Table 5-1. Fireworks Site Soil – Initial Screening of Remedial Technologies

General Response Action	Remedial Technology/ Process Option	Description of Option	Likely to Achieve a Permanent or Temporary Solution?	Are Individuals with Expertise Needed to Effectively Implement Solution Available?	Retained?	Comments
No Action	None	Also known as natural attenuation, this action relies on the existing conditions and natural processes occurring in the area to retard the migration of the contaminants. Although metal concentrations will not decrease with time, the mobility and toxicity of metals can decrease as the conditions in the area mature. These processes may result in a reduction in some contaminant concentrations in the area, but would not affect the potential for direct contact with the contaminants in the soil at the area.	No	Not Applicable	Yes	This GRA is retained as a baseline for comparative purposes.
Monitored Natural Attenuation	Natural Physical Recovery Processes and Periodic Monitoring	Contaminated soil would be left in place. Natural attenuation relies on the fact that physical, chemical, and biological processes may continue over time to isolate, weather, and degrade the chemicals of concern present in the soil. A comprehensive long-term monitoring plan would be developed and implemented. Monitoring would include soil sampling to evaluate changes in the concentrations of the chemicals of concern with time.	Yes – temporary solution when used in conjunction with other GRAs such as Non- engineering Measures	Yes	Yes	This GRA has been retained to be combined with other GRAs to assemble alternative(s) that are likely to achieve a temporary solution.
Non-engineering Measures	Activity and Use Limitations	AULs specify which activities and uses in an area are prohibited and, consequently, which are permitted in the future. AULs are registered on property deeds and include a Grant of Environmental Restriction and a Notice of AUL.	Yes – temporary solution	Yes	Yes	This GRA has been retained to be combined with other remedial technologies and/or GRAs to assemble alternative(s)
	Fencing	Fencing would be installed and maintained to minimize access to all or portions of the area where the concentrations of the chemicals of concern in soil exceed the MCP Soil UCLs or where there is the potential for munitions debris to be present.	Yes – temporary solution	Yes	Yes	that are likely to achieve a temporary solution.
	Warning Signs	Areas would have posted signs that warned of the contamination or potential explosive hazards associated with the area.	Yes – temporary solution	Yes	Yes	
	Educational Programs	Community information and education programs would be implemented to enhance awareness of potential toxic or explosive hazards.	Yes – temporary solution	Yes	Yes	

Table 5-1. Fireworks Site Soil – Initial Screening of Remedial Technologies

General Response Action	Remedial Technology/ Process Option	Description of Option	Likely to Achieve a Permanent or Temporary Solution?	Are Individuals with Expertise Needed to Effectively Implement Solution Available?	Retained?	Comments
Capping	Capping with Long-term Maintenance and Monitoring	Capping consists of placement of an above-grade engineered cap over targeted areas to limit the potential for human or ecological receptors contact with contaminated soil. Cap material may consist of asphalt, concrete, synthetics, clay, sand, gravel, or a combination of these materials. Capping can reduce the amount of water that infiltrates into the soil and, consequently, may reduce the amount of contamination that leaches from the soil. The cap would be monitored regularly to ensure its integrity and maintenance would be performed as necessary.	Yes – permanent solution	Yes	Yes	This remedial technology has been retained to be potentially combined with non-engineering measures such as AULs, warning signs and possibly fencing to assemble a remedial alternative that is likely to achieve a permanent solution.
Removal (Soil)	Excavation	This process is the physical removal of contaminated soil using traditional mechanical methods. This option also would involve separation, collection and treatment of the groundwater (if present in the excavation) and backfill of excavation with clean material.	Yes – permanent solution	Yes	Yes	This GRA has been retained to be used in conjunction with transportation and disposal actions.
Removal (Munitions Debris)	Excavation and Separation	This process is the excavation of soil that could contain potentially energetic munitions debris items and separation of those items from the soil using mechanical sifting, magnetic detection, and visual inspection techniques. The materials within the soil will be segregated upon separation into potentially hazardous items (if present), inert metallic debris, and trash.	Yes – permanent solution	Yes	Yes	This GRA has been retained to be used in conjunction with transportation and disposal actions.
Ex-situ Physical/ Chemical Treatment	Solidification/ Stabilization	Contaminants are physically bound or enclosed within a stabilized mass (solidification) or chemical reactions are induced between the stabilizing agent and contaminants to reduce their mobility (stabilization). The target contaminants for ex-situ solidification/stabilization are the metals/inorganics. On-site ex-situ solidification/stabilization could be employed if excavated soil does not pass the Paint-Filter Liquids Test (40 CFR 264.314). Off-site ex-situ solidification/stabilization could be employed to treat excavated soil to meet the Land Disposal Restriction Standards (40 CFR Part 268).	Yes – could be part of a permanent solution	Yes	Yes	This GRA has been retained to be used in conjunction with removal, transportation and disposal actions.

Table 5-1. Fireworks Site Soil – Initial Screening of Remedial Technologies

General Response Action	Remedial Technology/ Process Option	Description of Option	Likely to Achieve a Permanent or Temporary Solution?	Are Individuals with Expertise Needed to Effectively Implement Solution Available?	Retained?	Comments
Pre-treatment or Treatment of Water from Dewatering of Excavated Material or Excavations	Filtration and Granular Activated Carbon Treatment	Filtration is the physical process of mechanical separation based on particle size whereby particles suspended in a fluid are separated by forcing the fluid through a porous medium. As fluid passes through the medium, the suspended particles are trapped on the surface of the medium and/or within the body of the medium. Assuming that the metals are bound to the soil and will be filtered out. Treatment of water using GAC will reduce the levels of the organic compounds that may be present in the soil pore water. The dissolved contaminants are made to pass through beds of GAC particles which provide ample surface area for the organics to become attached and bound. The contaminants can be subsequently removed from the GAC and disposed while the GAC can be reused. The treated water can them be discharged back into the pond or stream (via a permitted discharge) or disposed of off-site.	Yes	Yes	Yes	These technologies have been retained to be used in conjunction with removal, transportation and disposal actions.
Transportation	Truck Transport (soil)	Transport of excavated soil by truck to treatment/disposal facility in conjunction with removal and disposal actions.	Yes – could be part of a permanent solution	Yes	Yes	This technology has been retained to be used in conjunction with removal and disposal actions
	Rail Transport (soil)	Transport of excavated soil by rail to treatment/disposal facility in conjunction with removal and disposal actions.	Yes – could be part of a permanent solution	Yes	Yes [1]	This technology has been retained to be used in conjunction with removal and disposal actions
	Truck Transport (water)	Transport of pre-treated water that is separated from excavated soil or an excavation site by truck to a local Publicly Owned Treatment Works for final treatment in conjunction with removal, pretreatment and disposal actions.	Yes – could be part of a permanent solution	Yes	Yes	This technology has been retained to be used in conjunction with removal, pretreatment and disposal actions.
Disposal	On-site Disposal at a Newly Constructed, Permitted Disposal Facility	Non-hazardous soil will be disposed of at an on- site, permitted disposal facility.	Yes – could be part of a permanent solution	Yes	Yes [2]	This technology has been retained to be used in conjunction with removal and transportation actions
	Off-site Disposal at a Permitted Disposal Facility	Non-hazardous soil will be disposed of at an off- site, permitted disposal facility.	Yes – could be part of a permanent solution	Yes	Yes	This technology has been retained to be used in conjunction with removal and transportation actions

Table 5-1. Fireworks Site Soil – Initial Screening of Remedial Technologies

General Response Action	Remedial Technology/ Process Option	Description of Option	Likely to Achieve a Permanent or Temporary Solution?	Are Individuals with Expertise Needed to Effectively Implement Solution Available?	Retained?	Comments
	Off-site Disposal at a Hazardous Waste Landfill	Characteristically hazardous soil will be disposed of at an off-site, permitted hazardous waste disposal facility.	Yes – could be part of a permanent solution	Yes	Yes	This technology has been retained to be used in conjunction with removal and transportation actions
	Off-site Disposal of Groundwater at a Permitted POTW	Pre-treated (filtered) water that is separated from excavated soil or an excavation site will be transferred to local POTW for final treatment	Yes - could be part of a permanent solution	Yes	Yes	This technology has been retained to be used in conjunction with removal and transportation actions.

- [1] Though the rail transport technology/process option was retained, truck transport of excavated soil has been selected as the representative process option within the transportation category to be carried forward into the alternative development process.
- [2] Though the on-site disposal at a permitted disposal facility technology/process option was retained, off-site disposal of excavated soil at a solid waste landfill or at a hazardous waste landfill has been selected as the representative process options within the disposal category to be carried forward into the alternative development process. Some excavated soil is expected to be hazardous waste based on prior TCLP testing and total contaminant concentrations.

Table 5-4. Assembled Alternatives for Soil in the Southern Disposal Area

Alternative SDA-1	Remedial Technologies/ Process Options No Action	Affected Area or Volume All Soils in the Area	Sample IDs	Area (SF) 47,497	Volume (CY)	 Natural Attenuation 	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
SDA-2	Monitored Natural Attenuation and Implementation of Non- Engineering Measures	Subareas with Soil UCL Exceedances and Human Health or Ecological PRG Exceedances	SA-SS2 SA-SS3 SA-SS4 SA-SS7 SA-SS8 SA-SS10 SDA-COMP1 SDA-COMP2 SFPDA02 SWBP05 SWBP08 SWBP09 SWBP11 SWBP17 WBAL12 WBBL9	45,881	0	•	•	•	•	•		•				
SDA-3A	Excavation/Backfill, Transport and Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances	SA-SS8 SWBP11 SWBP05	9,438	726								•		•	•

Table 5-4. Assembled Alternatives for Soil in the Southern Disposal Area

Alternative	Remedial Technologies/ Process Options	Affected Area or Volume	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
	Monitored Natural Attenuation and Implementation of Non- Engineering Measures	Subareas with Human Health or Ecological PRG Exceedances that are Not Collocated with the Soil UCL Exceedances	SA-SS2 SA-SS3 SA-SS4 SA-SS7 SA-SS10 SDA-COMP1 SDA-COMP2 SFPDA02 SWBP08 SWBP09 SWBP17 WBAL12 WBBL9	36,443	0	•	•	•	•	•		•				
SDA-3B	Excavation/Backfill, Solidification/Stabilization, Transport and Off-Site Disposal of Contaminated Soil	See SDA-3A Above	See SDA-3A Above	9,438	726								•	•	•	•
	Monitored Natural Attenuation and Implementation of Non- Engineering Measures		See SDA-3A Above	36,443	-	•	•	•	•	•		•				

Alternative	Remedial Technologies/ Process Options	Affected Area or Volume	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
SDA-4A	Excavation/Backfill, Transport and Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances and 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	SA-SS2 SA-SS3 SA-SS8 SA-SS10 SDA-COMP1 SDA-COMP2 SFPDA02 SWBP05 SWBP08 SWBP11 SWBP17 WBAL12 WBBL9	40,775	6,648								•		•	•
SDA-4B	Excavation/Backfill, Solidification/Stabilization, Transport and Off-Site Disposal of Contaminated Soil	See SDA-4A Above	See SDA-4A Above	40,775	6,648								•	•	•	•

Table 5-4. Assembled Alternatives for Soil in the Southern Disposal Area

Alternative	Remedial Technologies/ Process Options	Affected Area or Volume	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
SDA-5A	Excavation/Backfill, Transport and Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances, Human Health or Ecological PRG Exceedances, or with Concentrations that Do Not Approach Background	SA-SS2 SA-SS3 SA-SS4 SA-SS7 SA-SS8 SA-SS10 SDA-COMP1 SDA-COMP2 SFPDA02 SWBP05 SWBP08 SWBP09 SWBP11 SWBP17 WBAL12 WBBL9	45,881	7,520								•		•	•
SDA-5B	Excavation/Backfill, Solidification/Stabilization, Transport and Off-Site Disposal of Contaminated Soil	See SDA-5A Above	See SDA-5A Above	45,881	7,520								•	•	•	•

NOTES:

[1] Disposal of both hazardous (due to characteristic leachability) and non-hazardous wastes as defined in the RCRA.

Table 5-6. Assembled Alternatives for Soil in the Marsh Upland Area

Alternative MUA-1	Remedial Technologies/ Process Options	Affected Area or Volume All Soils in the Area	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
MUA-2	Monitored Natural Attenuation and Implementation of Non- Engineering Measures	Subareas with Soil UCL Exceedances and Human Health or Ecological PRG Exceedances	DPAL14 DPAL15 DPAL16 DPAL6 DPAL9 DPBL12 DPWL4 MUA-COMP1 MUA-COMP2 SDP01 SDP02 SDP03 SDP05 SDP06 SDP08/09 SDP10 SDP11 SDP12	15,788	0	•	•	•	•		•				

Table 5-6. Assembled Alternatives for Soil in the Marsh Upland Area

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Alternative	Remedial Technologies/ Process Options	Affected Area or Volume	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
	Excavation/Backfill, Transport and Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances	DPAL14 DPWL4 MUA-COMP1 SDP02 SDP03 SDP05 SDP10 SDP11	2,883	325								•		•	•
MUA-3A	Monitored Natural Attenuation and Implementation of Non- Engineering Measures	Subareas with Human Health or Ecological PRG Exceedances that are Not Co-Located with the Soil UCL Exceedances	DPAL15 DPAL16 DPAL6/DPBL6 DPAL9 DPBL12 MUA-COMP2 SDP01 SDP06 SDP08/09 SDP12	12,905	-	•	•	•	•	•		•				
MUA-3B	Excavation/Backfill, Solidification/ Stabilization, Transport and Off-Site Disposal of Contaminated Soil	See MUA-3A	See MUA-3A Above	2,883	325								•	•	•	•
	Monitored Natural Attenuation and Implementation of Non- Engineering Measures	Above	See MUA-3A Above	12,905	-	•	•	•	•	•		•				

Table 5-6. Assembled Alternatives for Soil in the Marsh Upland Area

Alternative	Remedial Technologies/ Process Options	Affected Area or Volume	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
MUA-4A	Excavation/Backfill, Transport and Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances and Human Health or Ecological PRG Exceedances for Antimony, Copper and Mercury	DPAL14 DPAL15 DPAL16 DPAL6/DPBL6 DPAL9 DPBL12 DPWL4 MUA-COMP1 MUA-COMP2 SDP01 SDP02 SDP03 SDP05 SDP06 SDP08/09 SDP10 SDP11 SDP11 SDP12	15,788	1,876								•		•	•
MUA-4B	Excavation/Backfill, Solidification/ Stabilization, Transport and Off-Site Disposal of Contaminated Soil	See MUA-4A Above	See MUA-4A Above	15,788	1,876								•	•	•	•

Table 5-6. Assembled Alternatives for Soil in the Marsh Upland Area

Alternative	Remedial Technologies/ Process Options	Affected Area or Volume	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
MUA-5A	Excavation/Backfill, Transport and Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL Exceedances, Human Health or Ecological PRG Exceedances, or with Concentrations that Do Not Approach Background	DPAL14 DPAL15 DPAL16 DPAL6/DPBL6 DPAL9 DPBL12 DPWL4 MUA-COMP1 MUA-COMP2 SDP01 SDP02 SDP03 SDP05 SDP06 SDP08/09 SDP10 SDP11 SDP12	15,788	2,067								•		•	•
MUA-5B	Excavation/Backfill, Solidification/ Stabilization, Transport and Off-Site Disposal of Contaminated Soil	See MUA-5A Above	See MUA-5A Above	15,788	2,067								•	•	•	•

[1] Disposal of both hazardous (due to characteristic leachability) and non-hazardous wastes as defined in the RCRA.

Table 5-3. Assembled Alternatives for Soil in the Potential Greenway Area

Alternative	Remedial Technologies/ Process Options	Affected Area	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [3]
PGA-1	No Action	All Soils in the Area	-	130,511	0	•										
PGA-2	Monitored Natural Attenuation	Subareas with Ecological PRG Exceedances for Mercury, Thallium or Hexachlorobenzene	CSED03 PGA02 PGA03	90,359	0	•						•				
PGA-3 [1,2]	Excavation/Backfill, Transport and Off- Site Disposal of Contaminated Soil	Subareas with Surface Soil Ecological PRG Exceedances for Mercury, Thallium or Hexachlorobenzene	CSED03 PGA02 PGA03	90,359	3,347								•		•	•

- [1] No soil UCL exceedances were identified for this Risk Characterization Area.
- [2] No additional remediation requirements are required to Approach Background beyond what is required to meet the Ecological PRGs.
- [3] All soil from this area to be disposed is assumed to not be hazardous waste under the RCRA.

Table 5-7. Assembled Alternatives for Soil in the Cold Waste Area

Alternative	Remedial Technologies/ Process Options	Affected Area	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/ Munitions Debris Removal/ Backfill	Solidification/ Stabilization	Transport	Off-Site Disposal [1]
CWA-1	No Action	All Soils in the Area	-	12,021	0	•										
CWA-2	Monitored Natural Attenuation and Implementation of Non-Engineering Measures	Subareas with Soil UCL [3] or Human Health or Ecological PRG [4] Exceedances and Potential Munitions Debris	CWA-NW CWA-SW CWA-SE CWA-NE SCWD01	12,021	0	•	•	•	•	•		•				
CWA-3A [2]	Excavation, Removal of Munitions Debris, Backfill, Transport and Off-Site Disposal of Contaminated Soil	Subareas with Soil UCL and Human Health or Ecological PRG Exceedances and Potential Munitions Debris	CWA-NW CWA-SW CWA-SE CWA-NE SCWD01	12,021	1,054								•		•	•
CWA-3B [2]	Excavation, Removal of Munitions Debris, Solidification/Stabil- ization, Backfill, Transport and Off- Site Disposal of Contaminated Soil	See CWA-3A Above	See CWA- 3A Above	12,021	1,054								•	•	•	•

- [1] Disposal of both hazardous (due to characteristic leachability) and non-hazardous wastes as defined in the Resource Conservation and Recovery Act (RCRA).
- [2] No additional remediation requirements are required to Approach Background beyond what is required to meet the Ecological PRGs.
- [3] Soil UCLs were exceeded for antimony, barium, lead and zinc.
- [4] Soil Human Health PRGs were exceeded for benzene, trichloroethene, chromium and lead; Soil Ecological PRGs were exceeded for hexachlorobenzene, antimony, barium, chromium, copper, lead, mercury, thallium and zinc.

Table 5-7. Assembled Alternatives for Soil in the Cold Waste Area

Alternative	Remedial Technologies/ Process Options	Affected Area	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/ Munitions Debris Removal/ Backfill	Solidification/ Stabilization	Transport	Off-Site Disposal [1]	
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Table 5-5. Assembled Alternatives for Soil in the Southern Conservation Commission Area

Alternative SCCA-1	Remedial Technologies/ Process Options No Action	Affected Area or Volume All Soils in the Area	Sample IDs	Area (SF) 940,875	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
SCCA-2	Monitored Natural Attenuation	Subareas with Ecological PRG Exceedances for Antimony, Barium, Copper, Lead, Mercury, Thallium, Zinc or Hexachlorobenzene [2]	SCCA-07 SCCA-14 SFPDA13 SFPDA16 STRA013 STS01	188,341	0	•						•				
SCCA-3A	Excavation/Backfill, Transport and Off-Site Disposal of Contaminated Soil	Subareas with Ecological PRG Exceedances for Antimony, Barium, Copper, Lead, Mercury, Thallium, Zinc or Hexachlorobenzene [2]	SCCA-07 SCCA-14 SFPDA13 SFPDA16 STRA013 STS01	188,341	6,976								•		•	•
SCCA-3B	Excavation/Backfill, Solidification/Stabilizati on, Transport and Off- Site Disposal of Contaminated Soil	See SCCA-3A Above	See SCCA- 3A Above	188,341	6,976								•	•	•	•

Table 5-5. Assembled Alternatives for Soil in the Southern Conservation Commission Area

Alternative	Remedial Technologies/ Process Options	Affected Area or Volume	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [1]
SCCA-4A	Excavation/Backfill, Transport and Off-Site Disposal of Contaminated Soil	Subareas with Ecological PRG Exceedances or with Concentrations that Do Not Approach Background	SCCA-01 SCCA-07 SCCA-14 SFPDA13 SFPDA16 STRA013 STS01 WBBL11 SCCA04	295,347	18,527								•		•	•
SCCA-4B	Excavation/Backfill, Solidification/Stabilizati on, Transport and Off- Site Disposal of Contaminated Soil	See SCCA-4A Above	See SCCA- 4A Above	295,347	18,527								•	•	•	•

^[1] Disposal of both hazardous (due to characteristic leachability) and non-hazardous wastes as defined in the Resource Conservation and Recovery Act (RCRA).

^[2] No soil UCL exceedances were identified for this Risk Characterization Area.

Table 5-2. Assembled Alternatives for Soil in the Upper North Area

Alternative	Remedial Technologies/ Process Options	Affected Area	Sample IDs	Area (SF)	Volume (CY)	Natural Attenuation	Activity and Use Limitations	Fencing	Warning Signs	Educational Programs	Capping/Maintenance	Long-Term Monitoring	Excavation/Backfill	Solidification/Stabilization	Transport	Off-Site Disposal [3]
UNA-1	No Action	All Soils in the Area	-	2,017,74 8	0	•										
UNA-2	Monitored Natural Attenuation and Implementation of Non-Engineering Measures	Subarea with UCL Exceedance (Area Around Sample Location NSR-01)	NSR 01	22,194	0	•						•				
[1]	Excavation/Backfill, Transport and Off- Site Disposal of Contaminated Soil	Subarea with UCL Exceedance (Area Around Sample NSR- 01)	NSR 01	22,194	822							•	•		•	•
UNA-3 [2]	Excavation/Backfill, Transport and Off- Site Disposal of Contaminated Soil	Subarea with Concentrations that Do Not Approach Background	NA-SS5 NA-SS9 NLAB03 NSR-01 NSR-02 NSR-03 UNA-02	215,148	26,807								•		•	•

^[1] Sample Location NSR-01 is located right along the bank of the Eastern Channel Corridor. The removal required to achieve the soil UCL for antimony at this location has been incorporated into the Eastern Channel Corridor removal alternative.

^[2] No human health or ecological risks were identified for this Risk Characterization Area.

All soil from this area to be disposed is assumed to not be hazardous waste under the Resource Conservation and Recovery Act (RCRA)
AUL Activity and Use Limitations GRA General Response Action MNA Monitored Natural Attenuation