

ALTERNATIVES SUMMARY GUIDE - Components of the Site-Wide Alternatives

ALTERNATIVE	COMPONENTS	AFFECTED AREAS	INCLUDED IN SITE-WIDE ALTERNATIVE						
			1	2	3	4-1	4-2	4-3	5
SOIL									
SDA-1	- No Action								
SDA-2	- Monitored Natural Attenuation - Implementation of Non-Engineering Measures	Subareas with Soil UCL Exceedances or Human Health or Ecological PRG Exceedances	X	X					
SDA-3A/B	- Excavation/Backfill of Soil - Solidification/Stabilization (B only) - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances for Lead and Co-Located Human Health or Ecological PRG Exceedances							
	- Monitored Natural Attenuation - Implementation of Non-Engineering Measures	Subareas with Human Health or Ecological PRG Exceedances that are Not Co-Located with the Soil UCL Exceedances			X				
SDA-4A/B	- Excavation/Backfill of Soil - Solidification/Stabilization (B only) - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances for Lead or Human Health or Ecological PRG Exceedances for Antimony, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Thallium, Zinc, Benzene, 1,1-Dichloroethene, Hexachlorobenzene, Trichloroethene and Vinyl Chloride				X	X	X	
SDA-5A/B	- Excavation/Backfill of Soil - Solidification/Stabilization (B only) - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with: Soil UCL Exceedances for Lead; Human Health or Ecological PRG Exceedances for Antimony, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Thallium, Zinc, Benzene, 1,1-Dichloroethene, Hexachlorobenzene, Trichloroethene and Vinyl Chloride; or Other Constituent Concentrations that Do Not Approach Background							X
MUA-1	- No Action								
MUA-2	- Monitored Natural Attenuation - Implementation of Non-Engineering Measures	Subareas with Soil UCL Exceedances and Human Health or Ecological PRG Exceedances	X	X					
MUA-3A/B	- Excavation/Backfill of Soil - Solidification/Stabilization (B only) - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances for Mercury and Co-Located Human Health or Ecological PRG Exceedances							
	- Monitored Natural Attenuation - Implementation of Non-Engineering Measures	Subareas with Human Health or Ecological PRG Exceedances that are Not Co-Located with the Soil UCL Exceedances			X				
MUA-4A/B	- Excavation/Backfill of Soil - Solidification/Stabilization (B only) - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances for Mercury or Human Health or Ecological PRG Exceedances for Antimony, Copper and Mercury				X	X	X	
MUA-5A/B	- Excavation/Backfill of Soil - Solidification/Stabilization (B only) - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with: Soil UCL Exceedances for Mercury; Human Health or Ecological PRG Exceedances for Antimony, Copper and Mercury; or Other Constituent Concentrations that Do Not Approach Background							X
PGA-1	- No Action								
PGA-2	- Monitored Natural Attenuation	Subareas with Ecological PRG Exceedances for Mercury, Thallium or Hexachlorobenzene	X	X	X	X			
PGA-3	- Excavation/Backfill of Soil - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Ecological PRG Exceedances for Mercury and Co-Located Ecological PRG Exceedances for Other Constituents							
	- Monitored Natural Attenuation	Subareas with Ecological PRG Exceedances for Thallium or Hexachlorobenzene that are Not Co-Located with the Mercury PRG Exceedances					X		
PGA-4	- Excavation/Backfill of Soil - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Ecological PRG Exceedances for Mercury, Thallium or Hexachlorobenzene or Other Constituent Concentrations that Do Not Approach Background						X	X
CWA-1	- No Action								
CWA-2	- Monitored Natural Attenuation - Implementation of Non-Engineering Measures	Subareas with Soil UCL Exceedances, Human Health or Ecological PRG Exceedances, or Potential Munitions Debris	X						
CWA-3A/B	- Excavation of Soil and Waste - Solidification/Stabilization (B only) - Removal of Munitions Debris - Backfill of Excavation - Transport of Soil and Waste - Off-Site Disposal of Soil and Waste	Subareas with: Soil UCL Exceedances for Antimony, Barium, Lead and Zinc; Human Health or Ecological PRG Exceedances for Antimony, Barium, Chromium, Copper, Lead, Mercury, Thallium, Zinc, Benzene, Hexachlorobenzene and Trichloroethene; Potential Munitions Debris; or Other Constituent Concentrations that Do Not Approach Background		X	X	X	X	X	X
SCCA-1	- No Action								
SCCA-2	- Monitored Natural Attenuation	Subareas with Ecological PRG Exceedances for Antimony, Barium, Copper, Lead, Mercury, Thallium, Zinc or Hexachlorobenzene	X	X	X	X			
SCCA-3A/B	- Excavation/Backfill of Soil - Solidification/Stabilization (B only) - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Ecological PRG Exceedances for Lead and Mercury and Co-Located Ecological PRG Exceedances for Other Constituents							
	- Monitored Natural Attenuation	Subareas with Ecological PRG Exceedances for Antimony, Barium, Copper, Thallium, Zinc or Hexachlorobenzene that are Not Co-Located with the Mercury and Lead PRG Exceedances					X		
SCCA-4A/B	- Excavation/Backfill of Soil - Solidification/Stabilization (B only) - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Ecological PRG Exceedances for Antimony, Barium, Copper, Lead, Mercury, Thallium, Zinc or Hexachlorobenzene						X	
SCCA-5A/B	- Excavation/Backfill of Soil - Solidification/Stabilization (B only) - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Ecological PRG Exceedances for Antimony, Barium, Copper, Lead, Mercury, Thallium, Zinc or Hexachlorobenzene or with Other Constituent Concentrations that Do Not Approach Background							X
UNA-1	- No Action	[Subarea with UCL Exceedance at NSR-01 is being addressed as part of the ECC response]		X	X	X	X	X	X
UNA-2	- Monitored Natural Attenuation	Subareas with Ecological PRG Exceedances for Antimony, Mercury, Thallium or Hexachlorobenzene [No Significant Habitat]	X	X	X	X	X	X	X
UNA-3	- Excavation/Backfill of Soil - Transport of Soil - Off-Site Disposal of Contaminated Soil	Subareas with Constituent Concentrations that Do Not Approach Background							X
GROUNDWATER									
SDGW-1	- No Action								
SDGW-2	- Monitored Natural Attenuation - Implementation of Non-Engineering Measures	Groundwater at Piezometer PZ-24 and Beneath the Southern Disposal Area	X	X					
SDGW-3	- Excavation of Soil - Solidification/Stabilization (if needed) - Transport of Soil - Off-Site Disposal of Contaminated Soil - Treatment of Pooled/Separated Water - On-Site Discharge of Treated Water - Groundwater Monitoring	Subarea with Exceedances of the Soil UCL for Lead; Groundwater at Piezometer PZ-24 and Beneath the Southern Disposal Area			X	X	X	X	

ABBREVIATIONS AND NOTES:

CWA Cold Waste Area ECC Eastern Channel Corridor LDRC Lower Drinkwater River Corridor LP/UFP Lily Pond / Upper Factory Pond M/LFP Middle/Lower Factory Pond
MUA Marsh Upland Area PGA Potential Greenway Area SCCA Southern Conservation Commission Area SDA Southern Disposal Area NE Not estimated
PRG Preliminary Remediation Goal UCL Upper Concentration Limit A/B "A" alternatives do not include soil solidification or stabilization. "B" alternatives do include soil solidification or stabilization.

Yellow Highlighting identifies the Recommended Alternative – Site-Wide Alternative 4-1

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SDGW-4	- Excavation of Soil - Solidification/Stabilization (if needed) - Transport of Soil - Off-Site Disposal of Contaminated Soil - Treatment of Pooled/Separated Water - On-Site Discharge of Treated Water - Groundwater Monitoring	Subarea with Exceedances of the Soil UCL for Lead or the Human Health or Ecological Soil PRGs for Lead; Groundwater at Piezometer PZ-24 and Beneath the Southern Disposal Area								X
MUGW-1	- No Action									
MUGW-2	- Monitored Natural Attenuation - Implementation of Non-Engineering Measures	Groundwater at Monitoring Well DP-MW1 and Beneath the Marsh Upland Area	X	X						
MUGW-3	- Excavation of Soil - Solidification/Stabilization (if needed) - Transport of Soil - Off-Site Disposal of Contaminated Soil - Treatment of Pooled/Separated Water - On-Site Discharge of Treated Water - Groundwater Monitoring	Subarea with Exceedances of the Soil UCL for Mercury; Groundwater at Monitoring Well DP-MW1 and Beneath the Marsh Upland Area			X	X	X	X		
MUGW-4	- Excavation of Soil - Solidification/Stabilization (if needed) - Transport of Soil - Off-Site Disposal of Contaminated Soil - Treatment of Pooled/Separated Water - On-Site Discharge of Treated Water - Groundwater Monitoring	Subarea with Exceedances of the Soil UCL for Mercury or the Human Health or Ecological Soil PRGs for Mercury; Groundwater at Monitoring Well DP-MW1 and Beneath the Marsh Upland Area								X
SEDIMENT										
Sediment Alt. 1	- No Action									
Sediment Alt. 2	- Monitored Natural Recovery - Implementation of Non-Engineering Measures - Long-Term Monitoring Program	Sediments with Human Health or Ecological PRG Exceedances for Mercury in the ECC, LDRC, LP/UFP and M/LFP (SMUs 2-8 and 12-69)	X							
Sediment Alt. 3	- Excavation of Sediment to Remove Mercury Source Material - Solidification (if needed) - Transport of Sediment - Off-Site Disposal of Contaminated Sediment - Long-Term Monitoring Program	ECC (SMUs 2-8)		X						
	- Monitored Natural Recovery - Implementation of Non-Engineering Measures	Sediments with Human Health or Ecological PRG Exceedances for Mercury in the LDRC, LP/UFP and M/LFP (SMUs 12-69)								
Sediment Alt. 4	- Excavation/Dredging of Sediment to Remove Mercury Source Material and Eliminate Human Health or Ecological PRG Exceedances for Mercury on a Site-Wide Average Basis - Solidification (if needed) - Transport of Sediment - Off-Site Disposal of Contaminated Sediment - Long-Term Monitoring Program	ECC (SMUs 2-8) LDRC (SMU 19) LP/UFP (SMUs 22, 24-27 and 29) M/LFP (SMUs 63-64)			X	X	X			
	- Monitored Natural Recovery - Implementation of Non-Engineering Measures	Sediments with Human Health or Ecological PRG Exceedances for Mercury in Other SMUs								
Sediment Alt. 5	- Excavation/Dredging of Sediment to Remove Mercury Source Material and Eliminate Human Health or Ecological PRG Exceedances for Mercury in each Risk Characterization Area - Solidification (if needed) - Transport of Sediment - Off-Site Disposal of Contaminated Sediment - Long-Term Monitoring Program	ECC (SMUs 2-8) LDRC (SMU 19) LP/UFP (SMUs 22, 24-27 and 29) M/LFP (SMUs 52 and 63-64)								X
	- Monitored Natural Recovery - Implementation of Non-Engineering Measures	Sediments with Human Health or Ecological PRG Exceedances for Mercury in Other SMUs								
Sediment Alt. 6	- Excavation/Dredging of Sediment to Remove Mercury Source Material, Eliminate Human Health or Ecological PRG Exceedances for Mercury in each Risk Characterization Area, and Approach Background - Solidification (if needed) - Transport of Sediment - Off-Site Disposal of Contaminated Sediment - Implementation of Non-Engineering Measures - Long-Term Monitoring Program	ECC (SMUs 2-8) LDRC (SMU 12-20) LP/UFP (SMUs 21-45) M/LFP (SMUs 46-69)								X
MUA Sediment Alt. 1	- No Action									
MUA Sediment Alt. 2	- Monitored Natural Recovery - Implementation of Non-Engineering Measures - Long-Term Monitoring Program	Sediments with Human Health or Ecological PRG Exceedances for Mercury in the MUA Sediment Area (MUA SMU 1-15)	X							
MUA Sediment Alt. 3	- Excavation/Dredging of Sediment to Eliminate Human Health or Ecological PRG Exceedances for Mercury on an Marsh Upland Sediment Area Average Basis - Solidification (if needed) - Transport of Sediment - Off-Site Disposal of Contaminated Sediment - Long-Term Monitoring Program	MUA SMU 2	X	X	X	X	X	X	X	
MUA Sediment Alt. 4	- Excavation/Dredging of Sediment to Eliminate Human Health or Ecological PRG Exceedances for Mercury and Approach Background - Solidification (if needed) - Transport of Sediment - Off-Site Disposal of Contaminated Sediment - Long-Term Monitoring Program	MUA SMUs 2-3, 7-8 and 11-15								X
ESTIMATED COST (\$2010)			NE	\$5.8M	\$21.2M	\$26.4M	\$29.1M	\$30.4M	\$158.1M	

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