Table 5-1
Preliminary Screening of Remedial Alternatives
Riverside Industrial Park Superfund Site
Newark, New Jersey

	Overall Effectiveness	Implement-ability	Cost	Screening Comments
Waste				
1 – No Action	Poor	Excellent	Low	Retained per NCP
2 – Removal and Off-Site Disposal	Excellent	Good	Medium	
Soil/Fill				
1 – No Action	Poor	Excellent	Low	Retained per NCP
2 – Institutional Controls and NAPL Removal	Poor-Fair	Excellent	Low	
3 – Institutional Controls, Engineering Controls, and NAPL Removal	Good	Good	Medium	
4 – Inst Controls, Engr Controls, Limited Removal, and NAPL Removal	Good-Excellent	Good	Medium-High	
5 – Inst Controls, Engr Controls, In-Situ Remediation and NAPL Removal	Good-Excellent	Poor-Fair	High	Retained, although implementability uncertain at this time
6 – Inst Controls, Removal/Off-Site Disposal, and NAPL Removal	Excellent	Poor	Very High	Not implementable (water management, offsets around underground utilities, and limited space between buildings)
7 – Inst, Ex-Situ Treatment/Replacement, Engr Controls and NAPL Removal	Good-Excellent	Poor	Very High	Not implementable (water management, offsets around underground utilities, and limited space between buildings)
Groundwater				
1 – No Action	Poor	Excellent	Low	Retained per NCP
2 – Institutional Controls, Containment at River, and Pump and Treat	Good	Good	High	
3 – Institutional Controls and In-Situ Remediation	Fair-Good	Good	Medium	
4 – Institutional Controls, P&T, and Targeted Periodic In-Situ Remediation	Good-Excellent	Good-Excellent	Medium	
5 – Inst. Controls, Containment at River, and Focused In-Situ Remediation	Fair	Poor	Medium	Not implemented (containment at river without a pumping system is not feasible)
6 - Institutional Controls and Site Containment	Poor	Poor	High	Not implementable (underground utilities/building proximity along western boundary)
7 – Institutional Controls, Containment at River, and MNA	Unknown	Poor	Medium	Not implemented (no MNA study conducted to determine if MNA is occurring at Site; containment at river without a pumping system is not feasible)
Sewer				
1 – No Action	Poor	Excellent	Low	Retained per NCP
2 – Removal and Off-Site Disposal	Excellent	Good	Low	
Soil Gas				
1 – No Action	Poor	Excellent	Low	Retained per NCP
2 – Inst Controls, Monitoring/Engr Controls, and Site-Wide Engr Controls	Good	Excellent	Low	
3 – Inst Controls, Site-Wide Engr Controls, and In-Situ Remediation	Good-Excellent	Poor-Fair	High	Retained, although implementability uncertain at this time
4 – Inst Controls, Site-Wide Engr Controls, and Removal/Disposal	Good	Poor	Very High	Not implementable (water management, offsets around underground utilities, and limited space between buildings)
5 - Inst Controls, Site-Wide Engr Controls, and Ex-Situ Treatment/Replacement	Good	Poor	Very High	Not implementable (water management, offsets around underground utilities, and limited space between buildings)

Table 6-1
Detailed Screening of Remedial Alternatives
Riverside Industrial Park Superfund Site
Newark, New Jersey

	Overall Effectiveness					Implement-ability	Cost
	Overall Protection of Human Health/ Environment	Compliance with ARARs	Long-term Effectiveness and Permanence	Reduction of Mobility/ Toxicity/Volume by Treatment	Short-term Effectiveness		
Waste							
1 – No Action	Poor	Poor	Poor	Poor	Excellent	Excellent	Low
2 – Removal and Off-Site Disposal	Excellent	Excellent	Excellent	Good	Good	Good	Medium
Soil/Fill							
1 – No Action	Poor	Poor	Poor	Poor	Excellent	Excellent	Low
2 – Institutional Controls and NAPL Removal	Poor-Fair	Poor-Fair	Poor-Fair	Poor-Fair	Good-Excellent	Excellent	Low
3 – Institutional Controls, Engineering Controls, and NAPL Removal	Good	Good	Good	Fair	Good	Good	Medium
4 – Inst. Controls, Engineering Controls, Focused Removal, and NAPL Removal	Good-Excellent	Good-Excellent	Good-Excellent	Good	Good	Good	Medium-High
5 – Inst. Controls, In-Situ Remediation, Engineering Controls, and NAPL Removal	Good-Excellent	Good	Good-Excellent	Fair-Good	Fair	Poor-Fair	High
Groundwater							
1 – No Action	Poor	Poor	Poor	Poor	Excellent	Excellent	Low
2 – Institutional Controls, Containment at River, and Pump and Treat	Good	Good	Good	Good	Good	Good	High
3 – Institutional Controls and In-Situ Remediation	Good	Good	Fair-Good	Fair	Fair	Good	Medium
4 – Institutional Controls, P&T, and Targeted Periodic In-Situ Remediation	Good-Excellent	Good-Excellent	Good-Excellent	Good	Good	Good-Excellent	Medium
Sewer							
1 – No Action	Poor	Poor	Poor	Poor	Excellent	Excellent	Low
2 – Removal and Off-Site Disposal	Excellent	Excellent	Excellent	Good	Good	Good	Low
Soil Gas							
1 – No Action	Poor	Poor	Poor	Poor	Excellent	Excellent	Low
2 – Inst. Controls, Monitoring/Engineering Controls, and Site-Wide Engineering Controls	Good	Good	Good	Poor	Excellent	Excellent	Low
3 – Inst. Controls, Site-Wide Engineering Controls, and In-Situ Remediation	Good-Excellent	Good-Excellent	Good-Excellent	Good	Fair-Good	Poor-Fair	High

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Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

Chemical of Potential Concern[1]	Risk Based Concentrations[2]			
	Based on Target ILCR = 10-6	Based on Target ILCR 10-5	Based on Target ILCR 10-4	Based on Target HQ = 1
Copper	NC	NC	NC	5.3E+02
Lead	---	---	---	---

Notes:

1. Soil concentrations are presented in units of milligrams per kilograms(mg/kg) for chemicals of concern identified for a visitor in the Baseline Human Health Risk Assessment.
2. Risk based concentrations are a calculated value, see Table X-x for calculation.
   The soil PRGs for carcinogenic (Incremental Lifetime Cancer Risk; ILCR) are based on a risk range of 1E-06 to 1E-04 and noncarcinogenic (Hazard Quotient; HQ) based on a target hazard index of one.
3. PRGs for lead were developed using the IEUBK model. See Table X for IEUBK model outputs.
4. ARARs are based on the New Jersey nonresidential direct contact soil remediation standard.
5. The Preliminary Remediation Goal (PRG) was selected according to the following hierarchy:

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

PRG Based on ALM Model[3]	ARARs mg/kg[4]	Selected PRGs[5]	Basis for PRG
---	4.5E+04		
	8.0E+02		

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

Chemical of Potential Concern[1]	Risk Based Concentrations[2]			
	Based on Target ILCR = 10-6	Based on Target ILCR 10-5	Based on Target ILCR 10-4	Based on Target HQ = 1
Lead	---	---	---	---

Notes:
1. Soil concentrations are presented in units of milligrams per kilograms(mg/kg) for chemicals of concern identified for an outdoor worker in the Baseline Human Health Risk Assessment.
2. Risk based concentrations are a calculated value, see Table X-x for calculation.
The soil PRGs for carcinogenic (Incremental Lifetime Cancer Risk; ILCR) are based on a risk range of 1E-06 to 1E-04 and noncarcinogenic (Hazard Quotient; HQ) based on a target hazard index of one.
3. PRGs for lead were developed using the IEUBK model. See Table X for IEUBK model outputs.
4. ARARs are based on the New Jersey nonresidential direct contact soil remediation standard.
5. The Preliminary Remediation Goal (PRG) was selected according to the following hierarchy:

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

PRG Based on ALM Model[3]	ARARs mg/kg[4]	Selected PRGs[5]	Basis for PRG
784	8.0E+02		

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

Chemical of Potential Concern[1]	Risk Based Concentrations[2]			
	Based on Target ILCR = 10-6	Based on Target ILCR 10-5	Based on Target ILCR 10-4	Based on Target HQ = 1
Lead	---	---	---	---

Notes:
1. Soil concentrations are presented in units of milligrams per kilograms(mg/kg) for chemicals of concern identified for an utility worker in the Baseline Human Health Risk Assessment.
2. Risk based concentrations are a calculated value, see Table X-x for calculation.
The soil PRGs for carcinogenic (Incremental Lifetime Cancer Risk; ILCR) are based on a risk range of 1E-06 to 1E-04 and noncarcinogenic (Hazard Quotient; HQ) based on a target hazard index of one.
3. PRGs for lead were developed using the IEUBK model. See Table X for IEUBK model outputs.
4. ARARs are based on the New Jersey nonresidential direct contact soil remediation standard.
5. The Preliminary Remediation Goal (PRG) was selected according to the following hierarchy:

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

PRG Based on ALM Model[3]	ARARs mg/kg[4]	Selected PRGs[5]	Basis for PRG
3292	8.0E+02		

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

Chemical of Potential Concern[1]	Risk Based Concentrations[2]			
	Based on Target ILCR = 10-6	Based on Target ILCR 10-5	Based on Target ILCR 10-4	Based on Target HQ = 1
Lead	---	---	---	---

Notes:
1. Soil concentrations are presented in units of milligrams per kilograms(mg/kg) for chemicals of concern identified for an construction worker in the Baseline Human Health Risk Assessment.
2. Risk based concentrations are a calculated value, see Table X-x for calculation.
The soil PRGs for carcinogenic (Incremental Lifetime Cancer Risk; ILCR) are based on a risk range of 1E-06 to 1E-04 and noncarcinogenic (Hazard Quotient; HQ) based on a target hazard index of one.
3. PRGs for lead were developed using the IEUBK model. See Table X for IEUBK model outputs.
4. ARARs are based on the New Jersey nonresidential direct contact soil remediation standard.
5. The Preliminary Remediation Goal (PRG) was selected according to the following hierarchy:

Table 2-4
Preliminary Remediation Goals for Groundwater
L&RR Superfund Site, North Smithfield, Rhode Island

PRG Based on ALM Model[3]	ARARs mg/kg[4]	Selected PRGs[5]	Basis for PRG
441	8.0E+02		