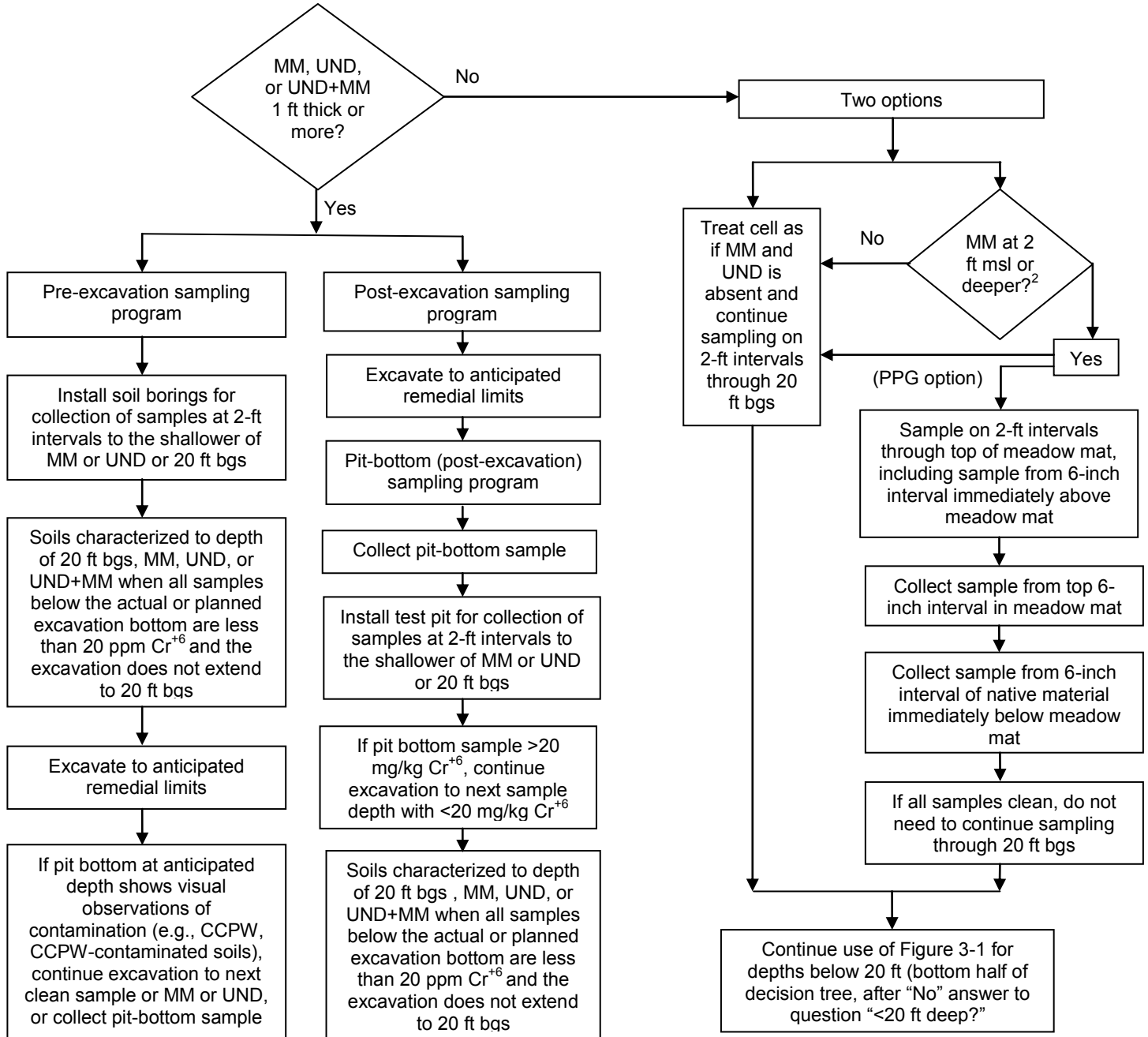
1. Due to the heterogeneity of the fill material, soil must be characterized to a depth of 20' bgs or UND.
2. UND shall be defined as undisturbed native deposits at a depth of +2 msl or deeper with a minimum 1' thickness. However, if field conditions exist where UND is less than 1' thickness, but lies directly above and in contact with meadow mat and the combined thickness of the UND and meadow mat is 1' or more, this decision tree may be used. UND may be considered present above meadow mat or in the absence of meadow mat. Below meadow mat, the soils may be native materials; however, they are **not** considered to be UND as defined by the Department for this project.

**FIGURE 3-2  
HOW TO CHARACTERIZE SOIL TO A DEPTH OF 20 FT BGS OR MM OR UND**

The top left diamond on Figures 3-1 and 3-1A asks:



Note 1 of Figure 3-1 and Figure 3-1A says “Due to heterogeneity of the fill material, soil must be characterized to a depth of 20’ bgs or MM [or UND]” (Figure 3-1 [or Figure 3-1A]). For each 30-ft by 30-ft cell, this can be accomplished through either a pre-excitation sampling program or post-excitation (pit bottom) sampling program, as shown below.



**Note 1:** In all cases, if visual observations of waste (e.g., CCPW, CCPW-contaminated soils) are made during sampling activities, the remedial excavation must be extended to remove CCPW wastes and confirmation samples collected from beneath the waste.

**Note 2:** If meadow mat is present but in a thickness of less than 1 ft (at a depth of +2 MSL or deeper), the native soils immediately beneath the meadow mat must also be sampled to document the absence of chromium concentrations in excess of the remedial limits established by the Department’s Chromium Policy.

## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

This outline provides a draft conceptual plan for remediation of Chromate Chemical Processing Waste (CCPW) in soil and groundwater at the Garfield Avenue Group of Sites (Sites 114, 132, 133, 135, 137 and 143) in Jersey City, New Jersey. The goal of this document is to provide a very broad, conceptual overview of proposed remediation activities. The document is divided into three sections. The first section presents the conceptual approach for source materials in soils. The second section presents the conceptual approach for groundwater. The third section presents a proposed sequence and approximate schedule for remedial activities.

#### 1.0 Conceptual Approach for Source Materials

Excavation and off-site disposal is the proposed remedy for source materials as defined below. The overall remediation goals are:

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

Source materials are defined as CCPW which includes Chromium Processing Ore Residuals (COPR) nodules, Green-Gray Mud, and fill mixed with COPR or Green-Gray Mud. Procedures for identification of COPR and Green-Gray Mud were developed as part of the IRM Work Plans and the Feasibility Study Work Plan. In general, source materials are confined to depths above the meadow mat in areas where the meadow mat is contiguous. In areas where the meadow mat is not contiguous, source materials may extend to greater depths.

A preliminary depiction of areas for source materials excavation and off-site disposal is provided as **Figure 1**. A cross section depicting the proposed depth of excavation and off-site disposal on the main Garfield Avenue Site (Site 114) is provided as **Figure 2**.

#### 1.1 Proposed Excavation Criteria

The horizontal extent of excavation (in this conceptual plan, excavation includes off-site disposal) will be determined by the presence of hexavalent chromium above 20 parts per million (ppm) and for depths from the ground surface to the meadow mat. The vertical extent of excavation will be determined using the following criteria in sequence:

- Excavation will continue until all source material is removed; or
- The excavation has reached the meadow mat; or
- In areas where the meadow mat is not competent, excavation will continue until source material is removed.

The meadow mat provides a natural barrier to chromium migration and, therefore, will be protected from damage to the extent practical. The meadow mat is effective at absorbing hexavalent and trivalent chromium and possibly effective at reducing hexavalent chromium to

## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

the less mobile and less toxic trivalent state. The meadow mat limits both the horizontal and vertical migration of groundwater impacted with hexavalent chromium. Removal of the meadow mat could possibly allow increased vertical or horizontal migration of hexavalent chromium in groundwater.

In most circumstances the proposed excavation will meet the 20/20 chromium policy (memorandum from Lisa Jackson, Commissioner, February 8, 2007) by achieving pit bottom samples with hexavalent chromium concentrations of less than 20 part per million (ppm) or by reaching a depth of 20 feet below ground surface or greater. If circumstances exist where source removal excavation is less than 20 feet and soil in the pit bottom exceeds 20 ppm hexavalent chromium, PPG will achieve compliance with the chromium policy by extending the depth of excavation to achieve the 20 ppm goal or the 20 foot depth or by subsequent treatment of soil to achieve the 20 ppm goal. With removal of the source material, in-situ treatment of soils exceeding 20 ppm is expected to be feasible (subject to pilot scale demonstration). If treatment to below 20 ppm hexavalent chromium is not successful, areas not meeting the 20 ppm standard will be excavated.

To date, a circumstance where hexavalent chromium concentrations in the meadow mat have exceeded 20 ppm has not been encountered. PPG will propose a specific procedure for addressing hexavalent chromium in meadow mat over 20 ppm. That procedure will consider the depth of the excavation, the thickness of the meadow mat at that location, and the probability of successful in-situ treatment.

The above criteria apply to areas and depths that are accessible for excavation. The accessible depth of excavation will be determined as part of the detailed design and will be in the range of a maximum of 35 feet deep. Accessible areas are depicted in **Figure 1**. Accessible areas are defined as those that are not inaccessible areas as defined in **Section 1.3** below.

#### 1.2 Excavation Areas and Approximate Tonnage

In general, essentially all source materials at the Garfield Avenue Group of sites will be excavated and disposed off-site. The excavation depth will likely average 15 feet and range from 10 feet to about 35 feet on the Garfield Avenue Site. Excavation depths may vary on the other sites. Preliminary excavation estimates for chromium source material removal for all sites are as follows:

## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

Property	Estimated Tonnage
Site 114	500,000*
Talarico	1,000*
Town & Country	35,000*
Rudolf Bass	140,000*
Ross Wax	30,000*
Vitarroz	2,000*
Estimated Total	708,000*

\*these numbers are approximate and subject to refinement

Preliminary estimates for manufactured gas plant wastes for all sites are as follows:

Property	Estimated Tonnage
Site 114	520,000 tons (30,000 tons co-mingle with CCPW)*
Talarico	Not known, not expected here*
Town & Country	Not known, possible small amount*
Rudolf Bass	Not known, possible small amount*
Ross Wax	Not known, possible small amount*
Vitarroz	Not known, possible small amount*
Estimated Total	Approximately 520,000*

\*these numbers are approximate and subject to refinement.

#### 1.3 Areas Presumed to be Inaccessible to Excavation and Off-site Disposal

The following areas are presumed to be inaccessible for excavation:

- **Garfield Avenue and within approximately 10 feet of Garfield Avenue:** Garfield Avenue is a main road and is underlain by numerous utilities. Closing of this roadway and the associated utilities would be a major disruption to the City. Only a small amount of impacted soil is expected to be near or under this roadway. Use of shoring is proposed to allow excavation as close as practical to the roadway. As part of Interim Remedial Measure #1 (IRM #1) shoring was installed on east side of Garfield Avenue and excavation to within 10 feet of Garfield Avenue has been conducted without damage to the roadway. Other than closing the sidewalk, inconvenience to City residents has been minimal.
- **Within 30 to 50 feet from the Light Rail Tracks:** The exact distance is subject to discussions with the transit authority, geotechnical evaluations, and detailed design. Shoring or other measures may be used to establish the closest safe distance for excavation.
- **Carteret Street and within approximately 10 feet of Carteret Street:** In addition to being a side street, Carteret Street is underlain by numerous utilities including two large diameter (over three feet) sewer mains. These sewer mains are critical to the Jersey

## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

City infrastructure. PPG will evaluate the utility and feasibility of closing Carteret Street during remediation work.

- **Halladay Street and within approximately 10 feet of Halladay Street:** Halladay Street is a side street that contains various utilities.
- **Valley and Forrest Streets and within 10 feet of these streets:** Both of these streets are side streets (Valley is a “paper” street) that contain various utilities.
- **Work that may damage nearby properties:** If the depth and proximity of CCPW removal could undermine nearby structures, some areas may be determined to be inaccessible.

Final determination to be made during detailed design. Other inaccessible areas may be defined as part of the detailed design. The detailed design will include geotechnical assessments, inventorying utilities and buildings, and negotiations with the City and nearby property owners. The feasibility of containment systems, reactive barriers, and in-situ treatment methods in and near the inaccessible areas will be evaluated as part of the detailed design.

#### 1.4 Backfill and Site Restoration

Backfill specifications, compaction requirements, final grades, and surface finishes will be determined as part of the detailed design. Where fill is placed in excavated areas, only allowable reusable fill or fill that meets the regulatory definition of “clean fill” will be used. Selection of backfill, compaction, and other aspects of the site restoration will be discussed with the owner/future developer of the properties. However, PPG makes no commitment to improve site conditions, other than addressing environmental issues, to facilitate re-development of the properties.

#### 1.5 Storm Water Management

The current Interim Remedial Measures (IRM) work is being conducted under an approved Soil Erosion and Sediment Control Plan to prevent impacts from storm water run-off. A similar plan will be developed as part of the full-scale design. The remediation work will be designed to minimize the potential for rainwater to come into contact with impacted soils. Where contact with impacted soils is unavoidable, water coming into contact with impacted soil will be contained, tested, and treated as necessary prior to disposal. The full-scale design will also include an approach to manage storm water in a manner to prevent hexavalent chromium from impacting storm water and potentially migrating off-site. The proposed remedy will include removal and replacement of the storm water drains at Site 114. The replacement drainage system will be designed to be water tight and not allow groundwater infiltration. This will eliminate the potential for storm water leaving the site to contain hexavalent chromium. Removal and replacement of storm water lines in other areas of the Garfield Avenue Group of sites will be evaluated as part of the detailed design.

## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

#### 1.6 Integration of Chromium Remediation and Manufactured Gas Plant (MGP) Remediation

MGP residuals including oil, tar, filter wastes, and groundwater impacts with semi-volatile and volatile organic compounds are present at Site 114. The primary concerns, oil and tar, are present on the eastern half of Site 114. Tar and oil may also be present off Site 114 in the area of Halladay and Carteret Streets. Oil and tar is collocated with chromium material but is mostly deeper in the system. As shown in **Figure 2**, oil and tar are present at depths of up to 45 feet below the ground surface. While the MGP material is generally at a greater depth, some co-mingling of the chromium and MGP materials has occurred. Minimizing further cross-contamination of the chromium impacted and MGP impacted soils will be addressed in the detailed design. Disposal of co-mingled waste may present some challenges and possibly require pre-treatment prior to disposal. On-site pre-treatment is not being considered at this time. Comingled waste will be addressed consistent with **Section 1.1** of this conceptual plan.

#### 1.7 Post Remediation Institutional Controls for Soil

Institutional controls may include:

- Deed notices for the properties;
- Soil management plan for soil in inaccessible areas and below 20 feet (to prevent utility work or others from contacting the soil); and
- Maintenance of surface cover (engineering control) over the inaccessible areas.

#### 1.8 Integration of the Current IRM Work With the Final Remedy

Fieldwork is currently underway to complete IRM#1 and IRM#2. The specific work areas and how the IRM work will be modified to dovetail into the proposed final remedy are as follows:

- Western half of IRM#1: Currently this area is being fully excavated and backfilled with clean fill. This approach for excavation, off-site disposal and backfilling with clean fill will be continued. The criterion for terminating vertical excavation was approved at 600 to 1,000 ppm hexavalent chromium, a level which is expected to be treatable through in-situ injection approaches to the applicable soil chrome standard. In future grids, excavation will proceed until the criteria presented in **Section 1.1** are met. In this area, excavation is being conducted in 30x30 foot grids. The grids are fully dewatered for inspection and each 30x30 foot grid is sampled for hexavalent chromium.
- Eastern half of IRM#1: The original focus in this area was the removal of concrete and Green-Gray Mud only. The resulting excavation pits would have been backfilled with site soils that do not contain Green-Gray Mud. When work resumes in this area, all materials will be removed until the criteria in **Section 1.1** are met. This area will be excavated in 30x30 foot grids and each grid will be sampled for hexavalent chromium. This area will be backfilled with clean fill.



## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

- Morris Canal: Source material in this area was slated for excavation and backfill with clean fill. This area has already been surrounded by sheet piling and is scheduled for excavation to at least 20 feet below ground surface. Pit bottom samples will be collected at a frequency of one sample per every 900 square feet to be used for informational purposes. This work is consistent with the final remedy and will proceed unchanged.
- IRM#2: The original focus in this area was removal of concrete and Green-Gray Mud only. The resulting excavation pits would have been backfilled with site soils that do not contain Green-Gray Mud. To be consistent with the final remedy, all materials in this area will now be removed until the criteria in **Section 1.1** are met. This area will be excavated in 30x30 foot grids and each grid will be sampled for hexavalent chromium. This area will be backfilled with clean fill.
- Soil Treatment Pilot Studies: Test pitting and testing designed to select optimal locations for treatability tests are on-going and will continue. Pilot testing of the In-Situ ARCADIS biological process and the In-Situ Calcium Polysulfide treatment process will be conducted as originally planned. These technologies may have applications near the inaccessible areas, at other PPG sites or as part of the groundwater remediation approach. Pilot testing of the RMT ex-situ treatment process has been cancelled. Soil in the pilot study cell will be excavated and disposed of off-site at the conclusion of the pilot studies.
- Dewatering and Treatment of Extracted Groundwater: The current process of localized dewatering, off-site disposal of groundwater, and additional processing of excavated soil prior to off-site disposal has proven successful in the western portion of IRM#1. The larger excavation area and deeper excavations of the full-scale remediation will necessitate another approach. PPG will begin design and construction of an on-site groundwater treatment plant. Use of this facility is necessary to manage the expected volume of water from a fuller-scale excavation. The facility will also allow PPG to conduct long-term (several weeks duration) dewatering prior to excavation in specific areas.

### 2.0 Conceptual Approach for Groundwater

The general area of groundwater impacts is depicted on **Figure 3**. In the remedial investigation, the groundwater has been divided into three overburden zones and the bedrock. The zones and very general conditions are discussed below:

- The Shallow Zone is approximately 5 to 20 feet below ground surface and is above the meadow mat (where present). This zone contains groundwater in direct contact with source materials (COPR and Green-Gray Mud). This zone contains the highest levels of chromium in groundwater (up 8,000,000 micro grams per liter (ug/l)).
- The Intermediate Zone is from approximately 20 feet to 40 feet below ground surface. Source material is also present in this zone but only in limited areas such as within the Morris Canal. Chromium levels in groundwater are over 1,000,000 ug/l in portions of the intermediate zone.

## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

- The Deep Zone is from approximately 40 feet to the bedrock layer (depth varies, typically 60 feet below ground surface). No source material is present in the deep zone. Chromium levels are typically below 1,000 ug/l.
- The Bedrock Zone: The need for remediation in the bedrock zone has not been determined at this time.

In general, the overall flow direction is to the southeast towards the Hudson River. However, the groundwater flow direction in the shallow zone is variable and may be influenced by sewers, buried utilities and foundations.

Remediation for groundwater may include the following:

- removal of source materials (underway as part of IRMs and soil remediation);
- in-situ treatment (pilot studies of abiotic and biological treatment are planned);
- containment walls (will be evaluated for inaccessible areas);
- reactive barriers and/or reactive zones (will be evaluated for impacted groundwater migrating from inaccessible areas);
- groundwater extraction and treatment;
- natural attenuation; and
- institutional controls.

Removal of source material and in-situ treatment of groundwater is planned by PPG. Natural attenuation is also expected to be part of the final remedy. The need and feasibility of additional measures will be evaluated. Other technologies or methods beyond those listed above may be considered by PPG to address groundwater.

#### 2.1 Groundwater Goals

Groundwater in the area is not used for drinking water or withdrawn for other purposes. Recharge to surface water bodies does not occur in the area. Infiltration of impacted groundwater into storm sewers is occurring.

The initial goal for groundwater remediation is to achieve approximately 1 ppm or less hexavalent chromium after initial in-situ treatment. The ultimate goal is to reduce the concentration of chromium in groundwater to below the NJDEP Groundwater Quality Standard of 70 ug/l.

#### 2.2 Impacted Area

The areas of chromium in groundwater over 1,000 ug/l and over 70 ug/l are depicted in **Figure 3**. The area of groundwater over 1,000 ug/l corresponds closely to the planned soil excavation areas. The area of groundwater over 70 ug/l is only slightly larger than the area over 1,000 ug/l.

## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

#### 2.2 Removal of Source Material

As discussed in **Section 1.0**, Green-Gray Mud, COPR, and soil mixed with COPR or Green-Gray Mud will be removed. This material is the primary source of impacts to groundwater. The excavation and off-site disposal work will include removal of a significant amount of saturated source material with high levels of chromium. This will result in a significant improvement in groundwater quality. As shown in **Figure 1**, a limited amount of source materials may be inaccessible for excavation and off-site disposal.

#### 2.3 In-Situ Groundwater Treatment

Following removal of the source materials, in-situ treatment of groundwater will be conducted. This will be conducted in the shallow zones as a polishing step after excavation. In-Situ injections are also planned for the intermediate zone. Based on monitoring for natural recovery, injections in the deep zone may be unnecessary.

In-situ treatment of groundwater involves the reduction of highly soluble hexavalent chromium to the less soluble trivalent form. PPG will be pilot testing two methods for in-situ groundwater treatment. The first method to be tested uses a quick acting reductant (calcium polysulfide) and a long lasting reductant (ferrous sulfide) to convert the hexavalent chromium to trivalent chromium. The second method to be tested is a biologically mediated reduction of hexavalent chromium. Following the pilot scale testing, one or a combination of these in-situ methods will be selected for full-scale application.

Both of the in-situ treatment methods under consideration involve the installation of injections wells and the injection of treatment solutions into the groundwater. These injections would be conducted in areas of elevated chromium concentrations. The in-situ groundwater technologies under consideration also provide on-going treatment of impacted groundwater that may migrate into the treatment area after the initial treatment is completed.

#### 2.4 Containment Wall/Reactive Barriers

As discussed in **Section 1.3**, some areas are inaccessible to excavation. In the up-gradient areas west and north of Site 114, groundwater and possibly source material may be inaccessible to excavation or treatment and present an on-going source of groundwater impacts. This condition may be addressed by installation of impermeable containment walls (water tight sheet piling, for example). Another approach would be to provide a long lasting reductant in down gradient areas to treat hexavalent chromium that may migrate from the inaccessible areas. Installation of a permeable reactive barrier to treat the groundwater is another similar approach.

Inaccessible areas are also present in areas down gradient of the main source areas. Impacted groundwater and possibly source materials may be present underneath Carteret Street and

## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

Halladay Streets. Containment walls and reactive barrier walls may also be effective treatment methods in these areas.

#### 2.5 Groundwater Extraction and Treatment

Groundwater extraction and treatment is expected to be used for dewatering during the excavation of source materials. Groundwater extraction and treatment will also be evaluated as a component of the In-Situ Groundwater remediation or part of a broader groundwater remediation strategy.

#### 2.6 Natural Attenuation

With removal of the source materials, natural processes will contribute to the removal of chromium from the groundwater. Within the source areas, groundwater concentrations will remain elevated after soil removal. In-situ groundwater treatment is necessary to reduce chromium concentrations from 1,000's of parts per million to the low parts per million range. With this head start, natural attenuation may be effective at further reducing chromium concentrations to approach the 70 ppb goal.

The distance from areas with hexavalent chromium levels over 1,000 ug/l to under 70 ug/l is only a few hundred feet or less. This may indicate that natural conditions outside the source areas prevent the rapid migration of hexavalent chromium in groundwater. As part of the natural attenuation assessment additional testing to assess the ability of the aquifer to treat hexavalent chromium will be conducted.

#### 3.0 Conceptual Sequence and Schedule

A detailed schedule will be developed as part of the detailed design. A very conceptual schedule and sequence is as follows:

- Continue IRM Work (as modified above): October 2010 to Fall of 2011 (this will include excavation and off-site disposal of approximately 130,000 tons of soil)
- Document changes to IRM approach in revised IRM Plan: December 2010
- Conduct Soil Pilot Studies: December 2010 to April 2011
- Detailed Design of Soil Remedy: November 2010 – Spring 2011 (note this time may be extended if pre-design fieldwork is needed). Design of containment/treatment of small amount of CCPW in inaccessible areas may lag design of the excavation work.
- Groundwater pilot studies: March 2011-December 2011
- Begin full-scale excavation outside limits of IRM #1 and #2: Fall of 2011
- Groundwater Remediation Design: January to March 2012
- Begin Work in Areas outside the Site 114: Fall 2012 (note to meet the overall schedule, it will be necessary to conduct work at Site 114 and one or more of the other sites in this group at the same time)

## Exhibit A

### PPG Conceptual Plan for Remediation of CCPW for the Garfield Avenue Group

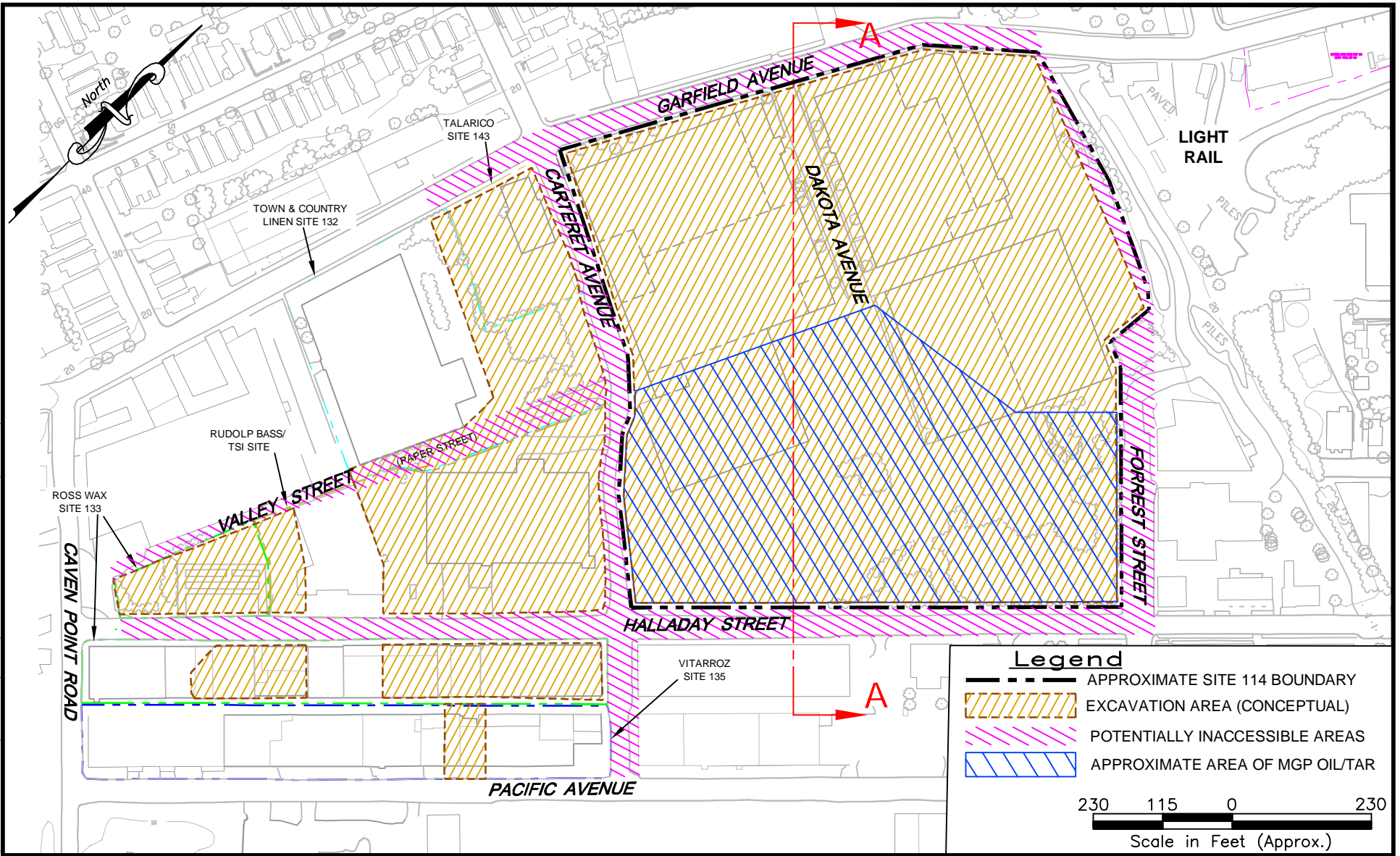
- Complete Excavation and Site Restoration: December 2014
- Begin Groundwater Remedies: January 2015

The excavation work in the IRMs is currently underway. The excavation/load-out rate will be in the range of 400 to 600 tons per day for the balance of 2010. Assuming a viable goal for dust in air is implemented, the IRM work will gradually ramp up to a rate of 800 to 1,000 tons per day in early 2011. With completion of the design for removal of source material, a second or possibly third excavation team will be deployed. This will allow an overall production rate in the range of 1,000 to 1,250 tons per day. This increase in production rate is necessary to reach the goal of completion of the source removal by December 2014. The assumed production rate is based on 138 days per year of active excavation and loading, a 7 AM to 3:30 PM, five days per week work schedule. These parameters may be adjusted based on the detailed design, conditions encountered in the field, new regulatory restrictions, limitations on local truck traffic, limitations on disposal of water from dewatering, property access, or other factors.

With the transition to full-scale excavation, PPG is planning to design and construct an on-site groundwater treatment plant. The groundwater treatment plant will allow a more comprehensive dewatering program. The dewatering program will include installation of sheet piling in strategic locations, use of wellpoints, and long-term dewatering prior to excavation. These upgrades will facilitate reaching excavation depths, inspection/sampling of pit bottoms, and minimize additional processing to address free liquids in soil prior to load-out.

To meet the anticipated production rate, PPG is evaluating and testing different transportation means and other disposal facilities. For example, use of intermodal containers has been recently tested. It is anticipated that several disposal facilities and two or three different transportation mechanisms will be developed for use in the full-scale design.

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**CONCEPTUAL EXCAVATION AREAS**

PPG - GARFIELD AVENUE  
 PROJECT AREA  
 JERSEY CITY, NEW JERSEY

SCALE:	DATE:	PROJECT NUMBER:
NTS	11/17/10	60158739.4011.1

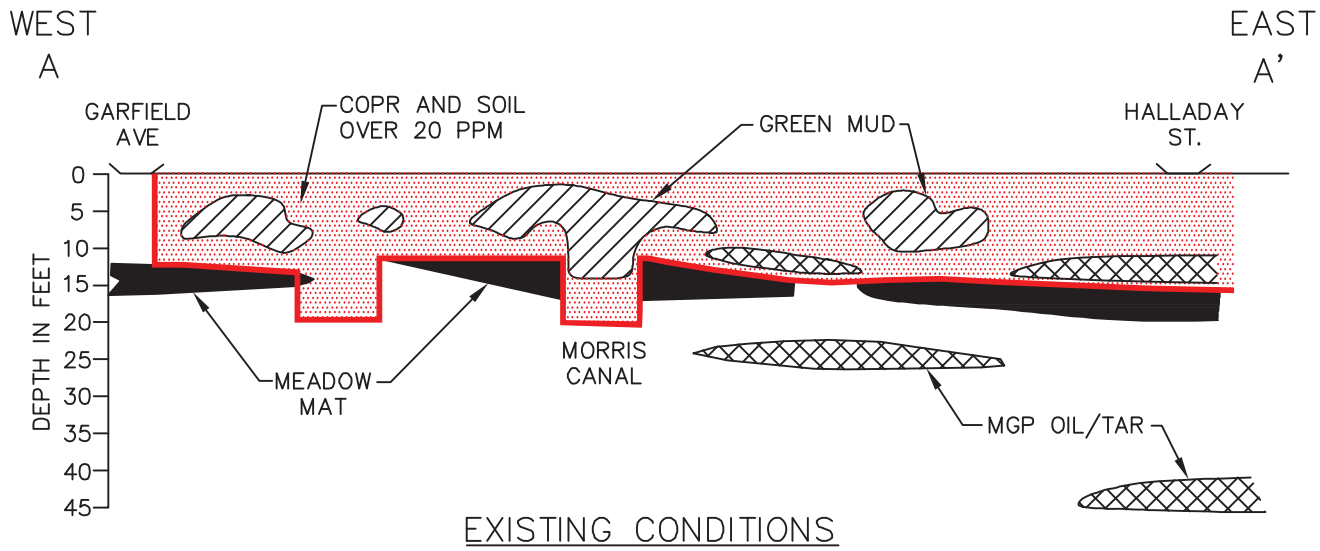


**AECOM**  
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 WEB: [HTTP://WWW.AECOM.COM](http://www.aecom.com)

DESIGNED BY:	REVISIONS			
CWM	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY:				
JK				
CHECKED BY:				
APPROVED BY:				

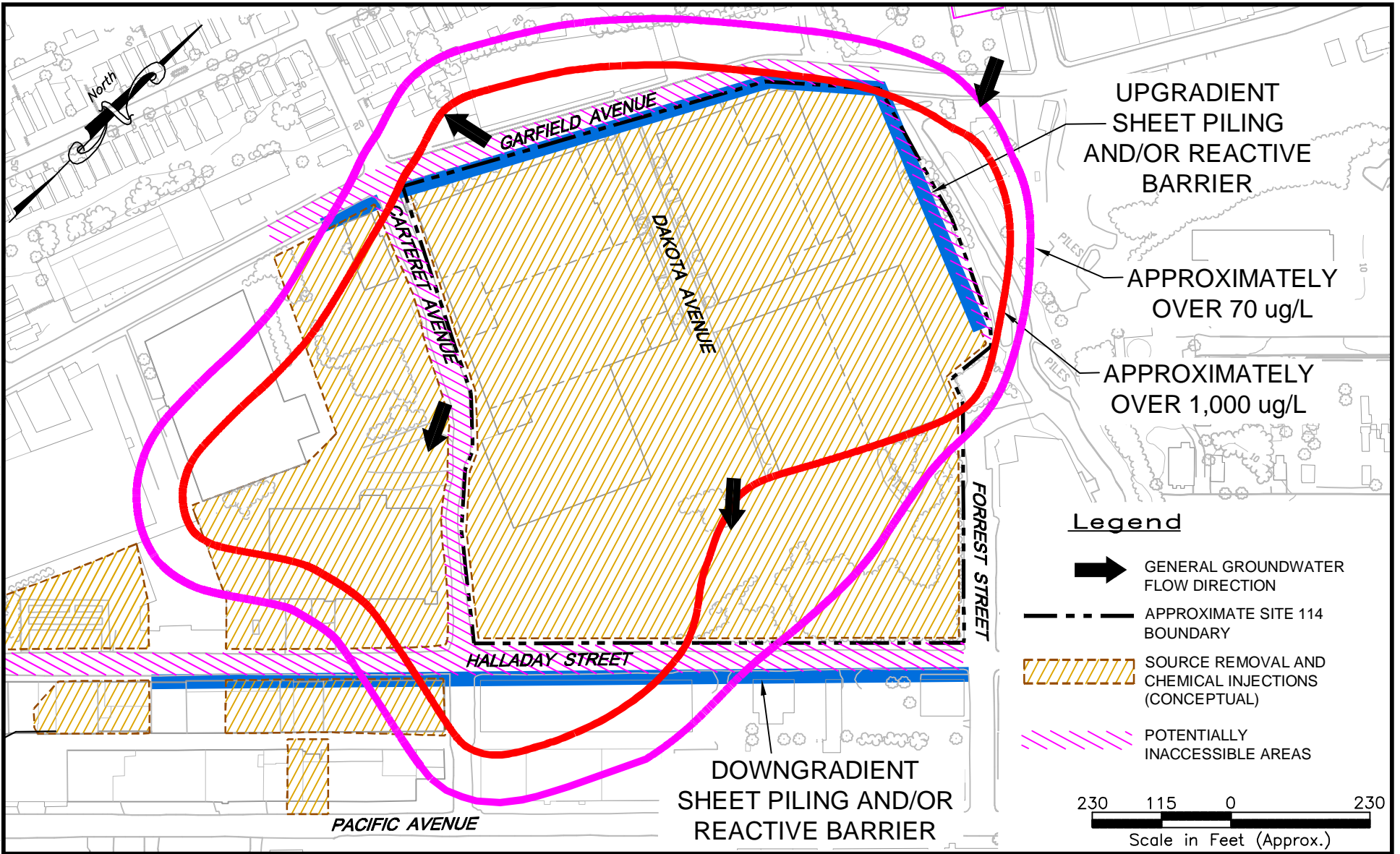
SHEET NUMBER:  
 1

FIGURE NUMBER:  
 1



PPG GARFIELD GROUP		CROSS SECTION OF SOIL REMEDIATION	
60158739.4011.1			
DATE: 11/22/2010	DRWN: J.E.B.		FIGURE 2

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SHEET NUMBER:	<b>3</b>
FIGURE NUMBER:	

<b>CONCEPTUAL HEXAVALENT CHROMIUM IN GROUNDWATER REMEDIATION</b>		
PPG GARFIELD AVENUE PROJECT JERSEY CITY, NEW JERSEY		
SCALE:	DATE:	PROJECT NUMBER:
NTS	11/11/10	60158739.4011.1

**AECOM**

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DESIGNED BY:	REVISIONS			
CWM	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY:				
JK				
CHECKED BY:				
SM				
APPROVED BY:				



To: Hon. Thomas P. Olivieri  
From: W. Michael McCabe, Site Administrator for the PPG Chromium Sites  
Date: July 15, 2011  
RE: PPG Chromium Sites Update

On Monday, July 18, 2011, the Parties to the Settlement involving the cleanup of PPG's chromium contaminated sites in Hudson County will provide you with an update on recent progress that has been made to meet the 2014 cleanup goal under the Joint Consent Order. I am respectfully providing this brief overview for your use. The Parties to the Settlement will be represented at our meeting with the Court and will provide additional details and clarification. If you have any questions, please feel free to contact me at 610-659-3113.

When we last appeared before the Court on June 21, 2011, I outlined a number of issues that needed to be resolved as part of the development of a final remediation plan. I am pleased to report that we have made significant progress since then and the criteria for remediating the Garfield Avenue Group of sites has been agreed to. In summary, PPG will implement the following remediation approach:

- All material with Cr+6 concentrations exceeding 20 ppm will be excavated down to the meadow mat or down to 20 feet, where the meadow mat is not present.
- Impacted soil beneath the meadow mat will not be excavated.
- For areas below 20 feet, all material with Cr+6 concentrations exceeding 5,000 ppm will be excavated to a maximum depth of 35 feet.
- For areas below 20 feet, fine sands, silts, and clays with Cr+6 concentrations in the 1,000 to 5,000 mg/kg range will be excavated to the maximum depth of 35 feet.
- For areas below 20 feet, higher permeability soil (medium sand, course sand, and gravel) with Cr+6 concentrations in the 1,000 to 5,000 mg/kg range that are amenable to in-situ treatment will not be excavated.
- For areas below 20 feet, soil with less than 1,000 mg/kg Cr+6 at depths greater than 20 feet will not be excavated but will be addressed as part of the groundwater remedy.

Additional details regarding this approach will need to be developed in the Remedial Action Work Plan to be approved by the Department of Environmental Protection. In addition, this remediation approach needs to be approved by the property owners and a deed notice will need to be developed. It is my understanding that discussions are underway with property owners to gain acceptance for this approach. In addition, as details of the cleanup following these criteria are developed further, we will be sharing the specifics with the surrounding community.

The other unresolved issue that we identified at our last appearance involved defining "inaccessible areas." As mentioned before, these are areas beyond the property

boundaries where contamination exists and that need to be remediated. This includes areas near the light rail line and areas within public rights-of-way. The extent to which these areas need to be cleaned up must be determined before a final work plan can be developed. Additional information is being collected to identify the extent of contamination, which will help us in developing criteria for resolving this issue.

In our last meeting, PPG provided a brief update on progress being made with PSE&G on coordinating the cleanup of its part of the site within the 2014 Settlement timetable. It is my understanding that additional progress has been made and that additional details are available from PPG.

As a result of these positive developments, I hope to be able to submit to the Court a revised Master Schedule providing specific calendar milestones by the end of the summer.

Lastly, the Consent Order regarding my reappointment has been delayed in its preparation due to an unfortunate and unforeseen problem that has nothing to do with the support of the Parties for my reappointment. Richard Engle, Chief Attorney General, who was preparing the Consent Order, had a family emergency that required his immediate attention. I am confident that the Consent Order will be sent to Your Honor as soon as practicable.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE ADMINISTRATOR OF THE NEW JERSEY SPILL COMPENSATION FUND,

Plaintiffs,

v.

HONEYWELL INTERNATIONAL, INC., OCCIDENTAL CHEMICAL CORPORATION AND PPG INDUSTRIES, INC.,

Defendants,

v.

CITY OF JERSEY CITY, JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, JERSEY CITY INCINERATOR AUTHORITY, and NEW JERSEY TURNPIKE AUTHORITY,

Third Party Defendants.

SUPERIOR COURT OF NEW JERSEY LAW DIVISION - HUDSON COUNTY

CIVIL ACTION NO.: HUD-C-77-05

**PARTIAL CONSENT JUDGMENT CONCERNING THE PPG SITES**

**FILED**

JUN 26 2009

THOMAS P. OLIVIERI, P.J.Ch.

This matter was opened to the Court by Anne Milgram, Attorney General of New Jersey, Anna Lascurain, Deputy Attorney General appearing, attorney for plaintiffs New Jersey Department of Environmental Protection and the Administrator of the New Jersey Spill Compensation Fund, and Third Party Defendant City of Jersey City ("Jersey City"), through its attorney Corporation Counsel William C. Matsikoudis, and Defendant PPG Industries, Inc. ("PPG"), through its attorney Joseph Lagrotteria appearing. These Parties having amicably resolved certain elements of their dispute before trial without any admission of liability, agree as follows:

#### I. PARTIES BOUND

1. This Consent Judgment applies to, and is binding upon, Plaintiffs New Jersey Department of Environmental Protection ("DEP", as defined below), and the Administrator of the New Jersey Spill Compensation Fund ("Administrator", as defined below) (collectively, "the

Plaintiffs”), PPG Industries, Inc. (“PPG” or the “Settling Defendant”, as defined below), and the Third Party Defendant City of Jersey City. Any change in ownership or corporate or legal status of PPG, as well as any change in, or transfer of, the authority or responsibility of DEP, the Administrator, or Jersey City, shall in no way enhance or abridge their respective rights and obligations under this Consent Judgment.

## II. DEFINITIONS

2. Unless otherwise expressly provided, terms used in this Consent Judgment that are defined in the Spill Compensation and Control Act, N.J.S.A. §§ 58:10-23.11 to -23.24 (“the Spill Act”) or in the regulations promulgated under the Spill Act, shall have their statutory or regulatory meaning. To the extent not defined, and unless otherwise expressly provided, terms used in this Consent Judgment that are defined in the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601 to 9675 (“CERCLA”) or in any regulations promulgated pursuant thereto, shall have the meaning given therein.

Whenever the terms listed below are used in this Consent Judgment, the following definitions shall apply:

a. “1990 ACO” shall mean the Administrative Consent Order entered on July 19, 1990 between the DEP, as defined below, and PPG, as defined below (attached hereto as Appendix A), and the letter agreements of August 2, 1990, September 5, 1990, and November 29, 1990, ~~adding additional sites to the 1990 ACO~~ (attached hereto as Appendix B).

b. “Administrator” shall mean the Administrator of the New Jersey Spill Compensation Fund, who is appointed pursuant to N.J.S.A. § 58:10-23.11j., and any successor.

c. “And” and “or” shall mean and/or such that “and” and “or” are interchangeable.

d. “Appendix” shall mean an appendix to this Consent Judgment.

e. "Applicable Remedial Provisions" shall mean all applicable statutes, regulations and laws including the DEP Commissioner's Chromium Policy as it now exists or may be adopted in the future.

f. "Assistant Commissioner" shall mean the DEP Assistant Commissioner of Site Remediation, and/or her successor, or such person holding a similar position in the future if that position no longer exists.

g. "Assistant Director" shall mean the DEP Assistant Director of Site Remediation, or such person holding a similar position in the future if that position no longer exists.

h. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601-9675.

i. "CCPW" shall mean chromate chemical production waste, a by-product generated from the production of sodium bichromate, including, but not limited to, chromium ore processing residue.

j. "Consent Judgment" shall mean this Partial Consent Judgment.

k. "Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or State or federal holiday. In computing time under this Consent Judgment, where the last day would fall on a Saturday, Sunday, or State or federal holiday, time shall run until the close of business of the next working day.

l. "DEP" shall mean the New Jersey Department of Environmental Protection and any successor department or agency of the State.

m. "Effective Date" shall mean the effective date of this Consent Judgment provided for in Paragraph 65.

- n. "First Amended Complaint" shall mean the First Amended Complaint filed in this lawsuit by Plaintiffs on May 9, 2005, in the Superior Court of New Jersey, Law Division, Hudson County, Civil Action No. HUD-C-77-05.
- o. "Grace Period Rule" shall mean those regulations defined by §§ N.J.A.C. 7:26C-10.1 to -10.9.
- p. "Hazardous Substances" shall mean all substances identified in the definitions of "hazardous substances" set forth in the Spill Act, N.J.S.A. § 58:10-23.11b. or CERCLA, 42 U.S.C. § 9601(14).
- q. "Jersey City" shall mean the City of Jersey City.
- r. "Master Schedule" shall be the schedule, established and updated by the Site Administrator taking into consideration Applicable Remedial Provisions, at the time, for the accomplishment of the remediation of the PPG Sites.
- s. "Co-Owner/Developer" shall mean 900 Garfield Avenue, LLC, its successors and assigns, the current co-owner of a portion of Site 114, the Garfield Avenue Site, and the developer of the Garfield Avenue Site. Any reference to Co-Owner/Developer in this Consent Judgment shall be limited to the Garfield Avenue Site.
- t. "Paragraph" shall mean a portion of this Consent Judgment identified by an Arabic numeral.
- u. "Parties" shall mean DEP, Jersey City, and PPG.
- v. "Party" shall mean DEP, Jersey City, or PPG.
- w. "Plaintiffs" shall mean the two plaintiffs in this lawsuit: DEP and the Administrator.

x. "PPG" shall mean PPG Industries, Inc., a corporation organized and existing under the laws of the Commonwealth of Pennsylvania and having a principal place of business at One PPG Place, Pittsburgh, Pennsylvania 15222, and any successors or assigns.

y. PPG Sites shall mean the sixty-one (61) residential and non-residential sites listed in Attachment One of the 1990 ACO, Attachment Two of the 1990 ACO, and Appendix B to this Consent Judgment: Additional Sites Added to the 1990 ACO By Agreement with DEP, including the so-called Orphan Sites set forth in Appendix B.

z. "RCRA" shall mean the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 to 6992k.

aa. "Section" shall mean a portion of this Consent Judgment identified by a Roman numeral.

bb. "Settling Defendant" shall mean defendant PPG.

cc. "Site Administrator" shall mean the person appointed as Site Administrator pursuant to Section XVI and charged with the duties set forth therein.

dd. "Spill Fund" shall mean the New Jersey Spill Compensation Fund established pursuant to N.J.S.A. § 58:10-23.11i.

ee. "Submittal" shall mean any document submitted by PPG to DEP, the Technical Consultant, Jersey City, the Co-Owner/Developer, and the Site Administrator regarding the work performed or to be performed at any PPG Site.

ff. "Technical Consultant" shall mean the person(s) appointed as Technical Consultant(s) pursuant to Section XVII.

### III. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to the Spill Act and the common law of the State of New Jersey. This Court also has personal jurisdiction over the Parties, solely for the purposes of the First Amended Complaint and this Consent Judgment. The Parties waive all objections and defenses they may have to jurisdiction of the Court, or to venue in this County.

### IV. BACKGROUND

2. Beginning as early as 1924, a chrome production facility was operated at and/or near 880 Garfield Avenue, Jersey City, Hudson County, New Jersey (“Garfield Avenue Site”). In August 1954, PPG acquired this chrome production facility and operated it through September 1963. Prior to and during PPG’s ownership and operation of this chrome production facility, CCPW was generated as a by-product of the production of sodium bichromate. Predecessors of PSE&G owned and operated a coal gasification facility/ manufactured gas facility at Garfield Avenue that discharged hazardous substances on Garfield Avenue, and PSE&G is therefore allegedly responsible for remediation of the property.

3. On July 19, 1990, DEP, and PPG entered into the 1990 ACO.

4. Pursuant to the 1990 ACO, PPG has remediated forty-seven (47) sites in the 1990 ACO, and has performed some remediation at ten (10) of the fourteen (14) remaining sites listed in the 1990 ACO and in the amendments to the 1990 ACO (Appendix B). As of the Effective Date, PPG has received No Further Action determination letters from DEP on forty-seven (47) sites in the 1990 ACO.

5. On May 9, 2005, Plaintiffs filed the First Amended Complaint against PPG and others asserting Spill Act statutory claims and common law strict liability, nuisance, and



negligence claims, arising out of the generation and disposal of CCPW at sites in Hudson and Essex counties, New Jersey, including the PPG Sites.

6. PPG subsequently filed responsive pleadings in which it denies liability, and asserts various defenses to the allegations contained in the First Amended Complaint.

7. The Parties recognize, and the Court by entering this Consent Judgment finds, that the Parties have negotiated this Consent Judgment in good faith, that the implementation of this Consent Judgment will expedite the remediation of the PPG Sites and avoid continued, prolonged and complicated litigation among the Parties, and that this Consent Judgment is fair, reasonable, and in the public interest.

**THEREFORE**, with the consent of the Parties, it is hereby:

**ORDERED and ADJUDGED:**

#### V. REMEDIATION GOAL

8. It is the goal of the Parties entering into this Consent Judgment, based upon current Applicable Remedial Provisions, to remediate the soils and sources of contamination at the PPG Sites as expeditiously as possible with a five (5)-year goal for completion in accordance with the Master Schedule. The PPG Sites shall be remediated in a manner that permits redevelopment consistent with the redevelopment plan adopted by Jersey City. PPG shall remediate groundwater in accordance with Applicable Remedial Provisions.

9. A judicially enforceable Master Schedule for all PPG sites will be established by the Site Administrator based upon input from Jersey City (for Jersey City sites), DEP and PPG with priority given to existing residential locations where CCPW is found pursuant to this Consent Judgment. Prioritization for non-residential sites will be established by the Site Administrator with input from Jersey City, DEP and PPG for sites located in Jersey City.

## VI. EFFECT ON 1990 ACO

10. To the extent not explicitly superseded or nullified in this Consent Judgment, the provisions of the 1990 ACO shall remain in effect. If a conflict arises between the terms of the Consent Judgment and terms of the 1990 ACO, the terms of this Consent Judgment shall govern.

## VII. SETTLING DEFENDANT'S COMMITMENTS

11. PPG shall continue to remediate the PPG Sites under the terms of the 1990 ACO, this Consent Judgment, and the Applicable Remedial Provisions. If a conflict arises with respect to remedial standards between the provisions of the Applicable Remedial Provisions and the provisions of the 1990 ACO, the Applicable Remedial Provisions shall govern.

12. PPG shall make payments as follows into the Site Administrator's Fund established pursuant to Paragraph 51.

- a. PPG shall make an Initial Payment of two hundred thousand dollars (\$200,000) into the Site Administrator's Fund within thirty (30) days after the Effective Date.
- b. From that date forward, whenever the amount of the Site Administrator's Fund drops below seventy-five thousand dollars (\$75,000), the Site Administrator shall notify PPG pursuant to the process set forth in Paragraph 49. Within thirty (30) days of receipt of such notification, PPG shall pay one hundred twenty-five thousand dollars (\$125,000) into the Site Administrator's Fund.
- c. This notification and payment practice will continue for two (2) years from the Effective Date. After this two (2)-year period, PPG shall replenish the Site Administrator's Fund only upon a written amendment to this Consent Judgment, as set forth in Section XXVII.

## VIII. JERSEY CITY ENVIRONMENTAL TRUST FUND

13. PPG shall pay to Jersey City, according to the terms set forth below, the amount of one million one hundred fifty thousand dollars (\$1,150,000) to fund an environmentally beneficial project such as the acquisition of property for open space or the development and/or

improvement of a public park (with preference given to the Bergen-Lafayette and Greenville sections of Jersey City) by submitting via wire transfer made payable to the Environmental Trust Fund of Jersey City. This payment shall be made in the following installments which may be tied to certain events in the remedial process as determined by Jersey City and PPG, but payment shall nonetheless be made no later than the dates set forth as follows:

- a. Two hundred eighty- seven thousand five hundred dollars (\$287,500) on August 1, 2009;
- b. Two hundred eighty- seven thousand five hundred dollars (\$287,500) on August 1, 2010;
- c. Two hundred eighty- seven thousand five hundred dollars (\$287,500) on August 1, 2011; and
- d. Two hundred eighty- seven thousand five hundred dollars (\$287,500) on August 1, 2012.

14. PPG shall also pay to Jersey City, according to the terms set forth below, the amount of three hundred fifty thousand dollars (\$350,000) to fund costs related to Jersey City's oversight of this Consent Judgment, by submitting via wire transfer made payable to the Environmental Trust Fund of Jersey City. This payment shall be made in the following installments:

- a. Seventy thousand dollars (\$70,000) on January 1, 2010;
- b. Seventy thousand dollars (\$70,000) on January 1, 2011;
- c. Seventy thousand dollars (\$70,000) on January 1, 2012;
- d. Seventy thousand dollars (\$70,000) on January 1, 2013; and
- e. Seventy thousand dollars (\$70,000) on January 1, 2014.

15. By signing this Consent Judgment, PPG certifies that it is not required and has no liability under any federal, state or local law or regulation, or pursuant to any agreements or orders of any court to perform, fund, or develop the projects identified in Paragraph 13.

16. In consideration for these payments, Jersey City hereby releases PPG from any and all claims it has or could have against PPG for any chrome site, including any claims for reparations or lost tax revenue.

#### IX. DEP, JERSEY CITY, AND THE ADMINISTRATOR'S COVENANTS

17. In consideration of the remediation PPG has completed, the remediation PPG shall perform and the payments to be made and other obligations incurred by PPG under this Consent Judgment, and subject to the reservations in Section X, Plaintiffs and Jersey City covenant not to sue and agree not to assert any claim against PPG or to take any further administrative, legal or equitable action available to Plaintiffs and Jersey City regarding any discharge or release of Hazardous Substances prior to the Effective Date at or from the PPG Sites, or any imminent and substantial endangerment posed by any discharge or release of Hazardous Substances at or from the PPG Sites prior to the Effective Date, under the Spill Act, CERCLA, RCRA, common law, and any other local law or state or federal statute, regulation, or other authority. To the extent this Paragraph supersedes portions of Paragraph 106 of the 1990 ACO, those portions are superseded and nullified. The remaining portions of Paragraph 106 of the 1990 ACO shall remain in effect.

18. The covenant contained in Paragraph 17, above, is conditioned upon the Settling Defendant's satisfactory performance of its other obligations under this Consent Judgment, and extends only to the Settling Defendant, and not to any other person.

## X. DEP, JERSEY CITY, AND ADMINISTRATOR'S RESERVATIONS

19. Nothing in this Consent Judgment is intended to bar or release any claims, causes of action or demands in law or equity by Plaintiffs and Jersey City against any person not a signatory to this Consent Judgment for any liability such other person may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, disposal, discharge or release of any Hazardous Substances at, to, or from the PPG Sites.

20. The covenant contained in Paragraph 17 above does not pertain to any matters other than those expressly stated. Plaintiffs and Jersey City reserve, and this Consent Judgment is without prejudice to, all rights against the Settling Defendant concerning all other matters, including the following:

- a. Claims based on the Settling Defendant's failure to satisfy any term or provision of this Consent Judgment;
- b. Claims based on new or unknown conditions at the PPG Sites that indicate that the remediation is not protective of human health or the environment;
- c. Liability arising from the Settling Defendant's past, present, or future discharge or unsatisfactory storage or containment of any Hazardous Substances at locations other than the PPG Sites;
- d. Liability for any future unsatisfactory storage or containment of any Hazardous Substance at the PPG Sites, other than approved or ordered by plaintiff DEP;
- e. Criminal liability;
- f. Liability for any violation of federal or state law that occurs during or after the remediation of the PPG Sites;
- g. Liability for any claim by a third party pending or filed on or after the effective date of this Consent Judgment against the Spill Fund or the Sanitary Landfill Fund concerning the PPG Sites.

21. Notwithstanding the covenant contained in Paragraph 17 above, DEP reserves the right to direct PPG to take or arrange for the taking of any and all additional measures at the PPG

Sites should DEP determine, in its sole discretion, that a condition of immediate environmental concern (“IEC”), as that term is defined in N.J.A.C. § 7:26E-1.8, exists at or as a result of the PPG Sites, or that it is necessary to conduct an “emergency response action,” as defined by N.J.A.C. § 7:1J-1.4, at the PPG Sites. PPG shall, pursuant to N.J.A.C. § 7:26C-4.2, retain the right to respond to a directive issued by DEP under this paragraph, and has the right to request that the Site Administrator address the issue with the Parties.

#### XI. SETTLING DEFENDANT’S COVENANTS

22. PPG covenants not to oppose entry of this Consent Judgment by this Court, or to challenge any provision of this Consent Judgment, to the extent this Consent Judgment remains unmodified.

23. PPG further covenants, subject to Section XII, not to sue or assert any claim or cause of action against Jersey City or the State of New Jersey, including any department, agency or instrumentality of the State, concerning the PPG Sites.

#### XII. SETTLING DEFENDANT’S RESERVATIONS

24. Nothing in this Consent Judgment is intended to bar or release any claims, causes of action or demands in law or equity by PPG against any Person not a signatory to this Consent Judgment.

25. PPG reserves, and this Consent Judgment is without prejudice to: (i) claims challenging actions of Jersey City or DEP otherwise available under New Jersey law, including but not limited to actions or decisions brought pursuant to R. 2:2-3(a)(2); and (ii) future claims against Jersey City or the State of New Jersey, subject to the New Jersey Tort Claims Act, N.J.S.A. §§ 59:1-1 to -12-3; the New Jersey Contractual Liability Act, N.J.S.A. §§ 59:13-1 to 13-10; the New Jersey Constitution, N.J. Const. art. VIII, §2, ¶2; or any other applicable provision

of law, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any Jersey City or State of New Jersey employee while acting within the scope of his/her office or employment under circumstances where Jersey City or the State of New Jersey, if a private person, would be liable to the claimant. Any such claim, however, shall not include a claim for any damages caused, in whole or in part, by the act or omission of any person, including any contractor, who is not a Jersey City or State of New Jersey employee as that term is defined in N.J.S.A. § 59:1-3; nor shall any such claim include a claim based on DEP's selection of the remediation or DEP's oversight or approval of the Settling Defendant's plans or activities relating to the remediation. The foregoing applies only to claims that the Settling Defendant may bring pursuant to any statute other than the Spill Act, and for which the waiver of sovereign immunity is found in a statute other than the Spill Act.

26. Nothing in this Consent Judgment shall be deemed to constitute preauthorization of a claim against the Spill Fund within the meaning of N.J.S.A. § 58:10-23.11k. or N.J.A.C. § 7:1J.

### XIII. FINDINGS AND ADMISSIONS OF LIABILITY

27. By entering into this Consent Judgment, PPG does not admit any liability arising out of the transactions or occurrences alleged in the First Amended Complaint and 1990 ACO. Nothing contained in this Consent Judgment shall be considered: (i) an admission of any liability arising out of the transactions or occurrences alleged in the First Amended Complaint and 1990 ACO; and/or (ii) an admission of any issue of fact or law by PPG, or a finding by Plaintiffs, Jersey City, or any person not a signatory to this Consent Judgment of any fault or liability of PPG under any applicable laws or regulations.

#### XIV. EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION

28. Nothing in this Consent Judgment shall be construed to create any rights in, or grant any cause of action to, any Person not a party to this Consent Judgment.

29. PPG expressly reserves all rights, including any rights to contribution, defenses, claims, demands, and causes of action that PPG may have concerning any matter, transaction, or occurrence concerning the PPG Sites against any person not a party to this Consent Judgment.

30. It is further the intent of the Parties that by entering into this Consent Judgment, PPG shall be protected to the greatest extent possible from any contribution claim a person not a party to this Consent Judgment may assert relating to the PPG Sites, including the full protection of the Spill Act, N.J.S.A. § 58:10-23.11f(2)(b).

31. The Parties agree that this Consent Judgment resolves any liability of PPG to the Plaintiffs and Jersey City under CERCLA for all response actions and costs of such actions with respect to the PPG Sites, and further that this Consent Judgment, upon approval by the Court, embodies a “judicially approved settlement” as those terms are used in Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B), as amended, and that PPG is entitled to contribution from any Person not a party to this Consent Judgment to the extent provided thereby.

32. Plaintiffs and Jersey City agree that they will not oppose any motion or application by PPG in any subsequent action in which PPG seeks the contribution protection that this Consent Judgment is intended to provide.

33. The Parties agree, and by entering this Consent Judgment this Court finds, PPG is entitled, as of the Effective Date, to protection from contribution actions or claims for all matters addressed in this Consent Judgment.

34. PPG also agrees that with respect to any suit or claim for contribution brought



against it for matters addressed in this Consent Judgment, it will notify Plaintiffs, in writing, within 20 working days of service of a complaint on it seeking contribution.

35. Plaintiffs enter into this Consent Judgment pursuant to the police powers of the State of New Jersey for the enforcement of the laws of the State of New Jersey and the protection of the public health and safety and the environment.

36. By entering into this Consent Judgment, the Plaintiffs are restraining and abating acts or conditions that the Plaintiffs allege contributed to or were contributing to activities that present an imminent and substantial endangerment at the PPG Sites, and Plaintiffs and Settling Defendant agree that this Consent Judgment is, *inter alia*, the result of diligent prosecution of the Plaintiffs' claims associated with this alleged imminent and substantial endangerment at the PPG Sites.

37. This Consent Judgment shall be filed with the Court, and has already been subject to a thirty (30) day public notice and comment period in accordance with N.J.S.A. § 58:10-23.11e2 and Section 122(d)(2) of CERCLA, 42 U.S.C. § 9622(d)(2).

38. Settling Defendant has published legal notices in three newspapers of general circulation for Hudson and Essex Counties for a period of not less than three days that shall contain the following information:

- a. The name and location of the PPG Sites, including the PI number, the street address, the municipality, and the county;
- b. The Parties to the settlement; including PPG's full corporate name and mailing address; and
- c. A summary of the terms of the settlement.

Public notice was also published in the New Jersey Register.

## XV. SUBMITTAL, REVIEW, AND DECISION-MAKING

39. The process for remediating the PPG Sites set forth in this Section shall be the method for conducting remediation of the PPG Sites pursuant to the submissions set forth in the 1990 ACO.

40. The Technical Consultant's review, the Site Administrator's review, and DEP's review; approval, and decision-making with regard to a Submittal shall be performed under the 1990 ACO and the Applicable Remedial Provisions.

41. PPG shall submit copies of any Submittal to the Site Administrator, DEP, Jersey City, and the Co-Owner/Developer. Jersey City and the Co-Owner/Developer shall review each Submittal and provide recommendations to DEP and the Technical Consultant, the Site Administrator, and PPG within thirty (30) days after receipt or such other timeframe set forth in the Master Schedule. The Site Administrator shall provide a copy of the Submittal to the Technical Consultant and establish a timeframe for review of the Submittal and development of recommendations to the DEP.

42. In reviewing any PPG Submittal, the Technical Consultant shall work independently, but shall confer or meet with DEP whenever it has questions about the Applicable Remedial Provisions. The Technical Consultant may confer or meet with DEP and PPG together whenever he or she has questions about the Submittal. At the request of DEP and/or PPG, a joint meeting(s) shall be held with the Technical Consultant. If further requested by DEP and/or PPG, the Site Administrator will participate in the joint meeting(s). The Technical Consultant shall keep the Site Administrator informed of contacts with DEP and PPG. Once the Technical

Consultant completes his or her review of the Submittal, the Technical Consultant shall present his or her findings to DEP.

43. If DEP and the Technical Consultant believe that additional work is needed on the Submittal, DEP and the Technical Consultant shall so inform PPG and the Site Administrator. If DEP, PPG and/or the Technical Consultant so request, a meeting(s) shall be held with the Site Administrator. At the end of this process, the Site Administrator shall either inform PPG that the Submittal is acceptable to DEP, or shall inform PPG of the deficiencies.

44. In the event that the Site Administrator informs PPG of deficiencies, the DEP and PPG shall attempt to resolve all disagreements expeditiously and informally in good faith negotiations. The Site Administrator shall participate in these discussions if requested by DEP or PPG. The period for informal negotiations shall not exceed twenty (20) days from the time PPG is informed of deficiencies by the Site Administrator.

45. DEP review of Submittals shall be carried out by the Assistant Director in order to assure expeditious DEP action. The Assistant Director shall consider the work of the Technical Consultant as if the Technical Consultant was a case manager at the DEP. Final decisions shall be made by the Assistant Commissioner. DEP shall retain the authority for all regulatory decisions.

46. PPG may either modify the Submittal as requested by the Site Administrator or seek review of the decision pursuant to R. 2:2-3.

#### XVI. SITE ADMINISTRATOR'S DUTIES AND RESPONSIBILITIES

47. As soon as reasonably possible after the Effective Date, the Parties shall provide recommendation(s) to the Court of a candidate or candidates to serve as Site Administrator. All candidate(s) for Site Administrator shall sign a confidentiality agreement, provide a Curriculum

Vitae and Statement of Qualifications, and disclose any potential conflicts of interest they may have with the Parties. For any and all potential candidates submitted to the Court, the Parties shall provide information on any potential conflicts of interest and whether the Parties are willing to waive the conflict(s). The Court shall then appoint, a Site Administrator from the list of a candidate or candidates provided to the Court, considering the recommendations made by the Parties.

48. After appointment of the Site Administrator, a mutually acceptable retainer agreement shall be prepared by PPG and DEP and submitted to the Court for entry setting forth the terms of the Site Administrator's retention, including, but not limited to, reasonable fee and expense provisions.

49. The powers and purpose of the Site Administrator shall be to:

- a. Establish a judicially enforceable schedule for the filing of Submittals and the Technical Consultant's review of Submittals for the PPG Sites, to establish the Master Schedule, and to hold regular meetings with PPG, Jersey City, the Co-Owner/Developer, and the DEP to ensure that good faith efforts are being made to meet the goals established in the Master Schedule;
- b. Hire experts and/or consultants to assist the Site Administrator in reviewing any Submittal and in resolving any issues raised to the Site Administrator by the Parties as permitted by this Consent Judgment. For any potential expert and consultant candidate, the candidate shall provide information to the Parties about any potential conflict of interest. After review of the potential conflict, the Parties shall inform the Site Administrator if they are willing to waive the conflict;
- c. Consult on the hiring of a Technical Consultant and hire the Technical Consultant in accordance with the procedures set forth in this Consent Judgment whose responsibilities shall be those set forth in Section XVII;
- d. Oversee and disburse reasonable fees and expenses from the Site Administrator's Fund for the purposes set forth in Paragraph 51;
- e. Notify PPG of the status of the amount in the Site Administrator's Fund when necessary, pursuant to Paragraph 12;

- f. Attend and participate in community or public meetings to discuss proposed remedial measures at the PPG Sites; and
- g. Review previous and ongoing health studies concerning the health impacts of chromium in Hudson County and consult with experts in the field and, if necessary, to recommend a protocol for a future medical study (health exposure study), that would monitor the people living within the vicinity of the Garfield Avenue Site to ascertain chromium exposure risks within (6) months of the entry of this Consent Judgment. All parties reserve the right to challenge any such protocol established pursuant to this paragraph (g) and/or whether any such medical study (health exposure study) is necessary and/or should be implemented. Such a challenge would be heard by the Court in a summary proceeding with the opportunity for all parties to present expert reports/testimony and to conduct discovery related to expert reports/testimony. The evidence of any such study and any results related thereto shall not be deemed as any type of admission nor be used against any party in any proceeding whatsoever.

50. The term of the Site Administrator shall be for two (2) years from the Effective Date of this Consent Judgment, with the option for renewal of the Site Administrator for subsequent two (2)-year terms thereafter. One hundred (100) days prior to the expiration of the Site Administrator's initial two (2)-year term, and any subsequent terms, the Parties shall arrange for an in-person conference among the Parties to occur at least sixty (60) days prior to the expiration of the initial two (2)-year term. If the Parties agree at the meeting that the Site Administrator's retention should be extended for another two (2)-year term, the Parties shall draft a written agreement setting forth the two (2)-year term extension and terms thereof. At the conclusion of any two (2)-year term, the Site Administrator shall pay any remaining costs payable under Paragraph 51 that were incurred during that two (2)- year term as expeditiously as possible, and shall inform the Parties ninety (90) days after the conclusion of any two (2)-year term if the Site Administrator believes any costs remain outstanding. If the Parties agree not to extend the term of the current Site Administrator, they shall immediately proceed to interview and select an individual to recommend to the Court as the new Site Administrator for retention.

On the date a new Site Administrator is approved by the Court that Site Administrator's term will begin to run for a two (2)-year period. Every Site Administrator will be reviewed at the end of the two (2)-year term and will either have his or her term extended or will not be selected for retention of another term.

51. The Site Administrator's Fund shall be an income bearing account set up pursuant to Court Order. Payments for reasonable fees and expenses shall be made from the Site Administrator's Fund upon approval of the Court, with the proviso that all reasonable fees and costs incurred within the two (2)-year period shall be paid from the Site Administrator's Fund pursuant to this Consent Judgment. The term of the Site Administrator's Fund shall be two (2) years from the Effective Date. If the Site Administrator's term is renewed, the term of the Site Administrator's Fund shall be two (2) years from the Site Administrator's term renewal date. The funds in the Site Administrator's Fund shall be used to pay:

- a. The Site Administrator's reasonable fees and expenses incurred pursuant to Paragraph 49; and
- b. The reasonable fees and expenses of the Technical Consultant.

#### XVII. TECHNICAL CONSULTANT

52. As soon as reasonably possible after appointment of the Site Administrator, DEP, and PPG shall identify for the Site Administrator criteria for firms and/or individuals to serve as the Technical Consultant with regard to the PPG Sites. The Site Administrator shall select the Technical Consultant based upon those criteria. The Site Administrator shall present the rationale for his or her selection to DEP and PPG prior to retention of the Technical Consultant. All candidates for Technical Consultant shall sign a confidentiality agreement, provide a Curriculum Vitae and Statement of Qualifications specific to the position, and disclose any potential conflicts of interest they may have with the Parties. For any and all potential

candidates submitted to the Site Administrator, the Parties shall provide information on any potential conflicts of interest and whether the Parties are willing to waive the conflict(s).

53. After appointment of the Technical Consultant, a retainer agreement shall be prepared by the Site Administrator and PPG that is acceptable to PPG and submitted to the Court for entry setting forth the terms of the Technical Consultant's retention, including, but not limited, to reasonable fee and expense provisions.

54. There will be no fixed term for any Technical Consultant. At any time after a Technical Consultant has been retained for six (6) months, PPG or DEP may unilaterally move for the Technical Consultant to be terminated. The motion shall be confidential and shall be made only to DEP, PPG, and the Site Administrator. PPG, DEP, and the Site Administrator shall then hold a confidential meeting to discuss the motion to terminate the Technical Consultant. If DEP, PPG, and the Site Administrator cannot reach agreement on whether to terminate the Technical Consultant, PPG, DEP, and the Site Administrator will vote on the issue. The majority will determine whether to terminate the Technical Consultant. If a Technical Consultant is terminated, then PPG, DEP, and the Site Administrator shall immediately proceed with the process set forth in Paragraph 52 to recommend to the Court a new Technical Consultant for retention.

55. The purpose of the Technical Consultant shall be to:

- a. Provide technical support to DEP consisting of the review and evaluation of Submittals to ensure that they comply with all Applicable Remedial Provisions and to achieve the goals of the remediation, and to provide DEP with written comments on Submittals within a period of time established by the Site Administrator;
- b. Answer questions from, and to meet and confer with, PPG, DEP, and the Site Administrator regarding Submittals; and

- c. Attend and participate in community or public meetings to discuss proposed remedial measures at the PPG Sites.

56. The Technical Consultant shall send all invoices for fees and expenses to the Site Administrator, and PPG. The fees and expenses of the Technical Consultant shall be paid by the Site Administrator from the Site Administrator's Fund after approval by PPG and the Site Administrator.

#### XVIII. AUDITS OF SITE ADMINISTRATOR AND TECHNICAL CONSULTANT EXPENSES

57. DEP and PPG, individually or together, shall have the right, but not the obligation, on an annual basis to audit the fees and costs of: (i) the Site Administrator; (ii) the Technical Consultant, and; (iii) any expert and/or consultant hired by the Site Administrator to assist the Site Administrator pursuant to Paragraph 49. DEP and/or PPG shall notify one another, the Site Administrator, the Technical Consultant, and any expert and/or consultant that an audit will be performed on the fees and costs of the Site Administrator, the Technical Consultant, and/or any expert and consultant.

#### XIX. JERSEY CITY EMPLOYMENT OPPORTUNITIES

58. In its contracting and subcontracting to remediate the PPG Sites, PPG will make all reasonable efforts to ensure that twenty percent (20%) of all contractors procured to undertake the remediation will be from Jersey City.

59. PPG will make all reasonable efforts to ensure that all contractors and subcontractors procured to remediate the PPG Sites will hire and employ twenty percent (20%) of its workforce from Jersey City. PPG will establish a program to provide OSHA Certification training for Jersey City residents (with preference given to residents of the Wards in which PPG



Sites are located) in order that they may work in available position on the remediation at the PPG Sites.

60. PPG shall submit a quarterly report to the Site Administrator detailing the efforts PPG has undertaken to meet the twenty percent (20%) goals set forth above.

#### XX. INVESTIGATION AND REMEDIATION OF RESIDENTIAL PROPERTIES WITHIN THE VICINITY OF PPG SITES

61. The Site Administrator shall establish a hot-line call number for residents within 400 feet of the property lines or the edge of CCPW remediation (whichever is greater in distance) of a PPG Site (except the Garfield Avenue Site) to call if the resident suspects the presence of CCPW in or on his/her real property. Residents living in the area from the Garfield Avenue Site west to Ocean Avenue; south to Bayview Avenue and north to Bramhall Avenue may use the hot-line call number if the resident suspects the presence of CCPW in or on his/her real property. The Site Administrator will direct that an inspection and, if needed, any testing, at the real property be undertaken by qualified professionals retained by PPG, and PPG shall undertake the appropriate remedial measures, in the event there exists elevated levels of CCPW on the real property. Any such real property inspection, testing and/or remediation shall be at the highest priority in the Site Administrator's scheduling of site work.

#### XXI. STIPULATED PENALTIES AND APPLICABILITY OF GRACE PERIOD RULE

62. DEP may assess stipulated penalties pursuant to Section E of the 1990 ACO. The Grace Period Rule shall not be applicable.

#### XXII. FORCE MAJEURE

63. The performance by PPG of any obligation under this Consent Judgment shall be excused by floods, riots, fires, strikes, wars, embargoes, acts, injunctions or restraints of

government preventing such performance beyond PPG's reasonable control and which is not due to PPG's fault or negligence ("Force Majeure Event"), provided that: (i) PPG notifies DEP, Jersey City and the Site Administrator in writing within seven (7) days of the occurrence of the event or condition, describing the anticipated length of delay, any measures taken or to be taken to minimize the delay, and the time required to take any such measures to minimize the delay and uses commercially reasonable efforts to mitigate adverse effects, if any, resulting from the Force Majeure Event as they relate to the performance of the obligation; and, (ii) PPG's obligation to perform shall be suspended only for the duration of the Force Majeure Event and a reasonable recovery time thereafter.

### XXIII. NOTICES AND SUBMISSIONS

64. Whenever written notice or other documents are required to be submitted by DEP to PPG or by PPG to DEP, they shall be submitted by overnight mail, facsimile, hand delivery, or e-mail, and they shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Party in writing. This Paragraph nullifies and supersedes Paragraphs 80 through 82 of the 1990 ACO.

As to Plaintiffs DEP & Administrator:

**Thomas Cozzi**  
**Assistant Director**  
**Site Remediation Program**  
**New Jersey Department of Environmental Protection**  
**401 East State Street**  
**P.O. Box 028**  
**Trenton, NJ 08625**

As to PPG:  
Mark Terril  
Director of Environmental Affairs  
PPG Industries, Inc.  
4325 Rosanna Drive  
Building C  
Allison Park PA 15101  
Phone: (412) 492-5466 Fax: (412) 492-5377  
E-mail: [terril@ppg.com](mailto:terril@ppg.com)

Steven F. Faeth, Esq.  
Senior Counsel - EHS  
PPG Industries, Inc.  
One PPG Place  
Pittsburgh PA 15272  
Phone: (412) 434-3799  
Fax: (412) 434-4292  
E-mail: [sfaeth@ppg.com](mailto:sfaeth@ppg.com)

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Attorney for Defendant PPG

As to Jersey City  
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Jersey City NJ, 07302  
Phone: (201) 547-4667  
E-mail: [Matsikoudisw@jcnj.org](mailto:Matsikoudisw@jcnj.org)

#### XXIV. EFFECTIVE DATE

65. The Effective Date of this Consent Judgment shall be the date upon which this Consent Judgment is entered by the Court.

## XXV. RETENTION OF JURISDICTION

66. This Court retains jurisdiction over both the subject matter of this Consent Judgment, and the Parties for the duration of the performance of the terms and provisions of this Consent Judgment and to effectuate or enforce compliance with the terms of the Consent Judgment.

## XXVI APPENDICES

67. The following appendices are attached to this Consent Judgment:
- a. Appendix A: 1990 ACO;
  - b. Appendix B: Additional Sites Added to the 1990 ACO by Agreement with DEP.

## XXVII MODIFICATION

68. This Consent Judgment, the 1990 ACO, and the 1990 Amendment to the ACO, represent the entire agreement between DEP, Administrator, and PPG concerning the PPG Sites, and supersede all prior negotiations, representations or agreements, either written or oral, unless otherwise specifically provided.

69. Material modifications to the terms of this Consent Judgment may only be made with this Court's approval. Non-material modifications to the terms of this Consent Judgment may only be modified by agreement of the Parties. All such modifications shall be made in writing.

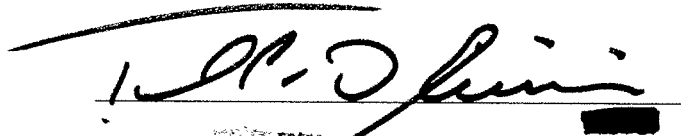
## XXVII. SIGNATORIES/SERVICE

70. Each undersigned representative of a Party to this Consent Judgment certifies that he or she is authorized to enter into the terms and conditions of this Consent Judgment, and to execute and legally bind such party to this Consent Judgment.

71. This Consent Judgment may be signed and dated in any number of counterparts, each of which shall be an original, and such counterparts shall together be one and the same Consent Judgment.

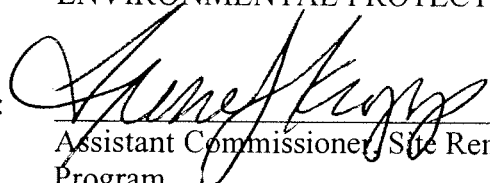
72. PPG shall identify on the attached signature pages, the name, address and telephone number of an agent who is authorized to accept service of process by mail on its behalf with respect to all matters arising under or relating to this Consent Judgment. The Settling Defendant agrees to accept service in this manner, and to waive the formal service requirements set forth in R. 4:4-4, including service of a summons.

SO ORDERED this 26<sup>TH</sup> day of June, 2009.

  
THOMAS P. OLIVER, P.J.C.2

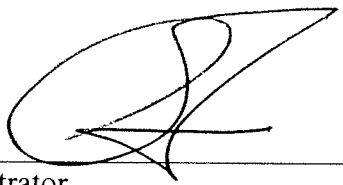
NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Dated: 6/18/09

By:   
Assistant Commissioner, Site Remediation Program

NEW JERSEY SPILL COMPENSATION FUND

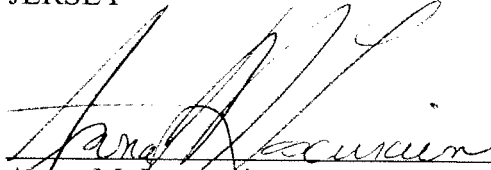
Dated: 6/18/09

By:   
Administrator

New Jersey Spill Compensation Fund

ANNE MILGRAM  
ATTORNEY GENERAL OF NEW  
JERSEY

Dated: June 18, 2009

By:   
Anna M. Cascurain  
Deputy Attorney General

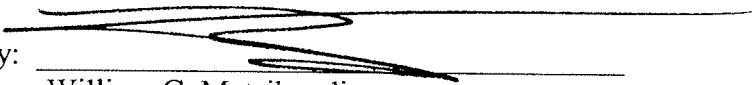
PPG INDUSTRIES, INC.

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
NAME  
TITLE

CITY OF JERSEY CITY

Dated: June 24, 2009

By:   
William C. Matsikoudis  
Corporation Counsel

New Jersey Spill Compensation Fund

ANNE M. GRAM  
ATTORNEY GENERAL OF NEW  
JERSEY


Dated: \_\_\_\_\_

By: \_\_\_\_\_

Anna Lascrain  
Deputy Attorney General

PPG INDUSTRIES, INC.

Dated: 6/24/09

By: 

Reginald Norton  
Vice President, Environment,  
Health and Safety

CITY OF JERSEY CITY

Dated \_\_\_\_\_

By: \_\_\_\_\_

William C. Matsikoudis  
Corporation Counsel

**APPENDIX A:**

1990 ACO



**APPENDIX B: ADDITIONAL SITES**  
**ADDED TO THE 1990 ACO BY AGREEMENT WITH DEP**

The sites listed below are those added to the 1990 ACO by letter agreements between PPG and DEP dated August 2, 1990, September 5, 1990 and November 29, 1990. Also included below (sites 174, 186, 202, 203, 204 & 207) are the so-called "Orphan Sites" accepted by PPG:

<u>SITE #</u>	<u>SITE NAME</u>	<u>LOCATION</u>	<u>BLOCK</u>	<u>LOT</u>
16	Linden East (Levy & Sons)			
142	Pine Street 3			
151	Halladay Street 3			
156	Gregory Avenue Apartments			
159	Pacific Avenue 2			
160	Johnston Avenue 1			
161	Maple Street 1			
164	Value City Furniture			
174	Dennis T. Collins Park			
186	Garfield Avenue			
202	Caven Point Road			
203	Claremont Associates			
204	Conrail Edgewater Branch			
207	Garfield Avenue #2			



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF HAZARDOUS WASTE MANAGEMENT

CN 028

Trenton, N.J. 08625-0028

(609) 633-1408

Fax # (609) 633-1454

IN THE MATTER OF	:	ADMINISTRATIVE
HUDSON COUNTY CHROMATE CHEMICAL	:	CONSENT
PRODUCTION WASTE SITES	:	ORDER
AND	:	
PPG INDUSTRIES, INC.	:	

This Administrative Consent Order is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "NJDEP" or the "Department") by N.J.S.A. 13:1D-1 et seq. and the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and the Spill Compensation and Control Act ("Spill Act"), N.J.S.A. 58:10-23.11a et seq., and duly delegated to the Assistant Director for the Division of Hazardous Waste Management pursuant to N.J.S.A. 13:1B-4.

FINDINGS

1. PPG Industries, Inc. is a Pennsylvania corporation with its principal place of business at One PPG Place, Pittsburgh, Pennsylvania, 15272. PPG is the successor to Pittsburgh Plate Glass Company, Natural Products Refining Company, Southern Alkali Corporation, and Columbia Southern Chemical Corporation.

2. PPG Industries, Inc., its predecessors and their subsidiaries (collectively hereinafter "PPG") owned and operated a chromate chemical production facility encompassing approximately 16.6 acres located on Garfield Avenue in the City of Jersey City, County of Hudson, State of New Jersey, on the site designated on the City of Jersey City 1987 municipal tax map as Block 2025.A, Lot 2.1, and Block 2026.A, Lots 1, 2.A, and 3.B (hereinafter "the Garfield Avenue Site"). On or about September 1, 1963, PPG ceased operations of the chromate chemical production facility at the Garfield Avenue Site.

3. The operations referenced in paragraph 2 above, resulted in the generation of chromite ore processing residue, which contains chromium and its compounds and may contain hexavalent chromium, which are hazardous substances as defined by the Spill Compensation and Control Act, specifically, N.J.S.A. 58:10-23.11bk, and the regulation promulgated pursuant thereto, N.J.A.C. 7:1E-1 et seq., and are pollutants as defined in the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.,



specifically N.J.S.A. 58:10A-3n, and the regulations promulgated pursuant thereto, N.J.A.C. 7:14A-1.2(c).

4. The Department has determined that chromite ore processing residue from PPG's operations referenced in paragraph 2 above, was distributed by third parties as fill material for use in certain construction and development projects in Hudson County, New Jersey. The chromite ore processing residue was used for the backfilling of demolition sites, preparation for building foundations, construction of tank berms, roadway construction, the filling of wetlands and other construction and development related purposes.

5. The Department has found chromite ore processing residue contamination on the walls and floors of buildings, both interior and exterior, on the surfaces of driveways and parking lots and on the surfaces of unpaved areas at certain locations in Hudson County, New Jersey. These locations include residential lots, active work sites, publicly owned lands, industrial and commercial establishments and other populated and environmentally sensitive areas in Hudson County, New Jersey.

6. The Department has determined that PPG's chromate chemical production facility referenced in paragraph 2 above, and those of Allied-Signal Incorporated (hereinafter "Allied-Signal"), located in the City of Jersey City, and Diamond Shamrock Chemicals Company, (hereinafter "Diamond"), located in the Town of Kearny, were the only chromate chemical production facilities in New Jersey and were the only such facilities within an approximately one-hundred and fifty mile radius of Hudson County. The Department has found no evidence that any of the chromite ore processing residue from facilities outside such radius was deposited in, or was taken to Hudson County.

7. On January 22, 1985, the Department directed PPG, among others, to arrange for the removal of hazardous substances, including chromium and chromium compounds, at forty-two (42) sites in Hudson County, by paying for the Department's costs of a Remedial Investigation and Feasibility Study (hereinafter "RI/FS") at those sites.

8. On or about August 5, 1985, the State of New Jersey awarded a contract to Environmental Science and Engineering, Inc. to implement the RI/FS.

9. On July 22, 1986, PPG and the Department executed an Administrative Consent Order concerning the RI/FS. Pursuant to the Administrative Consent Order, PPG arranged in part for the removal of chromite ore processing residue by agreeing to reimburse the Department for the part of the Department's costs of conducting the RI/FS and PPG participated in the Chromium Sites Study Committee the Department created to oversee and manage the RI/FS.

10. On December 2, 1988, the Department issued a Directive (hereinafter "the December 2, 1988 Directive") to PPG, among others, pursuant to the Spill Act, directing it to undertake interim remedial actions at eighty-six (86) sites in Hudson County, including some of the Residential Sites listed in Attachment Two and the Non-Residential Sites

listed in Attachment One. Each of these attachments are attached hereto and made a part hereof. Except as incorporated herein, the December 2, 1988 Directive remains in full force and effect.

11. In response to the December 2, 1988 Directive identified in paragraph 10 above, PPG agreed to implement interim remedial measures (IRMs) at ten high priority and five medium priority sites. A draft IRM work plan for the ten high priority sites, dated February 14, 1989 prepared pursuant to the December 2, 1988 Directive was submitted by PPG to the Department for Sites numbered 1, 13, 28, 29, 37, 74, 75, 89, 102 and 137 (previously designated as part of site 114). On May 8, 1989 PPG received Department approval of the work plan and began implementation of the IRM at the ten high priority sites. Subsequent to May 8, 1989, PPG agreed to a Department request to perform the IRM at one additional high priority site, (Site 123) consistent with the procedures in the work plan previously approved on May 8, 1989. On October 6, 1989, PPG submitted IRM work plans for Sites 2 (exterior only), 3, 4, 5, and 112. On October 26, 1989, the Department determined that the October 6, 1989 PPG IRM Work Plan was unacceptable. On December 1, 1989, PPG submitted a revised IRM Work Plan to incorporate revisions to the Work Plan. The Department in correspondence dated December 19, 1989 and January 16, 1990 provided conditional acceptance of the work plan. On May 4, and May 9, 1990 PPG submitted draft interior and exterior sampling plans to the Department for Site 114 and Site 137. On May 23, 1990 the Department accepted the sampling plan conditional upon PPG acceptance of certain modifications to which PPG agreed in a June 7, 1990 letter to the Department. On May 11, 1990 PPG submitted draft IRM work plans for sites 2 (interior only), 89 (interior only), and 133 (interior only), which were conditionally accepted on June 13, 1990. All IRM work plans and sampling plans approved by the Department prior to the effective date of this Administrative Consent Order for compliance with the December 2, 1988 Directive shall be deemed approved under this Administrative Consent Order. Similarly, all IRM work plans and sampling plans conditionally approved by the Department prior to the effective date of the Administrative Consent Order for compliance with the December 2, 1988 Directive shall be deemed conditionally approved under this Administrative Consent Order.

12. On May 25, 1989, the Chromium Sites Study Committee reviewed and approved the RI reports which concluded that thirty (30) of the sites studied were confirmed as containing chromite ore processing residue and had chromium concentrations in soil/fill materials and that chromite ore processing residue present adjacent to a building can lead to contamination of both outside and inside surfaces of such buildings.

13. On November 15, 1989, the Chromium Sites Study Committee approved the Feasibility Study Report (hereinafter "FS Report") which identified a number of viable remedial alternatives for the cleanup of chromium contamination from chromite ore processing residue.

14. On December 12, 1989, the Department issued its recommendation for remedial action for the soil remediation at residential sites, in a document entitled "Proposed Plan, Hudson County Chromium, Residential Sites" (hereinafter "the Proposed Plan"). The recommended remedial action included excavation, solidification/stabilization and disposal of chromium contamination in a commercial hazardous waste facility.

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15. During December 1989, and January and part of February 1990, the Department solicited public comments on the Proposed Plan by mailing it to interested parties, including PPG, and made the Proposed Plan available for public review at repositories in Hudson County, New Jersey.

16. On April 17, 1990, the Department issued a Record of Decision containing the Department's final decision on the selection of a remedial action for the contaminated Residential Sites, its response to public comments on the Proposed Plan, and a cost estimate for the selected remedial action of twenty-nine million nine hundred thirty-eight thousand dollars (\$29,938,000).

17. On May 16, 1990, the Department issued a Directive (hereinafter "the May 16, 1990 Directive") to PPG pursuant to the Spill Act, directing PPG to arrange for the removal of hazardous substances at the Residential Sites by paying the Department its costs of implementing the remedial action alternative the Department selected in its April 17, 1990 Record of Decision.

18. The Department has determined that chromite ore processing residue has been discharged and is present at each of the sites listed in Attachment One (hereinafter "the Non-Residential Sites") and each of the sites listed in Attachment Two (hereinafter "the Residential Sites"). The Department has determined that the chromite ore processing residue, which contains chromium and its compounds, and other hazardous substances, at the Residential Sites and the Non-Residential Sites, including the Garfield Avenue Site, has been discharged into the waters and/or onto the lands of the State of New Jersey in violation of Section 4 of the Spill Act, N.J.S.A. 58:10-23.11c.

19. The Department has determined that the chromite ore processing residue at the Sites and the Garfield Avenue Site is identifiable by virtue of its chemical and physical characteristics, but is chemically and physically indistinguishable from the chromite ore processing residue generated by Allied-Signal's or Diamond's chromate chemical production facilities referenced above.

20. The Department has determined that uncontrolled discharges of hazardous substances from the chromite ore processing residue at the Sites and the Garfield Avenue Site are within an area of high population density in the State of New Jersey and that the risk of human exposure to chromite ore processing residue at the Sites and the Garfield Avenue Site is ongoing. Chromium and its compounds contained in the chromite ore processing residue, are potentially toxic to humans and may include demonstrated human carcinogens. The Department has determined that these conditions create a substantial risk of imminent danger to human health and the environment.

21. Pursuant to N.J.S.A. 58:10-23.11fa, whenever any hazardous substance is discharged, the Department may, in its discretion, act to remove or arrange for the removal of such discharge or may direct the discharger to remove, or arrange for the removal of, such discharge.

22. The Department has determined that the pollutants referenced in these FINDINGS discharged onto the lands and into the water of the State of New Jersey without a valid New Jersey Pollutant Discharge Elimination System

Permit in violation of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., specifically N.J.S.A. 58:10A-6.

23. The Department has determined that pursuant to N.J.S.A. 58:10-23.11g PPG is strictly liable, jointly and severally, without regard to fault, for all costs of the cleanup and removal of the hazardous substances discharged at the Sites and the Garfield Avenue Site and other locations in Hudson County at which chromite ore processing residue and chromium and its compounds from the Sites and/or the Garfield Avenue Site have been discharged.

24. The Department has determined that the hazardous substances referenced in these FINDINGS have discharged into the waters and onto the lands of the State of New Jersey in violation of the Spill Compensation and Control Act, specifically N.J.S.A. 58:10-23.11c.

25. PPG disagrees with and does not admit the Department's determination of PPG's responsibility for the remediation of the sites described herein. PPG filed a challenge to the Department's Record of Decision on May 31, 1990, reflecting PPG's firmly held belief that the Department's ROD and cleanup levels are scientifically unjustified and that cleanup levels proposed by PPG and the other former chrome manufacturers, which were the result of a significant study effort by recognized experts, are fully protective of human health and the environment. For the same reasons, on July 2, 1990, PPG also challenged the Department's May 16, 1990 residential site cleanup directive to PPG. Although PPG remains convinced of the moral and legal correctness of its position, in order to resolve this matter without the necessity for litigation, and in order to work with the Department to expedite investigation and remediation of chromium contaminated sites in and around Hudson County, PPG has agreed to:

a. Implement the remedy selected by the Department in its April 17, 1990 Record of Decision for the Residential Sites listed in Attachment Two and all other residential sites in Hudson County to be identified, pursuant to this Administrative Consent Order;

b. Implement IRMs, conduct a remedial investigation and a feasibility study, and to design and implement remedial action selected by the Department to remedy the problems associated with the hazardous substances as defined by the Spill Act and pollutants as defined in the Water Pollution Control Act, discharged at the Garfield Avenue Site, emanating from the Garfield Avenue Site, or which have emanated from the Garfield Avenue Site;

c. Implement interim remedial measures and conduct a remedial investigation and a feasibility study, and to design and implement the remedial action selected by the Department to remedy the problems associated with chromite ore processing residue, chromium and its compounds whether or not any other hazardous substances or pollutants are intermingled therewith, at, emanating from or which have emanated from the Non-Residential Sites listed in Attachment One, and all Non-Residential Sites in Hudson County to be identified, pursuant to this Administrative Consent Order;

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d. Withdraw all suits that PPG has pending, filed or otherwise commenced against the Department and withdraw PPG's January 23, 1990 petition to the Department;

e. Pay the Department for all its past and subsequent costs incurred in connection with the investigation and response to, the matters described hereinabove, including the costs associated with the preparation of this Administrative Consent Order;

f. Pay the Department for all its past and subsequent costs incurred in connection with implementing IRMs at Residential Sites listed in paragraphs 29 and 30 below; and

g. Pay the Department for all of its costs as set forth in paragraph 31 below in full satisfaction of the Department's August 23, 1989 Spill Act Directive for Non-Residential Site 122.

h. Pay the Department a civil penalty as set forth in paragraph 26 below.

#### ORDER

#### NOW THEREFORE IT IS HEREBY ORDERED AND AGREED THAT:

##### I. Penalties and Reimbursement of Prior Costs

26. PPG agrees to pay to the Department as provided for in this paragraph, a civil penalty of two million five hundred thousand dollars (\$2,500,000.00) for all violations of the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., and the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., for all discharges of chromate ore processing residue from the Garfield Avenue Site. Within thirty (30) calendar days after the effective date of this Administrative Consent Order, PPG shall pay one million five hundred thousand dollars (\$1,500,000.00), the first of three (3) penalty payments. Within three hundred sixty-five (365) calendar days after the effective date of this Administrative Consent Order, PPG shall pay, five hundred thousand dollars (\$500,000.00), the second of three (3) penalty payments. Within seven hundred thirty (730) calendar days after the effective date of this Administrative Consent Order, PPG shall pay five hundred thousand dollars (\$500,000.00), the third of three (3) penalty payments. If PPG fails to make any of these payments in the time frames specified above, PPG expressly agrees that the Department may withdraw any remaining unpaid penalty payment amounts from the financial assurance established pursuant to paragraph 84 below in accordance with paragraph 85 below. The Department shall not seek, demand, or otherwise claim any civil or civil administrative fines or penalties from, or initiate any action for civil or civil administrative fines or penalties against PPG, its present or former parents, subsidiaries, predecessors or affiliates or the officers, directors, or employees of PPG, their present or former parents, subsidiaries, predecessors or affiliates, or any of them, based upon their alleged acts or omissions (including, without limitation, failure to report), or any continuing releases, migration or discharges of hazardous substances or pollutants, in connection with or arising in any way out of the disposal, discharge, handling, treatment or transportation, occurring

prior to the effective date of this Administrative Consent Order, of hazardous substances or pollutants at or from the Garfield Avenue Site. Although it agrees to pay this civil penalty PPG denies any violation of statute, rule, regulation or ordinance and payment of this penalty is without admission of fact, fault, liability or obligation. The provisions of this paragraph shall survive any termination of this Administrative Consent Order.

27. Within thirty (30) calendar days after PPG's receipt from the Department of a summary of costs, PPG shall submit the amount of thirty thousand three hundred seventy-six and forty-four cents (\$30,376.44) to the Department as payment for all costs incurred by the Department up until April 6, 1990, in connection with the investigation of, and response to, the matters described in the FINDINGS hereinabove, including the costs associated with the preparation of this Administrative Consent Order.

28. Within thirty (30) calendar days after receipt of a written summary of all additional costs incurred by the Department, in connection with the investigation of, and response to, the matter described in the FINDINGS hereinabove, PPG shall submit to the Department payment of all such costs.

29. Within thirty (30) calendar days after PPG's receipt from the Department of a summary of costs, PPG shall submit the amount of six hundred thirty-six thousand four hundred fifty-two dollars and thirty-two cents (\$636,542.32) to the Department as payment for all costs incurred by the Department in connection with the costs of implementing IRMs at Residential Sites 6, 10, 11, 14, 18, 23, 24, 38, 39, 82 and 85.

30. Within thirty (30) calendar days after receipt of a written summary of all subsequent costs incurred by the Department in performing IRMs at Residential Sites 12, 22, 80, 81, 83, 84, 142 and at 409-411 Halladay Street in Jersey City, PPG shall submit to the Department payment of all such costs.

31. Within thirty (30) calendar days after PPG's receipt from the Department of a summary of costs, PPG shall submit the amount of two hundred fifty-one thousand and five hundred dollars (\$251,500) to the Department as payment in full satisfaction of the Department's August 23, 1989 Spill Act Directive for Non-Residential Site 122.

32. Within thirty (30) calendar days after the effective date of this Administrative Consent Order, as referenced in paragraph 128 below, PPG shall withdraw all suits that PPG has pending, filed or otherwise commenced against the Department and PPG shall withdraw its rule petition of January 23, 1990.

33. Payment of the amounts in paragraphs 26 through 31 above, shall be made by a cashier's or certified check payable to the "Treasurer, State of New Jersey". Payment shall be submitted to the Department contact listed in paragraph 82 below.

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## II. Interim Remedial Measures

34a. PPG shall complete implementation of all IRMs at the sites on Attachment One pursuant to IRM Work Plans approved by the Department as of the effective date of this Administrative Consent Order.

34b. Within sixty (60) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a draft IRM Grouping and Scheduling Plan which describes PPG's proposal for the organization of the Non-Residential Sites and the Garfield Avenue Site into groups and the scheduling of those groups for the submission of Interim Remedial Measures Work Plans required by this Administrative Consent Order.

34c. Within five (5) calendar days after PPG's receipt of the Department's written comments on the draft IRM Grouping and Scheduling Plan, PPG shall modify the IRM Grouping and Scheduling Plan to conform to the Department's comments and shall submit the modified IRM Grouping and Scheduling Plan to the Department. The determination as to whether or not the modified IRM Grouping and Scheduling Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable shall be made solely by the Department.

35. Within one hundred and thirty-five (135) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a detailed draft Interim Remedial Measures Work Plan (hereinafter "IRM Work Plan"), in accordance with the scope of work set forth in Appendix A which is attached hereto and made a part hereof, for the initial group and at thirty day intervals thereafter for the subsequent groups identified in the approved IRM Grouping and Scheduling Plan.

36. Within forty-five (45) calendar days after receipt of the Department's written comments on the draft IRM Work Plan(s) for each group, PPG shall modify the draft IRM Work Plan(s) for each group to conform to the Department's comments and shall submit the modified IRM Work Plan(s) to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified IRM Work Plan(s), as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

37. Upon receipt of the Department's written final approval of the IRM Work Plan(s) for each group, PPG shall implement the approved IRM Work Plan(s) for each group in accordance with the approved schedule therein. Within thirty (30) calendar days after completion of the interim remedial actions at each site grouping, PPG shall submit to the Department a report detailing the measures taken by PPG to implement the IRM Work Plan(s) for each group, including site map(s) showing the location(s) at the site(s) where such measures were taken.

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### III. Non-Residential Sites Remedial Investigation and Cleanup

#### A. Remedial Investigation

38a. Within one hundred and twenty (120) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a draft Remedial Investigation Grouping and Scheduling Plan which describes PPG's proposal for the organization of the Non-Residential Sites and the Garfield Avenue Site into groups and for the scheduling of those groups for the submission of Remedial Investigation Work Plans required by this Administrative Consent Order.

38b. Within five (5) calendar days after PPG's receipt of the Department's written comments on the draft Remedial Investigation Grouping and Scheduling Plan, PPG shall modify the Remedial Investigations Grouping and Scheduling Plan to conform to the Department's comments and shall submit the modified Remedial Investigation Grouping and Scheduling Plan to the Department. The determination as to whether or not the modified Remedial Investigation Grouping and Scheduling Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable shall be made solely by the Department in writing.

38c. Within two hundred and forty (240) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a detailed draft Remedial Investigation Work Plan (hereinafter the "RI Work Plan") for the initial group identified in the approved Remedial Investigation Grouping and Scheduling Plan and in accordance with the schedule contained in the approved Remedial Investigation Grouping and Scheduling Plan. All draft RI Work Plans shall be drafted in accordance with the scope of work set forth in Appendices B, C and D, which are attached hereto and made a part hereof.

39. Within forty-five (45) calendar days after PPG's receipt of the Department's written comments on the draft RI Work Plan(s) for each group, PPG shall modify the draft RI Work Plan to conform to the Department's comments and shall submit the modified RI Work Plan(s) to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified RI Work Plan(s), as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

40. Upon PPG's receipt of the Department's written approval of the RI Work Plan(s) for each group, PPG shall conduct the remedial investigation in accordance with the approved RI Work Plan(s) and the schedule(s) therein.

41. PPG shall submit to the Department draft Remedial Investigation Report(s) (hereinafter "RI Report") for each group identified in the approved Remedial Investigation Grouping and Scheduling Plan in accordance

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with the approved RI Work Plan developed in accordance with Appendix B, and the schedule therein.

42. If upon review of any draft RI Report(s) the Department determines that additional remedial investigation is required, PPG shall conduct such additional remedial investigation pursuant to Appendix B, as required by the Department in writing and submit supplemental draft RI Report(s).

43. Within forty-five (45) calendar days after PPG's receipt of the Department's written comments on each draft or second draft (if applicable pursuant to the preceding paragraph) RI Report, PPG shall modify the draft or second draft RI Report to conform to the Department's comments and shall submit the modified RI Report to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified RI Report, as resubmitted, conforms with the Department's comments and is otherwise acceptable by the Department shall be made solely by the Department in writing.

#### B. Feasibility Study

44. Within one-hundred and eighty (180) calendar days after PPG's receipt of either the Department's written final approval of any RI Report, or the Department's written notice to proceed, PPG shall submit to the Department a detailed draft Feasibility Study Work Plan (hereinafter, "FS Work Plan") for the site(s) which is (are) the subject of the approved RI Report or notice to proceed in accordance with the scope of work set forth in Appendix E, which is attached hereto and made a part hereof.

45. Within forty-five (45) calendar days after PPG's receipt of the Department's written comments on any draft FS Work Plan, PPG shall modify the draft FS Work Plan to conform to the Department's comments and shall submit the modified FS Work Plan to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified FS Work Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

46. Upon PPG's receipt of the Department's written approval of any FS Work Plan, PPG shall conduct the feasibility study which is the subject of said approval in accordance with the approved FS Work Plan and the schedule therein.

47. PPG shall submit to the Department a draft Feasibility Study Report (hereinafter "FS Report") for the site(s) for which the Department has given written approval of the FS Work Plan in accordance with Section III of Appendix E and the approved FS Work Plan developed in accordance with Appendix E, and the schedule therein.

48. Within forty-five (45) calendar days after PPG's receipt of the Department's written comments on any draft FS Report, PPG shall modify the draft FS Report to conform to the Department's comments and shall submit the modified FS Report to the Department. Within this timeframe, PPG may explain verbally- or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified FS Report, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

C. Remedial Action

49. The Department will make each selection of the remedial action alternative based upon any final FS Report submitted in accordance with paragraph 48 above, and on the criteria set forth in Appendix E, Section I.D. If PPG fails to submit any final FS Report in compliance with paragraph 48 above, then the Department will make selection of remedial action alternative(s) based on the criteria set forth in Appendix E, Section I.D.

50. Within one hundred and twenty (120) calendar days after PPG's receipt of the Department's written notification of its selection of any remedial action alternative(s), PPG shall submit to the Department a detailed draft Remedial Action Plan for those sites which are the subject of the Department's notification in accordance with the scope of work set forth in Appendix F, which is attached hereto and made a part hereof. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG disagrees with the Department's selected remedial action alternative(s). Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its selection of the remedial action alternative(s). If the Department has determined that more than one alternative for the Garfield Avenue Site and/or one or more of the Non-Residential Sites meets the criteria set forth in Appendix E, Section I.D., PPG may decide which of these alternatives it will implement.

51. Within ninety (90) calendar days after PPG's receipt of the Department's written comments on any draft Remedial Action Plan, PPG shall modify the draft Remedial Action Plan to conform to the Department's comments and shall submit the modified Remedial Action Plan to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified Remedial Action Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

52. In accordance with the schedule contained in each approved Remedial Action Plans referenced in paragraph 51 above, PPG shall submit to the Department detailed engineering design(s) and cost estimate(s) for the selected remedial action alternative(s).

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53. Within ninety (90) calendar days after PPG's receipt of the Department's written comments on the detailed engineering design(s) and cost estimate(s), PPG shall modify the detailed engineering design and cost estimates to conform to the Department's comments and shall submit the modified detailed engineering design and cost estimates to the Department. Within this timeframe, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss its comments. The determination as to whether or not the modified detailed engineering design and cost estimates as resubmitted, conform to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

54. Upon PPG's receipt of the Department's written approval of any detailed design specifications and cost estimates, PPG shall implement the approved Remedial Action Alternative(s) which is (are) the subject of said approval in accordance with the schedule therein and in accordance with the approved detailed engineering design.

#### D. Additional Remedial Investigation and Remedial Action

55. If at any time prior to PPG's receipt of written notice from the Department pursuant to paragraph 134 below the Department determines that the criteria set forth in Appendix E, Section I.D. for Non-Residential Sites are not being achieved, or that additional remedial investigation and/or remedial action is required to protect human health or the environment from any chromite ore processing residue, chromium and its compounds, whether or not any hazardous substances or pollutants are intermingled therewith, at, emanating from or which have emanated from the Sites, PPG shall conduct such additional activities as directed by the Department and in accordance with this Administrative Consent Order. If at any time prior to PPG's receipt of written notice from the Department pursuant to paragraph 134 below the Department determines that the criteria set forth in Appendix E, Section I.D. for Non-Residential Sites are not being achieved, or that additional remedial investigation and/or remedial action is required to protect human health or the environment from any hazardous substances and pollutants at, emanating from or which have emanated from the Garfield Avenue Site, PPG shall conduct such additional activities as directed by the Department in accordance with this Administrative Consent Order.

#### E. Additional Sites

56. For each additional site, identified by the Department, contaminated with chromite ore processing residue and chromium and its compounds from the Garfield Avenue Site, or which is adjacent to the Garfield Avenue Site or any of the Non-Residential Sites, and is contaminated by chromite ore processing residue, chromium and its compounds, emanating or which has emanated from the Garfield Avenue Site or any of the Non-Residential Sites, PPG shall conduct, in accordance with the provisions of this Administrative Consent Order for such Non-Residential Sites interim remedial measures and a RI/FS, and shall design and implement a remedial action to remedy the problem associated with the chromite ore processing

residue, chromium and its compounds whether or not any hazardous substances or pollutants are intermingled therewith.

57. PPG shall conduct for such Non-Residential Sites, in accordance with the provisions of this Administrative Consent Order, interim remedial measures and delineation and remediation of chromite ore processing residue, chromium and its compounds whether or not any hazardous substances or pollutants are intermingled therewith.

58. Upon PPG's receipt of written notice from the Department of the existence of any additional Non-Residential Site or Non-Residential Sites identified pursuant to paragraphs 56 and 57 above, PPG shall undertake the obligations set forth in paragraphs 34 through 55, above, regarding such additional Non-Residential Site or Non-Residential Sites and in accordance with the time periods set forth therein.

#### IV. Remedial Action for Residential Sites

##### A. Site Specific Delineation

59. PPG shall design and implement the remedial action for the Residential Sites which the Department selected in its April 17, 1990 Record of Decision (hereinafter the "ROD"), in accordance with the paragraphs 60 through 71 below.

59a. Within sixty (60) days after the effective date of this Administrative Consent Order, PPG shall submit a written Residential Sites Grouping and Scheduling Plan which describes PPG's proposal for the organization of the Residential Sites into groups and for the scheduling of those groups for the remedial actions to be performed by PPG pursuant to this Administrative Consent Order. PPG shall include in the Residential Sites Grouping and Scheduling Plan a detailed schedule of each of the remedial activities called for in paragraphs 60 through 71, inclusive, (including the submission, revision and implementation of FSP-QAPPs in accordance with Appendix J, submission and revision of Preliminary Designs and the submission, revision and implementation of Final Designs in accordance with Appendices K and L) for each of the groups of sites identified and provide both graphical and narrative descriptions of the scheduling of those activities and their chronological relationship. PPG shall draft the schedule submitted in the Residential Sites Grouping and Scheduling Plan to provide for completion of all remedial actions called for in paragraphs 60 through 71 inclusive at each of the Residential Sites within eight hundred (800) days after the effective date of this Administrative Consent Order.

59b. Within five (5) calendar days after PPG's receipt of the Department's written comments on the Residential Sites Grouping and Scheduling Plan, PPG shall modify the Residential Sites Grouping and Scheduling Plan to conform to the Department's comments and shall submit the modified Grouping and Scheduling Plan to the Department. The determination as to whether or not the modified Residential Sites Grouping and Scheduling Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable shall be made solely by the Department in writing.

59c. As part of the Residential Sites Grouping and Scheduling Plan, PPG may petition the Department to allow Preliminary and Final Designs described herein below, to be submitted concurrently with the FSP-QAPPs for those Residential Sites where only a minimal amount of additional delineation may be required and where such delineation can be effectively carried out concurrently with removal of chromium contamination from the site. The petition must be submitted by PPG in writing to the Department. The determination as to whether or not the petition is granted shall be made solely by the Department in writing.

59d. All reports, plans or other submissions required in paragraphs 59 through 72 of this Administrative Consent Order shall be submitted for the groups designated in the Residential Sites Grouping and Scheduling Plan.

60. Within ninety (90) calendar days after the effective date of this Administrative Consent Order, PPG shall submit to the Department a detailed draft Field Sampling Plan - Quality Assurance Project Plan (hereinafter the "FSP-QAPP") for the initial group of sites identified within the approved Residential Sites Grouping and Scheduling Plan and for all other groups in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan. PPG shall prepare each FSP-QAPP in accordance with Appendix J which is attached hereto and made a part hereof.

61. PPG shall modify each draft FSP-QAPP to conform to the Department's comments and shall submit each modified FSP-QAPP to the Department in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan. The determination as to whether or not the modified FSP-QAPP, as resubmitted, conforms to the Department's comments and is otherwise acceptable shall be made solely by the Department in writing.

62. PPG shall complete the implementation of the FSP-QAPP in accordance with the approved FSP-QAPP and the approved Residential Sites Grouping and Scheduling Plan.

63. PPG shall submit to the Department draft Field Sampling Reports containing data and documentation required in Appendix J and the approved FSP-QAPP in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan.

64. If upon review of any draft Field Sampling Report, the Department determines that additional site specific sampling is required, PPG shall conduct such additional site specific sampling as required by the Department in writing and submit a supplemental Field Sampling Report.

65. PPG shall modify each draft or supplemental draft Field Sampling Report to conform to the Department's comments and shall submit a modified Field Sampling Report to the Department in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan or in accordance with a schedule otherwise specified by the Department. The determination as to whether or not any modified Field Sampling Report as resubmitted, conforms with the Department's comments and is otherwise acceptable shall be made solely by the Department in writing.

## B. Preliminary Design

66. PPG shall submit to the Department a draft Preliminary Design for each group of sites for which the Field Sampling Report has been approved in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan and in accordance with Appendix K, including: a) the Preliminary Design Report; b) Construction Operations Plan; c) Preliminary Engineering Plans; d) Specifications; and e) Permit documents.

67. PPG shall modify each draft Preliminary Design to conform to the Department's comments and shall submit the modified Preliminary Design to the Department in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan. The determination as to whether or not the modified Preliminary Design, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

## C. Final Design

68. PPG shall submit to the Department a draft Final Design for the group of sites for which the Preliminary Design has been approved and in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan and in accordance with Appendix K, including: a) the Final Design Report; b) Final Engineering Design and Construction Drawings; c) Final Construction Specifications; d) Final Construction Operations Plan; and e) Specifications.

69. PPG shall modify each draft Final Design to conform to the Department's comments and shall submit the modified Final Design to the Department in accordance with the schedule contained in the approved Residential Sites Grouping and Scheduling Plan. The determination as to whether or not the modified Final Design, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

## D. Construction

70. Within fifteen (15) calendar days after PPG's receipt of the Department's written approval of any Final Design, PPG shall submit a schedule for implementation of the Final Design for the group of sites for which the Final Design has been approved. The schedule shall provide for completion of the implementation of the Final Design in accordance with the approved Residential Sites Grouping and Scheduling Plan and specify the groupings and order of implementation for each of the Residential Sites.

71. PPG shall complete implementation of each Final Design in accordance with the approved schedule and all the requirements of Appendix L.

## E. Additional Residential Sites

72. For each additional Residential Site, identified by the Department, contaminated with chromite ore processing residue and chromium and its compounds from the Garfield Avenue Site, or which is adjacent to the Garfield Avenue Site, a Non-Residential Site or a Residential Site, and is



contaminated by chromite ore processing residue, chromium and its compounds, emanating or which has emanated from Garfield Avenue Site, or any of the Non-Residential or Residential Sites or which is adjacent to the Garfield Avenue Site or any of the Non-Residential or Residential Sites, PPG shall conduct, in accordance with the provisions of this Administrative Consent Order, interim remedial measures and the remedial action the Department selected in the ROD for the Residential Sites, to remedy the problem associated with the chromite ore processing residue, chromium and its compounds whether or not any hazardous substances or pollutants are intermingled therewith. Upon PPG's receipt of written notice from the Department of the existence of any additional Residential Site(s) identified pursuant to the preceding paragraph, PPG shall undertake the obligations set forth in paragraph 59 through 71 above, regarding such additional site(s) and in accordance with the time periods set forth therein.

F. Additional Remedial Investigation and Remedial Action for Residential Sites

73. If at any time prior to PPG's receipt of written notice from the Department pursuant to paragraph 134 below the Department determines that additional remedial investigation and/or remedial action is required to protect human health or the environment from any chromite ore processing residue, chromium and its compounds, whether or not any hazardous substances or pollutants are intermingled therewith, at, emanating from or which have emanated from the Residential Sites including but not limited to the groundwater migration route, PPG shall conduct such additional activities as directed by the Department.

V. Progress Reports

74. PPG shall submit to the Department quarterly progress reports; the first progress report shall be submitted on or before the thirtieth (30th) calendar day of the month following the first full quarter after the effective date of this Administrative Consent Order. Each progress report thereafter shall be submitted on or before the thirtieth (30th) calendar day of the month following the quarter being reported. Each progress report shall detail the status of PPG's compliance with this Administrative Consent Order and shall:

- a. Identify the site grouping and refer to this Administrative Consent Order, including signatory parties and effective date;
- b. Identify specific requirements of this Administrative Consent Order (including the corresponding paragraph number or schedule) which were initiated during the reporting period;
- c. Identify specific requirements of this Administrative Consent Order (including the corresponding paragraph number or schedule) which were initiated in a previous reporting period, which are still in progress and which will continue to be carried out during the next reporting period;

- d. Identify specific requirements of this Administrative Consent Order (including the corresponding paragraph number or schedule) which were completed during the reporting period;
- e. Identify specific requirements of this Administrative Consent Order (including the corresponding paragraph numbers or schedule) which should have been completed during the scheduled reporting period and were not;
- f. Explain any potential non-compliance with any approved work plan(s), schedule(s) or Remedial Action Plan(s), and actions taken or to be taken to rectify any scheduled requirement not achieved; and
- g. Identify the specific requirements of this Administrative Consent Order (including the corresponding paragraph number or schedule) that will be initiated during the next reporting period.

## VI. Permits

75. This Administrative Consent Order shall not be construed to be a permit or in lieu of a permit for future activities which require permits and it shall not relieve PPG from obtaining and complying with all applicable Federal, State and local permits necessary for any future activities which PPG must perform pursuant to this Administrative Consent Order.

76. PPG shall submit complete applications for all Federal, State and local permits required to carry out its obligations under this Administrative Consent Order in accordance with the approved time schedules.

77. Within forty-five (45) calendar days after PPG's receipt of written comments from the permitting agency concerning any permit application to a Federal, State or local agency, or within a time period extended in writing by the Department, PPG shall modify the permit application to conform to the permitting agency's comments and resubmit the permit application to the agency. Within this timeframe for a Departmental permit, PPG may explain verbally or in writing to the Department, the reason(s) why PPG believes the Department's comments should not be incorporated. Representatives of the Department may meet with representatives of PPG within this timeframe to discuss PPG's comments. The determination as to whether or not the permit application, as resubmitted, conforms with the agency's comments or is otherwise acceptable to the agency shall be made solely by the agency in writing.

78. The terms and conditions of any Federal, State or local permit or permit modification issued to PPG shall not be preempted by the terms and conditions of this Administrative Consent Order even if the terms and conditions of any such permit or permit modification are more stringent than the terms and conditions of this Administrative Consent Order. To the extent that the terms and conditions of any such permit or permit modification are substantially equivalent to the terms and conditions of this Administrative Consent Order, PPG hereby waives any rights it may have

to a hearing on such terms and conditions; under all other circumstances, such hearing rights are specifically preserved.

79. PPG shall be responsible for obtaining all necessary Federal, State and local permits, licenses and other authorizations for existing or former activities at the Garfield Avenue Site necessary for compliance with this Administrative Consent Order. This Administrative Consent Order shall not be construed to be a permit or permit modification for existing or former activities which require permits or permit modifications, nor shall it preclude the Department from requiring that PPG apply for such permit or permit modification.

#### VII. Project Coordination

80. PPG shall submit to the Department all documents required by this Administrative Consent Order, including correspondence relating to force majeure issues, by certified mail, return receipt requested or by hand delivery with an acknowledgement of receipt form for the Department's signature. The date that the Department executes the receipt or acknowledgement will be the date the Department uses to determine PPG's compliance with the requirements of this Administrative Consent Order and the applicability of stipulated penalties and any other remedies available to the Department.

81. The following individual shall be the PPG contact for the Department for all matters concerning this Administrative Consent Order, and shall be the agent for the purpose of service for all matters concerning this Administrative Consent Order:

Leonard S. Bryant  
Manager, Environmental Projects  
Chemicals Group  
PPG Industries, Inc.  
One PPG Place  
Pittsburgh, PA 15272  
(412) 434-2811

82. PPG shall submit three (3) copies of all documents required by this Administrative Consent Order, unless otherwise directed by the Department, to:

Tom McKee, Section Chief  
New Jersey Department of Environmental Protection  
Division of Hazardous Waste Management  
Responsible Party Cleanup Element, 5th Floor  
CN-028  
401 East State Street  
Trenton, New Jersey 08625-0028

83. PPG shall notify, both verbally and in writing, the contact person listed above at least two weeks prior to the initiation of any field activities, other than IRM field activities, and 48 hours prior to initiation of any IRM field activities.

VIII. Financial Assurance Requirements

84. PPG shall submit to the Department as provided in this paragraph, financial assurance for the work to be performed pursuant to this Administrative Consent Order of eighty million dollars (\$80,000,000.00). PPG shall within ten (10) business days after the effective date of this Administrative Consent Order, provide a total of forty million dollars (\$40,000,000.00), of which ten million dollars (\$10,000,000.00) will be in the form of either an irrevocable letter of credit or performance bond designated for the Non-Residential sites, and thirty million dollars (\$30,000,000.00) will be in the form of either an irrevocable letter of credit or performance bond designated for the Residential Sites. Within three hundred sixty five (365) calendar days after the effective date of this Administrative Consent Order, PPG shall modify the irrevocable letter of credit or performance bond described above for the Non-Residential Sites to provide a total of twenty-five million dollars (\$25,000,000.00). Within seven hundred thirty (730) calendar days after the effective date of this Administrative Consent Order, PPG shall modify the irrevocable letter of credit or performance bond described above for the Non-Residential Sites to provide a total of fifty million dollars (\$50,000,000.00). Within three (3) business day after the execution of this Administrative Consent Order, PPG shall establish two (2) irrevocable standby trust funds, one (1) for the Residential Sites financial assurance and one (1) for the Non-Residential Sites financial assurance, each with an initial deposit of One Thousand Dollars (\$1,000) or an amount required by the issuing institution. The irrevocable letter(s) of credit, the performance bond(s), and the Standby Trusts shall meet the following requirements:

i. Irrevocable Letter of Credit

- a. Is identical to the wording specified in Appendix G for letters of credit, which is attached hereto and made a part hereof;
- b. is issued by a Federally chartered bank, savings bank, or New Jersey State chartered bank, savings bank, or savings and loan association, which has its principal office in New Jersey; and
- c. Is accompanied by a letter from PPG referring to the letter of credit by number, issuing institution and date and providing the following information: the name and address of the facility and/or site which is the subject of the Administrative Consent Order and the amount of funds securing the PPG's performance of all its obligations under the Administrative Consent Order.

ii. Performance Bond

- a. Is identical to the wording specified in Appendix G for performance bonds, which is attached hereto and made a part hereof;
- b. The surety company issuing the performance bond shall be among those listed as acceptable sureties on Federal bonds in the most recent version of Circular 570 issued by the U.S. Department of the Treasury, which is published annually on July 1 in the Federal Register; and

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- c. Is accompanied by a letter from PPG referring to the performance bond by number, issuing institution and date and providing the following information: the name and address of the facility and/or site which is the subject of the Administrative Consent Order and the amount of funds securing PPG's performance of all its obligations under the Administrative Consent Order.

iii. Standby Trust

- a. Is identical to the wording specified in Appendix H, which is attached hereto and made a part hereof;
- b. At the discretion of the Department, the irrevocable standby trust fund shall be the depository for all funds paid pursuant to a draft by the Department against the letter of credit or payments made under the performance bond as directed by the Department;
- c. The trustee shall be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or New Jersey agency; and
- d. Is accompanied by an executed certification of acknowledgement that is identical to the wording specified in Appendix H.

85. PPG shall establish and maintain each of the standby trust funds until terminated by the written agreement of the Department, the trustee and PPG, or of the trustee and the Department if PPG ceases to exist. PPG shall maintain each of the letter(s) of credit or performance bond(s) until the Department provides written notification to PPG that the financial assurance is no longer required for compliance with this Administrative Consent Order. In the event that the Department determines that PPG has failed to perform any of its obligations under this Administrative Consent Order, the Department may proceed to have the financial assurance deposited into the standby trusts; provided, however, that before the Department takes this action, the Department shall notify PPG in writing of the obligation(s) which it has not performed, and PPG shall have thirty (30) calendar days after receipt of such notice, unless extended in writing by the Department, to remedy the failure to perform such obligation(s). In the event that the Department draws down on PPG's letter(s) of credit or performance bond(s) or other financial assurance, it is agreed that nothing in this Administrative Consent Order shall preclude the PPG from exercising whatever rights it may have, if any, to challenge the Department's action as provided for in paragraph 109 below.

86. At any time, PPG may apply to the Department to substitute other financial assurances in a form, manner and amount acceptable to the Department.

87. PPG agrees that for the purposes of complying with the financial assurance requirements of this Administrative Consent Order, PPG shall select a financial institution or surety, and a trustee, that shall agree in writing to be subject to the jurisdiction of New Jersey courts for all claims made by the Department against the financial assurance.

B. Further Financial Assurance

88. No further financial assurance shall be required of PPG under this Administrative Consent Order. However, PPG hereby expressly agrees that the financial assurance as provided for above, is not a limit on spending or liability.

C. Project Cost Review

89. Beginning three hundred sixty-five (365) calendar days after the effective date of this Administrative Consent Order and annually thereafter on that same calendar day, PPG shall submit to the Department a detailed review of all costs required for PPG compliance with this Administrative Consent Order.

90. PPG shall also submit a detailed cost review within fourteen (14) calendar days after its award of a contract or contract modification for the implementation of the remedial alternate for the Garfield Avenue Site and each of the Non-Residential and Residential Sites.

91. The project cost review referenced in the two preceding paragraphs shall include a detailed summary of all monies spent to date pursuant to this Administrative Consent Order for such site, the estimated cost of all future expenditures required to comply with this Administrative Consent Order (including any operation and maintenance costs) for such site, and the reason for any changes from the previous cost review submitted by PPG for the Garfield Avenue Site and each of the Non-Residential and Residential Sites.

92. Simultaneous with the submission of any cost review required above, PPG may request the Department's approval to reduce the amount of the financial assurance to reflect the remaining costs of performing its obligations under this Administrative Consent Order.

93. Upon PPG's receipt of the Department's written response to PPG's request, PPG shall either maintain compliance with the then existing financial assurance requirement or amend the financial assurance in accordance with the Department's written response. If the Department grants written approval of PPG's cost review request, PPG may amend the amount of the then existing financial assurance so that it is equal to or greater than the estimated remaining costs of performing the obligations required by this Administrative Consent Order.

D. Oversight Cost Reimbursement

94. Within thirty (30) calendar days after PPG's receipt from the Department of a summary of the costs, including cost documentation that verifies that the claimed costs were incurred and that the amount of the costs was properly calculated, and will include the amount, date, entity or person to whom the costs were paid or by whom the costs were incurred in connection with its oversight functions of this Administrative Consent Order for a fiscal year, or any part thereof, PPG shall submit to the Department a cashier's or certified check payable to the "Treasurer, State of New Jersey" for the full amount of the Department's oversight costs.

E. Stipulated Penalties

95. Within thirty (30) calendar days after PPG's receipt of a written demand made by the Department, PPG shall pay stipulated penalties to the Department for PPG's failure to comply with any of the deadlines or schedules applicable to it and required by this Administrative Consent Order including those established and approved by the Department in writing pursuant to this Administrative Consent Order. Each deadline or schedule not complied with shall be considered a separate violation and stipulated penalties shall begin to accrue on the first calendar day following the day that performance is due or noncompliance accrue and shall continue to accrue through the final day of correction of the non-compliance. The Department may determine that a submittal of insufficient quality constitutes a non-compliance. Stipulated penalties for such violations shall only accrue for sixty (60) calendar days unless the Department provides PPG written notice that stipulated penalties continue to accrue from the date of receipt by PPG until PPG corrects the non-compliance. Interest shall accrue on any unpaid stipulated penalties commencing on the first day following the end of the thirty (30) day pay period. The interest rate shall be that rate set forth in the New Jersey Court Rules, R. 4:42-11(a)i. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Administrative Consent Order. In addition, failure to pay a stipulated penalty on time shall be an additional violation of this Administrative Consent Order subject to stipulated penalties.

96. PPG's payment of stipulated penalties for PPG's failure to comply with the deadlines and schedules associated Remedial Action for Residential Sites required by this Administrative Consent Order, as identified below, shall be made according to the following schedule, unless the Department has modified the compliance date pursuant to the force majeure provisions set forth herein:

Calendar Days for Due Date

Stipulated Penalties for Residential Sites

1 - 7	\$ 2,000 per calendar day
8 - 14	\$ 4,000 per calendar day
15 - 21	\$ 6,000 per calendar day
22 - 28	\$ 10,000 per calendar day
29 - over	\$ 20,000 per calendar day

97. PPG's payment of stipulated penalties for PPG's failure to comply with the deadlines and schedules associated with the major deliverables and tasks for the Garfield Avenue Site, and the Non-Residential Sites required by this Administrative Consent Order, as identified below, shall be made according to the following schedule, unless the Department has modified the compliance date pursuant to the force majeure provisions set forth herein:

Major Deliverables and Tasks

- timely delivery of all draft and final workplans
- timely delivery of all draft and final reports and designs

- performance of remedial activities including interim remedial measures
- implementation of all approved workplans
- compliance with financial assurance requirements
- payments of penalty settlements and timely reimbursement of prior costs
- timely payment of oversight costs

Calendar Days After Due Date

Stipulated Penalties for  
Non-Residential Sites and  
Garfield Avenue Site

1 - 7	\$ 1,000 per calendar day
8 - 14	\$ 2,000 per calendar day
15 - 21	\$ 3,000 per calendar day
22 - 28	\$ 5,000 per calendar day
29 - over	\$ 10,000 per calendar day

98. Payment of stipulated penalties for all violations for the Garfield Avenue Site and Non-Residential Sites other than set out in paragraph 97 above, shall be made according to the following schedule unless the Department has modified the compliance date pursuant to the force majeure provisions set forth herein:

Calendar Days After Due Date

Stipulated Penalties for  
Non-Residential Sites and  
Garfield Avenue Site

1 - 7	\$ 100 per calendar day
8 - 14	\$ 500 per calendar day
15 - 21	\$ 1,000 per calendar day
22 - 28	\$ 2,500 per calendar day
29 - over	\$ 5,000 per calendar day

99. Payment of stipulated penalties shall be made by a cashier's or certified check payable to the "Treasurer, State of New Jersey" and shall be accompanied by a letter referencing this Administrative Consent Order and the alleged violations for which the penalty is submitted.

100. PPG agrees that it shall not seek to take as a tax deduction any payments submitted pursuant to the above paragraphs.

101. PPG's failure to pay stipulated penalties pursuant to a written demand issued by the Department in accordance with paragraphs 95 thru 98 above, shall constitute a violation of this Administrative Consent Order.

102. The payment of stipulated penalties does not alter the responsibility of PPG to complete any requirement of this Administrative Consent Order.



## IX. Force Majeure

103. If any event as specified in the following paragraph occurs which PPG believes or should believe will or may cause delay in the compliance with any provision of this Administrative Consent Order, PPG shall notify the Department in writing within seven (7) calendar days of the delay or anticipated delay, as appropriate, referencing this paragraph and describing the anticipated length of the delay, the precise cause or causes of the delay, any measures taken or to be taken to minimize the delay, and the time required to take any such measures to minimize the delay. PPG shall take all necessary action to prevent or minimize any such delay.

104. If the Department finds that: (i) PPG has complied with the notice requirements of the preceding paragraph; (ii) any delay or anticipated delay has been or will be caused by fire, flood, riot, strike or other circumstances beyond the control of PPG; and, (iii) PPG has taken all actions that were reasonably necessary to prevent or minimize any such delay, the Department shall extend the time for performance hereunder for a period no longer than the delay resulting from such circumstances. If the Department determines that (a) PPG has not complied with the notice requirements of the preceding paragraph; (b) the event causing the delay is not beyond the control of PPG; or (c) PPG has not taken all necessary actions that were reasonable to prevent or minimize the delay, this paragraph shall not be applicable and failure to comply with the provisions of this Administrative Consent Order shall constitute a breach of the requirements of this Administrative Consent Order. The burden of proving that any delay is caused by circumstances beyond the control of PPG and the length of any such delay attributable to those circumstances shall rest with PPG. Delay in an interim requirement shall not automatically constitute force majeure with respect to the attainment of subsequent requirements. Force majeure shall not include the following: nonattainment of the goals, standards, guidelines and requirements set forth in the appendices attached hereto or otherwise applicable to the site; increases in the costs or expenses incurred by PPG in fulfilling the requirements of this Administrative Consent Order; and, contractor's breach, unless such breach falls within the requirements of (i), (ii) and (iii) of this paragraph.

## X. Reservation of Rights

105. The Department reserves the right to unilaterally terminate this Administrative Consent Order in the event PPG violates the terms or fails to meet the obligations of this Administrative Consent Order.

106. Except as provided for in paragraph 26 above, nothing in this Administrative Consent Order shall preclude the Department from seeking civil or administrative penalties or any other legal or equitable relief against PPG for matters not set forth in the FINDINGS of this Administrative Consent Order.

107. This Administrative Consent Order shall not be construed to affect or waive the claims of federal or State natural resource trustees

against any party for damages or injury to, destruction of, or loss of natural resources.

108. The Department reserves the right to require PPG to take or arrange for the taking of, any and all additional measures should the Department determine that such actions are necessary to protect human health or the environment. Nothing in this Administrative Consent Order shall constitute a waiver of any statutory or common law right of the Department to require PPG to undertake such additional measures should the Department determine that such measures are necessary; nor shall anything in this Administrative Consent Order constitute a waiver by PPG of any statutory or common law defenses, if any, to any attempted action by the Department as to such additional measures.

109. Nothing in this Administrative Consent Order, including PPG's payment of stipulated penalties, shall preclude the Department from seeking civil or civil administrative penalties or any other legal or equitable relief against PPG for violations of this Administrative Consent Order. In any action brought by the Department under this Administrative Consent Order, PPG may raise, inter alia, a defense that PPG failed to comply with a decision of the Department, made pursuant to this Administrative Consent Order, on the basis that the Department's decision was arbitrary, capricious or unreasonable. If PPG is successful in establishing such a defense, then PPG shall not be liable for stipulated penalties for failure to comply with that particular Department decision. Similarly, in the event that PPG prevails in any proceeding in which PPG alleges that the Department acted arbitrarily, capriciously or unreasonably in exercising its right under paragraph 85, above, to draw on the financial assurance, the Department agrees to refund, to the account of the financial assurance, the funds so drawn relative to the contested enforcement action. This provision shall not be construed to provide for reimbursement of the account of the financial assurance for monies drawn for any activity other than that which is the subject of the contested enforcement proceeding in which PPG prevails. PPG shall not seek pre-enforcement review of any decision made or to be made by the Department pursuant to this Administrative Consent Order. Without otherwise affecting any rights which the PPG may have, it is agreed that nothing in this Administrative Consent Order shall preclude PPG from exercising whatever rights it may have, if any, to challenge any determination by the Department which results in the draw down by the Department of PPG's financial assurance under paragraph 85 above, after correction by the Department of the alleged violation(s) which led the Department to draw down the financial assurance and to use such monies to correct the alleged violation(s).

#### XI. General Provisions

110. This Administrative Consent Order shall be binding on PPG's respective agents, successors, assignees and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity.

111. PPG shall perform all work conducted pursuant to this Administrative Consent Order in accordance with prevailing professional standards.

112. All site operations shall be conducted by PPG in accordance with the Health and Safety plan developed as set forth in Appendix B. All site activities shall be conducted in accordance with all general industry (29 CFR 1910) and construction (29 CFR 1926) standards of the federal Occupational Safety and Health Administration (OSHA), U.S. Department of Labor, as well as any other State or municipal codes or ordinances that may apply. PPG shall comply with those requirements set forth in OSHA's final rule entitled "Hazardous Waste Operations and Emergency Response", Section 1910.120 of Subpart H of 29 CFR (published March 6, 1989, Volume 54, Number 42, Federal Register).

113. In accordance with N.J.S.A. 45:8-45, all plans or specifications involving professional engineering, submitted pursuant to this Administrative Consent Order, shall be submitted affixed with the seal of a professional engineer licensed pursuant to the provisions of N.J.S.A. 45:8-1 et seq.

114. All appendices referenced in this Administrative Consent Order, as well as all reports, work plans and documents required under the terms of this Administrative Consent Order that have received approval from the Department, are incorporated into and made a part of this Administrative Consent Order.

115. Each field activity to be conducted pursuant to this Administrative Consent Order shall be coordinated by an on-site professional(s) with experience relative to the particular activity being conducted at the site each day, such as experience in the area of hydrogeology, geology, environmental controls, risk analysis, health and safety or soils.

116. Upon the receipt of a written request from the Department, PPG shall submit to the Department all data and information developed pursuant to this Administrative Consent Order in PPG's possession or control, or which PPG can reasonably bring under their control, concerning pollution at and/or emanating from the Garfield Avenue Site or the Non-Residential Sites or the Residential Sites, or which has emanated from the Garfield Avenue Site and the Non-Residential Sites or the Residential Sites, including raw sampling and monitoring data, whether or not such data and information was developed pursuant to this Administrative Consent Order. PPG reserves whatever rights if any, to assert a privilege regarding such documents.

117. PPG shall make available to the Department all technical records and contractual documents maintained or created by PPG or its agents in connection with this Administrative Consent Order. PPG reserves whatever rights if any, to assert a privilege regarding such documents. The Department shall hold confidential the commercial terms, including rates and payment terms, of any contractual documents made available pursuant to this paragraph; and PPG may delete such commercial terms from any copies supplied to the Department.

118. Except as provided for in the previous paragraph, in order to assert a claim of confidentiality or privilege for any information submitted

by the PPG pursuant to this Administrative Consent Order, PPG asserting such a claim PPG shall follow the Department's procedures in N.J.A.C. 7:14A-11.

119. PPG shall preserve, during the pendency of this Administrative Consent Order and for a minimum of six (6) years after its termination, all data, records and documents in its possession or in the possession of its divisions, employees, agents, accountants, contractors, or attorneys which relate in any way to the implementation of work under this Administrative Consent Order, despite any document retention policy to the contrary. After this six (6) year period, PPG may make a written request to the Department to discard any such documents. Such a request shall be accompanied by a description of the documents involved. The Department will respond in writing to PPG within ninety (90) calendar days after such request, as to its determination and with the specific basis for any denial. Upon written approval by the Department, PPG may discard only those documents that the Department specifically determines are not required to be preserved for a longer time period. Upon receipt of a written request by the Department, PPG shall submit to the Department all records or copies of any such records. PPG reserves whatever rights if any, to assert a privilege regarding such documents. In any event PPG may deliver to the Department any or all records required to be kept longer than six (6) years.

120. Except as provided otherwise in schedules expressly set forth in this Administrative Consent Order or in approved workplans hereunder, upon a written request from the Department, PPG shall submit, according to a time schedule established by the Department, any information necessary for the implementation of this Administrative Consent Order. PPG reserves whatever rights if any, to assert a privilege regarding such documents.

121. Obligations of this Administrative Consent Order are imposed pursuant to the police powers of the State of New Jersey for the enforcement of law and the protection of the public health, safety and welfare and are not intended to constitute debt or debts which may be limited or discharged in a bankruptcy proceeding.

122. In addition to the Department's statutory and regulatory rights to enter and inspect, PPG shall provide the Department and its authorized representatives access to all sites under this Administrative Consent Order at all times under the same conditions under PPG has access for the purpose of monitoring PPG's compliance with this Administrative Consent Order and/or to perform any remedial activities PPG fails to perform as required by this Administrative Consent Order. The Department's and its authorized representatives' access hereunder shall be conditioned upon their compliance with the applicable site's Health and Safety Plan to the maximum extent practicable as determined by the Department.

123. PPG shall not construe any informal advice, guidance, suggestions, or comments by the Department, or by persons acting on behalf of the Department, as relieving PPG of its obligations to obtain written approvals as required herein, unless the Department specifically relieves PPG of such obligations in writing.

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124. No modification or waiver of this Administrative Consent Order shall be valid except by written amendment to this Administrative Consent Order duly executed by PPG and the Department.

125. PPG hereby consents to and agrees to comply with the provisions of this Administrative Consent Order applicable to it, which shall be fully enforceable as an Order in the New Jersey Superior Court upon the filing of a summary action for compliance pursuant to N.J.S.A. 13:1D-1 et seq., the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.

126. PPG waives its rights to an administrative hearing concerning the entry of this Administrative Consent Order.

127. PPG agrees not to contest the authority or jurisdiction of the Department to issue this Administrative Consent Order; PPG further agrees not to contest the terms or conditions of this Administrative Consent Order except as to interpretation or application of such terms and conditions in any action brought by the Department to enforce the provisions of this Administrative Consent Order.

128. Within thirty (30) calendar days after the effective date of this Administrative Consent Order, PPG will withdraw its January 23, 1990 petition to the Department without prejudice, and take the necessary steps to dismiss with prejudice all civil cases against the Department, including but not limited to the following civil cases in the Superior Court of New Jersey, Appellate Division:

- (1) Ultramar Petroleum, Inc. and PPG Industries, Inc. v. New Jersey Department of Environmental Protection, Docket No. A-3389-89T5, filed March 13, 1990;
- (2) Ultramar Petroleum, Inc. and PPG Industries, Inc. v. New Jersey Department of Environmental Protection, Docket No. A-4988-89T5, filed May 30, 1990;
- (3) PPG Industries, Inc. v. New Jersey Department of Environmental Protection, Docket No. A-5054-89T2, filed May 31, 1990 (ROD challenge); and
- (4) PPG Industries, Inc. v. New Jersey Department of Environmental Protection, Docket No. (not assigned), filed July 2, 1990 (Residential Sites Directive challenge).

In no event shall PPG's dismissal of these actions bar PPG from raising any legal or technical challenges to any legal or technical challenges to any future actions of the Department not otherwise prohibited by this Administrative Consent Order that rely on the information or conclusions contained in the administrative records of the prior actions challenged in the above-mentioned civil cases.

129. In the event that the Department determines that a public meeting concerning the cleanup of any of the sites under this Administrative Consent Order is necessary at any time, PPG shall ensure that its appropriate representatives are prepared, available, and participate in any

such meeting upon reasonable notification from the Department of the date, time and place of any such meeting.

130. PPG shall provide a copy of this Administrative Consent Order to each chief contractor and chief subcontractor retained to perform the work required by this Administrative Consent Order. Chief contractor or subcontractor shall be those whose contracts hereunder have a total planned or actual value exceeding \$25,000. PPG shall be responsible to the Department for ensuring that their contractors and subcontractors perform the work herein in accordance with this Administrative Consent Order.

131. PPG agrees not to bring an action or maintain any existing or future claim or demand upon any State fund(s), established for the purpose of remediating or responding to environmental contamination, including the New Jersey Spill Compensation Fund, N.J.S.A. 58:10-23.11i and the Sanitary Landfill Facility Contingency Fund, N.J.S.A. 13:1E-100 et seq., for the cost of investigation and remediation or any other actions required by this Administrative Consent Order and for damages sustained by PPG, its predecessor's or its successors and assigns as a result of contamination attributable to PPG or its predecessors' at sites under this Administrative Consent Order provided however, PPG does not release or waive any right it may have to seek damages otherwise from any other responsible party for such costs or damages.

132. PPG shall provide to the Department written notice of a dissolution of its corporate identity or liquidation of its assets at least thirty (30) calendar days prior to such dissolution or liquidation. PPG shall also provide written notice to the Department of a filing of a petition for bankruptcy no later than the time for giving notice of such filing to creditors or as otherwise required by law. Upon receipt of notice of dissolution of corporate identity, or liquidation of assets, except in the case of a bankruptcy filing, the Department may require that PPG apply to obtain additional financial assurance and thereafter submit to the Department additional financial assurance.

133. As soon as reasonably possible, but not greater than thirty (30) calendar days following the execution of this Administrative Consent Order, PPG shall submit to the Department, along with the executed original Administrative Consent Order, the appropriate documentary evidence (such as a corporate resolution) that the signatory for PPG has the authority to bind PPG, to the terms of this Administrative Consent Order. PPG's representative, however, certifies that he or she is fully authorized by PPG to enter into the terms and conditions of this Administrative Consent Order and to bind that entity to it.

134. Except as to paragraph 117, and the December 2, 1988 Directive to the extent that the Department notified PPG in writing that PPG completed the IRMs in satisfaction of the December 2, 1988 Directive, the requirements of this Administrative Consent Order shall be deemed satisfied upon the receipt by PPG of written notice from the Department that PPG has demonstrated, to the satisfaction of the Department, that the obligations imposed by this Administrative Consent Order have been completed by PPG.

135. Except as provided for in paragraph 26 above, by entering into this Administrative Consent Order, the Department does not waive its right to assess or collect civil or civil administrative penalties for past, present and future violations by the PPG of any New Jersey environmental statutes or regulations.

136. The obligations and liabilities of any non-signatories to this Administrative Consent Order shall not be discharged or extinguished by this Administrative Consent Order.

137. PPG admits that it has agreed to comply with the terms of this Administrative Consent Order. Neither the entry into this Administrative Consent Order nor the conduct of PPG hereunder, shall be construed as any admission of fact, fault or liability by PPG under any applicable laws or regulations.

138. This Administrative Consent Order shall become effective upon the execution by all parties hereto.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Date: July 19, 90

By: Ronald T. Corcory  
Ronald T. Corcory, Assistant Director  
Responsible Party Cleanup Element  
Division of Hazardous Waste Management

Date: July 19, 1990

PPG INDUSTRIES, INC.

By: Richard M. Rompala  
Richard M. Rompala  
Group Vice President, Chemicals



## ATTACHMENT ONE

## NON-RESIDENTIAL CHROMATE CHEMICAL PRODUCTION WASTE SITES

SITE #**	SITE-NAME	LOCATION	BLOCK	LOT
121	Garfield Auto Parts	942 Garfield Avenue Jersey City	2040	B1,K,H
143	F. Talarico Auto	846 Garfield Avenue Jersey City	2007	1-15
002	Caven Point 1	80 Caven Point Road Jersey City	1497	2L
003	Caven Point 2	Rear of 80 Caven Point Road, Jersey City	1497	2R
004	Caven Point 3	90 Caven Point Road Jersey City	1497	2N
005	Caven Point 4	Rear of 90 Caven Point Road, Jersey City	1497	2K
016	Linden East	Linden Avenue East Jersey City	1507	4L,4J
063	Baldwin Oils & Commodities, Inc.	Caven Point Road at Burma Road, Jersey City	2154.2	4
107	Fashionland	18 Chapel Avenue Jersey City	1505	Z.1
108	Albanil Dyestuff	20 E. Linden Avenue Jersey City	1505	Y
112	Ultramar Petroleum #1	Caven Point Road and Linden Avenue East Jersey City	1507 1494 1497	10F, 4DDV, 1H,1E, 2,2V, 2B,2E, 2G
114	Garfield Avenue Site	880 Garfield Avenue Jersey City	2026A,2 016	A11
132	Town & Country Linen Warehouse	808 Garfield Avenue Jersey City	2006.1	2
133	Ross Wax	22 Halladay Street Jersey City	2017	1K

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## ATTACHMENT ONE (continued)

SITE #*	SITE NAME	LOCATION	BLOCK	LOT
135	Vitarroz	51-99 Pacific Avenue Jersey City	2017	1
137	Rudolf Bass, Inc.	45 Halladay St. Jersey City	2016	A2
147	Hartz Mountain (Douglas Holdings Corp.)	Baldwin Avenue Weehawken	36D	5B, 6B
008	DEP Green Acres Site	East of Ultramar, North of Port Liberte Jersey City	1497	12
065	Burma Road	West side of Burma Rd. Near Caven Point Rd. Jersey City	1497	
066	Caven Point 5 (aka Site 2 & 3)	Government Road Jersey City	1497	2L, 2R
146	Commerce Street Site	Foot of Commerce St. Bayonne		

\* Site number as designed by the Department.

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## ATTACHMENT TWO

## RESIDENTIAL SITES

SITE #*	SITE NAME	LOCATION	BLOCK	LOT
001	Bramhall Ave.	597 Bramhall Ave.	1960	65
006	Communipaw 1	378 Communipaw Ave.	2054	1
010	Grand St. 4	383 Grand St.	339	84, 86
011	Grand St. 5	267, 269, 271 Grand St.	233	204, 205, 206
012	Grand St. 6	539-547 Grand St.	2087	27, 28A 29, 30
013	Halladay St.	215 Halladay St.	2042	L
014	Kearny Ave.	30-32 Kearny Ave.	1996	11, 12
018	Pacific 1	421-425, 443-47 Pacific Ave.	2091	3A, 3B, 4A
022	Woodward St.	299-301 Woodward St.	2087	12, 13
023	Communipaw 2, 3	499-501 Communipaw Ave.	1942	C
024	Communipaw 4	839, 841-843 Communipaw Ave.	1744	9, 10
028	Dwight St. #1b	194 Dwight St.	1326	86
029	Dwight St. #1c	190 Dwight St.	1326	85A
037	Martin Luther King Dr. (Jackson Ave.)	143-147 Martin Luther King Dr. (Jackson Ave.)	1328	11F, 11K
038	Cambridge Ave.	51 Cambridge Ave.	753	14
039	Pine St.	260 Pine St.	2070	A
074	Dwight St. #10	188 Dwight St.	1326	83.A
075	Dwight St. #12	121 Dwight St.	1330	16
080	Grand St. #1	223-225 Grand St.	198	14, 15
081	Grand St. #2	215-217 Grand St.	198	18, 19
082	Grand St. #	237 Grand St.	198	8

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## ATTACHMENT TWO (continued)

SITE #*	SITE NAME	LOCATION	BLOCK	LOT
083	Grand St. #7	235 Grand St.	198	9
084	Grand St. #8	219 Grand St.	198	17
085	Grand St. #9	381 Grand St.	339	86
089	Martin Luther King Dr. #3 (Jackson Ave.)	149 Martin Luther King Dr. (Jackson Ave.)	1328	11L
096	Ninth St. Firehouse	211 Ninth St. near Grove	1051	28
102	Woodlawn St.	124A Woodlawn	1335	34B, 35A
118	La Point Park	DeKalb St.	1839	38, 39
123	Stegman St.	136 Stegman St.	1318	41A
127	Pine St. 2	262-266 Pine St.	2070	81, 82
128	Monitor St.	65-71 Monitor St.	2070	15, 16 17, 18
129	Dwight St.	Dwight St.	1326	82A

\* Site number as designated by the Department.

LIST OF APPENDICES

APPENDIX

TITLE

A	INTERIM REMEDIAL MEASURES SCOPE OF WORK
B	REMEDIAL INVESTIGATION SCOPE OF WORK
C	QUALITY ASSURANCE REQUIREMENTS
D	MONITOR WELL SPECIFICATIONS
E	FEASIBILITY STUDY SCOPE OF WORK
F	REMEDIAL ACTION SCOPE OF WORK
G	LETTER OF CREDIT WORDING AND PERFORMANCE BOND WORDING DOCUMENT
H	STANDBY TRUST WORDING DOCUMENT
I	RESERVED
J	FIELD SAMPLING PLAN - QUALITY ASSURANCE PROJECT PLAN FOR RESIDENTIAL SITES
K	REMEDIAL ACTION DESIGN FOR RESIDENTIAL SITES
L	REMEDIAL ACTION CONSTRUCTION FOR RESIDENTIAL SITES