

Appendix N

Clean Fill Documentation (Provided Separately)

- N-1 Clean Fill Documentation - Dense-Graded Aggregate and Open Grade Stone Load Reports**
- N-2 Documentation for Clean Fill from July 2010 through June 2014**
- N-3 Documentation for Clean Fill from June 2014 through July 2015**
- N-4 Documentation for Clean Fill from July 2015 through January 2018**
- N-5 Correspondence Regarding Clean Fill**

Notes:

Clean Fill documentation for the backfilling conducted at Phase 2A will be provided in PSEG's Final Remedial Action Report (Wood, pending).

Appendix N-1 contains laboratory reports for virgin fill samples collected between July 2010 and June 2014. Samples were collected and analyzed based on the regulations and guidance in effect at the time the samples were collected. Results for samples collected between July 2010 and May 2011 were compared to the soil remediation standards (SRS) per the *Technical Requirements for Site Remediation* NJAC 7:26E-6.4(b). Beginning in May 2011, when the *Clean Fill Protocol* went into effect, samples were compared to the SRS and Default Impact to Groundwater Soil Screening Levels (DIGWSSLs). Beginning in December 2011, results for samples were evaluated based on both the *Clean Fill Protocol* (NJDEP, 2011c) and *Alternative and Clean Fill Guidance for Site Remediation Program Sites* (NJDEP, 2015) which required any concentration greater than a DIGWSSL to also be analyzed under the synthetic precipitation leaching procedure (SPLP) and evaluated against the Default Leachate Criteria for Class II Groundwater.

Samples for virgin fill in place at Site 114 were determined to be suitable for backfill, meeting the applicable regulations and standards. There were no exceedances of the SRS. Although several constituents exceeded the DIGWSSL, the virgin material does not pose a potential impact to groundwater as described below.

Notes (continued)

- The concentrations in some samples exceeded the DIGWSSLs for aluminum, manganese, silver, and/or zinc. These constituents are naturally occurring and the applicable Groundwater Quality Standards are based on secondary considerations (primarily aesthetic considerations such as taste, odor, and appearance) and not health considerations; as such, the manganese and silver exceedances do not need to be addressed for the impact to groundwater pathway.
- For constituents with exceedances of the DIGWSSLs subject to the SPLP testing (e.g., beryllium, cadmium, cobalt, nickel, and dichloromethane), there were no exceedances of the Default Leachate Criteria for Class II Groundwater.
- Benzo(a)pyrene exceeded the DIGWSSL in three samples (114-BACKFILL-1-20121226, 114-BACKFILL-1-20121228, and 114-BACKFILL-1-20130121). PPG completed soil sampling of the in-place clean backfill to delineate and address benzo(a)pyrene exceedances, as requested by the NJDEP. The soil sampling program, documented in the May 1, 2018 Memorandum entitled, *Benzo(a)pyrene Soil Sample Results from Clean Backfill PPG Garfield Avenue Site 114, Phase 1B* indicated that benzo(a)pyrene is not a risk at the Site and concluded that no additional action is required related to benzo(a)pyrene in clean backfill at Site 114. NJDEP/Weston approved the PPG/AECOM May 1, 2018 memorandum in an email dated May 17, 2018. See the supporting information in Appendix N-5.
- In some samples collected in 2010 and early 2011, 2,4-dinitrophenol, alpha-BHC, beta-BHC, dieldrin, and gamma-BHC [lindane] were not detected, but the detection limits exceeded the applicable DIGWSSLs. These constituents were not detected in the majority of backfill samples at detection limits sufficiently sensitive to demonstrate compliance with the DIGWSSL; there is no indication that these compounds pose a potential impact to groundwater.