APPENDIX F

ROD-Listed ARARs

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TABLE 10

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs) AND TO BE CONSIDERED MATERIAL (TBCs) STANDARD CHLORINE SITE

ARAR or TBC	Legal Citation	ARAR Class	Requirement Synopsis	Applicability to Selected Remedy
I. CHEMICALSPECIFIC				
A. Water				
1. Clean Water Act	Clean Water Act, Section 303	Relevant and Appropriate	Water quality criteria set at levels to protect human health for water and fish ingestion and protection of aquatic life in streams, lakes, and rivers.	Surface water in the wetlands and the Red Lion Creek must attain these standards.
2. Health Effects Assessment		To be considered	Non-enforceable toxicity data for specific chemicals for use in public health assessments. Also "to be considered" are Carcinogenic Potency Factors and Reference Doses provided in the Superfund Public Health Evaluation Manual.	To be considered where remedial action addresses risk-based criteria or when setting clean-up standards for the protection of human health.
3. EPA Health Advisories	EPA Office of Drinking Water	To be considered	Non-enforceable toxicity data for specific chemicals for use in public health assessments. Also to be considered are Carcinogenic Potency Factors and Reference Doses provided in the Superfund Public Health Evaluation Manual.	To be considered where remedial action addresses risk-based criteria or when setting clean-up standards for the protection of human health.
4. Delaware Comprehensive Water ResourcesManagement Committee Reports, December 13, 1983		To be considered	The reports were adopted as policy by the DNREC Secretary. Among these reports is the Groundwater Quality Management Report, July 1983, which provided Delaware with a number of tools for dealing with ground-water contamination.	To be considered for ground-water monitoring.

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B. Air				
1. Clean Air Act	42 U.S.C § 7401			
a. National Emissions Standards for Hazardous Air Pollutants	40 C.F.R Part 61	Relevant and Appropriate	Standards promulgated for air emissions from specific source categories. Not applicable but may be relevant and appropriate for emissions from air strippers at Superfund sites.	Relevant and appropriate for potential releases resulting from soil/sediment and ground-water treatment.
b. State of Delaware Implementation Plans for Attainment and Maintenance of National Ambient Air Quality Standards	40 C.F.R Section 52, 420-460 Subpart I	Relevant and Appropriate	Sets forth the State's Implementation Plan for Attainment of Air Quality Standards.	Applicable for potential releases from air stripping of ground water,excavation work,or other remedial actions.
2. Delaware Ambient Air Quality Standards	Title 7, Delaware Code, Ch 60, Regulation 3, Section 6003	Applicable	Establishes ambient air quality standards.	Applicable for potential releases from air stripping of ground water, excavation work, or other remedial actions.
II. LOCATION SPECIFIC				
1. Coastal Zone Management Act of 1972; Coastal Zone Act Reauthorization Amendments of 1990	16 U.S.C. 1451 et seq. 15 C.F.R. Part 930	Applicable	Requires that Federal agencies conducting or supporting activities directly affecting the coastal zone, conduct or support those activities in a manner that is consistent with the approved appropriate State coastal zone management program. (See Delaware's Comprehensive Update and Routine Program Implementation, March 1993)	Remedial actions are required to be consistent, to the maximum extent practicable, with Delaware's coastal zone management program. EPA must notify Delaware of its determination that the actions are consistent to the maximum extent practicable.
2. The Archaeological and Historical Preservation Act of 1974	16 U.S.C § 469	Applicable	Requirements relating to potential loss or destruction of significant scientific, historical, or archaeological data	Further action will be taken to identify resources and, if identified, action will be taken to mitigate any adverse effects on those resources that would result from construction. If resources happen to be identified in other areas (although no specific actions will be taken to find), action will be taken to mitigate any adverse effects on those resources that would result from implementation of the remedial action.

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3. Protection of Floodplains	40 C.F.R. Part 6, Appendix A	Applicable	Sets forth EPA policy for carrying out provisions of Executive Order 11988 (Floodplain Management) which requires actions to avoid adverse effects, minimize potential harm, and restore and preserve natural and beneficial values.	Applicable since much of the remedial action will take place within the 100-year floodplain.
4. Protection of Wetlands	40 C.F.R. Part 6, Appendix A	Applicable	Sets forth EPA policy for carrying out provisions of Executive Order 11990 (Protection of Wetlands) which requires actions to avoid adverse effects, minimize potential harm, and restore and preserve natural and beneficial values.	Applicable to any portion of the remedy which may affect the wetlands.
5. Delaware Coastal Zone Act, 7 Delaware Code Chapter 70; Coastal Zone Act Regulations, 6/9/93	7 Delaware Code Sections 7003, 7004	To be considered	Controls the location, extent, and type of industrial development in Delaware's coastal areas.	Will be considered for consistency since the remedial action is located in Delaware's coastal area.
6. Delaware Wetlands Regulations Revised June 29, 1984	Sections 1, 2, 7	Applicable	Requires activities that may adversely affect wetlands in Delaware to be permitted. Permits must be approved by the county or municipality having jurisdiction.	Any substantive requirements shall be met since wetlands may be dredged (or excavated) and restored along the unnamed tributary. Since all of the wetland remediation is considered "on-site", pursuant to Section 121 of CERCLA, no permit will be obtained.
7. Delaware Regulations Governing the Use of Subaqueous Lands, amended September 2, 1992	Sections 1, 3, 4	Applicable	Requires activities that affect public or private subaqueous lands in the State be permitted.	Any substantive requirements shall be met since the remediation may involve dredging or excavating of the unnamed tributary. Since all of the wetland remediation is considered "on-site", pursuant to Section 121 of CERCLA, no permit will be obtained.
8. Delaware Executive Order 56 on Freshwater Wetlands (1988)		To be considered	General policy to minimize the adverse effects to freshwater wetlands.	To be considered for wetland remediation and restoration.
9. Governor's Roundtable Report on Freshwater Wetlands (1989)		To be considered	General policy to minimize the adverse effects to freshwater wetlands.	To be considered for wetland remediation and restoration.
10. Ground Water Protection Strategy of 1984	EPA 440/6-84-002	To be considered	Identifies ground water quality to be achieved during remedial actions based on aquifer characteristics and use.	The EPA aquifer classification will be taken into consideration during design and implementation of the treatment remedy.

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III. ACTION SPECIFIC				
A. Miscellaneous				
1. Delaware Regulations Governing Hazardous Substance Cleanup, 1/93	Section 9	Relevant and Appropriate	Establishes clean-up criteria for hazardous waste sites.($1x10^{-5}$; Hazard Index of 1; or natural background if higher). Only criteria considered relevant and appropriate are for soils and sediment.	1. Soils and sediments will be remediated to 1X10-6. 2. Will be considered during ground water investigation.
B. Water				
1. Clean Water Act (CWA); National Pollutant Discharge Elimination System Requirements	40 C.F.R. Part 122-125	Applicable	Enforceable standards for all discharges to waters of the United States.	Discharge limits shall be met for all on-site discharges to surface water including treated ground water. If ground water treatment is provided by a means other than the existing wastewater treatment facility, only substantive requirements need by met and no permit shall be obtained.
2. State of Delaware Regulations Governing the Construction of Water Wells, January 20, 1987	Sections 3, 4, 5, 6, 7, 8, 9, 10	Applicable	Contain requirements governing the location, design, installation, use, disinfection, modification, repair, and abandonment of all wells and associated pumping equipment.	Installation of any monitoring and recovery wells and the abandonment of wells shall meet all substantive requirements.
3. Delaware Water Quality Standards, as amended, February 26, 1993	Sections 3-6, 8-10, 11.1, 11.2, 11.3, 11.4, 11.6, 12	Applicable	Standards are established in order to regulate the discharge into state waters in order to maintain the integrity of the water.	Applicable should the ground-water treatment system involve discharge to surface water.
4. Delaware River Basin Commission (DRBC) Water Quality	DRBC Ground Water Protected Area Regulation, No. 4, 6(f), 9, 10; Water Code of the Basin, Sections 2.20.4, 2.50.2	Applicable	Regulate restoration, enhancement, and preservation of waters in the Delaware River basin.	Applicable if remedial action involves discharge of >50,000 gallons/day average over any month or a withdrawal of ground water of 100,000 gallons/day or more average over any month.
5. Delaware Regulations Governing the Allocation of Water March 1, 1987	Sections 1, 3, 5.05	Applicable	Contain information pertaining to water allocation permits and criteria for their approval.	May be applicable for the ground-water recovery system. No permit required.

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6. State of Delaware Groundwater Management Plan November 1, 1987		To be considered	Policy for ground-water management.	To be considered in setting the ground water management zone.
7. Delaware Regulations Governing Control of Water Pollution, amended 6/23/83	Section 7, 8, 9, 10, 11, 12, 13	Applicable	Contain water quality regulations for discharges into surface and ground water.	Applicable for discharge of treated ground water into surface water. Also applicable for stormwater runoff into the unnamed tributary and Red Lion Creek.
C. Air				
1. Control of Air Emissions from Air Strippers at Superfund Ground Water Sites, June 15, 1989	EPA OSWER Directive 9355.0-28	To be considered	Policy to guide the selection of controls for air strippers at groundwater sites according to the air quality status of the site's location (i.e., ozone attainment or non-attainment area).	To be considered in determining if air emissions controls are necessary for an air stripper because New Castle is in an ozone non-attainment area. Sources most in need of controls are those with emissions rates in excess of 3 lbs./hour or 15 lbs./day or a potential rate of 10 tons/year of total VOCs.
2. Delaware Regulations Governing the Control of Air Pollution	Regulations Number 2, 19, 24	Applicable	Sets forth the requirement that a permit is necessary to operate an air stripper if emissions will exceed 2.5 lbs./day. Section 2 describes general conditions. Section 19 deals with odor. Section 24 deals with volatile organic compounds.	If emissions exceed 2.5 lbs./day then the substantive requirements of the regulation must be met. In addition, the emissions from the air stripper must meet the Ambient Air Quality Standards set forth in Regulation 3 of 7 Delaware Code, Chapter 60, Section 6003.
D. Sediments/Solids				
1. Delaware Sediment and Stormwater Regulations January 23, 1991	Section 3, 6, 9, 10, 11, 15	Applicable	Establishes a statewide sediment and stormwater management program.	A stormwater and sediment management plan consistent with Delaware requirements must be approved by Delaware before construction disturbing over 5,000 square feet of land can begin.
E. Waste Handling and Disposal				
1. Delaware Regulations Governing Solid Waste	Sections 2, 5, 6	Relevant and Appropriate	Establishes regulations to implement an improved solid waste management program.	May be relevant and appropriate for the residual waste generated from the treatment of ground water, soils, and sediments.

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2. Delaware Regulations Governing Hazardous Waste	SEE BELOW E.4, E.5, E.6, E.7, E.8, E.9, E.10, E.11, E.13, E.14, E.15, E.16	SEE BELOW	Delaware Regulations Governing Hazardous Waste Part 261 define "hazardous waste". The regulations listed below apply to the handling of such hazardous waste.	SEE BELOW
3. Resource Conservation and Recovery Act of 1976; Hazardous and Solid Waste Amendments of 1984	SEE BELOW E.4, E.5, E.6, E.7, E.8, E.9, E.10, E.11, E.12, E.13, E.14, E.15, E.16 Federal RCRA regulations would not apply for those regulations which Delaware has the authority from EPA to administer.	SEE BELOW	Regulates the management of hazardous waste, to ensure the safe disposal of wastes, and to provide for resource recovery from the environment by controlling hazardous wastes "from cradle to grave."	SEE BELOW
4. Standards Applicable to Generators of Hazardous Waste	Delaware Regulations Governing Hazardous Waste, (DRGHW) Part 262.10-58 EPA Regulations, 40 C.F.R Part 262.10-58	Applicable	Establishes standards for generators of hazardous wastes including waste determination manifests and pre-transport requirements.	Applicable to the wastewater treatment plant and residual waste generated by the treatment of soils & sediments if the waste generated by the treatment system(s) is a RCRA-hazardous waste.
5. RCRA Requirements for Use and Management of Containers	DRGHW Part 264.170-178 EPA Regulations, 40 C.F.R Part 264.170-178	Applicable	Requirements for storage of hazardous waste in storage containers.	Applicable for temporary storage containers and on-site treatment systems.
6. RCRA Requirements for Tanks Systems	DRGHW Part 264.190-199 EPA Regulations, 40 C.F.R Part 264.190-199	Applicable	Requirements for storage or treatment of hazardous waste in tank systems.	Only applicable for onsite treatment systems and temporary storage tanks containing hazardous waste.

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7. Standards for owners and operators of facilities that store or treat hazardous waste in surface impoundments	DRGHW Part 264.220-231 EPA Regulations 40 C.F.R Subpart K 264.220-231	Applicable	Requirements for storage or treatment of hazardous waste in surface impoundments.	§264.228 is applicable to the existing surface impoundment. §264.220-231 are applicable to any soils and sediments which are excavated and stored in a surface impoundment prior to or during treatment.
8. Standards for owners and operators of facilities that store or treat hazardous waste in waste piles	DRGHW Part 264.250-258 EPA Regulations, 40 C.F.R Subpart L 264.250-258	Applicable	Requirements for storage or treatment of hazardous waste in waste piles.	§264.258 is applicable to the existing soil piles. §264.250-258 are applicable to any soils and sediments which are excavated and stored in waste piles prior to, or during treatment.
9. Standards for owners or operators of facilities that treat or dispose of hazardous waste in land treatment units	DRGHW Parts264.270-283 EPA Regulations, 40 C.F.R Subpart M-264.270-283	Applicable	Requirements for storage or treatment of hazardous waste in land treatment units	Applicable to Exsitu bioremediation if a land treatment unit is selected for the bioremediation technology.
10. Standards for owners or operators of facilities that treat or dispose of hazardous waste in incinerators	DRGHW Part 264.340-351 EPA Regulations, 40 C.F.R Subpart O 264.340-351	Applicable	Requirements for storage or treatment of hazardous waste in incinerators	Applicable to low temperature thermal desorption of soils and sediments.
11. Standards for owners or operators of facilities that treat or dispose of hazardous waste in miscellaneous units	DRGHW Part 264.600-603 EPA Regulations, 40 C.F.R Subpart X 264.600-603	Applicable	Requirements for storage or treatment of hazardous waste in miscellaneous units	Applicable to low temperature thermal desorption of soils and sediments.
12. Standards for owners or operators of facilities that treat or dispose of hazardous waste	EPA Regulations, 40 C.F.R Subpart AA 264.1030-1037	Applicable	Applies to process vents associated with air stripping operations that manage hazardous wastes.	Applies to treatment of ground water in an air stripper.

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13. The Hazardous Waste Permit Program	DRGHW Part 122 EPA Regulations, 40 C.F.R Part 270	Applicable	Requires a permit for the treatment, storage, or disposal of any hazardous waste as identified or listed in Part 261.	Any substantive requirements will be met. But no permit will be required for on-site activities.
14. Identification and Listing of Hazardous Wastes	DRGHW Part 261 EPA Regulations, 40 C.F.R Part 261	Applicable	Identifies solid wastes which are regulated as hazardous wastes.	Use to determine which materials must be managed as a hazardous waste.
15. Standards Applicable to transporters of hazardous waste	DRGHW Part 263 EPA Regulations 40, C.F.R Part 263.10-31	Applicable	Establishes standards for transportation of hazardous waste.	Applicable to residual waste generated by the treatment of soils and sediments and recovered DNAPL.
16. RCRA Land Disposal Restrictions	DRGHW Part 268 EPA Regulations, 40 C.F.R Part 268	Applicable	Restrictions on land disposal of hazardous wastes.	Applicable for off-site land disposal of hazardous waste generated from the treatment of groundwater, soils and sediments.

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