

Submittals identified in the Polychrome West RAWP or identified by AKRF post RAWP:

- ~~1. Asbestos Abatement~~
 - a. Submitted as part of BUD application (see Item 14)
- ~~2. Construction Dewatering Package, if necessary~~
 - a. Repeat, see Item 17
- ~~3. Groundwater Treatment System, if necessary~~
 - a. Repeat, see Item 17
- ~~4. Updated BUD~~
 - a. Approved by NYSDEC on January 23, 2018
- ~~5. NAPL Recovery Well Design, Monitoring and Recovery Package~~
 - a. To be included in Item 16 post remediation.
6. CPM Schedule
 - a. To be submitted by Avalon (AVB) project team at kickoff meeting on 3/29/18
7. Contractor Health and Safety Plan
 - a. To submitted by AVB project team prior to start of work
8. ISS Construction Quality Assurance Project Plan
 - a. To submitted by AVB project team prior to start of work
9. Enhanced Bioremediation Design Package
 - a. To be completed, if needed, post remediation as outlined in RAWP.
10. Truck Transportation Plan
 - a. To be submitted by AVB project team prior to start of work
11. Remedial Action Excavation Construction Workplan/Operations Plan
 - a. To be submitted by AVB project team prior to start of work
12. Remedial Action Excavation Shoring/Sheeting Plan
 - a. To be submitted by AVB project team prior to start of work
13. ISS Construction Workplan
 - a. To be submitted by AVB project team prior to start of work
14. Selected disposal facility list
 - a. Ongoing – currently all soil is scheduled for disposal at Clean Earth of Carteret
15. Waste Material Management and Soil Amendment Plan, if necessary
 - a. To be determined.
16. NAPL Recovery Well Installation Workplan
 - a. As per RAWP, to be discussed/completed post remediation

17. Construction Dewatering Program, as applicable

- a. AVB project team proposes to utilize the same system that is currently operating at the adjacent ATI (C360090) BCP Site

18. VMS/SSDS Design Package

- a. Pending final design from AVB Civil/Structural Engineers. VMS/SSDS Design package will be similar to recently submitted design package for ATI Site (i.e., 20-mil stego wrap, active SSDS, etc.).

19. Soil Mix Wall on ATI Property

- a. The AVB project team proposes to install an approximately 200 linear foot soil mix wall along the Hudson River in the location shown on Figure 2. The soil mix wall will have an approximate width of 2 feet. Elevation change along the shoreline is significant and space between the existing City of Yonkers Combined Sewer Overflow (CSO) pipe is limited; however, the expectation is the soil mix wall will be present between elevation +3 and -10 mean sea level (msl). The soil mix wall will be installed as close to the shoreline as reasonably practicable. The AVB project team is working with their remedial contractor to finalize the shoreline offset for the soil mix wall.
- b. The soil mix wall will tie into the existing CSO pipe structure as shown on Figure 3. It is anticipated that the contractor will complete soil mixing for the wall (i.e., grouting and mixing while excavating by bucket consistent with the composition utilized for the ISS Unit areas); however, the final permeability of this section is not expected to be as low as the permeability required in the ISS Units on Polychrome West RAWP due to the limited width and high tidal influence.
- c. The AVB project team is currently evaluating low pressure grout methods to seal the annulus between the soil mix wall and the CSO pipe as well as potentially below the CSO pipe. Depending on the feasibility and cost of this low pressure grout sealing operation, the AVB project team may request to eliminate the anti-seep collars.

20. Anti-Seep Collars

- a. Provided on the attached Figures 2 and 4 are the dimensions and approximate depths of the proposed anti-seep collars. The grade elevations shown are approximate. Based on test pitting investigation results, the top of CSO pipe is anticipated to be approximately 1 foot below the water table. The CSO anti-seep collars shall be made up of flowable fill/CLSM (controlled low strength material).
- b. If the soil mix wall can be installed in close proximity (less than 6") to the timber bulkhead, the AVB project team may request that installation of only one, or potentially no, CSO collar be required.

21. ATI Peninsula Excavation

- a. As previously discussed with NYSDEC and shown on Figure 2, excavation of the soil on the ATI Site is required down to approximately 1 foot below the groundwater table (groundwater table located at approximately +1 foot msl). This excavation will be completed after installation of the soil mix wall. The Contractor will excavate below the water table in this area during low tide.

- b. Soil removed will be screened by the Engineer and segregated into discreet stockpiles, dependent on the condition of the soil excavated (See item 23 for soil reuse plan). Excavation below the water table will be raised with imported, approved material (clean virgin stone containing less than 10% fines approved by DEC prior to delivery to the Site) to the approximate groundwater table. A demarcation layer (e.g. snow fencing) will be placed within the excavation at the water table. Above the demarcation layer, the AVB project team plans to place BUD approved recycled concrete, soil approved for reuse, or other NYSDEC approved import.

22. Site Deep Pile Foundation System Design Package

- a. See attached Figure 5 for locations of the Pile Modification Locations.
- b. As discussed in the RAWP, areas with elevated TarGOST readings were designated as "Special DNAPL Areas". Piles driven through the Special DNAPL Areas require modification so that the proposed pile does not create a preferential pathway for vertical contamination migration. As shown on Figure 5, 16 locations have been targeted for this modification. The AVB project team is proposing to create a 36-inch ISS column utilizing a Delmag RH-18 drill rig, or similar. Final depths are assumed to be approximately 30 feet, but will be finalized and submitted to DEC for review prior to installation. The ISS rig will be equipped with a mast inclination system with automatic mast adjustment to maintain vertical alignment. This ensures that the soil mixed columns are installed within strict vertical tolerances. The rig will also be fitted with a computerized drill parameter monitoring system capable of monitoring verticality, penetration depth, penetration rate, withdrawal speed, rotation drilling resistance, injection rate, and pressure. Column center points will be located/surveyed in accordance with the structural pile plan and pre-cored prior to pile driving activities.

23. Soil Reuse Plan

- a. Similar to the ATI Site, the AVB project team proposes to segregate excavated petroleum contaminated material from Excavation Area H, Excavation Area I and the ATI Peninsula into three (3) categories based upon field screening using a photo-ionization detector, visual and olfactory observations. These three soil categories include:
 - i. Excavated material that exhibits no field evidence of contamination [e.g., no observable odors, no staining, and PID readings less than 5 parts per million (ppm) above background].
 - ii. Excavated material that exhibits limited evidence of contamination (e.g., slight odors but no obvious staining and PID readings less than 20 ppm above background).
 - iii. Grossly contaminated soil as defined in DER-10, including soil that has strong odors, obvious staining, and/or PID readings at 20 ppm or greater above background.
- b. Soil from each of the above categories will follow the ATI Soil & Water Management Plan, dated November 30, 2017 with the exception noted below:

- i. Category 1 soil will be sampled for trivalent chromium, mercury and lead. Site specific criteria are proposed at 1,500 ppm, 2.8 ppm and 1,000 ppm, respectively.
 - 1. Soil in compliance with the Site specific criteria will be placed above the water table and below the cap.
 - ii. Limits for Category 2 will be discussed during the March 29, 2018 kickoff meeting.
- c. Category 3 soil will be transported and disposed of offsite.