

## Memorandum

To	Richard Feinberg, PPG	Page	1
CC	Tom Gibbons (CB&I), Scott Mikaelian (AECOM); Site 174 – Dennis Collins Park, Bayonne, NJ		
Subject	<b>RAWP Addendum - Additional Remedial Investigation Activities to Assess Extent of Visible CCPW</b>		
From	Al LoPilato, AECOM		
Date	June 26, 2013		

On April 8, 2013, AECOM, on behalf of PPG, initiated a Remedial Action at Site 174 pursuant to the approved Remedial Action Work Plan (RAWP).

In summary, the RAWP stipulated remediation (excavation) of approximately 150 tons of impacted soils to pre-delineated excavation limits. The approved RAWP also required that all visible CCPW be removed.

On April 8, upon completion of the excavation as proposed in the RAWP, a visible “seam” of Chromate Chemical Processing Waste (CCPW) was observed on three of the four excavation sidewalls, apparently extending beyond the pre-determined limits of excavation. The depth of the CCPW seam ranged from 1.0 to 2.0 feet below grade.

Due to multiple factors, including the proximity of a number of park features (children’s playground, fencing, restroom building, additional asphalt walkway, etc.) that could not be disturbed without approval from the City of Bayonne, “over-excavation” of the remedial action area to remove additional visible CCPW could not be accomplished during the April mobilization.

However, a number of manually dug shallow test holes were advanced on April 8, in order to further assess the extent of visible CCPW material beyond the excavated area. Based on the test hole findings, a significant amount of visible CCPW likely exists west of the original RAWP excavation limits. It also appears that the presence of visible CCPW to the east is likely relatively limited. Additional investigation to the South and North is needed, in order to assess potential extent of visible CCPW in those directions.

### **Scope of Work**

The purpose of this additional Remedial Investigation (RI) is to delineate the areal extent of visible CCPW material, which was previously encountered beyond the proposed excavation limits during the initial soil remedial action activities on April 8, 2013. As depicted on attached Figure 1, and as discussed with PPG, NJDEP and Weston on a conference call on June 3, 2013, at least 14 additional test holes will be advanced to further assess the extent of visible CCPW at Site 174. In addition, AECOM plans to manually advance via hand-auger one soil boring in the landscape berm adjacent and north of the playground area.

As discussed with NJDEP, these proposed field activities will generally be conducted pursuant to the requirements of the previously approved Remedial Action Work Plan (RAWP). The work will be implemented in discrete, small areas of investigation (exclusion zones) at each of the delineation locations proposed on Figure 1.

At landscaped areas, the grass and topsoil will be carefully removed and the test holes will be advanced to look for evidence of visible CCPW. At asphalt covered areas, the asphalt will be cut and removed prior to excavation. Soil and other material temporarily removed will be placed on plastic adjacent to the test hole, and will be kept wet as needed to avoid generation of dust. Once the investigation at each location has been completed, top soil and grass will be replaced at landscape areas. Test holes in asphalt areas will be repaired with asphalt patch. Air monitoring will be conducted during in accordance with the RAWP during all field investigation activities.

At test hole locations where CCPW is observed, conditions will be photo documented, and depth and estimated percentage of CCPW material will be logged in a field book. No pre-post excavation samples will be collected where CCPW is observed.

At test hole locations where CCPW is not observed, and which are presumed to be at or beyond the limits of additional remedial action, pre post-excavation soil samples will be collected and analyzed for total chromium, hexavalent chromium, thallium, antimony, nickel and vanadium. Laboratory analysis for a total of 20 pre-post excavation samples (14 pre-post excavation samples and 6 QA/QC plus costs for reanalysis of 10 samples) is anticipated.

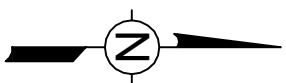
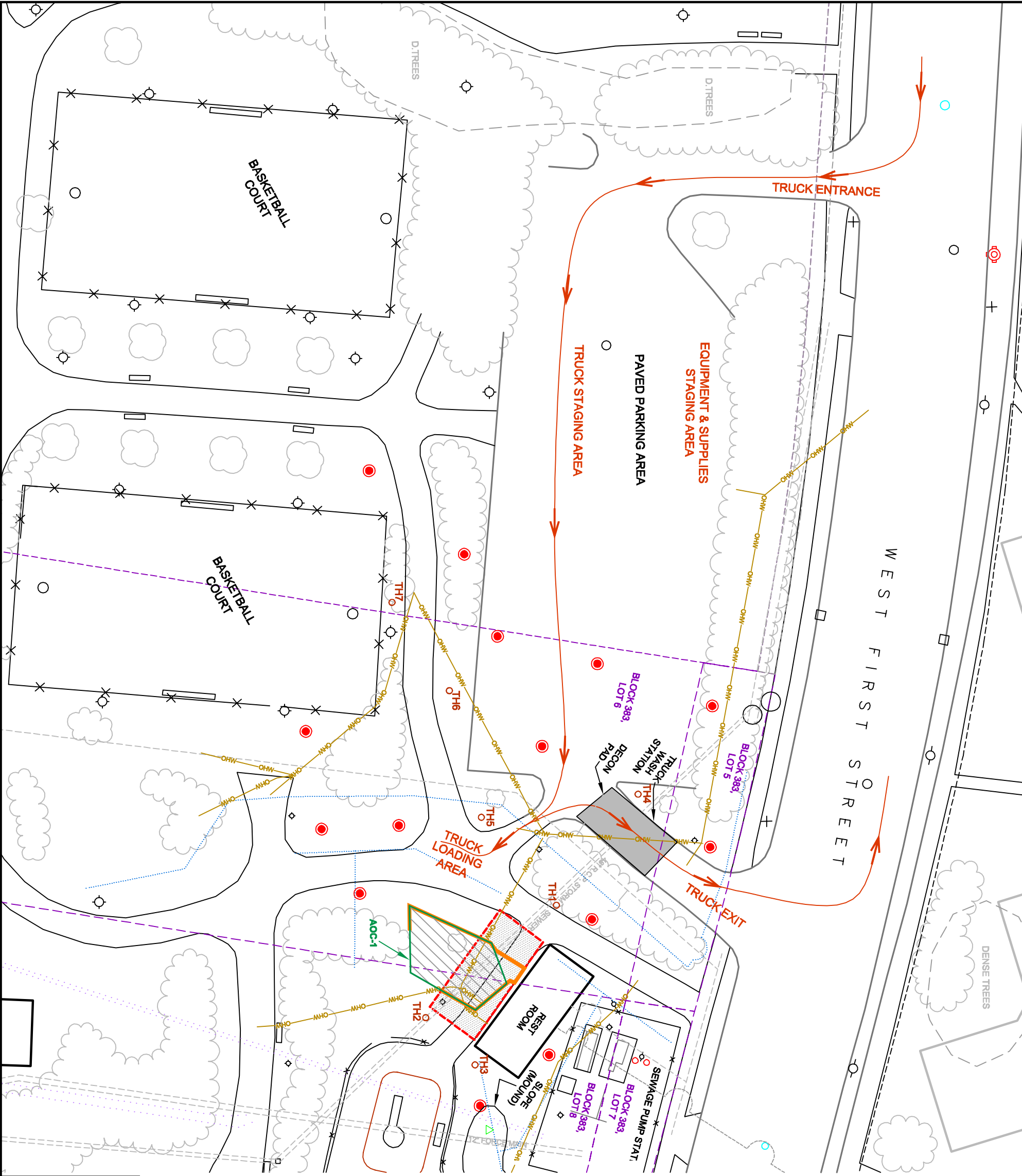
Note that test hole location frequency at the anticipated perimeter of the visible CCPW area is currently not sufficient to meet the default requirements of NJAC 7:26E or NJDEP Guidance (i.e. 1 sample every 30 feet of sidewall and one bottom sample for every 900 square feet); however, NJDEP has requested that this data gap be filled via post-excavation sidewall sampling, which will be conducted (and priced out) with the remedial action activities.

PPG has also requested that waste classification sampling be conducted during this phase of the investigation. Based on previous findings, the areal extent of visible CCPW impact is assumed not exceed 240 feet long x 240 feet wide x 2 feet deep (115,200 square feet). This translates to 4,266 cubic yards or approximately 5,000 tons using factor of 1.3.

Assuming that 5,000 tons of material will be disposed, the following frequency for waste classification sampling is proposed:

Summary of Waste Facility Sampling Requirements (Assume 5,000 Tons Max)					
Facility	Category	Method	Frequency	Analytes	Number of samples collected
Clean Earth, Philadelphia, PA Chromium/Direct Re-Use	Non-Hazardous	Grab-1	1st 180 tons, 2nd 180 tons, every 180 thereafter	TPH-GRO/DRO, TOX	28
	Non-Hazardous	Grab-2	Every 180 tons	Total VOCs, TCLP VOCs	28
	Non-Hazardous	5-Point Composite	Every 750 tons	TPH-GRO/DRO, Total VOCs/SVOCs, TOX, Ignitibility, Corrosivity, Reactivity-Sulfide and Cyanide, PCBs, Total Metals, TCLP Metals, TCLP VOCs/SVOCs, TCLP Herbicides/Pestici des, % Moisture	7

Investigation Derived Waste (IDW) generation is expected to be minimal, but potentially may include less than one drum each of waste PPE, asphalt, and/or decon water. These items will be removed from the Site by Clean Earth upon completion of the field activities.



**Legend**

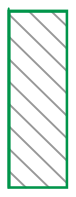
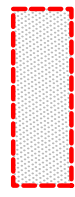










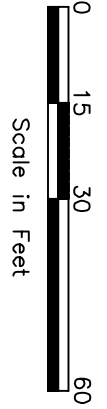
-  AOC 1 ESTIMATED EXTENT OF REMEDIAL ACTION AREA
-  INTERIM REMEDIAL MEASURE AREA (IRM)
-  VISUALLY OBSERVED CHROMATE ORE PROCESSING RESIDUE (COPR) (SEE TABLE 1 BELOW FOR DEPTHS)
-  PROPOSED DELINEATION LOCATION
-  VISUAL COPR AT EXCAVATION LIMIT
-  24" WATER MAIN
-  WATER LINE
-  LOT BOUNDARY
-  ELECTRIC LINE
-  TRUCK ROUTE & DIRECTION OF TRAVEL
-  BELOW GROUND SURFACE
-  Hand auger Location

TABLE 1  
 DESCRIPTION AND DEPTH (bgs)

ID	DESCRIPTION AND DEPTH (bgs)
TH1	COPR AT 12'-14"
TH2	<1% COPR TO 2'
TH3	COPR AT 6-7"
TH4	COPR AT 12" <1" SEAM
TH5	COPR AT 8" CEMENTED
TH6	COPR AT 16'-18"
TH7	<1% COPR TO 18"

\*TH6 APPROXIMATELY 65' WEST OF EXCAVATION LIMIT. COPR SEAM APPEARS TO BE THINNING OUT AT TH3 AND TH4. COPR SEAM ENDS 2 FEET SOUTH OF THE REST ROOM

NOTES: SUBSURFACE UTILITY LOCATIONS ADAPTED FROM SHEET 9 OF 25, PARK UTILITIES, AND SHEET 19 OF 25, PARK IRRIGATION SYSTEM, OFFICE OF THE CITY ENGINEER, BAYONNE, NJ, 12 MARCH, 1980.



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**PROPOSED  
 TEST HOLE LOCATIONS  
 SITE 174**

PROJECT NO. 6024694.DCPR.A1.A

DRAWN BY: /jk

DATE: 05/08/2013

FIGURE 1