Pre-Final (95 Percent Design) Remedial Design Document Plan
Diamond Alkali Superfund Site
Lower 8.3 Miles of the Lower Passaic River (Operable Unit 2)

Pre-Final Documents for USEPA Submittal in March 2022

Design Criteria Report

Design Criteria Report (Pre-Final)

Appendix A – ARARs and TBC Criteria
Appendix B – USEPA Region 2 Green Policy Touchstone Practices Metrics

Basis of Design Report

Basis of Design Report (Pre-Final)

Appendix A – Remedial Design Drawings:
- Existing Conditions Plans
- Dredging Plans
- Capping Plans
- Dredging and Capping Cross-Sections
- Utility Corridors Dredging and Capping Plans
- Bridge Corridors Dredging and Capping Plans
- Berthing Areas Dredging and Capping Plans
- Vegetated Wetlands Restoration Plans
- Capping Details *(Cap types, outfall SP, terminations, transitions)*

Appendix B – Remedial Design Specifications
- Division 00 – Procurement and Contracting Requirements
- Division 01 – General Requirements
- Division 02 – Existing Conditions
- Division 32 – Exterior Improvements
- Division 35 – Waterway and Marine Construction

Appendix C – Sediment Data Synthesis, Calculations, and Cap Design Unit Development
- Att C-1 – Total (4,4') DDx Summation Sensitivity Analysis
- Att C-2 – Cap Design Unit Development
- Att C-3 – Electronic Data Submittal

Appendix D – Dredge and Cap Designs for Utility Corridors
- Att D-1 – Utility Permits and Tidelands Documents
- Att D-2 – Tidelands Conveyance Figures and Maps
- Att D-3 – Utility Owner Meeting Summaries
- Att D-4a – Buoyancy Calculations for Pipelines other than PSE&G Gas
- Att D-4b – Buoyancy Calculations for PSE&G Gas Pipelines
- Att D-5 – Differential Settlement Calculations

Appendix E – Evaluation of Zones of Influence and Dredging Offsets for Shorelines and Structures
- Att E-1 – Shoreline ZOI Analyses
- Att E-2 – Bulkhead ZOI Analyses
- Att E-3 – Mooring Structure Stability Analyses
- Att E-4 – Outfall Structure Stability Analyses
- Att E-5 – Miscellaneous Structure Stability Analysis
- Att E-6 – Soil Properties Assessment
- Att E-7 – Structure Data Tables
- Att E-8 – Shoreline Property Owner Meeting Summaries
- Att E-9 – Underwater and Failed Structure Imagery

Appendix F – Dredge and Cap Designs For Bridge Corridors
- Att F-1 – Bridge Owner/Operator Meeting Summaries
- Att F-2 – 2020 Poling Results

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Att F-3 – Cap Limits Determination Att F-4 – Hydraulic Capacity Evaluation Att F-5 – HEC-23 Velocity Variation Att F-6 – Lateral Load Pier Stability Analysis Att F-7 – Amtrak Dock Street Bridge Pier Stability Analysis Att F-8 – Bridge Pier Settlement Analysis
Appendix G – Dredge and Cap Stability Geotechnical Analyses Att G-1 – Parametric Analysis Att G-2 – Dredge and Cap Slope Stability Analysis Att G-3 – Cap Consolidation Analysis Att G-4 – Cap-Bearing Capacity Analysis Att G-5 – Steep Slope Areas Cap Stability Analysis Att G-6 – Slope Stabilization Design
Appendix H – Debris Removal Att H-1 – Locations and Size Category of Surface Debris Greater than 2 Feet Att H-2 – Debris Cluster Imagery
Appendix I – Evaluation of Dredging Technologies Att I-1 – Dredge Rate Calculations
Appendix J1 – Dredge Plume Dispersion Modeling
Appendix J2 – Dredging Resuspension Best Management Practices Applicable to Operable Unit 2
Appendix J3 – Resuspension Monitoring Program Att J3-1 – Model Simulations for Remedial Design and Engineering Performance Standards (August 10, 2021) and Suspended Sediment and Polychlorinated Biphenyl Model Adjustments by Multiple Linear Regression Analysis (July 19, 2021) Att J3-2 – Example Calculations Related to Development of Turbidity Advisory Values and Resuspension Control Water Quality Standards and to Example Tier Responses
Appendix J4 – Residuals Stabilization Layer Evaluation
Appendix K – Flood Elevation Modeling for Cap Surface Design Att K-1 – Manning's n Reference Table Att K-2 – Manning's n Values in OU2 Design Model Att K-3 – Flood Mapping
Appendix L – Chemical Isolation Layer Design Att L-1 – NAPL Area Cap Design Att L-2 – Sensitivity Analysis Results Att L-3 – Technical Memorandum from Danny Reible on CIL Design Att L-4 – CapSim Modeling Files
Appendix M – Erosion Protection Design Att M-1 – Hydrodynamic and Sediment Transport Modeling for Erosion Protection Design Att M-2 – Stable Stone Sizing Calculations for Design Flow Event Att M-3 – Propeller Wash Calculations Att M-4 – Wind-Wave Modeling Att M-5 – Outfall Erosion Protection Calculations Att M-6 – Evaluation of Potential Ice-Related Impacts Att M-7 – Vessel Wake Assessment
Appendix N – Intertidal Mudflats Restoration Plan Att N-1 – Summary Report for August 13, 2020 Habitat Reconnaissance

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Pre-Final Documents for USEPA Submittal in March 2022
Att N-2 – Functional Assessment Tables for Baseline (Pre-Remedy) and Planned (Post-Remedy) Intertidal Mudflats Att N-3 – Functional Assessment Data Sheets for the Baseline (Pre-Remedy) and Planned (Post-Remedy) Intertidal Mudflats
Appendix O – Vegetated Wetlands Restoration Plan Att O-1 – Summary Report for August 13, 2020 Habitat Reconnaissance Att O-2 – Vegetated Wetland Restoration Plan Remedial Design Drawings Att O-3 – Functional Assessment Data Sheets for the Baseline (Pre-Remedy) and Planned (Post-Remedy) Vegetated Wetlands
Appendix P – Remedial Action Seasonal Planning and Design Updates
Appendix Q – Permit Substantive Requirements Compliance Documentation
Appendix R – Cap Material Management Att R-1 – Cap Material Volume Calculations Att R-2 – Feedback on Cap Placement Rates Att R-3 – Estimated Material Volumes and Truck and Barge Rates