PLANNING & ECONOMIC DEVELOPMENT
TOWN OF JOHNSTON, RHODE ISLAND
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JOSEPH M. POLISENA, MAYOR

December 7, 2011

Anna Krasko
EPA New England
5 Post Office Square, Suite 100
Mail Code OSRR07-1
Boston MA 02109-3912

RE: Centredale Manor Superfund Proposed Plan
December 7, 2011 Hearing Comments

Dear Ms Krasko:

The following summarizes my testimony today at the EPA hearing held at Centerdale Manor. I reserve the right to provide additional comment as I undertake a more thorough review of the Proposed Plan. As presented by the EPA, the preferred option is the permanent disposal of contaminated dredged sediment in upland Confined Disposal Facilities (CDF) at one or more sites in Johnston along the Woonasquatucket River.

Mayor's Comments

The following reiterates Mayor Polisena's requests as expressed in previous meetings with the EPA:

- The Town of Johnston must be assured that the Town will not be liable for the maintenance or failure of any future confined disposal facilities located within Johnston.
- Remediation and construction must be conducted by contractors and workers located in the State of Rhode Island

Town Planner's Comments

- Background
  - None of the pollution was generated in Johnston and yet all five potential upland confined disposal facilities (CDF) are located in Johnston.
  - You will agree that the Town of Johnston bears a disproportionate share of landfill disposal statewide.
- The Town will only be supportive of CDF in Johnston if it meets the following:
  - Does not adversely affect tax revenue to the Town of Johnston. This includes property and tangibles tax.
  - Does not displace jobs. This is a very important consideration as it is much easier to support job retention than it is to attract new business. These workers have a very important multiplier effect on the local economy as they spend their earnings in local businesses.

- CDF in Johnston must be a win/win for the Town. Any disposal within the Town must be mitigated by development of appropriate surface reuse so that not just the Town of North Providence and EPA are winners, but that the Town of Johnston is a winner as well.

- At this time, the Town is supportive of use of the DPW site at 100 Irons Avenue and of the former tire dump off Railroad Avenue. This is based on currently available information. The Town is working on visioning for recreational reuse of the DPW site and has scheduled a workshop on January 11, 2012 at 7:00 PM at the Sarah Barnes School, 24 Barnes Avenue, Johnston to gather public comment. Our preliminary support for use of the DPW is predicated on the following:
  - DPW operations be relocated elsewhere in town, to be paid by the EPA/Potentially Responsible Party (PRP) with no Town fiscal participation.
  - DPW site be developed for recreational use above the CDF, with development costs to be paid by the EPA/PRP with no Town fiscal participation.
  - EPA provide assistance in public education regarding health risks for use of recreational facilities located above CDFs.
  - EPA provide support and financial assistance to the Town to carry on negotiations with the PRP. Again, none of the pollution was generated in Johnston, and yet we will bear the burden of this negotiation.
  - Access to the Narragansett Bay Commission sewer interceptor located under the DPW must be assured, not just at the manholes, but along the length in the event the line has to be repaired or replaced. We are concerned about the loading of the CDF and any effect this would have on the structural integrity of the sewer line. We recommend that the EPA request separate comment from the Bay Commission on this issue.

In closing, the Town is supportive of restoring water quality in the Woonasquatucket but it must be a win/win for the Town of Johnston.

Sincerely,

Pamela M. Sherrill, AICP, Town Planner

cc: Tony Simon, Senator Whitehouse's Office
Mayor Joseph M. Polisena, Mayor
Doug Jeffrey, Chief of Staff
William J. Conley, Town Solicitor
Arnold Vecchione, Director, Department of Public Works
Lorraine Caruso, PE, Town Engineer
Louis R. Maccarone, Department of Environmental Management
Alicia Lehrer, Woonasquatucket River Watershed Council
Tom Brueckner, Narragansett Bay Commission

- We are concerned with short term construction impacts including contaminated airborne dust in proximity to residential neighborhoods.
- The burden of negotiating with the PRP will fall to the Town of Johnston, requiring dedication of limited staff and fiscal resources. This is an unacceptable distraction from more pressing town issues and regulated mandates.
- Location of upland disposal sites would adversely affect property and tangibles tax revenue to the Town of Johnston as these sites would be taken off the tax rolls or would have lower value than if developed for industrial use, in accordance with zoning.
- Location of upland disposal in Johnston has the potential to displace long term jobs. This is a very important consideration as it is much easier to support job retention than it is to attract new business. These workers have a very important multiplier effect on the local economy as they spend their earnings in local businesses.
- We are not assured that access to and the integrity of the Narragansett Bay Commission sewer interceptor located on the west side of the Woonasquatucket River will not be compromised by upland disposal along the river.

In closing, the Town is supportive of restoring water quality in the Woonasquatucket but not at a cost to residents of the Town of Johnston.

Sincerely,

Mayor Joseph M. Polisena

Joseph M. Polisena, Mayor

cc: Tony Simon, Senator Whitehouse's Office
Doug Jeffrey, Chief of Staff
William J. Conley, Town Solicitor
Arnold Vecchione, Director, Department of Public Works
Lorraine Caruso, PE, Town Engineer
Pamela M. Sherrill, AICP, Town Planner
Louis R. Maccarone, Department of Environmental Management
Alicia Lehrer, Woonasquatucket River Watershed Council
Tom Brueckner, Narragansett Bay Commission

TOWN OF
NORTH PROVIDENCE

STATE OF
RHODE ISLAND

North Providence
Environmental Commission

Tree Board
Conservation Commission
Environmental Commission
Beautification Commission

* The NPEC supports the EPA's general approach to the remediation of the contamination in and along the river. Specifically we are glad to see that remediation is proposed for the Centredale Manor property or the "source area" as identified by EPA as well as the downstream sections of the river including Allendale and Lyman Mill ponds and the abutting areas. We would want the entire remediation as proposed to be completed by EPA.

* Recent flooding has affected residents of our Town, and the unfortunate loss of much green space in North Providence over the last few decades makes (uncontaminated) flood plains and wetlands even more crucial both for our Town and for Narragansett Bay (a crucial resource that the entire state relies upon economically and recreationally.)

* We were glad to see that the proposal relies largely upon upland containment sites due to the strong likelihood of future flooding.

* The "Oxbow" area remediation, on the other hand, does not rely upon upland containment. We are somewhat concerned that future flooding could exceed generally accepted predictions and dislodge contamination from the sediment proposed to be capped in this area. Extreme weather events appear to be increasing in many areas of the country.

* We would also strongly prefer that any upland containment site chosen, not destroy existing wooded space, but rather be sited upon former industrial areas nearby. North Providence has the least amount of Open Space of any town in Rhode Island (according to RI Monthly Magazine) and our Commission has worked very hard to preserve the last few green areas left. We value these upland wooded spaces not only for their contribution to water quality and flood alleviation, but also for reduction of summer temperatures, recreational opportunities, habitat, air quality improvement, and psychological benefits to residents in urban areas. Upland areas with oak trees offer the additional benefit of forest largely immune to the potential threat of the Asian Longhorn Beetle, a devastating insect that could largely destroy Rhode Island's maple forests if containment efforts in nearby Worcester, MA are not successful.

* Finally, we were pleased to see that the proposal from EPA considers future monitoring and maintenance costs associated these types of remedies, as our Towns are likely to vary in institutional memory of the site's hazards in future decades.

Thank you very much for your concern regarding these issues.

Sincerely,

Barry Schiller, Secretary

Yvonne Federowicz, Co-Chair

2000 Smith Street • North Providence • RI 02911-1740

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

March 2, 2012

Ms. Anna Krasko
EPA New England
5 Post Office Square
Suite 100 (OSRR 07-1)
Boston, MA 02109-3912

Dear Ms. Krasko:

Thank you for the opportunity to review the U.S. Environmental Protection Agency (EPA) Proposed Plan, Centredale Manor Restoration Project Superfund Site, North Providence, Rhode Island, and provide comments to EPA Region 1, as part of the public comment period.

The Proposed Plan (PP) for the cleanup of sediment, soil, surface water and groundwater presents a combination of options for remediation of contamination in section-specific areas of the site associated with historic releases of dioxins, polychlorinated biphenyls (PCBs), and other contaminants of concern (COC). We previously commented to EPA's National Remedy Review Board (NRRB) on July 7, 2010 concerning preliminary proposed remedial actions. The following comments on EPA's preferred remedial options parallel our previous NRRB comments, relative to section-specific areas of the site.

Preferred Remedial Option for the Source Area: Alternative 4E: Conduct focused surface soil removal based on conservative dioxin and PCB clean-up goals, upgrade the current soil cap to a standard RCRA cap, and dispose of highly toxic or mobile waste offsite. We agree that these actions will provide the highest level of human health and ecological protection from contaminated surface soils and minimize potential groundwater and surface water risks to the adjacent Woonasquatucket River. We would prefer that Cap Area 1, as depicted on PP Map 7, be minimized to the greatest extent possible on the southern boundary to avoid filling of floodplain wetlands. In instances where wetland filling is unavoidable in order to attain remedial objectives, mitigation for permanent loss of wetland habitat should be conducted following U.S. Army Corps of Engineers (ACOE) guidelines. Additionally, lost flood storage potential due to capping within the 100-year floodplain should be compensated under ACOE regulations, as addressed in the Administrative Record. Off-site disposal of contaminated soils is preferred rather than impacting additional floodplain habitat by the incorporation of a nearshore Confined Disposal Facility (CDF).

Preferred Remedial Option for Allendale and Lyman Mill Impoundments: Alternative 7A: Conduct full excavation of sediments based on conservative clean-up goals for dioxin and dispose of contaminated sediments offsite. We agree that full excavation based on conservative clean-up goals will remove the bulk of dioxin-contaminated sediments. This will provide the highest level of human health and ecological protection from the currently elevated levels of dioxin contamination in both impoundments. We support the dewatering of the impoundments as the most effective method for removal of contamination, attaining clean-up goals, and minimizing downstream transport of contamination. We also concur that sediments should be capped with clean fill if cleanup goals cannot be attained after significant sediment removal has been conducted. However, cap thickness should be in excess of the proposed thin-layer cap (TLC) in order to be more conservatively protective of biota. A 6-inch habitat layer, on top of the proposed sand cap layer, would provide a more protective barrier from residual contamination and promote re-establishment of the benthic macroinvertebrate community. Habitat layer cap material should contain total organic carbon and sediment grain size characteristics that will promote successful and expedited restoration of the benthic community. EPA acknowledges (Feasibility Study [FS], Appendix K) in their aquatic ecosystem recovery rate analysis that this technique would significantly aid in benthic habitat restoration. Furthermore, integration of a habitat layer in sediment caps is being used at remedial sites within EPA Region 1 and has been effectively instituted at other remedial sites across the country. In areas where clean-up goals can be attained, we recommend application of a habitat layer if native sediment conditions at depth are lacking in characteristics that will support successful benthic re-colonization. Where possible, post-excavation elevations should be retained to increase average impoundment depth and enhance open water habitat potential.

Stabilization of shorelines and restoration of embankments should be done utilizing bioengineering materials to the greatest extent possible. We recommend avoiding the use of bank or bottom armoring except in erosion-prone areas where bioengineering design will not meet ACOE stability specifications. We also recommend naturalizing all shoreline armored areas with a vegetated topsoil/sand mixture. This will promote shoreline restoration and provide a more aesthetically acceptable post-remedial condition. This technique is going to be utilized at the GE/Housatonic Silver Lake remediation in Pittsfield, Massachusetts. The Silver Lake remediation/restoration should serve as a good model for shoreline restoration options in the Allendale and Lyman Mill impoundments.

Excavated sediments should be contained in an upland CDF area, as depicted on PP Map 9. We would prefer the selection of the most southerly CDF location proposed, which is situated off Burr Avenue, and is currently operating as a concrete plant. A 2009 site visit to this location, with EPA and state officials, documented that this site has high potential to fully accommodate excavated soils and sediments from the site. Use of this area would prevent potential impacts to the other areas proposed for upland CDFs which contain quality or developing wildlife habitat that is uncommon in this part of the watershed. We acknowledge that the most heavily contaminated sediment should be shipped out of area to meet regulatory high hazard disposal requirements.

Benthic macro/microfauna and fish are expected to gradually re-colonize the remediated impoundments over a period of several years from upstream and adjacent habitat contributions. However, EPA acknowledges (FS, Appendix K) that natural fish community restoration may be extremely protracted when complete depletion has occurred, especially when upstream migration of fish is not possible due to impassable dams. Therefore, it would be preferable if fish were restocked in the impoundments. The potential benefits and logistics for these efforts should be discussed with the Rhode Island Division of Fish and Wildlife. Restocking with select species and a calculated stocking density appropriate for each impoundment would definitively restore the fishery more quickly than natural repopulation. It would also allow for establishment of a more preferred or beneficial fish community than existed pre-remedy. This in turn will support higher food chain dynamics and potentially provide expedited sport fishery options for the public. Biotic assemblages should be monitored for abundance, diversity, and contaminant levels as the aquatic habitat matures post-remedy.

Preferred Remedial Option for Allendale Floodplain Soils: Alternative 5A: Conduct full excavation of floodplain soils based on conservative clean-up goals for dioxin and other COC. We agree that these actions will be conservatively protective of ecological receptors. Remediated floodplain areas should be restored to riparian forested, scrub-shrub or emergent habitat, especially immediately downstream of the Source Area. Original floodplain elevations should be retained to enhance riparian habitat re-establishment. However, elevations may be lowered in these areas to mitigate for lost flood storage capacity in other areas. Loss or change in habitat type from pre-remedial conditions, due to flood storage mitigation, may also require habitat mitigation. All contaminated soils should be contained in the same upland CDF used for impoundment sediments, as discussed above.

Preferred Remedial Option for Lyman Mill Stream Sediment, excluding the Oxbow Area: Alternative 3A: Conduct full excavation of all in-stream sediment in excess of conservative clean-up goals for dioxin and other COC. We agree that these actions will be conservatively protective of ecological receptors. Instream and associated emergent habitat areas should be restored using bioengineering techniques to the greatest extent practicable. Contaminated sediments should be contained in the same proposed upland CDF, as described above.

Preferred Remedial Option for the Oxbow Area: Alternative 3A: Removal of soil from floodplain areas where contamination is above safe levels for residential/recreational exposure, removal of sediment above target cleanup levels from erosional stream areas, placing a TLC over residual contaminated floodplain soil and sediment, diverting water to flow through the Oxbow Area to speed natural recovery. We agree that contamination elevated above target cleanup levels for human health should be removed. However, there may be some areas classified for human use that are actually unlikely to be utilized for residential or recreational purposes. Further examination of proposed removal areas based on human health protection may result in refinement of excavation boundaries.

We agree that sediment above target cleanup levels should be removed from all erosion-prone areas along stream channels. The remnant former river channel and back channel areas that conduct flows during high water events are particularly susceptible to erosion and exhibit

elevated dioxin levels. Furthermore, future river channel migration or abraided surface water flows have the potential to erode floodplain areas that have not been remediated. These areas would have the potential, if unexcavated, to re-contaminate adjacent and downstream remediated areas during high water or scour events. TLC treatment of elevated dioxin levels in the floodplain areas will not prevent significant flow events from re-distributing residual contamination.

We do not agree that placing a TLC over substantial acreage within the Oxbow Area is warranted in some cases or protective enough in other cases. As described in the PP, the Oxbow Area contains uncommon riparian habitat for this area of the watershed, as characterized by the ACOE. Modeled ecological risks show a relatively low risk from dioxin and COCs in some areas, based on lowest observed adverse effect levels (LOAELs). We are concerned that large areas of functional habitat may be impacted for minimal ecological risk reduction. We recommend that proposed remedial actions be reconsidered for sensitive habitat areas, such as vernal pools, where actions will result in minimal ecological risk reduction and may result in functional loss of habitat. Amphibians, including eggs and larvae, have been found to be relatively insensitive to dioxin exposure. Vernal pools are very sensitive to hydroperiod fluxes and therefore vulnerable to elevation changes. TLC application within vernal pool habitat areas will raise elevations, decrease water retention duration, and compromise functionality. We do not recommend conducting remedial activities in vernal pool habitat areas unless concentration levels are high enough to be considered future potential source areas. In these cases, it would be more beneficial to do targeted small-scale sediment/soil excavation of elevated contaminants, cap residual contamination but retain or improve functional elevations, and restore habitat features post-removal.

We are not confident that TLC in forested and scrub-shrub habitats can be effectively conducted without serious impacts to the functionality of the habitat. Application of a TLC in these habitats, over extensive acreage, is not a well-proven technology. It will minimally sequester surface soil contamination, has questionable stability during flood events, may degrade existing habitat function for an unknown period of time, and may require substantial habitat removal or alteration for application. We consider TLC to be of minimal benefit ecologically and support targeted excavation of floodplain soils, based on significant ecological risk reduction. In areas where long-term effects of excavation may outweigh short-term benefits, as in the removal of forested floodplain habitat, small-scale excavation, TLC or no action should be considered. Risk reduction using area averaging on an ecologically relevant scale may show that a reduced remedial footprint is acceptable.

We are also not confident that water flow diversion into the Oxbow Area can be conducted in a manner that will lead to monitored natural recovery, without promoting potential erosion and re-distribution of residual contamination. The hydrologic cycle within the Oxbow Area is an important feature for sustaining current floodplain habitat function. Large portions of the Oxbow are inundated during seasonal high water or episodic events. It is unclear how water flows would be altered to augment this condition and lead to significant additional sedimentation, in areas left with residual contamination, while not compromising habitat conditions. Further details would need to be provided during the Remedial Design phase

before we were able to agree that this proposed action had significant benefits and insignificant impacts.

Excavated sediments should be contained in the same upland CDF, as described above.

In general, expeditious and well-planned restoration of riparian and floodplain habitat post-remedy will be very important to restore valuable functions and values to the Oxbow and related areas in the Allendale and Lyman Mill reaches. We recommend high organic soils for post-excavation replacement, generous stocking densities of well-developed, site-specific species for forested and scrub-shrub areas, along with aggressive invasive species control and monitoring efforts. Streambanks should be stabilized and restored using bioengineering techniques to the greatest extent possible, as described above.

We recommend that restoration and monitoring standards for all remediated areas of the site include robust, comprehensive, and long-term vegetative community establishment and invasive species control, parallel to those used on the first two miles of the GE/Housatonic River Site. Riparian and terrestrial habitat restoration should be described in a Restoration and Monitoring Plan, as part of the Remedial Design.

Wetland habitat and flood storage capacity that are impacted or lost due to remediation excavation, capping, filling, or disposal activities require mitigation that should be conducted according to ACOE guidance, as previously mentioned. TLC, if implemented, may lead to reduced habitat quality which should be monitored over the long term, in conjunction with habitat restoration areas.

We will be conducting a natural resource damage assessment (NRDA) in coordination with our fellow Trustees, the National Oceanic and Atmospheric Administration (NOAA) and the State of Rhode Island. The focus of the NRDA claim will be to determine the level of past, present and future injury to natural resources from site-related contamination, including injury related to remedial activities. As EPA is aware, NRDA is a separate and parallel process from the remedial process that seeks to recover damages from the Responsible Party to compensate the public for the reduction of services or lost use of natural resources due to contaminant release. We understand that EPA's PP seeks to avoid impacts to natural resources to the greatest extent practical, while insuring protection of human health and the environment. However, as currently proposed, EPA's preferred remedial actions will include substantial injury to natural resources, via sediment and floodplain soil remediation which will remove, alter or otherwise impact significant habitat acreage. Additional injury may occur from the disposal of contaminated sediments and soils. Remedial impacts to natural resources, including acute and chronic impacts, will be assessed though a habitat equivalency analysis. Post-remedial habitat restoration will contribute to reduced future natural resource damages by expediting recovery of impacted habitats. Onsite wetland habitat restoration in excess of required remedial mitigation can be used to offset assessed future damages. Trustees will begin the damage assessment process after the Remedial Plan has been finalized. The injury determination may not be finalized until after the Remedial Design is completed, so that all impacts to natural resources from remedial activities can be assessed and quantified.

We look forward to further discussions with EPA Region 1 regarding the remediation and restoration of the Centredale Manor Site, the Woonasquatucket River, and its floodplain. For further comments or questions, please contact Mr. Kenneth Munney of this office at 603-223-2541, extension 19, or Kenneth_Munney@fws.gov.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

Michael F. Sabitoni
President

RHODE ISLAND
BUILDING TRADES

Scott Duhamel
Secretary/Treasurer

December 7, 2011

To Whom It May Concern:

The Centerdale Restoration Project will have many short and long term positive impacts on the residents as well as the communities near the contaminated areas. Specifically, by cleaning up the lands and removing toxic contaminants, the communities can avoid any possible or potential health issues linked to the different toxins that were found. In addition, we are preserving and maintaining the wildlife and ecosystem in the affected areas. What is being created is a better overall landscape, environment and eco-system.

As far as short term disturbance, different steps would be taken to reduce the possible and temporary effects of construction. One way is that the work will be done in phases so that all the neighborhoods will not be affected at once.

This cost of this project is a $101,000,000, which will create substantial work opportunities for Building Tradesmen and Woman, the unemployment rate was 10.5% and in 2009, 12% of the population was living below poverty levels unemployment for the construction industry is at 40%. The State of Rhode Island needs to create opportunities for its skilled labor force and put its citizens back to work. This project will help many families bring a steady steam of income back into their homes which intern will be put into the local economy. The local economy benefits because workers are using their income to buy goods and services, which supports other local industries.

Another benefit to this restoration project is that the land, once cleaned, could be developed, thereby creating flow if tax revenues for the different municipalities.

The EPA has conducted significant research and studies on the affected areas and environments dating back to 1999. The result from this long and extensive research is that the EPA recommends that these grounds be cleaned and the contaminants be removed. Also the EPA believes that the treatment and disposal will achieve long term risk reduction. The project will utilize proven clean technologies as well. Point being, proper due diligence was conducted and I agree with the results and recommendations that were found.

Exposures to contaminants possess potential health risks and danger for both people and wildlife. Lead has been linked to toxicity in the nervous system, both in adults and children.

Rhode Island Building and Construction Trades Council
410 South Main Street, Providence, RI 02903
(401) 331-9682 Fax: (401) 861-1480

It may also cause weakness in fingers, wrists, or ankles. Lead exposure can potentially causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. The EPA has also determined that lead is a probable human carcinogen.

As for Arsenic, it has been linked to nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet. The Department of Health and Human Services (DHHS) and the EPA have determined that inorganic arsenic is also a known human carcinogen. Cadmium is also a known to be a Human Carcinogen. Breathing high levels of cadmium can severely damage the lungs. Long-term exposure to lower levels of cadmium in air, food, or water can lead to a buildup of cadmium in the kidneys and possible kidney disease.

On behalf of the 10,000 Tradesmen and Women of the Rhode Island Building and Construction Trades Council, we support this remediation project for all the reasons mentioned above.

Sincerely,

MICHAEL F. SABITONI
Business Manager

Cc: The Honorable Charles A. Lombardi, Mayor, Town of North Providence
The Honorable Joseph Polisena, Mayor, Town of Johnston
North Providence Town Council Members
Johnston Town Council Members

Rhode Island Building and Construction Trades Council
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Proposed Plan Comments
Alicia Lehrer to: Anna Krasko, Stacy Greendlinger 02/06/2012 02:07 PM

From: "Alicia Lehrer" <alehrer@wrwc.org>
To: Anna Krasko/R1/USEPA/US@EPA, Stacy Greendlinger/R1/USEPA/US@EPA
Please respond to <alehrer@wrwc.org>

Hi Anna and Stacy,
We will be mailing in our comments shortly. I just wanted to quickly touch base to formally say that although Jean Lynch identified herself as a board member of my organization (and she is), her comments do not represent the Woonasquatucket River Watershed Council. They are strictly her own comments as a citizen of Johnston.

I just wanted to go on record with that one.

Thank you.
-Alicia

Alicia J. Lehrer
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Woonasquatucket River Watershed Council
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WOONASQUATUCKET RIVER
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February 21, 2012

Anna Krasko
EPA New England
5 Post Office Square, Suite 100
Mail Code OSRR07-1
Boston, MA 02109-3912

Dear Ms. Krasko:

The Woonasquatucket River Watershed Council (WRWC) appreciates the opportunity to comment on EPA's plans for cleanup of sediment, soil, surface water and groundwater contamination associated with the Centredale Manor Superfund site.

Attached are our comments.

We look forward to the continuation of the cleanup process.

Sincerely,

Alicia J. Lehrer
Executive Director

Woonasquatucket River Watershed Council

Comments to the USEPA

Proposed Plan for the Centredale Manor Restoration Project

February 2012

Mission Statement

The mission of the Woonasquatucket River Watershed Council (WRWC) is to encourage, support and promote the restoration and preservation of the Woonasquatucket River Watershed as an environmental, recreational, cultural, and economic asset of the State of Rhode Island. We share with the United State Environmental Protection Agency (USEPA), the goal of returning the river to a fishable/swimmable condition and greatly appreciate the work that the USEPA and their contractors have done to assess and restore the portion of the river that has been impacted by the Centredale Manor site. We enthusiastically await the large-scale remediation of the Centredale Manor property and the downstream portions of the Site.

Document Organization

This document provides commentary from the WRWC relative to the USEPA document entitled, "Proposed Plan, Centredale Manor Restoration Project" (the "Proposed Plan") which is dated October 2011. The Proposed Plan provides general descriptions of remediation strategies for the Centredale Manor and Brook Village properties (the "Source Area") and the environs in and along the Woonasquatucket River downstream of the Centredale Manor property ending at Lyman Mill dam (in its entirety referred to as the "Site"). The remediation strategies presented in the Proposed Plan include the USEPA preferred cleanup alternatives and other alternatives that were considered but not selected by USEPA. Details about all of the information presented in the Proposed Plan are provided in the documents entitled, "Interim Final Feasibility Study of the Centredale Manor Restoration Project Superfund Site" (dated April 2010) and the "Addendum to the Interim Final Feasibility Study" (dated September 2011).

In addition to the Proposed Plan, our comments also relate to statements made at several public events organized by the USEPA in the fall of 2011.

Our comments are organized into two groups. The first group discusses subjects relating to the USEPA preferred alternatives. The second group discusses subjects relating to other remediation alternatives.

Proposed Plan Position Statement

We are encouraged to see that the USEPA Preferred Alternatives described in the Proposed Plan include many elements of the remedy that the WRWC supports. Furthermore, we are encouraged to

see that the Proposed Plan maintains the current configuration of the environmental resources within the Site, as we consider this point to be a priority.

The WRWC advocates for remedial actions which remove contamination from all areas where it is accessible and for remedial actions which manage the contaminated media either via off-site disposal or on-site encapsulation in upland Confined Disposal Facilities (CDFs) outside the floodplain and under improved engineered caps at the source area.

We firmly oppose any remedial action which includes a reduction to the size (area or volume) of the Allendale and/or Lyman Mill Ponds. We are accordingly also opposed to the replacement of the Allendale and Lyman Mill Pond dams with weirs constructed at lower elevations than the current dam spillways. Any such proposal would negatively impact many of the positive attributes of the river and eliminate or greatly reduce the impact of the improvements that investments of Federal, State, local and personal resources have yielded along the river. Equally, we oppose those alternatives which call for partial pond sediment excavation and isolation capping due to the disproportionately high potential for failure and the long-term difficulty and costs of effective institutional controls and repairs.

We differ from the USEPA preferred remedy on one key aspect of the site remedy. We do not currently support the USEPA's preferred alternative for limited excavation and the use of a 3-inch thin layer cover in the remediation of the Oxbow and the segment of the river adjacent to the Oxbow and upstream of Lyman Mill Pond. For this critical environmental resource, we do not feel that we can fully advocate for any remedial strategy at this time. It is our position that more study of the Oxbow area and more analysis of the potential ramifications of the USEPA preferred alternative is warranted. Alternatively, if USEPA cannot study the Oxbow further, then we advocate for a remedial strategy that is more consistent with what is proposed for Allendale and Lyman Mill ponds and which removes more contaminated sediment and soil and which will have a more stable and predictable future.

The basis for our position relative to the Oxbow is that we are concerned that the implementation of the excavation and thin layer capping activities proposed by the USEPA could leave the Oxbow in an unstable condition and susceptible to natural and man-made disruptions which could lead to acute exposures to contaminant concentrations above the remedial objectives and/or a re-distribution of contamination at some point in the future. Potential subjects of concern include: vegetative die-off from earthwork vehicle traffic, post-remedy tree die-off as a result of the 3-inch cap, the effectiveness of the 3-inch cap, the difficulty in implementing any land use control and restricting access, the post remediation site becoming an attractive play area for local youths, and erosion/flooding during the post-remedy recovery period.

Comments on the USEPA's Preferred Alternative

1. The remediation of the Oxbow is in our view the most complex aspect of the Proposed Plan. We observe that the USEPA has selected as its preferred remedial alternative an approach that contrasts dramatically from other elements of their preferred remedy. Where other portions of

the Site are proposed to be addressed with remediation approaches that are proven and well understood, the preferred remedy for the Oxbow appears to be experimental and reliant on numerous assumptions. Our position is best understood by considering two concerns raised by the USEPA preferred alternative for the Oxbow, (a) the likelihood of the Oxbow's contaminated sediment under the proposed thin three inch cap to remain in place and not be eroded downstream; and (b) the means by which an enhanced natural attenuation approach would succeed.

Regarding cap stability, the USEPA proposes to remove impacted sediment from areas that are most likely to be susceptible to erosion and to install engineered structures such as baffles within the Oxbow to retard flow to the capped areas during flooding events and minimize the potential for high energy flows to suspend and transport contaminated floodplain soils.

Regarding enhanced natural attenuation, the USEPA proposes to divert water-flow into the Oxbow to help the natural build-up of clean soil and sediment.

Given the fact that the Oxbow basin has irregular topography and lacking a definitive inlet or outlet; we simply do not know how the proposed remedy can meet both of these stated expectations.

2. It is important to point out that the Oxbow preferred remedy presentation and the supporting documents provide little detail regarding subjects that are directly related to the proposed capped contaminated sediment stability and sediment deposition.

    - How will vegetative die-off and storms affect the stability of the three inch cap as trees and shrubs die and topple over revealing impacted sediment?
    - What is the expected sedimentation rate for the restored Oxbow?
    - What is the expected frequency of flood events that would impact the Oxbow?
    - What are EPA plans for restoration plantings and expectations for re-vegetation given this sedimentation rate?

3. In 2008 a study was completed in conjunction with the development of Ocean Special Area Management Plan by the Rhode Island Coastal Resources Management Council. That study found that between 1905 and 2006 there has been a 32% increase in precipitation in Rhode Island. The information provided in the administrative record leads us to conclude that this matter has not been considered during the remedy screening process. That conclusion along with the recent flood events in 2005 and 2010 make us very concerned that current expectations regarding the ability of the design engineers to develop adequate plans to manage influent flood waters and the resulting erosion at the Oxbow.

4. The previously cited increase in precipitation also triggers concerns about the definition of the 100 year flood plain (which may currently be underestimated) which is used to guide many decisions in the Proposed Plan. Underestimating the 100 year flood plain elevation could

increase the chances that aspects of the remedy could fail and expose or erode contaminated sediment and also exacerbate downstream flood impacts.

5. We have numerous concerns that sufficient data to support a decision regarding a proposed remedy for the Oxbow is not presented and may not exist.

   a. The topography and surface water flow in this area are not represented to a degree that allows for detailed consideration of the USEPA's proposed remediation plan for the area. We suggest that a topographical survey (delineating one-foot contours) of the Oxbow be developed. The survey coverage should include the current surface water channels for both the river and the Oxbow, the current location of the 100 year flood plain and the location of soil and sediment sampling locations. This plan could then be used to more accurately present the proposed remedy. The basis for this request is the observation that most Oxbow figures from project reports were developed using aerial photographs and consequently the identification of the river and surface water in the area is un-depicted in some instances as it covered with persistent aquatic vegetation. Please refer to the attached Figure 1 which is a recent aerial photo of the Oxbow and clearly shows the diffusion of surface water flow in the basin area. This condition somewhat conflicts with USEPA's representation of surface water flow in the area (refer to Figure 2 which is a portion of Map 6 from the Proposed Plan).

   b. We do not believe that sufficient sediment and/or floodplain soil sampling has been conducted in the Oxbow. It is our observation that the sampling of this area has been done in a less organized manner than the sampling of Allendale and Lyman Mill Ponds. As the Oxbow basin has been shown to be a significant depositional area for sediment from Allendale Pond we consider the characterization of the sediment in this area to be a priority. While we understand that additional sampling will be conducted to facilitate the remedial design process, we feel that additional sampling should be done prior to a remedial alternative being selected for this area.

      Please refer to the attached Figure 2 which shows one area where we believe additional sediment and floodplain soil sampling should be conducted. Sampling in this area is appropriate for several reasons. Firstly although there is no defined river channel in this area, the area we have highlighted is likely to be a depositional area during times of high flow. Thus impacted sediment in this area is likely to be present. USEPA's preferred remedial alternative calls for a three-inch cap in this area. If elevated concentrations are detected in these sediments, we recommend that this area be included in all remedial excavation plans for the Oxbow. Secondly, this area should be sampled as the existing sampling results indicate that extremely elevated (above one part per billion) concentrations of dioxin exist to the north and what sampling exists to the south of this area indicates concentrations below the USEPA remedial objective. Thirdly, this area abuts an area of commercial and residential activity and it is our opinion that the extent of

contamination in this area is not known and could overlap with areas that are frequented by humans.

c. We would like to know more details regarding the "flow control structures" that are contemplated for the Oxbow in support of the USEPA preferred alternative.

d. The construction method that is likely to be used to spread the proposed three inch cap should be made clear as part of the Proposed Plan; along with an explanation of the anticipated impacts to the existing vegetation and what new plantings are proposed at the completion of remediation construction. We are concerned that the method that would be used to place the cap could include heavy construction equipment and thus destroy much of the environment that the remedy is striving to preserve and that what would be left behind would be vulnerable to future storm damage or simply die-off.

e. We strongly recommend that the USEPA consider the attractive nature of the Oxbow as a recreation area during and after remediation construction. The Oxbow is proximate to several residential areas and we have observed youths using the perimeter of the area in a variety of ways including as a track for all terrain vehicles. Remedial construction in areas of the Oxbow which currently are difficult to access, will likely pave the way for an expansion of the current recreational activities in the area. This situation creates the possibility of human exposure to contamination in soil and sediment and of the increased activities which would negatively impact the preserved character of the Oxbow's environment and potentially compromise any cap.

f. While we are pleased to learn that the USEPA intends to use the RIDEM Direct Exposure Criteria as the soil remedial objective for the Oxbow, however we are concerned about the USEPA's understanding of the human activities in the Oxbow. The USEPA's information appears to be limited to observations of surface litter/debris and surface water elevation. We suspect that USEPA's understanding of the current human activities in the Oxbow may be inaccurate and that the USEPA's use of the river's flood plain may not be appropriate as a consideration regarding the areas where people are most likely to congregate. We have consistently observed a greater level of youth activity in the Oxbow during the summer, when the river levels are at their lowest and the Oxbow at its driest. During our visits to the Oxbow we have observed evidence of: youths using the area as a gathering place, fishing, hunting, camping and all-terrain vehicle use. Please refer to the attached photos (1 through 5) which depict evidence of some of these activities.

6. We are concerned that the USEPA preferred remedy for the Oxbow, containing several wetland types, will considerably diminish their functions including: storm water treatment, flood mitigation in the watershed, groundwater recharge, and wildlife breeding and foraging habitats. Any remediation will diminish or destroy functions of this palustrine wetland complex, as well as riverine wetlands associated with the site. We ask that these losses be calculated and

mitigated under the current protocols of Army Corps regulations in a manner sufficient to meet the restoration requirements of the natural resource trustees.

7. We disagree with USEPA's expectation that the Land Use Controls for the Lyman Mill stream sediment and floodplain soil, including the Oxbow would be "temporary." On page 6 of the Proposed Plan, the land use controls are described as, "temporarily preventing excavation or other activities that could damage the thin-layer soil cover;" and "temporarily restricting recreational access to provide additional protection to the public."

   It is our understanding that as the remedy is proposed by the USEPA, contamination that far exceeds the soil and sediment remedial objectives will be left in the Oxbow under the thin layer cap. As this layer of contamination will most likely not degrade, we would expect that restrictions regarding excavation and use of the Oxbow would be permanent in nature. Furthermore, we believe that it is important for the USEPA to fully consider the ability of the agency, RIDEM or the Potential Responsible Parties to control human activities in the Oxbow at the completion of remedial construction. The Oxbow is a remote area with no direct street access and which abuts numerous sparsely used properties. We believe that it would be possible for significant disturbance of the thin layer cap and new plantings to go undetected without an engaged effort of numerous stakeholders.

   It is important to note that, it is our understanding that the RIDEM State-site remediation program would most likely require a two-foot thick soil cap and a permanent land use restriction as part of the remedy for the Oxbow, should a cap be the preferred remedy under the RIDEM Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases.

8. We understand that regardless of the validity of our concerns discussed above, the USEPA may not have the flexibility to delay a decision regarding the remedial action at the Oxbow, thus if a remedy must be selected in the near future, we recommend that the USEPA consider the complete removal of all impacted soil and sediment that is contaminated above the remedial objectives in a manner consistent to what has been proposed by USEPA for Allendale and Lyman Mill Ponds. The basis for this position is that we are concerned that the implementation of the excavation and thin layer capping activities proposed by the USEPA could leave the Oxbow in an unstable condition and susceptible to natural and man-made disruptions which could lead to acute exposures to contaminant concentrations above the remedial objectives and/or a re-distribution of contamination at some point in the future. Potential subjects of concern include: vegetative die-off from earthwork vehicle traffic, post-remedy tree die-off as a result of the 3-inch cap, the effectiveness of the 3-inch cap, the difficulty in implementing any land use control and restricting access, the post remediation site becoming an attractive play area for local youths, and erosion/flooding during the post-remedy recovery period.

   We recognize that the potential costs of remediating the Oxbow in the manner we are advocating for are high relative to the initial/up-front capital costs of USEPA's preferred

alternative. We recommend a higher investment in initial costs and management of contaminated material in a less vulnerable setting so that long term costs will be less and success in the reaching the USEPA human health and ecological risk objectives more likely. Furthermore, we observe that the calculation of the cost increase of remediating the Oxbow via a complete excavation and CDF approach will have significant cost saving benefits. These are:

- The ability to implement remedial construction activities in whatever means is most efficient, not having to worry about preserving a significant portion of the existing vegetation and hydrology;
- The ability to design and restore the Oxbow wetland in a manner that provides for the required floodplain capacity and compensation and/or actually improves the ability of the river to handle storm events and mitigate the potential of downstream floods;
- Elimination of the need to conduct detailed pre-remediation studies such as a topographic survey;
- Reduced long term monitoring costs; and
- Reduced long term maintenance costs

Regardless of whether EPA proceeds with the plan as currently proposed, or decides to carry out a more complete remediation of the Oxbow as suggested above, a restoration plan will need to be started prior to implementing construction so that natural resources and their services that will inevitably be impacted can be restored quickly and fully. To date, there has been no on-the-ground evaluation of the natural resources that would be affected and that must be restored. These studies would include complete surveys of vertebrates, invertebrates, and plants actually in the area, not just armchair lists of what might be there, including distribution maps and densities of the most important species. Because this area represents an "island" of wildlife habitat in an urban area, where there are few equivalent areas supporting wildlife, it is important that restoration proceed expeditiously, and that the habitat values be restored fully and early. Such efforts should be coordinated with the natural resource trustees responsible for those resources.

9. It is evident that the residents, workers and local governmental officials of this densely populated area are greatly concerned about potential impacts on their day to day lives and to their properties as a result of the proposed remediation construction. Therefore we recommend that the USEPA endeavor to pro-actively explain aspects of the construction work that are likely to prominent in the local resident's minds as fully as possible and as soon as possible. While we understand that many of the details of the remedial construction will change during the engineering design of the remedy, we have heard the public comments of the local residents, and observe that they are entirely unfamiliar with the manner in which environmental remediation construction projects are implemented and as such have concerns that could be addressed at this time. These concerns relate to such issues as: regulatory oversight, regulatory accessibility, truck traffic, stock pile management, private property restoration, odor controls and dust monitoring.

10. We suggest that the USEPA work with the ATSDR and the RIDOH to explain the likely environmental monitoring procedures that will be used during remediation construction and furthermore address the residential population's concerns about human health as a result of remedial construction.

11. We request that the USEPA create the opportunity for public involvement during the design of the remediation construction.

12. We suggest that the decision as to where to locate the CDFs be made in tandem with the decision as to how they are going to be used at the completion of the project. This approach will maximize the chances that these structures become a positive aspect of the local community.

13. We are interested in discussing with USEPA the possibility of coordinating improvements to or extension of the Woonasquatucket River Bikeway during the proposed remediation project.

14. We are interested to know what the USEPA's ideas are relative to addressing the flood plain displacement caused by the proposed capping of the source area and the Oxbow. We are particularly concerned that all efforts be made to locate these compensations areas as nearby as possible to the areas that are suffering the displacements and oppose any remedial alternative which places CDFs in or near the floodplain elevation.

15. We strongly encourage USEPA to extend the remediation project slightly further downstream from Lyman Mill Dam. Reviewing the first five sediment samples downstream of the dam, in order, the 2,3,7,8 TCDD results are:

    - WRM-SD-2054 = 2,620 parts per trillion (ppt)
    - WRM-SD-2062 = 6.4 ppt
    - WRM-SD-2056 = 23.3 ppt
    - WRM-SD-2055 = 678 ppt
    - WRM-SD-2057 = 586 ppt

    These samples appear to have all been collected within 1,700 feet downstream of the dam. Based upon data provided in the Remedial Investigation and other supplemental documents, it was not possible for us to confidently characterize these samples as sediment (cleanup objective 14.7 ppt – 4 out of 5 samples exceed), flood plain soil (cleanup objective 35 ppt – 3 out of 5 samples exceed) or residential soil (cleanup objective 1,000 ppt 1 out of 5 samples exceed).

    Sample WRM-SD-2054 appears to have been taken immediately downstream of the dam and is significantly impacted. Based upon this one result we advocate for the remedial construction at Lyman Mill Pond to be extended and that additional sampling be conducted in this area prior to finalization of the area proposed for remediation.

16. We respectfully request that the USEPA clarify what their plans are for monitoring downstream of the Lyman Mill Pond Dam. We are concerned that a great deal of time has passed since the area was investigated as part of the Remedial Investigation and there are lingering concerns in the local community as a result of more recent flood events. This request is made with the understanding that the USEPA has been responsive to specific requests for sampling however we observe that an official statement regarding a scope and schedule for additional sampling may help address the concerns of the local downstream communities.

    We urge USEPA to take a more active role in the area downstream of Lyman Mill Dam. Contamination above the remediation objectives exists in these areas and at the present it appears that the USEPA's only idea is to wait for the sedimentation rate to dilute the contamination. We feel that the users of the downstream portion of the river should also have the benefit of the river being fishable and swimmable.

17. We understand that it has not been determined who will implement the proposed remedy at the site. However, we request that the USEPA provide details regarding their expectations for a post remedial construction monitoring program and what is meant by the terminology "periodic monitoring" which is used throughout the Proposed Plan. Will the CDFs and the thin layer cap be viewed/managed by USEPA in a manner similar to the manner currently used for the capped areas at the source area? Will it be required that the area be inspected after all significant storm events?

18. We recommend that when it is appropriate, the USEPA manage the removal of the restrictive fencing along the river so that the task is not left to individual property owners.

19. Is leachate expected to be generated from the completed CDFs? If so, what is the expected volume and level of contamination and how will this matter be addressed so as to avoid the CDFs becoming a secondary source of contamination?

20. We suggest that after the removal of impacted sediment from the Allendale Mill sluiceway, that the portion of the sluiceway between Allendale Avenue and the Allendale Pond Dam be filled to surface grade and compacted with suitable material so as to avoid this channel becoming a potential source of floodwater into the Mill at Allendale condominiums. It is important to note that it is common to observe water ponding at the toe of the dam (see Photo 6).

Comments On Other Remediation Alternatives Not Preferred by USEPA

21. Several of the remediation alternatives include approaches which would sacrifice the local environment in our opinion to an unacceptable level in order clean up the dioxin. The near shore CDFs, replacement of the dams with weirs, the loss of the current pond system, the reduction in the depth of the ponds, the placement of the CDFs in natural upland areas are all significant environmental impacts that may not be necessary. This point should be considered not only from the view of what is best for the species inhabiting these areas but also from the

larger perspective of what such as decision about the environment would mean to the youths of these areas who currently view the ponds as the only natural environment in their neighborhood. Destroying these environmental resources in the name of "cleanup" and leaving these neighborhoods with characterless highly engineered structures which is undesirable.

22. The alternatives which rely on near shore CDFs and the isolation capping of the river bottom fail to consider fully the long term maintenance and integrity of the proposed remedies and the costs associated with mitigation and with potential failures. The use of containment and administrative controls to facilitate a site remedy may be a "necessary evil." However, we are concerned that use of near shore CDFs will place dense volumes of heavily contaminated sediment proximate to the river which would act as a transport system should a near shore CDF fail thus heightening the potential ramifications of a failure in comparison to an upland location. Our concerns are compounded by the fact that this remediation will take place in a passively used recreation area, making the odds that a failure will be discovered quickly very low. We feel that administrative controls and caps are best used in circumstances where if they fail, the impacts will be minimal and that if failure occurs, it is likely that it will be discovered quickly by users of the property. In some of the non-preferred remedies described by the USEPA in the Proposed Plan it is possible that a failure could go undetected for a significant period of time.

23. The remediation alternatives which involve near shore CDFs and isolation capping of the impacted river channel have the potential to change the groundwater hydrology of the area. This possibility should have been evaluated so as to understand the potential impacts prior to consideration of this approach.

24. The remediation alternatives which involve near shore CDFs and isolation capping of impacted river channel sediment in place appear to be in direct conflict with the State's Rules and Regulations governing the enforcement of the Freshwater Wetlands Act, as amended, which were identified as an Applicable or Relevant and Appropriate Requirement, by the RIDEM. These alternatives will eliminate or greatly reduce the size of the Allendale and Lyman Mill ponds and areas of riverbank wetlands and also reduce the flood capacity of the river. Based on our extensive knowledge of the river, there do not appear to be easy opportunities to provide adequate and appropriate mitigation should any of these remedial alternatives be selected.

25. We are concerned that natural resources and aquatic communities would be altered by the change from lentic to lotic water regimes if the Allendale or Lyman Mill Pond dams be removed or re-placed by weirs. Any of the remedial alternatives which included elimination of the dams and ponds would eliminate vast amounts of habitat, in an area where habitat is scarce. We take our position regarding the preservation of the dam system with the understanding that the use of fish ladders to facilitate the return of herring to the river is not an optimal strategy, but which has been successful to date.

Appendix A – Figures



Figure 1 – Oxbow – Basin With Limited Channelization
(aerial photograph from Bing Maps, 2012 Microsoft Corporation Imagery)

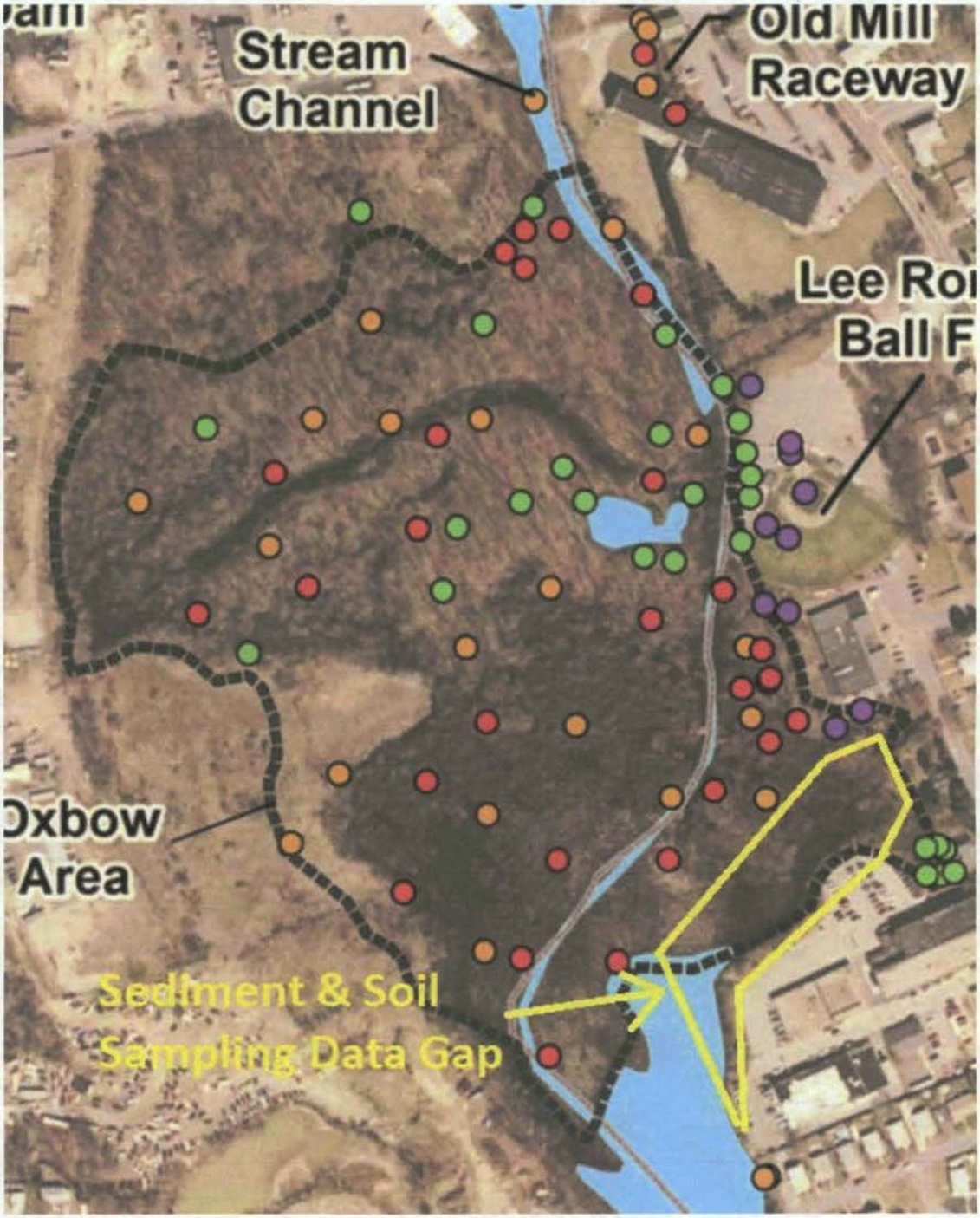


Figure 2 – Oxbow Sampling Coverage Data Gap
(Map 6 –From USEPA Proposed Plan, October 2011)

Appendix B – Photographs

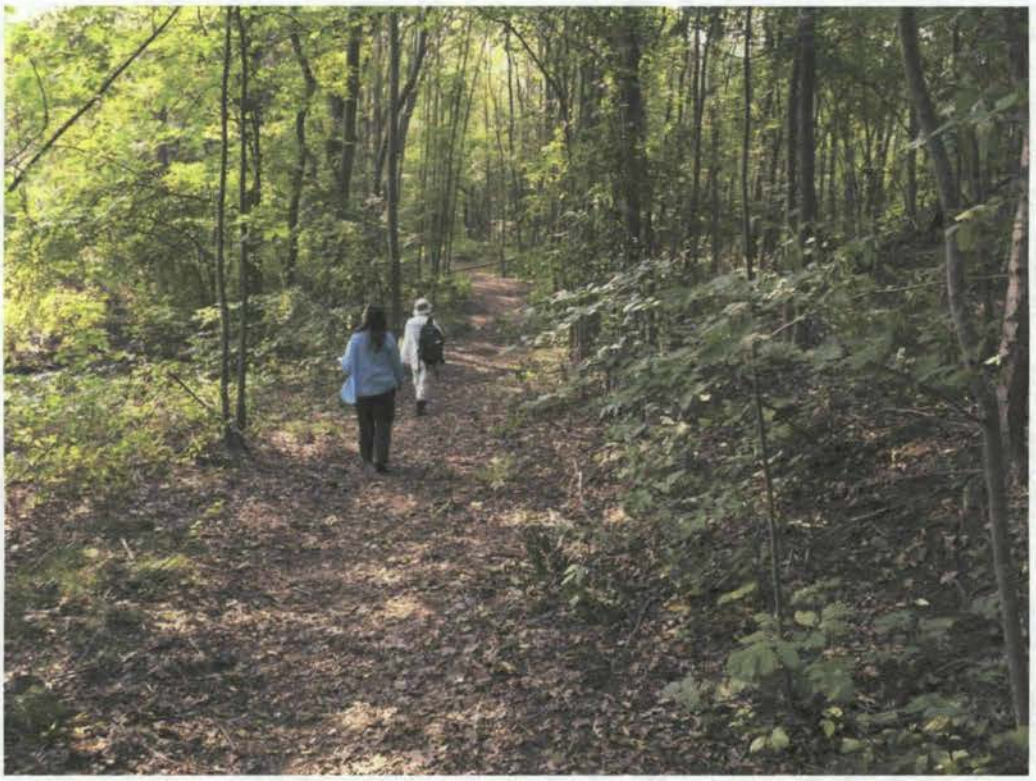


Photo 1 – Well Worn Trail Into Oxbow From Allendale Avenue



Photo 2 – Collecting Fishing Line In Oxbow



Photo 3 – Congregating Area With Evidence of Cooking and Eating



Photo 4 – Campfire



Photo 5 – Tent Located NearUtility Right of Way

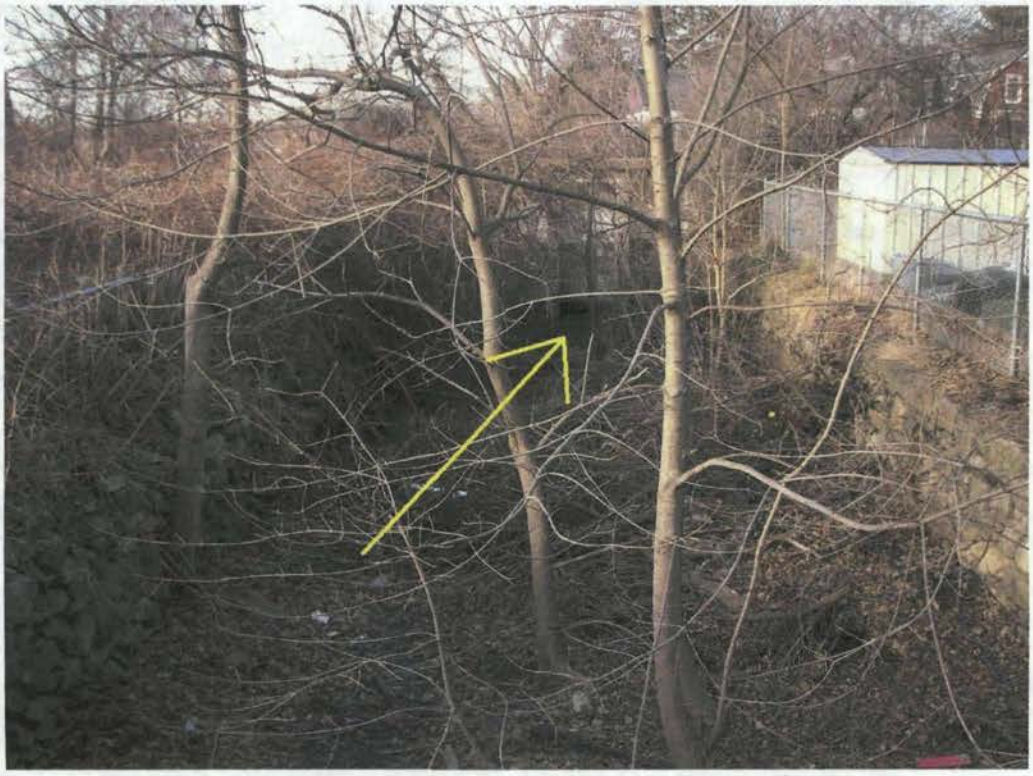


Photo 6 – Water Collecting Behind Allendale Dam In Mill Sluiceway

Anna Krasko
EPA New England Superfund Project Manager
5 Post Office Square, Suite 100
Boston, MA 02109-3912

February 20, 2012

Superfund Research Program
Brown University
182 Hope Street, Box D
Providence, RI 02912

Re: Proposed Plan for the Centredale Manor Restoration Project: Comments to the USEPA

Dear Ms. Krasko,

For some time now, the Brown University Superfund Research Program, through its Community Engagement Core and more recently also its Research Translation Core, has engaged with the Woonasquatucket River Watershed Council (WRWC) in an effort to better help them understand and analyze the USEPA Proposed Centredale Manor Restoration Project. Our involvement with, and knowledge of, the site includes involvement of our Community Engagement Core in stakeholder meetings with EPA, discussions with WRWC over the years, assistance in training high school teachers in relevant curriculum, conducting Centredale Manor-related curricula at the Ferri School, as well as our role in helping select the contractor for the TAG grant. We have also read the Proposed Plan and engaged in a walk-through of the area in order to determine community use of the Oxbow area and to help judge the likelihood of unexpected alterations in water course. We share some of the same concerns as WRWC regarding the proposed remediation of the Oxbow area, and this letter supports the questions raised by the Woonasquatucket River Watershed Council related to the Oxbow area. We would hope for the ideal of a thorough cleanup that relies neither on land use restrictions nor long-term monitoring, but at the very least a sound analysis should be presented that compares the real costs and benefits of this latter option against other options that might fall short of the ideal.

We are concerned that the proposed limited excavation and application of a 3-inch thin layer soil cover to the Oxbow area is potentially less effective than the excavation strategies proposed for the Allendale and Lyman Mill ponds. This conclusion is not based upon a scientific study, but rather on what appears to be a well-founded fear of potential for washing away such a thin cover, resulting in the potential for new exposure. It is worth also noting that our own walk-through of the Oxbow area indicated its use for activities such as camping. For these reasons, we recommend possible further study of the proposed remedy of the Oxbow area, and definitely presentation of a plan that contains more supporting information regarding the expected efficacy of the cleanup strategy, taking into account community use patterns. In its current form, the Proposed Plan lacks some of this information, which makes it difficult for the public to truly understand and/or comment on this portion of the plan.

The Brown University Superfund Research Program would certainly be interested in helping with any study that the USEPA might still perform to better understand the remediation plan and activities. We look forward to working with both the USEPA and the community on this important restoration project.

Sincerely,

Phil Brown, Ph.D.
Professor of Sociology & Environmental Science
Community Engagement Core Leader, Superfund Research Program
Brown University

Eric Suuberg, Sc.D., P.E.
Professor of Engineering
Co-Director and Research Translation Core Leader, Superfund Research Program
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James Rice, Ph.D.
Post-Doctoral Research Associate
Engineering State Agencies Liaison, Superfund Research Program
Brown University

David Ciplet
Doctoral Candidate
Graduate Research Assistant, Superfund Research Program
Brown University

Comment Centredale
Eugenia Marks to: Anna Krasko 02/21/2012 12:29 PM

From: "Eugenia Marks" <emarks@asri.org>
To: Anna Krasko/R1/USEPA/US@EPA
Please respond to <emarks@asri.org>

1 attachment

Restoration Comment EPA (2).doc

Dear Ms. Krasko:

Attached please find comments from Audubon Society of RI in response to "The Proposed Plan" for clean-up of the Centredale Manor superfund site, North Providence, RI.

Thank you and your staff for long years of work on this project. We look forward to continuing work to assure that this resource is restored for the health of humans and the environment.

I will send hard copy for record.

Eugenia Marks
Senior Director of Policy
Audubon Society of Rhode Island
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Fax: 401-949-5788
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Over 100 Years of Education, Conservation & Advocacy
Audubon Society of Rhode Island

February 21, 2012

Anna Krasko, Superfund Project Manager
U. S. EPA Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: Centredale Manor Restoration Project

Dear Ms. Krasko:

Although I have worked with the Woonasquatucket River Watershed Council to review this project, I am submitting the following comments on behalf of Audubon Society of Rhode Island.

Commenter Background: Audubon Society of RI is an independent state organization, established in 1898, with professional staff who operate in areas of conservation stewardship, advocacy, and education. Audubon manages wildlife refuges in 3 headwater streams of the Woonasquatucket in North Smithfield, Smithfield, and Glocester. Audubon routinely comments in the public interest on environmental projects. Eugenia Marks is ASRI Senior Director for Policy and holds a masters degree in Environmental Studies from Brown University. Her thesis focused on wetlands policy and she took field courses in wetland ecology. She has been a board member of the Woonasquatucket River Watershed Council, and her early interest in fish tissue contamination as a fate of water pollution led to her involvement in this river since the late 1980s.

Concurrence with WRWC comments on this project: I have walked the Oxbow and am familiar with the flood plain and channel of the river. The characterization of the topography, flood regimes, adjacent river channel, sampling the deposition of contaminants, and vegetation of the Oxbow requires more detail before an adequate restoration plan can be finalized.

- We believe that assumptions from aerial photos rather than ground-truthing form the basis of map 6 on page 17 of EPA's "Proposed Plan" (October 2011) showing river channel. Visits to the entry of the river into the northern end of Lyman Mill Pond seem to indicate that the channel of the river remains on the east side of the flood plain in a fairly straight path before the water column spreads out under a cover of *Decodon verticillatus* which map makers have interpreted as dry land. Google Earth map (May 2010) and the 1939 aerial from RIGIS show this as well.
- This area, shown in WRWC comments figure 2 lined in yellow, is without sampling

(continued)

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data, which may indicate the submerged, root- entangled nature of the sediment.

- This area outlined in yellow in WRWC comments may, due to its position at the entry to Lyman Mill Pond and with the stems of *Decodon* slowing flow and precipitating sediments, contain high concentrations of pollutants pertinent to this superfund site.

Comments on Cleanup Proposal: Audubon Society of RI generally concurs with EPA's proposed alternatives for Source Area Soil (4E), Groundwater (2E), Allendale and Lyman Mill Ponds Sediments (7A), and Allendale Floodplain Soil (5A).

- We suggest that as part of the Source Area Soil that the stormwater drainage from the North Providence Post Office and Cumberland Farm area that is directed onto the superfund site and is deposited into the old tail race of the former, now razed, mill at Centredale Manor, be, in addition to the remediation that has occurred on site, reconfigured or enhanced for maximum evaporative and non-erosive discharge. We ask that new cap designed to hazardous waste specifications be included in the restoration of the storm-water discharge area into the former tail race, as described generally in 4E.

As to Lyman Mill Stream Sediment and Floodplain Soil (including Oxbow Area), Alternative 3A.

- We strongly support the first statement, "Gathering additional information to support the final cleanup design" and urge that long-term restoration and prevention of a continued source of potential downstream contamination be at the core of the final cleanup design. Note our comments above about the inadequacy of current mapping.
- We are not convinced that a thin-layer soil cover is adequate protection from erosion of continued flooding of this area, particularly in the prediction of increasing intensity of storms forecast in climate change studies.
- The purposeful deposition of 3 inches of soil will be difficult without earth-moving machinery that will crush existing shrub layer (*Virburnum dentatum, Clethra alnifolia,* etc.) and may not be able to maneuver through the stands of saplings.
- Although Audubon Society is a strong advocate for wetlands and understands value of various habitats within vegetative associations of wetlands, we understand that remediation to protect human health on a long term basis may involve destruction of the existing resource. For adequate restoration, a more detailed sampling of existing fauna and flora, as well as an analysis of the soils (types and depths) will yield a better basis for replacement and restoration than exists to date. Mammal, amphibian, bird, reptile, and insect populations in the Oxbow should be surveyed and their habitat requirements should be detailed.
- Mitigation for loss of wetland types should occur according to Army Corps protocols and standards that will satisfy Natural Resource Trustees.

Comments on Restoration of River: Although this is termed a "Restoration Project," the information to date does not suggest how the ecological restoration of Allendale and Lyman Mill Ponds, the river, and associated wetlands will occur. The river lies in a glacial outwash bed and silt and organic sediments have built up and been eroded for 10,000 years. This is a dynamic system with years of urban history. The contaminated sediments identified in this superfund action clearly need to be removed from the ponds and river for human and ecological health, despite the cataclysmic impact to the river system.

(continued)

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It is not news to say that remediation is a complex problem, and we suggest restoration to conditions that would be expected within these habitat types within the watershed. A proposed procedure or commentary on the desired outcome of the ecological components of river and its associated banks and wetlands would seem appropriate for a restoration plan, recognizing conditions and aspirations for water quality, recreation, aesthetics, and habitat. Components of such a plan might include

- Biological species of fauna and flora for which restoration is being designed, habitats required, community associations.
- Bottom topography of pond and reach to mimic current conditions of pools and riffles.
- Analysis of the sediment deposition rate (0.5 – 0.6 cm/yr in previous study on Lyman Mill Pond), characteristics of the components of the sediments (deicing sand, storm eroded materials).
- What communities, what suites of species could be expected to repopulate naturally at what durational intervals after restoration work? How long will it take to have sufficient sediment for which species of dragonfly, for example, will use the ponds for successful reproduction? How long will it take to build trophic layers to support fish that attract hooded mergansers, great blue herons, and other bird life observed on the ponds and reaches of the river within the site? Will re-introduction of certain keystone species be considered?
- What species of vegetation would be restored to flood plain and along the banks for erosion control and for habitat enhancement?

Thank you for this opportunity to comment.

Cordially,

Eugenia Marks

Eugenia Marks
Senior Director for Policy
Audubon Society of Rhode Island

12 Sanderson Road ~ Smithfield, RI 02917-2600 ~ Phone: (401) 949-5454 ~ Fax: (401) 949-5788
www.asri.org email: Audubon@asri.org

Anthony Janello
530 Woonasquatucket Avenue
North Providence
Rhode Island 02911

December 5, 2011

Stacy Greendlinger
U.S. EPA-New England
Office of Site Remediation & Restoration (OSRR)
5 Post Office Square
Mail Code: ORA20-1
Boston, MA 02109-3912

Dear Stacy,

Thank you for chairing the Public Informational Meeting held on November 8th at North Providence Town Hall. The meeting was very helpful to an understanding or the enormity to the proposed cleanup.

No one would argue against a cleaner Woonasquatucket River. Many of my neighbors and I are, however, concerned about how this will be accomplished and that we will have any voice in the process once the Public Comment Period ends January 12, 2012.

The Public Comment Period ends long before the engineering plan has been devised and this means that the affected community's comments will be based on highly incomplete information. At informational meetings held by the EPA at North Providence Town Hall the community has been informed about the objectives of the cleanup but not how these objectives will be accomplished.

If the river is to be drained, the bed exposed and eight thousand truckloads of sediment removed over a two year period as has been presented at the Informational Meeting, it seems there is potential for significant health hazards especially if the exposed Dioxins, PCBs, Furans., Pesticides, VOCs, SVOCs and Metals become airborne by the strong winds which are prevalent along the river. This is an obvious concern. However having no experience in such matters and being aware that the devil is often in the details, I fear my neighbors and I really can't anticipate just how dangerous and disruptive the clean up will be. The community can't know the pertinent questions to ask or comments to make

until the engineering process has been decided upon and clearly and simply communicated.

My neighbors and I would like to see the comment period extended until the engineering plan has been decided upon and we have an understanding of the health risks involved in living adjacent to a Superfund Site during the cleanup. We believe it is also imperative that we have some clear idea as to how invasive and disruptive to the quality of life the cleanup process will be.

The neighbors living on or near the Woonasquatucket River listed below have all read and are in agreement with the contents of this letter.

Sincerely,

Anthony Janello

Polly Reynolds	41 Steven Street
Don Asselin	22 Aldrich Street
Susan Asselin	22 Aldrich Street
Gordon Gibau	566 1/2 Woonasquatucket Avenue
Leona Gibau	566 1/2 Woonasquatucket Avenue
Mary Ellen McFarlone	500 Woonasquatucket Avenue
Kathy Thibodeau	14 Aldrich Street
Robert Thibodeau	14 Aldrich Street
Charlie Murphy	16 Aldrich Street
Donna Murphy	16 Aldrich Street
Tony Botelho	542 Woonasquatucket Avenue
Liz Scungio	524 Woonasquatucket Avenue
Mary Jane Davidow	524 Woonasquatucket Avenue
Carol Bissanti	518 woonasquatucket Avenue
Mike Bissanti	518 Woonasquatucket Avenue

Johanna Petrarca	15 Centerdale Avenue
Christopher Petrarca	15 Centerdale Avenue

January 6, 2012

Anna Krasko
EPA New England
5 Post Office Square, Suite 100
Mail Code OSRR07-1
Boston, MA 02109-3912

RE: Centredale Manor Restoration Project

Dear Ms. Krasko,

I am a unit owner and resident of the Mill at Allendale Condominium Association located along the Woonasquatucket River in North Providence, Rhode Island. I attended the public information meeting held on Tuesday, November 8th at the North Providence Town Hall to learn more about the proposed plan for the Centredale Manor Restoration Project and the areas affected downstream. The EPA and RIDEM representatives did a good job with providing information about the history of the site as well as providing information about the cleanup work that has taken place so far and the future plans for the site. Based on the information I obtained at the meeting, and after I reviewed the hardcopy proposed plan that was distributed at the meeting, I have submitted my comments below for you and the other project stakeholders to take in to consideration during any future planning and/or negotiations with the polluting parties.

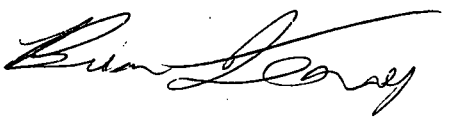
My first comment is related to, what is referred to in the proposed plan as, the "Old Mill Raceway". Years ago this raceway had water flowing through it to power the machinery in the Mill at Allendale. At some point the raceway was dammed off, most likely after the discovery of the pollutants in the sediment, so that water could no longer flow through it. Based on the proposed plan, the soil in the portion of the raceway just north of the Mill at Allendale will be excavated while the portion of the raceway just south of the Mill will be covered with new soil. After the planned work has been completed I would like to request that the dam that was put in place to block water flowing through the raceway be removed. This would keep the raceway flowing and would prevent any standing water, which occurs now in the portion of the raceway just south of the building. This standing water attracts mosquitoes and other insects that could breed diseases that could be harmful to the residents of the Mill at Allendale. Allowing water to flow through the raceway would also give the Mill at Allendale Condominium Association a chance to investigate the potential of having hydroelectric power to power the lighting and other electrical equipment that service the common areas of the building.

My second comment is related to the air quality monitoring that I feel should take place during any excavation work performed at the site. I would like to request that air quality monitors be placed along both river banks of the entire work zone to help detect any contaminants that may enter the air due to the excavation of the toxic soil.

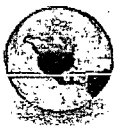
If you have any questions or if you would like to respond to any of my comments mentioned in this letter please feel free to contact me using my mailing and/or email address which I have included below.

Brian Feeney
494 Woonasquatucket Avenue, Unit 117
North Providence, RI 02911
Email: bfeeney33@hotmail.com

Best regards,



Brian Feeney



sorry I forgot

Anthony Janello to: Anna Krasko 02/09/2012 02:54 PM

Cc: abrady, mlanni, rep-schadone, sen-ciccone, mgiusti, sfeola

From: Anthony Janello <anthonyjanello@verizon.net>

To: Anna Krasko/R1/USEPA/US@EPA

Cc: abrady@northprovidenceri.gov, mlanni@northprovidenceri.gov, rep-schadone@rilin.state.ri.us, sen-ciccone@rilin.state.ri.us, mgiusti@northprovidenceri.gov, sfeola@northprovidenceri.gov

Ms. Krasko,

Sorry I forgot to include in the last email the people to whom I am C.C.ing the email I just sent you.

Anthony Janello

Asphalt) are known to store piles of crushed asphalt and red brick used as "recycled" material in asphalt production and Baccalla stores piles of broken concrete. I don't know if Baccalla uses it in production. Anyway, I am confident you are aware that the crushed materials are toxic PARTICULATE MATTER (dust) and are released into the air and carried by wind. During relocation, blending and production, a greater amount of "dust" is released into the air than when it is just sitting in a pile. Toxic fuel vapors and emissions attach to droplets/moisture and become free radicals through the extreme heat of the summer just like the "high ozone levels". I can not see a "safe toxic level" that can be maintained. Also remember that those piles and the new materials stored on site contribute to polluting the river by "runoff" during rain and snowmelt.

The manufacturers (particularly Johnston Asphalt Company) along the river bank subject residents to toxic emissions and odors that force them indoors. We can not enjoy our yards or maintain our property when the odors make us feel so sick we are forced to seek refuge behind closed doors and windows. Imagine trying to explain that to the children when they want to stay outside and play. There are many symptoms residents have experienced and complained to "officials" both in the political arena and DEM. Johnston Asphalt Company production is typically 9 months out of the year. DEM guide lines allow for 12 months to be factored into the averaging of toxic emissions generated during the 9 months. If the levels were divided by the ACTUAL number of months (9) of production, I'm sure they would exceed the limit. Do not forget the use of some toxic recycled materials such as recycled asphalt and recycled rubber contain higher levels of toxins when reprocessed.

How can a safe toxic level for the residents be achieved while the Superfund Project, Johnston Asphalt Company and Baccalla Concrete Company Woonasquatucket River / Allendale Pond are all in operation? What is the point of having "clean river" we don't drink from or swim in when the air we breathe is toxic? Keep in mind that your project includes creating a park like area for people to enjoy a walk, a run, a picnic or leisure time with family.

I truly feel that the removal of the toxic waste by the Superfund Project Program is a good idea and would be "safe" if the asphalt and concrete companies were not located in the area. Those offending companies should be mandated to leave the area by the practice of "Eminent Domain". The well-being of residents, health and quality of life, would dramatically improve.

You really should visit the Johnston neighborhood near Baccalla Concrete and see the effects that company has had. See the pile of recycled concrete stored (particulate matter) near Johnston residents' backyards. There is a huge GREEN pond which is fed by a large pipe that is partially buried. It looks to be coming from the plant. God only knows what is in it!! The surrounding neighborhood has suffered. It is a pitiful and depressed area now. It looks like it is being swallowed-up by the company. The neighborhood has been described by environmentally concerned people as the LOVECHILD of "Deliverance" and "Armageddon". It's an abomination.

When the Superfund Project is in operation what measures will be taken to manage the odors and sounds form the site?

How will the toxins emissions and particulate matter be monitored at the clean up site?

Will the asphalt & concrete toxic emissions and particulate matter be part of the monitoring that your project will be self-administering? If not, I feel it should be.

What action will be taken for the safety of residents, wildlife and vegetation, should levels of toxins and particulate matter become dangerously high?

How will the residents be notified and what shelter and provisions will be given to them should an emergency arise, (at no cost to them)? I have a niece with severe, multiple allergies and a hotel, motel or shelter would not be medically adequate. Also, what provisions etc will be given to the pets of those residents?

With everything in mind, what do you consider high toxic levels health risks and lower level health risks?

Can you explain the long term and short term exposure to toxins, toxic emission and particulate matter at high levels and low levels health risks?

Can you explain how toxic waste in the river and the attaching toxic vapor to the toxic particulate matter in the area will affect all life in the area exposed?

Lastly, what steps will be taken to protect the residents from any disease and nuisance from the displaced river rats and mice when the river is drained and during the cleanup? Will they be rounded-up and exterminated? Also, there are many fowl species living along the river, how will you take care of them?

After the Superfund Project is completed, manufacturers like the Johnston Asphalt Company and Baccalla Concrete will continue to pollute the area. I fear the efforts, hardship and money will be wasted. I wish there was a way for your group to help us in North Providence and Johnston regarding those offending companies. They should not be there. There are plenty of available sites on Allens Ave. in Providence along the docks. That area is taken up with fuel storage, metal recycling dump, Narragansett Asphalt Co., truck parking lots, storage lots, strip clubs and the like. There is no one there who wants to be outdoors enjoying the air.

Thank you for reviewing and addressing my questions and concerns. I look forward to hearing from you.

Nancy Bolduc
(401) 233-0958

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Washington, DC 20006

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FOR INCLUSION IN THE ADMINISTRATIVE RECORD

November 14, 2011

BY ELECTRONIC MAIL AND FEDERAL EXPRESS

Ms. Anna Krasko
On-Scene Coordinator, Region 1 EPA
5 Post Office Square, Suite 100
Mail Code: OSRR07-1
Boston, MA 02109-3912

Ms. Eve Stolov Vaudo, Esq.
Senior Enforcement Counsel, Region 1 EPA
5 Post Office Square
Mail Code OES04-4
Boston, MA 02109-3912

Re: Centredale Manor Restoration Project Superfund Site: Request for an Extension of the Public Comment Period Regarding the Proposed Remediation Action Plan, the Addendum to the Interim Final Feasibility Study, and the Addendum to the Interim Preliminary Remediation Goals Report: Oxbow Area

Dear Eve and Anna:

I am writing on behalf of Emhart Industries, Inc. ("Emhart") to request an extension of 120 days of the public comment period for the submission of comments concerning the Proposed Remediation Action Plan (dated October 2011) (the "PRAP"), the Addendum to the Interim Final Feasibility Study (dated September 2011) (the "IF/FS Addendum"), the Addendum to the Interim Preliminary Remediation Goals Report: Oxbow Area (dated September 2011) (the "PRG Addendum"), and other documentation in the Administrative Record ("AR") for the Centredale Manor Restoration Project Superfund Site (the "Site") related thereto. For the reasons set forth below, Emhart's requested extension is necessary to allow sufficient time for a full and thorough analysis of the PRAP, IF/FS Addendum, PRG Addendum, and AR by Emhart and other interested parties.

First, EPA's proposed approach is complicated and controversial, both from a technical and a legal standpoint. This is witnessed by the fact that the AR contains in excess of 500 substantive documents, many of which were added within the last month or so.

Second, the IF/FS Addendum is 1,116 pages in length, and raises issues identified by EPA and the National Remedy Review Board that have only recently received attention from EPA. It simply is not reasonable to expect that Emhart and other interest parties will be able to digest and comment on such a lengthy document within the 60-day public comment period originally specified by EPA.

Third, despite the extensive length of the IF/FS Addendum, the PRAP, and the PRG Addendum, it is apparent that there are many substantive issues that still have not been adequately addressed. EPA's failure to address a number of key issues is exacerbated by the lack of critical data.

Fourth, the 60-day public comment period initially provided by EPA overlaps with at least two major religious holidays, Christmas and Hanukkah, and two major non-religious holidays, Thanksgiving and New Years. This further limitation on the extent of the public comment period simply is not reasonable.

Finally, a number of the interested parties who have actively engaged with EPA understood that the public comment period for the PRAP likely would be at least one year. EPA itself has acknowledged that the complexity of the site warrants a public comment period of significantly longer duration than is customary.

Please advise me at your earliest opportunity of EPA's response to this request.

Sincerely,



Jerome C. Muys, Jr.

Direct line: 202 370 3920
jmuys@sandw.com

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA-New England, Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

December 5, 2011

Jerome C. Muys, Jr.
Sullivan & Worcester LLP
1666 K Street, NW
Washington, DC 20006

Re: Centredale Manor Restoration Project Superfund Site
North Providence, Rhode Island

Dear Jerry:

I am writing in response to Emhart Industries, Inc.'s request for a 120-day extension of the public comment period for the Proposed Plan at the Centredale Manor Restoration Project Superfund Site. The U.S. Environmental Protection Agency ("EPA") is agreeing to extend the public comment period for an additional thirty days. This will result in a formal public comment period of at least ninety days. EPA believes that this is sufficient time for interested parties to submit comments on the Proposed Plan.

EPA mailed copies of the Proposed Plan in October – more than two weeks before the start of the formal public comment period. That same week, EPA made available the complete Administrative Record supporting the Proposed Plan and the Addendum to the April 2010 Interim Feasibility Study. EPA recognizes that these documents are complex and that there is a lot of material to review. However, earlier versions of these or similar documents were made available previously. For example, the April 2010 Interim Feasibility Study ("Interim FS") was provided to the parties in May 2010, about one and a half years ago. Emhart submitted detailed comments on the Interim FS in May 2011.

EPA's Addendum to the Interim FS ("FS Addendum") was based on recommendations provided by the National Remedy Review Board ("Board) in its Recommendations Memorandum dated October 28, 2010. That memorandum was made available by the Board on its website. Emhart apparently reviewed that memorandum at least as early as May 2011. In addition, the FS Addendum incorporates the results of sampling performed by Emhart. In light of the fact that Emhart performed the sampling, it was aware of the new data prior to EPA's issuance of the FS Addendum.

Emhart's letter emphasizes the size of the Administrative Record as a reason for a protracted comment period extension. The Administrative Record is indeed large. However, the

majority of the documents in the Administrative Record have been available for review for quite some time. EPA has made drafts of the Administrative Record available upon request for the last several years. In fact, EPA has sent several disks to Emhart with copies of many of the documents contained in the Administrative Record.

To date, Emhart has been given many opportunities to comment on the remedial alternatives under review. Emhart was given an opportunity to submit comments to the Board in May 2010 prior to the Board's review of EPA's preferred approach. Emhart submitted its set of comments to the Board in July 2010. In addition, as mentioned above, Emhart submitted detailed comments on the Interim FS to EPA in May 2011. Emhart has also been given opportunities to make its views known during Dialog sessions held by EPA, initially through a neutral mediator. EPA held its most recent Dialog session during the week that the Proposed Plan was issued to give interested parties an advance summary of the Plan's components.

Your November 14, 2011 letter closed by adding that some of the parties were under the impression that EPA intended to hold a year-long public comment period for the Proposed Plan. I am not aware of any EPA representations to that effect. It is true that we have previously acknowledged the complexities of the Site. That is why we started with a sixty-day public comment period rather than our traditional 30-day period. We may have also indicated that we could still be a year away from issuing a Record of Decision for the Site. However, we did not indicate that we would hold a year-long public comment period for this Proposed Plan. EPA believes that ninety days is sufficient time for parties to provide comments on the Proposed Plan.

EPA appreciates the effort that Emhart has expended in reviewing and contributing to the relevant documents and submitting its comments. We look forward to continuing to receive Emhart's comments as we move toward the selection of a remedy for this Site.

Sincerely,

Eve Vaudo

Eve Vaudo

cc: Jeffrey M. Karp, Esq.
Anna Krasko

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Sullivan & Worcester LLP
1666 K Street, NW
Washington, DC 20006

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FOR INCLUSION IN THE ADMINISTRATIVE RECORD

February 1, 2012

BY ELECTRONIC MAIL AND FIRST CLASS MAIL
RETURN RECEIPT REQUESTED

Ms. Anna Krasko
On-Scene Coordinator, Region 1 EPA
5 Post Office Square, Suite 100
Mail Code: OSRR07-1
Boston, MA 02109-3912

Eve Stolov Vaudo, Esquire
Senior Enforcement Counsel, Region 1 EPA
5 Post Office Square
Mail Code OES04-4
Boston, MA 02109-3912

Re: Centredale Manor Restoration Project Superfund Site: Request for Supplemental Extension of Public Comment Period Regarding Proposed Remedial Action Plan and Supporting Documentation

Dear Eve and Anna:

We are writing on behalf of Emhart Industries, Inc. ("Emhart") to request an additional 60 days beyond the current deadline of February 13, 2012 for submission of comments regarding the October 2011 Proposed Remedial Action Plan (the "PRAP") and supporting documentation for the Centredale Manor Restoration Project Superfund Site (the "Site"). We ask that this request be included in the Administrative Record (the "AR") for the Site. The basis for our request is set forth below.

By letter dated December 5, 2011 from Ms. Vaudo (enclosed herein), EPA agreed to extend the original public comment period for an additional 30 days, until February 13, 2012. Since that time, additional issues have come to light that necessitate further extension. For example, the Town of Johnston has now stated, in writing, that it will unequivocally oppose the siting of any type of Confined Disposal Facility within Town boundaries. Thus, among other

reasons, additional time is necessary to assess the implications of the Town of Johnston's position on the "implementability" of the remedy proposed by EPA.

In addition, as discussed in more detail in our original request of November 14, 2011 for a 120-day extension of the public comment period (enclosed herein), the complexity of the issues presented by the Site necessitate a significantly longer period for public comment than that customarily provided by EPA with respect to proposed remedies at Superfund sites. EPA's proposed remedial approach for the Site is complicated and controversial, both from a technical and a legal standpoint. This is witnessed by the fact that the AR contains in excess of 500 substantive documents. Although Ms. Vaudo correctly points out in her December 5, 2011 letter that EPA has made several drafts of the AR available to Emhart and other interested parties prior to the formal public comment period, the last such version was dated June 2010. Thus, the October 18, 2011 version, on which the PRAP is based, incorporated more than an entire year's worth of new documentation. A further complicating factor is that the October 2011 version is organized in a wholly different fashion than earlier versions, and the index to the October 2011 version provides no cross-references to the very dissimilar prior versions.

Moreover, the October 2011 version of the AR contains, for the first time, an "Addendum" to the Feasibility Study for the Site which is 1,116 pages in length. The Addendum addresses issues identified by EPA and the National Remedy Review Board that only have recently been brought to the attention of interested parties.

Finally, despite the extensive documentation set forth in the October 2011 version of the AR, it is apparent that there are many substantive issues that are not addressed anywhere therein. Under these circumstances, it is difficult and quite timely for an interested party to formulate meaningful comments.

Please advise me at your earliest opportunity of EPA's response to this request.

Sincerely,

Jerome C. Muys, Jr.

Direct line: 202 370 3920
jmuys@sandw.com

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA-New England, Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

February 9, 2012

Jerome C. Muys, Jr., Esq.
Sullivan & Worcester LLP
1666 K Street, N.W.
Washington, DC 20006

Re: Centredale Manor Restoration Project Superfund Site, N. Providence, RI

Dear Jerry:

I am responding to your letter dated February 1, 2012 requesting an additional sixty-day extension of the public comment period for the Proposed Plan in connection with the Centredale Manor Restoration Project Superfund Site in North Providence, Rhode Island ("Site").

The Proposed Plan has been available since the end of October 2011. The U.S. Environmental Protection Agency first announced a public comment period consisting of sixty days. Subsequently, Emhart requested an extension of 120 days. In response, EPA extended the public comment for thirty days to February 12, 2012. Emhart is now requesting an additional sixty days for reasons previously expressed in your November 14, 2011 letter and repeated in your February 1, 2012 letter. EPA responded to these concerns in my letter dated December 5, 2011 (enclosed). The only new information you have raised is based on a comment filed by the Town of Johnston.

EPA has decided to extend the public comment period to Friday, March 2, 2012. As mentioned above, the Proposed Plan has been available since the end of October 2011. That means that the public is being given approximately 120 days to review the Proposed Plan and submit comments. EPA continues to believe that it has provided the public with a fair and reasonable opportunity to comment on the Proposed Plan.

Sincerely,

Eve Vaudo

Eve Vaudo

cc: Anna Krasko

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EPA-New England, Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

December 5, 2011

Jerome C. Muys, Jr.
Sullivan & Worcester LLP
1666 K Street, NW
Washington, DC 20006

Re: Centredale Manor Restoration Project Superfund Site
North Providence, Rhode Island

Dear Jerry:

I am writing in response to Emhart Industries, Inc.'s request for a 120-day extension of the public comment period for the Proposed Plan at the Centredale Manor Restoration Project Superfund Site. The U.S. Environmental Protection Agency ("EPA") is agreeing to extend the public comment period for an additional thirty days. This will result in a formal public comment period of at least ninety days. EPA believes that this is sufficient time for interested parties to submit comments on the Proposed Plan.

EPA mailed copies of the Proposed Plan in October – more than two weeks before the start of the formal public comment period. That same week, EPA made available the complete Administrative Record supporting the Proposed Plan and the Addendum to the April 2010 Interim Feasibility Study. EPA recognizes that these documents are complex and that there is a lot of material to review. However, earlier versions of these or similar documents were made available previously. For example, the April 2010 Interim Feasibility Study ("Interim FS") was provided to the parties in May 2010, about one and a half years ago. Emhart submitted detailed comments on the Interim FS in May 2011.

EPA's Addendum to the Interim FS ("FS Addendum") was based on recommendations provided by the National Remedy Review Board ("Board) in its Recommendations Memorandum dated October 28, 2010. That memorandum was made available by the Board on its website. Emhart apparently reviewed that memorandum at least as early as May 2011. In addition, the FS Addendum incorporates the results of sampling performed by Emhart. In light of the fact that Emhart performed the sampling, it was aware of the new data prior to EPA's issuance of the FS Addendum.

Emhart's letter emphasizes the size of the Administrative Record as a reason for a protracted comment period extension. The Administrative Record is indeed large. However, the

majority of the documents in the Administrative Record have been available for review for quite some time. EPA has made drafts of the Administrative Record available upon request for the last several years. In fact, EPA has sent several disks to Emhart with copies of many of the documents contained in the Administrative Record.

To date, Emhart has been given many opportunities to comment on the remedial alternatives under review. Emhart was given an opportunity to submit comments to the Board in May 2010 prior to the Board's review of EPA's preferred approach. Emhart submitted its set of comments to the Board in July 2010. In addition, as mentioned above, Emhart submitted detailed comments on the Interim FS to EPA in May 2011. Emhart has also been given opportunities to make its views known during Dialog sessions held by EPA, initially through a neutral mediator. EPA held its most recent Dialog session during the week that the Proposed Plan was issued to give interested parties an advance summary of the Plan's components.

Your November 14, 2011 letter closed by adding that some of the parties were under the impression that EPA intended to hold a year-long public comment period for the Proposed Plan. I am not aware of any EPA representations to that effect. It is true that we have previously acknowledged the complexities of the Site. That is why we started with a sixty-day public comment period rather than our traditional 30-day period. We may have also indicated that we could still be a year away from issuing a Record of Decision for the Site. However, we did not indicate that we would hold a year-long public comment period for this Proposed Plan. EPA believes that ninety days is sufficient time for parties to provide comments on the Proposed Plan.

EPA appreciates the effort that Emhart has expended in reviewing and contributing to the relevant documents and submitting its comments. We look forward to continuing to receive Emhart's comments as we move toward the selection of a remedy for this Site.

Sincerely,

Eve S Vaudo

Eve Vaudo

cc: Jeffrey M. Karp, Esq.
Anna Krasko

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FOR PLACEMENT IN THE ADMINISTRATIVE RECORD

March 2, 2012

BY ELECTRONIC MAIL AND FEDERAL EXPRESS

Eve Stolov Vaudo, Esq.
Senior Enforcement Counsel, Region 1 EPA
5 Post Office Square
Mail Code OES04-4
Boston, MA 02109-3912

Ms. Anna Krasko
On-Scene Coordinator, Region 1 EPA
5 Post Office Square
Mail Code: OSRR07-1
Boston, MA 02109-3912

Re: Centredale Manor Restoration Project Superfund Site: Comments of Emhart Industries, Inc. on U.S. EPA's Proposed Remedial Action Plan, Addendum to the Interim Final Feasibility Study Report and Interim Final Feasibility Study Report

Dear Eve and Anna:

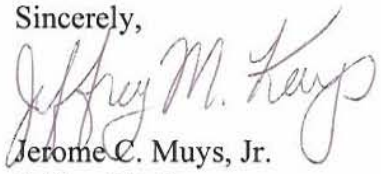
Please find enclosed the comments of Emhart Industries, Inc. ("Emhart") on the Proposed Remedial Action Plan ("PRAP"), Addendum to the Interim Final Feasibility Study Report ("Addendum"), and Interim Final Feasibility Study Report ("FS Report") issued by the United States Environmental Protection Agency ("EPA") concerning the Centredale Manor Restoration Project Superfund Site ("Site").

For your ease of review, you will receive with your paper copy of the comments a CD that includes all of the cited sources in the comments not previously provided in Emhart's earlier May 25, 2011 submission. The documents on the CD are listed in the order in which they appear in the comments.

Please place a set of the comments and the documents on the provided CD in the Administrative Record for the Site.

If you have any questions or would like to discuss Emhart's comments, please contact either of the undersigned.

Sincerely,



Jerome C. Muys, Jr.
Jeffrey M. Karp
Direct line: 202 370 3921
jkarp@sandw.com

Enclosures (with paper copy)

FOR PLACEMENT IN THE ADMINISTRATIVE RECORD

Centredale Manor Restoration Project Superfund Site

Comments of Emhart Industries, Inc. on U.S. EPA's Proposed Remedial Action Plan (October 2011), Addendum to the Interim Final Feasibility Study Report (September 2011), and Interim Final Feasibility Study Report (April 30, 2010)

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Centredale Manor Restoration Project Superfund Site - Comments of Emhart Industries, Inc. on U.S. EPA's Proposed Remedial Action Plan (October 2011), Addendum to the Interim Final Feasibility Study Report (September 2011), and Interim Final Feasibility Study Report (April 30, 2010)

Executive Summary

Introduction

Emhart Industries, Inc. ("Emhart") requests that the comments provided herein, the enclosed Index of cited documents, and the documents on the enclosed CD, be included on the administrative record for the Centredale Manor Restoration Project Superfund Site ("Site").

In the Proposed Remedial Action Plan ("PRAP"), United States Environmental Protection Agency ("EPA") has proposed remedies for each of five "action areas" deemed by EPA to require some level of cleanup. The five action areas at the Site are denominated by EPA as: (1) Allendale and Lyman Mill Reach Sediment; (2) Allendale Reach Floodplain Soil; (3) Lyman Mill Reach Stream Sediment and Floodplain Soil (the "Oxbow Area"); (4) Source Area Soil; and (5) Source Area Groundwater.[1,2] Emhart has identified significant flaws in the PRAP for each of these action areas. In the event of judicial review, EPA's remedy selection process will be evaluated based on the information in the administrative record. The comments provided herein include abundant factual and legal evidence from the administrative record to support a judicial finding that EPA's PRAP, if selected for implementation at the Site, is "arbitrary and capricious or otherwise not in accordance with law," the standard of review under Section

[1] Please note that throughout this document, defined terms are designated by capitalization. For example, Source Area Groundwater and Source Area Soil are EPA defined terms and are capitalized when referring to the particular action area. However, when a term such as "source area soil" is not capitalized, it refers to the soil that is present in the Source Area Soil action area or also may be present in the Source Area Groundwater action area.
[2] Please also note that the defined terms are listed in a Glossary at the end of this Executive Summary.

113(j)(2) of the Comprehensive Environmental Response, Compensation and Liability Act ("Superfund" or "CERCLA").[3]

Since being notified of its status as a potentially responsible party ("PRP") at the Site, Emhart has commenced litigation and established evidence demonstrating that the Site contamination resulted from New England Container Company's ("NECC") drum reconditioning operation, and not from the operations of Emhart's alleged predecessor, Metro-Atlantic, Inc. *See Emhart Indus., Inc. v. NECC*, C.A. 06-0218-S (D.R.I. 2006); *see also Emhart Indus., Inc. v. U.S. Dep't of the Air Force, et al.*, C.A. 11-023-S (D.R.I. 2011). This evidence, which is partially summarized in Appendix A and incorporated herein by reference, not only negates Emhart's alleged responsibility for Site clean-up, it also disproves EPA's conceptual site model, thus undermining the validity of EPA's PRAP.

EPA's failure to conform its outdated and inaccurate conceptual site model to the current evidentiary record is contrary to its own regulations set forth in the National Contingency Plan ("NCP"), and results in a flawed analysis of the remedial alternatives considered in the Feasibility Study and selected by EPA in the PRAP. EPA's reliance on its inaccurate conceptual site model has led it, in turn, to incorrectly deem contaminated environmental media at the Site to be a RCRA-listed F020 waste. This faulty designation, as well as its unsupported decision to classify all source area soils, floodplain soil, and pond sediments at the reaches of Allendale and Lyman Mill as principal threat waste ("PTW"), has led EPA to further incorporate into its

[3] A summary of the applicable laws, regulations, and guidance documents is included in Appendix B to these comments. These include, but are not limited to, CERCLA, the NCP, EPA guidance documents such as "Principles for Managing Contaminated Sediments," and other Applicable or Relevant and Appropriate Requirements ("ARARs").

evaluation of the remedial alternatives mistaken assumptions regarding the requirements for and costs of addressing contaminated environmental media at the Site.

The significant flaws in the analysis underlying EPA's remedy selection process have resulted in a PRAP that favors remedial alternatives that are contrary to CERCLA and the NCP. For example, with respect to Allendale and Lyman Mill Reach Sediment, the PRAP reflects an apparent preference for excavation of potentially enormous quantities of sediment and disposal at an off-Site location, contrary to both legal requirements under CERCLA and significant considerations regarding technical implementability and impracticability. The remedies proposed by EPA for both Allendale Reach Floodplain Soil and Lyman Mill Reach Stream Sediment and Floodplain Soil pose the same concerns.

With respect to the Source Area Soil, EPA has proposed a capping remedy that meets or exceeds the requirements for closure of a hazardous waste landfill under Subtitle C of the Resource Conservation and Recovery Act ("RCRA"). However, the impacted soils at issue are not considered to be a waste at all under EPA's own regulations, policy, and guidance documents, and therefore are not subject to the unduly stringent (and costly) RCRA Subtitle C closure requirements that EPA would seek to impose.

In short, due to its erroneous analytical framework, EPA fails to comply with applicable laws, regulations, policy, and guidance, and take into account the current administrative record. Accordingly, the PRAP does not reflect a complete, accurate, fair and reasoned assessment by EPA of the remedial alternatives for the five designated action areas of the Site.

Site Background

The Site consists of two parcels located at 2072 and 2074 Smith Street (the "Peninsula") in North Providence, Rhode Island, and downstream areas that EPA alleges have been impacted

by activities conducted historically on the two parcels. Currently, there are two high-rise apartment buildings, known as Brook Village and Centredale Manor, on the parcels. On the eastern portion of the Peninsula is a drainage swale or "tail race" that empties into a wooded wetland to the south. The Woonasquatucket River (the "River") flows along the western portion of the Peninsula. CERCLA hazardous substances, including volatile organic compounds ("VOCs"), dioxins, polychlorinated biphenyls ("PCBs"), metals, pesticides, and herbicides, have been identified in soil, sediment, and groundwater at the Site.

EPA alleges that historic drum reconditioning and chemical manufacturing operations on the Peninsula were the principal contributors to contamination on the Site. Between approximately 1952 and 1972, NECC operated a steel drum reconditioning business on the Peninsula, which included an incinerator to burn residue and paint from inside 55-gallon open-head steel drums and a caustic bath process for cleaning the inside of 55-gallon closed-head drums. These NECC operations were situated near the tail race on the eastern side of the Peninsula. NECC also stored drums to the south and west of the buildings in which it conducted its drum cleaning operations, extending over to the western area of the Peninsula adjacent to the River. As a result of these and other activities conducted by NECC relating to its drum reconditioning business, a number of CERCLA hazardous substances were released or disposed of throughout the Site, including dioxins, PCBs, pesticides, and herbicides.

In approximately 1944, Atlantic Chemical Company ("Atlantic Chemical") began operations on the Peninsula, producing textile chemicals including defoamers, fire retardants, dye fixatives, water repellants, resins, cotton-softeners, powdered soaps, a metal stripper, and sulfonated tallow for wool. In 1953, Atlantic Chemical changed its name to Metro-Atlantic, Inc. ("Metro-Atlantic"), and continued to operate on the Peninsula until approximately 1968. For a

period of less than one year in the mid-1960s, Metro-Atlantic manufactured Hexachlorophene ("HCP") in a building separate from its main operation and located on the west side of the Peninsula. EPA has alleged that Metro-Atlantic's HCP operation resulted in the release of dioxins at the Site and, therefore, that dioxin-contaminated environmental media at the Site must be handled as a RCRA-listed F020 waste. Emhart is the alleged successor to Metro-Atlantic.

Emhart's History of Cooperation with EPA

Since 2000, Emhart has worked with EPA in good faith to establish a cleanup approach for the Site that is cost-effective, implementable, and fully protective of human health and the environment. At the same time, Emhart has pursued litigation against NECC which has resulted in a vastly-expanded factual record regarding historical operations on the Site and which demonstrates the incompleteness and inaccuracy of EPA's current conceptual site model.

Between 2000 and 2006, Emhart and other PRPs completed three removal actions at the Site. In 2000, Emhart and other PRPs installed a temporary soil cap and implemented limited flood control measures at the Site under the direction of EPA. Beginning in 2001, Emhart and other PRPs performed additional cleanup measures at the Site under the direction of EPA, including restoring Allendale Dam, sampling residential soils and shoreline sediments, and excavating such soils and sediments containing greater than one part per billion ("ppb") of dioxin. In September 2003, Emhart and other PRPs conducted a third removal action at the Site under the direction of EPA, to address contaminated soils and sediments in the vicinity of the tail race.

In 2007 and 2008, Emhart performed hydrodynamic modeling of certain remedial alternatives and a comparative ecological risk assessment under the direction of EPA to supplement the Feasibility Study ("FS"). In 2009 and 2010, Emhart performed a removal action in the Source Area Groundwater action area under the direction of EPA, which involved

excavation and off-site disposal of delineated soils and sediments and the installation of an impermeable cap.

In June 2010, Emhart performed a supplemental investigation of the Oxbow Area under the direction of EPA. The purpose of this investigation was to collect additional data necessary to permit EPA to: (1) properly evaluate the remedial alternatives set forth in the Interim Final Feasibility Study Report ("FS Report"); (2) analyze potential risks to human health and the environment; and (3) select the most appropriate remedial alternative for the Oxbow Area in the PRAP based on more complete information.

Contemporaneous with its efforts outlined above to cooperate with EPA, Emhart submitted to EPA extensive evidentiary material for inclusion in the administrative record for the Site and requested that EPA update its original conceptual site model to reflect the new information. As explained in the following sections, EPA fails to consider the new information or to update its conceptual model for the Site and, in so doing, acts in an arbitrary and capricious manner and contrary to the requirements of the NCP and other governing law.

Discussion of Remedial Alternatives

EPA's evaluation of remedial alternatives and its selection of proposed remedies for the various action areas of the Site, as presented in the FS and the PRAP, suffers from major deficits, including the following:

- EPA's conceptual site model for the Site is static, outdated, and factually erroneous. Further, it is inconsistent with and not supported by information in the administrative record.
- EPA incorrectly deems all contaminated environmental media at the Site to be a RCRA-listed F020 waste. The contaminants in environmental media at the Site

cannot be traced to a release of waste from any single original process meeting any listing description. Further, EPA's decision to apply the F020 waste listing to historic contamination at the Site is inconsistent with the Agency's approach at other remediation sites where dioxin is a contaminant of concern. Finally, EPA inconsistently classifies contaminated environmental media at various locations at the Site and thereby misapplies RCRA, resulting in EPA proposing more costly remedial alternatives for the various action areas than are necessary or permissible.

- EPA fails to meet the requirements of the Information Quality Act ("IQA") by omitting information and data concerning changed Site conditions.
- EPA inadequately defines the dioxin goals for the Site, relying on upstream background concentrations that are uncertain, and improperly considers speculative future changes to the Preliminary Remediation Goals ("PRGs") for dioxins and dioxin-like contaminants in soils, rather than evaluating the remedial alternatives based on current requirements.
- EPA fails to adequately define the volume of soil and sediment requiring excavation and disposal in a confined disposal facility ("CDF") or other off-Site location(s) under several of the remedial alternatives and the remedy selected in the PRAP, which creates substantial uncertainty regarding the cost and implementability of these remedial alternatives and the selected remedy in the PRAP.

With regard to each of the five action areas at the Site, EPA improperly "screens out" or rejects otherwise cost-effective, protective, and implementable remedial alternatives, as discussed below:

- For the **Allendale and Lyman Mill Sediment** action area:

- EPA improperly relies on Executive Order ("EO") 11988 to reject the nearshore CDF remedial alternative. EO 11988 is not an absolute prohibition against siting a remedy in a floodplain; it applies only where the action under consideration would adversely affect the floodplain. Here, hydrodynamic modeling demonstrates that the nearshore CDF remedial alternative would have negligible effect on the floodplain and floodplain inundation.
- EPA improperly screens out, without substantive consideration, the channel-only configuration for pond remediation, based on the supposition that there would be community opposition. However, EPA cannot apply the community acceptance criterion under the NCP to eliminate an otherwise acceptable remedial alternative at the "screening" phase of the FS; rather, EPA must first apply the two threshold and five primary balancing criteria under the NCP. *See* Appendix B at Section A.2.b. In fact, EPA does not apply the community acceptance criterion under the NCP to remedial alternatives that it favors, such as the upland CDF alternative, with respect to which community opposition is well-documented.
- EPA selects the upland CDF as the disposal alternative in the PRAP, despite the refusal of the Town of Johnston's Mayor to authorize the siting of a hazardous waste landfill within the Town. EPA does not identify in the record any alternative locations for siting an upland CDF, thus failing to satisfy the primary balancing criterion under the NCP of "implementability." Moreover, setting aside the Town of Johnston's refusal to site a hazardous waste landfill in their community, EPA fails to address key uncertainties regarding the

unpredictable – and potentially high – volume of material to be landfilled, the cost of the upland CDF disposal option, and the potential unavailability of off-Site disposal capacity. In particular, EPA fails to recognize that the remedial alternatives evaluated and the remedy selected in the PRAP that incorporate the use of an upland CDF are technically impracticable given the significant uncertainties concerning fundamental elements, including the following: (1) the volume of contaminated soil and sediment to be excavated and disposed; (2) the availability for purchase and the price of properties upon which to construct the upland CDF(s); (3) the ability to obtain a Land Disposal Restriction ("LDR") treatability variance, if necessary; (4) whether the upland CDF(s) would be deemed "on-Site" for purpose of CERCLA's permitting exemptions; (5) the suitability and sufficiency of space to construct an upland CDF(s) of requisite capacity; and (6) the practicability of conducting confirmatory sampling to establish the adequacy of the cleanup.

- Off-Site disposal is not a feasible option because off-Site facilities may not be able to accept the volume of excavated material at the time that the remedy selected in the PRAP is implemented, and because the selected remedy undermines EPA's extensive efforts to promote green remediation.
- EPA fails to explain how soil and sediment will be segregated on a concentration basis. The sediments that may be landfilled in the proposed upland CDF(s) cannot be identified. Further, EPA's estimate that only 10% of the soil and sediment will exceed the alternative treatment standards for soil must be reconsidered because it is based on inadequate data.

- EPA's conceptual site model for the Allendale and Lyman Mill Pond sediments fails to consider certain potential transport pathways. EPA's comparative assessment of the long-term effectiveness of the selected remedy is incomplete, flawed, and fails to conform to the NCP requirements.

Concomitantly, Emhart's recommended approach, which involves the placement of excavated soils and sediments into a nearshore CDF or isolation caps within the footprints of the ponds, is the most protective, implementable, and cost-effective disposal option for soils and sediments to be excavated at the Site.

- For the **Allendale Reach Floodplain Soil** action area, EPA's location-specific analysis is flawed and fails to conform to the NCP requirements for the same reasons and in the same manner as the analysis of alternatives for the Allendale and Lyman Mill Sediment action area, as discussed above.
- For the **Lyman Mill Reach Stream Sediment and Floodplain Soil** action area (the "Oxbow Area"):
  - EPA inappropriately overstates the area requiring remediation. First, EPA mischaracterizes the floodplain soil near Falco Street as a high value ecological area, which actually is part of the manicured residential backyards. Second, EPA's flawed ecological risk assessment leads the Agency to mistakenly identify the floodplain soil at the confluence of Assapumpset Brook and Lyman Mill Pond as a remediation area, even though that area poses less ecological risk to receptors than background soils.
  - EPA's conceptual site model for the Oxbow Area is not based on any measured or modeled data, but instead on mere unsupported speculation.

Further, EPA's assessment of the short- and long-term effectiveness of the remedial alternatives and the remedy selected in the PRAP for the Oxbow Area is flawed and contrary to the NCP requirements due to the Agency's inconsistent use of information in its conceptual site model.

- For the **Source Area Soil** action area:
  - EPA incorrectly applies RCRA closure requirements to contaminated environmental, in-place media, which are not hazardous waste subject to RCRA regulation.
  - EPA concludes that Source Area soil, floodplain soil and pond sediment at the reaches of Allendale and Lyman Mill are PTW, despite the absence of evidence in the administrative record to support that conclusion as it relates either to magnetic anomalies found in preliminary testing, or PCBs found in soil samples. EPA cannot determine whether a waste is PTW because the physical/chemical characteristics of the wastes in this area of the Site are unknown.
  - In the Addendum to the FS Report ("Addendum"), EPA amends the definition and scope of PTW at the Site to include all Source Area soil, and floodplain soil and pond sediment at the reaches of Allendale and Lyman Mill. However, EPA provides no basis for characterizing these environmental media as PTW, thus failing to meet the requirements of the NCP. EPA further fails to acknowledge that these impacted environmental media can be safely contained under a cap, as it previously has done at numerous other sites, and that treatment for all waste is not appropriate or necessary to protect human

health and the environment. These environmental media are not waste, and therefore no preference exists for treatment in the NCP.

- EPA misapplies RCRA and concludes without any substantiation that PTW is present in the Source Area Soil action area. Thus, EPA screens out Emhart's recommended approach, Alternative 2 – long-term monitoring and maintenance of the existing surfaces. With modification, this approach will adequately address, at a far lower cost, both EPA's concerns regarding contaminants present in the soil at concentrations that may trigger Rhode Island's GB leachability criteria, and meeting Toxic Substance Control Act ("TSCA") closure requirements. In fact, Alternative 2, if modified, is fully protective of human health and the environment, implementable, and cost-effective.
- EPA does not adequately or fully consider the short- and long- term human health impacts on the residents of the Brook Village and Centredale Manor apartments of the remedy selected in the PRAP. Due to the potential significant risks from exposure to impacted soils and sediments, it would be necessary to relocate the residents of the two apartment buildings during implementation of EPA's selected remedy. In addition to the human health impacts, EPA fails to consider the costs of such relocation, or that monitoring and maintaining the existing caps is equally protective of human health and the environment and is implementable with minimal disturbance to the residents.

o - For the **Source Area Groundwater** action area:

- In 2009/2010, Emhart performed an EPA-approved excavation and dewatering removal action. The removal action was conducted to address EPA's assumption in its conceptual site model that dioxins are migrating in groundwater toward and into the River via facilitated or colloidal transport mechanisms beneath the approximately 0.13 acres on the west side of the Brook Village parking lot. EPA acknowledges that the removal action successfully remediated the shallow groundwater condition, as all the Agency's Remedial Action Objectives ("RAOs") were met.
- In the FS Report, EPA evaluates no fewer than five remedial alternatives, each of which is solely aimed at remediating the shallow groundwater area that EPA already agreed is adequately addressed by Emhart's performance of the removal action.
- These remedial alternatives initially were evaluated based on Rhode Island's classification of the Site groundwater under state law as not a potential source of drinking water. However, in response to the comments of the Agency's National Remedy Review Board ("NRRB"), in the FS Report, EPA instead classifies the groundwater within the Source Area Groundwater action area under federal law. Moreover, rather than similarly classifying the groundwater under federal law as Class III (Not a Potential Source of Drinking Water and/or of Limited Beneficial Use), EPA classifies it as Class IIB (Potential Source of Drinking Water). As a result, federal drinking water standards are Applicable or Relevant and Appropriate Requirements ("ARARs") at the source area.

- In the Addendum, EPA also revises the RAOs within the Source Area Groundwater action area to prevent exposure to contamination in groundwater in excess of federal Maximum Contaminant Levels ("MCLs") and/or non-zero MCL goals ("MCLGs") for drinking water. Further, EPA expands the area proposed for post-remediation monitoring from 0.13 acres (the area covered by the removal action) to 8.0 acres (the groundwater beneath the entire Peninsula) and establishes a "point of compliance" boundary at the downgradient edge of the Peninsula. Notwithstanding the foregoing, in the Addendum EPA fails to similarly revise its assessment of the remedial alternatives for groundwater, including the remedy selected in the PRAP.
- In the PRAP, EPA selects the excavation and dewatering alternative previously performed by Emhart, and also requires periodic testing to confirm that Site-related groundwater at the point of compliance does not exceed federal drinking water standards. However, EPA already knows, based on the most recent groundwater data (2002 data), that contaminant concentrations at the point of compliance exceed the newly imposed federal drinking water standards.
- The removal action is not intended to, nor will it, address the groundwater beneath the entire Peninsula that contains contaminant concentrations in excess of the newly-imposed federal drinking water standards.
- Given that the remedial alternatives evaluated and the remedy selected in the PRAP by EPA are premised on the groundwater being classified as not a potential drinking water source, the administrative record fails to identify the

purpose of the post-remediation monitoring requirement or the manner in which EPA plans to use the data.

- EPA's analysis of this action area is flawed. Contrary to the NCP requirements, EPA changes the groundwater classification without supporting information in the administrative record, and further fails to evaluate the effect of that decision on the remedial alternatives in the FS. Also, in the PRAP, EPA selects a remedy for the Source Area Groundwater action area without explaining either how the proposed remedy is expected to meet the newly assigned RAOs or how EPA plans to evaluate the post-remediation groundwater monitoring data.
- In light of the foregoing, EPA must eliminate the proposed point of compliance monitoring requirement (except for the area of the removal action completed in 2010), grant a waiver to the federal drinking water ARAR, and establish alternative concentration limits for the Site, unless EPA re-establishes the Rhode Island Department of Environmental Management ("RIDEM") groundwater protection standards as Site ARARs.

Conclusion

In summary, in the FS Report, the Addendum, and the PRAP, EPA disregards key legal requirements in CERCLA, and, contrary to the NCP, ignores crucial technical facts and evaluation processes, thus rendering the resulting remedial alternatives analysis and selected remedies in the PRAP unreliable and unsupportable. CERCLA § 113(j)(2) provides that EPA's remedy selection decisions will not be sustained if they are "arbitrary and capricious or otherwise not in accordance with law." 42 USC § 9613(j)(2). A decision is "arbitrary and capricious"

where EPA has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the matter, offered an explanation for its decision that is contrary to the evidence before the agency, or makes a decision that is so implausible that it would not be ascribed to a difference in view or the product of the agency's expertise. *See U.S. v. Burlington N.R.R. Co.,* 200 F.3d 679, 689 (10th Cir. 1999) (finding EPA's failure to make a second amendment to the Record of Decision for OU1 was arbitrary and capricious because it was inconsistent with the NCP); *see also State of Minnesota v. Kalman W. Abrams Metals, Inc.,* 155 F.3d 1019, 1024-25 (8th Cir. 1998) (finding response action to be arbitrary and capricious under CERCLA § 113(j)(2) because it was inconsistent with the NCP). As discussed in detail in these comments, EPA's remedy decisions fail to meet this statutory standard in numerous respects, including, but not limited to the following:

- EPA disregards key legal requirements in CERCLA and ignores crucial technical facts and required evaluation steps contrary to its own regulations;
- Contrary to its own regulations, rules, policy, and guidance documents, EPA concludes that all impacted environmental media at the Site contain a RCRA F-listed waste, and that certain soils and sediments contain PTW;
- EPA makes improper assumptions regarding community opposition to the most cost-effective remedial alternatives for the Ponds and the River sediment, while ignoring community opposition to the alternative that EPA champions;
- EPA misconstrues RCRA and TSCA, and misapplies the ARARs, leading to improper and unsupported conclusions regarding the scope of necessary excavation and capping of environmental media;
- EPA improperly applies EO 11988 when evaluating the implementability of the

nearshore CDF, and ignores the hydrodynamic modeling demonstrating that the nearshore CDF would result in no appreciable flood inundation effects;

- EPA fails to adequately assess the many uncertainties regarding the cost and implementability of an upland CDF;
- EPA changes the groundwater classification without supporting information in the administrative record or considering the effect on the remedial alternatives to meet the newly introduced RAOs, or the newly expanded area proposed for remediation (revised from 0.13 to 8.0 acres). Nor does EPA explain how it plans to use the post-remediation groundwater monitoring data to assess the adequacy of the proposed remedy;
- EPA fails to accurately assess the remedial alternatives for both the Oxbow Area portion of the Lyman Mill Stream Sediment and Floodplain Soil, and the Lyman Mill Reach Sediment due to the absence of necessary data to compare the alternatives' effectiveness; and
- EPA fails to consider key components of its conceptual site model for the Oxbow Area as it relates to potential post-remediation releases of contaminants of potential concern ("COPCs") from the Oxbow Area into Lyman Mill Pond.

In light of the foregoing discussed arbitrary and capricious decisions of EPA, and the multiple failures of EPA to comply with the requirements of CERCLA and its implementing regulations and guidance documents, EPA selects proposed remedies for the designated action areas at the Site that are infeasible to implement, unnecessary, and unreasonably costly, including remedies that would require excavation and off-Site disposal of large quantities of soil and sediment, and the installation of RCRA-compliant caps. Emhart's comments on the PRAP

demonstrate that there are far more cost-effective, equally protective, and readily achievable remedial alternatives that would fulfill the mandates of CERCLA and the NCP. By ignoring important evidence and rigidly adhering to its sorely out-of-date conceptual site model, EPA has premised its evaluation of remedial alternatives in the FS Report, Addendum, and PRAP on faulty and erroneous assumptions about the sources, types, and attributes of Site contaminants. Moreover, in failing to consider important facts and scientific data included in the administrative record, EPA fails to give the requisite consideration to or select effective, implementable, cost-effective and equally protective remedial alternatives.

The foregoing-described conduct engaged in by EPA is arbitrary and capricious, as it is contrary to CERCLA, the NCP, and EPA's own policies and guidance. Accordingly, EPA must consider these comments and the accompanying appendices, and rectify its fundamentally flawed analyses and decisions by: (1) updating its conceptual site model to accurately reflect the full administrative record; (2) properly applying Site ARARS, including abandoning its incorrect application of the F020 waste code, PTW designations for in-place, contaminated environmental media, and classification of Site groundwater; and (3) re-evaluating and modifying the remedial alternatives proposed for application at the Site.

GLOSSARY

2,3,7,8-TCDD: 2,3,7,8-tetrachlorodibenzo-p-dioxin
2,3,7,8-TCDF: 2,3,7,8-tetrachlorodibenzofuran
2,4,5-T: 2,4,5-Trichlorophenol
2,4,5-TCP: 2,4,5-Tricholorophenolate
ACOE: United States Army Corps. of Engineers
Addendum: Addendum to the FS Report
Atlantic Chemical: Atlantic Chemical Company
ARAR: Applicable or Relevant and Appropriate Requirement
CDF: Confined Disposal Facility
CERCLA: Comprehensive Environmental Response, Compensation and Liability Act
cfs: Cubic Feet per Second
COPC: Contaminant of Potential Concern
cy: Cubic Yard
Diamond Alkali: Diamond Alkali Company
Emhart: Emhart Industries, Inc.
EO: Executive Order
EPA or Agency: United States Environmental Protection Agency
FS: Feasibility Study
FS Report: Interim Final Feasibility Study Report
HCP: Hexachlorophene
HCX: Hexachloroxanthene
Integral: Integral Consulting, Inc.
IQA: Information Quality Act
LDR: Land Disposal Restriction
LEA: Loureiro Engineering Associates, Inc.
MCL: Maximum Contaminant Level
MCLG: MCL Goal
MCPP: Methylchlorophenoxy-propionic Acid
Metro-Atlantic: Metro-Atlantic, Inc.
Na-2,4,5-TCP: Sodium 2,4,5-Tricholorophenolate
NaOH: Sodium Hydroxide
NCP: National Contingency Plan
NECC: New England Container Company
NRRB: National Remedy Review Board
OSWER: United States Environmental Protection Agency, Office of Solid Waste and Emergency Response
Otis: Otis Air Base
Oxbow Area: Lyman Mill Reach Stream Sediment and Floodplain Soil
PCDD: Polychlorinated Dibenzodioxin
PCDF: Polychlorinated Dibenzofuran
PCB: Polychlorinated Biphenyl
PCE: Perchloroethylene
Peninsula: Two Parcels Located at 2072 and 2074 Smith Street
Ponds: Allendale and Lyman Mill Ponds
ppb: Part per Billion
ppm: Parts per Million
ppt: Parts per Trillion
PRP: Potentially Responsible Party
PRG: Preliminary Remediation Goal
PRAP: Proposed Remedial Action Plan
PTW: Principal Threat Waste
Quonset: Quonset Naval Base
RAO: Remedial Action Objective
RIDEM: Rhode Island Department of Environmental Management
ROD: Record of Decision
River: Woonasquatucket River
RCRA: Resource Conservation and Recovery Act
RI Report: Interim Final Remedial Investigation Report
Site: Centredale Manor Restoration Project Superfund Site
SVOC: Semi-volatile Organic Compound
TBC: To-Be-Considered Material
TCRA: Time Critical Removal Action
TEQ: Toxic Equivalent
TSCA: Toxic Substances Control Act
VOC: Volatile Organic Compound

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Centredale Manor Restoration Project Superfund Site -
Comments of Emhart Industries, Inc. on U.S. EPA's Proposed Remedial Action Plan (October 2011), Addendum to the Interim Final Feasibility Study Report (September 2011), and Interim Final Feasibility Study Report (April 30, 2010)

I. Introduction

Emhart Industries, Inc. ("Emhart") respectfully submits these comments on the Interim Final Feasibility Study Report ("FS Report"), Addendum to the Interim Final Feasibility Study ("Addendum"), and Proposed Remedial Action Plan ("PRAP") released by the Environmental Protection Agency ("EPA") for the Centredale Manor Restoration Project Superfund Site in North Providence, Rhode Island ("Site"), and requests that they be included in the administrative record for the Site. We have included herein an overview of the Site background, including the Site history and a description of historic Site operations and a discussion of the proposed remedial alternatives by EPA for each of the designated "action areas" at the Site. For ease of review, we also have included an Executive Summary of our comments at the outset of this document. Moreover, Appendix A contains an evidentiary summary documenting the flaws in EPA's conceptual site model and RCRA waste code determination identified in the PRAP. Further, we have provided in Appendix B, a summary of the laws, regulations, and guidance applicable to EPA's remedy selection process at the Site. Both of the appendices are incorporated in these comments by reference.

Emhart has identified herein numerous shortcomings in EPA's remedy selection process as embodied in the PRAP. In the likely event of judicial review, the validity of EPA's remedy selection process will be determined based on the administrative record. The comments provided herein include abundant factual and legal support that would compel a judicial finding that EPA's remedy selection process is "arbitrary and capricious or otherwise not in accordance

with law," the standard of review under § 113(j)(2) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" or "Superfund").

The Site consists of two parcels located at 2072 and 2074 Smith Street (the "Peninsula") in North Providence, Rhode Island, adjacent to the Woonasquatucket River ("River"), and downstream areas that allegedly have been impacted by activities on the two parcels. Substances designated as "hazardous" under CERCLA, including volatile organic compounds ("VOCs"), semivolatile organic compounds ("SVOCs"), dioxins, furans, polychlorinated biphenyls ("PCBs"), metals, herbicides, and pesticides, have been detected at the Site, including on the two parcels, along the riverbank, and in sediments in two downstream ponds – Allendale Pond and Lyman Mill Pond.

In the PRAP, EPA identifies proposed remedial alternatives for each of five "action areas" deemed by EPA to require some level of cleanup. The five action areas at the Site are denominated as: (1) Allendale and Lyman Mill Reach Sediment, consisting of Allendale Pond, the River channel north of Allendale Pond, and Lyman Mill Pond; (2) Allendale Reach Floodplain Soil, consisting of the floodplain areas abutting the river channel north of Allendale Pond and abutting Allendale Pond itself; (3) Lyman Mill Reach Stream Sediment and Floodplain Soil (the "Oxbow Area"), consisting of the stream channel and old mill raceway connecting Allendale and Lyman Mill Ponds, as well as the forested wetland southwest of Allendale Dam and floodplain areas abutting Lyman Mill Pond; (4) Source Area Soil; and (5) Source Area Groundwater.[4]

[4] Please note that throughout this document, defined terms are designated by capitalization. For example, Source Area Groundwater and Source Area Soil are EPA defined terms and are capitalized when referring to the particular action area. However, when a term such as "source area soil" is not capitalized, it refers to the soil that is present in the Source Area Soil action area or also may be present in the Source Area Groundwater action area.

Emhart has identified herein significant flaws in EPA's remedy selection process, which have resulted in a PRAP that favors remedial alternatives that are neither implementable nor cost-effective, and, further, are arbitrary and capricious, and contrary to CERCLA and the National Contingency Plan ("NCP"), its implementing regulations. For example, with respect to the Allendale and Lyman Mill Reach Sediment action area, the PRAP reflects EPA's preference for excavation of potentially enormous quantities of sediment and disposal at an off-Site location, contrary to both legal requirements under CERCLA and significant considerations regarding technical impracticability and implementability. The preferred remedies for both the Allendale Reach Floodplain Soil action area, and the Lyman Mill Reach Stream Sediment and Floodplain Soil action area, pose many of the same concerns.

With respect to the Source Area Soil action area, EPA expresses a clear preference in the FS Report for a capping remedy that meets or exceeds the requirements for closure of a hazardous waste landfill under Subtitle C of the Resource Conservation and Recovery Act ("RCRA"). However, the impacted soils at issue are not considered to be a waste at all under EPA's own regulations and guidance documents, and therefore are not subject to the unduly stringent (and costly) RCRA Subtitle C closure requirements that EPA would seek to impose.

Finally, with respect to the Source Area Groundwater action area, EPA neglects to reconsider the effect on the remedial alternatives to meet either the newly-introduced Remedial Action Objectives ("RAOs") or the newly-expanded area proposed for remediation (revised from 0.13 acres to 8.0 acres). Nor does EPA explain how it plans to evaluate post-remediation groundwater monitoring data in assessing the effectiveness of the remedy selected in the PRAP, particularly given that the removal action completed in 2010 was designed and implemented

solely to address groundwater in the limited area beneath the approximately 0.13 acres on the west side of the Brook Village parking lot.

II. Background

A. Site History

In or around 1952, the New England Container Company ("NECC") began a steel drum reconditioning operation at the Site whose primary facilities were on the eastern side of the Peninsula adjacent to the "tailrace." However, NECC's receiving, storage and waste disposal activities eventually encompassed much of the Peninsula. As documented in Appendix A, this operation included the processing through an incinerator of residue-laden 55-gallon open-head steel drums, which thereafter were reconditioned and painted for reuse. For a period of time, NECC also reconditioned residue-laden 55-gallon closed-head drums by means of a caustic washing process. These processes and other activities conducted by NECC in connection therewith resulted in the release of a large volume of numerous CERCLA hazardous substances at the Site, including dioxins, PCBs, pesticides, and herbicides. NECC operated at the Site until 1972.

Atlantic Chemical Company began operations at the Site in 1944, as a manufacturer of textile chemicals and, for a period of time, products used in the paper industry. In 1953, Atlantic Chemical changed its name to Metro-Atlantic, Inc. ("Metro-Atlantic") and continued to operate on the Site until 1968. As further documented in Appendix A, for a period of months in the mid-1960s, Metro-Atlantic manufactured Hexachlorophene ("HCP") in a building separate from its main operations. EPA wrongly alleges that Metro-Atlantic's HCP operation resulted in the release of dioxins at the Site. Emhart is the alleged successor to Metro-Atlantic.

Currently, there are two high-rise apartment buildings, known as Brook Village and Centredale Manor, on the parcels. Adjacent to the eastern side of the Peninsula is a drainage

swale or "tail race" that ultimately empties into Allendale Pond. The River flows along the western side of the Peninsula.

B. Emhart's History of Cooperation

EPA released an Interim Final Remedial Investigation Report ("RI Report") for the Site in June 2005. The FS Report was released in April 2010. The Addendum was released in September 2011. During the implementation of the RI and FS, Emhart cooperated with EPA to carry out extensive additional sampling and analysis necessary to complete the Site characterization process and assessment of remedial alternatives, document the efficacy of response activities to date, and confirm that contaminants are not migrating in source area groundwater, as discussed below.

As early as 2000, Emhart began working with EPA to identify a range of remedial alternatives for the Site in an effort to establish a sensible cleanup approach that is both cost-effective and fully protective of human health and the environment. Since that time, Emhart has expended in excess of $10 million in investigating and mitigating potential hazards at the Site. Initial measures, some of which were undertaken in conjunction with one or more other Potentially Responsible Parties ("PRPs"), included installation of a temporary soil cap and implementation of flood control measures on the Peninsula, restoration of Allendale Dam, sampling and excavation of residential soils and shoreline sediments, and capping of soils and sediments adjacent to the eastern side of the Peninsula.

In 2007 and 2008, Emhart performed a hydrodynamic analysis of the River and Allendale Pond, and a Comparative Ecological Risk Assessment, to further EPA's evaluation of remedial alternatives. This resulted in the incorporation of a number of other remedial alternatives for consideration by EPA. Thereafter, in 2009 and 2010, Emhart excavated a large volume of soils and sediments, which were disposed off-Site, and installed an impermeable cap in fulfillment of

the requirements of a Time Critical Removal Action ("TCRA") to address a portion of the Source Area Groundwater action area.

Also in 2009, Emhart commenced litigation against NECC and began pursuing discovery. The litigation resulted in a greatly expanded factual record which directly refuted the "conceptual site model" in EPA's RI Report. *Emhart Indus., Inc. v. NECC*, C.A. 06-0218-S (D.R.I. 2006).

Most recently, Emhart performed a supplemental investigation at the location designated by EPA as the Lyman Mill Reach Stream Sediment and Floodplain Soils action area (the "Oxbow Area"). The purpose of that investigation was to collect additional data necessary to permit EPA to properly evaluate the remedial alternatives under consideration for this area, analyze potential risks to human health and the environment posed by this area, and ultimately to select an appropriate remedial action for this area.

Notwithstanding Emhart's aforementioned record of cooperation with EPA, and its submission to EPA of extensive evidentiary material revealing gross inaccuracies in the "conceptual site model" contained in its RI Report, EPA apparently elected to disregard much of the technical input and factual record developed by Emhart, and released its flawed FS Report, Addendum, and PRAP.

III. Summary of Applicable Laws, Regulations, and Guidance

A summary of applicable laws, regulations, and guidance is included in Appendix B.

IV. Discussion of Remedial Alternatives

A. Site-Wide Considerations

EPA has divided the Site into five "action areas," and Emhart has provided specific comments with respect to the remedial alternatives under consideration for each of those action areas in Section IV.B. herein. However, there are a number of overarching issues and

misapplications of law by EPA that have implications for the remedy selection process, either Site-wide or for more than one action area. These broader considerations are discussed below.

1. EPA's Conceptual Site Model Required by the NCP is Not Supported by the Administrative Record

Given the often substantial passage of time between the performance of the Remedial Investigation and the Feasibility Study that follows, the development by EPA of a conceptual site model is not a static exercise. Rather, it is to be an iterative process that evolves over time as additional information is identified or discovered and evaluated in each of the categories that comprise the elements of the conceptual site model. *See* Section A.2 of Appendix B. Here, the FS Report, Addendum, and PRAP reflect a static, outdated, and factually erroneous conceptual site model that is not supported by the administrative record. EPA's decision is therefore arbitrary and capricious or otherwise not in accordance with law because it has "offered an explanation for its decision that runs counter to the evidence before the agency." *U.S. v. Burlington N.R.R. Co.,* 200 F.3d 679, 689 (10th Cir. 1999).

The Centredale Manor Site provides a prime example of the need for EPA to build upon and refine the initial conceptual site model over time to conform to the information in the administrative record. During the five-year period that elapsed between EPA's issuance of the RI Report and its issuance of the FS Report, a great deal of additional information and data were added to the administrative record, and previously collected information was further evaluated in light of newly discovered evidence. For reasons that are not clear, EPA declines to incorporate the significant amount of additional Site information developed over time, leaving its conceptual site model essentially unchanged from that developed over five years ago. Thus, proper site characterization, upon which the conceptual site model and, ultimately, the RI/FS must be based, is significantly impaired.

In the RI Report, EPA sets forth a conceptual site model in which it identified Metro-Atlantic's HCP process as the principal source of the dioxin and Hexachloroxanthene ("HCX") contamination identified in Site samples. Emhart has submitted extensive documentation to EPA for inclusion in the administrative record demonstrating that NECC's drum reconditioning operation, rather than Metro-Atlantic's HCP manufacturing process, was the likely source of the dioxin and HCX found at the Site. An objective evaluation of previously available information, coupled with the supplemental factual record developed during the past five years (as described in detail in Appendix A to these comments), leads inexorably to the conclusion that NECC and its customers were the principal, if not the sole, source of the dioxin and HCX at the Site. EPA's refusal to update and revise its conceptual site model with respect to "the known and suspected sources of contamination," or "the type of contamination" at the Site, is indisputably at odds with its own guidance. *See* U.S. EPA, *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, OSWER Dir. 9355.3-01 (Oct. 1988) ("*RI/FS Guidelines*"), at 2-7.

For example, EPA's conceptual site model fails to consider the collocation of chemicals in soil present at depth in the "footprint" of the former HCP manufacturing building. A review of the data from soil samples collected from CMS-451 and MW-05S shows the presence of elevated concentrations of the herbicide methylchlorophenoxy-propionic acid ("MCPP"). MCPP was detected in samples collected in the "footprint" of the former HCP manufacturing building (CMS-451) at concentrations ranging between 20 mg/kg and 68 mg/kg at depths of 5 to 10 feet below ground surface. MCPP is not known to have been utilized or otherwise associated with Metro-Atlantic's operations. Thus, its presence at these very elevated concentrations at depth in the "footprint" of the former HCP building indicates that the disposal of chemicals used by

others occurred in this area. Nevertheless, EPA does not present any analysis or conclusions regarding these data and/or their impact on the conceptual site model.

Moreover, EPA's conceptual site model fails to consider the congener profile of the dioxins found in the Site samples, and no effort whatsoever has been made by EPA to identify the source(s) of the dioxins by performing a chemical analysis of the 2,3,7,8-tetrachlorodibenzo-p-dioxin ("2,3,7,8-TCDD"). As demonstrated in Appendix A, if EPA had conducted such a chemical evaluation, it would have discovered that the 2,3,7,8-TCDD identified in the Site samples did not come from the sodium 2,4,5-tricholorophenolate ("Na-2,4,5-TCP") that Metro-Atlantic received exclusively from Diamond Alkali and used in its HCP manufacturing process, and therefore must have come from a source other than Metro-Atlantic.

Further, EPA's conceptual site model is inconsistent with sworn testimony and physical evidence provided by Emhart to EPA for inclusion in the administrative record. For example, the FS Report states that chemicals were *possibly* discharged directly to the River from the HCP building. *See* FS Report, at 2-12 (emphasis added). EPA cites the testimony of Kenneth Michael Neri in support of this aspect of the conceptual site model. However, the only mention by Mr. Neri of a discharge to the River is from a pipe he recalls being located "anywhere from a hundred feet to 100 yards" downstream of the Smith Street bridge. However, in a later examination of Mr. Neri, he placed the alleged pipe "closer to Smith Street." *See* Trial Transcript of K. Neri, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. 02-053-S (D.R.I.) (Oct. 6, 2006), at 9:17-10:4, 39:25-40:6. In fact, the northernmost corner of the HCP building was approximately 480 feet south of the Smith Street Bridge; thus, the pipe noted by Mr. Neri was not even in the immediate vicinity of the HCP plant. Further, Mr. Neri testified that he had no knowledge of what may have been discharging from the pipe. *See id.* at 11:6-8, 23:13-15.

Rather, both deposition testimony and physical evidence demonstrate that the HCP building was connected to the sanitary sewer and not a source of discharges to the River. *See* Trial Transcript of J. Buonanno*, Emhart Indus., Inc. v. NECC*, C.A. 06-218-S (D.R.I.) (Jan. 14, 2009), at 38:19-39:2; *see also* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 25; Supplemental Expert Report of Dr. James R. Kittrell (May 5, 2010), at 2. Photographic evidence collected in 2009 and provided to EPA in connection with the TCRA excavation show the HCP building footprint to be devoid of any subsurface structures, such as a dry well or leaching trenches, which could have served as a means of on-Site waste disposal during or in connection with the HCP manufacturing process. *See* Addendum to Expert Report of John R. Kastrinos (Mar. 31, 2010), at 6. In fact, the referenced photographic evidence of the excavation shows utilities, including a sewer, serving the area of the HCP building, thus supporting other testimony and evidence that the plant was connected to the municipal sewer system. *See* Section B.2.b of Appendix A.

In its conceptual site model, EPA also ignores established expert opinion that no liquids containing dioxin would have been discharged in the HCP production process, and that even if such liquids were discharged, the volume of dioxin contained therein would have been so infinitesimal that the liquids could not possibly have accounted for the volume of dioxin present on the Site. *See* discussion at *id.*; *see also* Supplemental Report of Dr. Francesco Stellacci (Dec. 24, 2009), at 3. EPA further ignores expert opinion that the activated carbon filtration used by Metro-Atlantic would have removed from HCP process wastes any dioxin or HCX present, *see* Rebuttal Report of Dr. Francesco Stellacci (Oct. 27, 2011), at 3; Supplemental Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 4-5, and also ignores testimony that HCP process filters were disposed of off-Site. *See* Trial Transcript of J. Buonanno, *Emhart Indus., Inc. v. Home Ins.,*

Co., C.A. 02-053-S (D.R.I.) (Sep. 14, 2006), at 87:3-11; Trial Transcript of J. Nadeau, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. 02-053-S (D.R.I.) (Sep. 15, 2006), at 27:23-28:8, 48:5-49:10; Trial Transcript of J. Turcone, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. 02-053-S (D.R.I.) (Sep. 18, 2006), at 5-7; *see also* discussion, *infra*, at Section B.2.c of Appendix A. Finally, EPA also disregards expert opinion establishing that no activated carbon was associated with the 2,3,7,8-TCDD found on the Site, further supporting the conclusion that HCP process filters containing 2,3,7,8-TCDD were not disposed of on Site. *See* Supplemental Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 8-9; *see also* discussion, *infra*, at Section B.2.c of Appendix A.

None of the testimony EPA cites permits the conclusion that Metro-Atlantic discharged chemicals from the HCP building directly into the River or onto the ground. The record is clear that, to the extent that there was any liquid waste whatsoever from Metro-Atlantic's HCP operation, it would only have been discharged into the sewer, not into the River nor onto the ground at the Site.

Another deficiency in EPA's conceptual site model is that it fails to explain the presence of high concentrations of HCX in the tail race, just adjacent to and downstream of NECC's drum washing and refurbishing operations. EPA steadfastly contends that any HCX would have been associated with Metro-Atlantic's HCP process. However, samples from the tail race, including SD-30, CMS-SS-4104, CMS-SS-4111, CMS-SS-4111, CMS-SS-4109, and CMS-SS-4106, reveal HCX concentrations ranging from 11,382 pg/g to 93,773 pg/g. In contrast, soil sample CM-SO-MW05-0406 collected from the footprint of the former HCP building was found to contain only 2,350 pg/g HCX, consistent with HCX concentrations in numerous upstream background samples (SD-33, SD-34, SD-35, and SD-37). Similarly, sediment samples collected

downstream of the former HCP plant, at WRC-SD-2010 through WRC-SD-2013, did not contain HCX concentrations above those reported for upstream samples. These observations belie EPA's contention, as expressed in its conceptual site model, that the HCX at the Site was indisputably a "marker" directly associated with the HCP manufacturing process.

The validity of EPA's conceptual site model is further placed into question by data from surface and subsurface soil samples collected from the riverbank on the western shore of the River. These sampling locations, CMS-022, CMS-023, and CMS-024 are not, according to field sampling notes, in depositional areas. Rather, they are in an erosional area. *See* Trip Report: Soil Sampling, 15-19 February 1999 (Mar. 1999), at Appendix C. Nevertheless, samples collected from these locations were found to contain concentrations of 2,3,7,8-TCDD as high as 73,000 ng/kg in surface and subsurface soils. These concentrations are in sharp contrast to dioxin levels detected in soil samples elsewhere on the western side of the River, and cannot be explained by any facet of EPA's conceptual site model.

The presence of elevated levels of 2,3,7,8-TCDD in these soils located on the western bank of the River, particularly the subsurface soil, does not comport with EPA's conceptual site model depicted either in the Addendum, the FS Report, or the RI Report. In fact, neither the Addendum, the RI Report, or the FS Report discuss these sampling locations specifically, nor do they discuss the means by which 2,3,7,8-TCDD came to be located at these locations and depths. These sampling locations and depths, the dioxin concentrations, and the described physical characteristics of the sampling locations (*i.e.*, erosional) all are inconsistent with EPA's conceptual site model for the Site. EPA's failure to address in any fashion this anomalous data is contrary to the requirements of the NCP, and clearly demonstrates the flaws in EPA's conceptual site model.

In sum, EPA premises its evaluation of remedial alternatives in the FS Report, Addendum, and PRAP on faulty assumptions about the sources, types, and attributes of contamination at the Site. In failing to consider important facts and scientific data, EPA overlooks compelling evidence demonstrating that its conceptual site model and underlying site characterization are seriously flawed. By maintaining its sorely out-of-date and erroneous conceptual site model in the face of substantial conflicting evidence, EPA engages in arbitrary and capricious conduct because it fails to properly comply with a major aspect of the RI/FS "scoping" requirements under the NCP. *See* 40 C.F.R. § 300.430(b)(2). Furthermore, as discussed below, EPA's faulty conceptual site model results in the Agency's erroneous application of the F020 waste code at the Site. Since EPA offers an explanation for its decision that runs counter to the evidence before it, its decision is arbitrary and capricious. *See U.S. v. Burlington N.R.R. Co.,* 200 F.3d 679, 689 (10th Cir. 1999). Emhart respectfully submits that EPA, in accordance with the NCP and the *RI/FS Guidelines*, is required by law to update its conceptual site model to reflect current Site information, and to revise its evaluation of the remedial alternatives accordingly.

2. The F020 Waste Code Is Applied Improperly, Unnecessarily Limiting Remedial Options and Increasing Costs

The underlying assumption in the FS Report and PRAP that all contaminated media at the Site contain a RCRA F-listed waste, namely F020, *see* FS Report, at 7-6, is plainly erroneous. That assumption – and the assessment of remedial alternatives flowing from it – must be corrected. EPA's wrongful application of the F020 waste code to impacted soil and sediment has led the Agency to select an unnecessarily costly remedy, which is at odds with both EPA guidance and with EPA's classification of contaminated environmental media at the Site during previous removal actions.

As discussed in Section C.1.c of Appendix B, it is not permissible to assume that all impacted media at the Site contains an F-listed waste where the presence of contamination in the media cannot be traced back to a release of waste from an original process meeting the F020 description. The administrative record and EPA's conceptual site model do not support the conclusion that all dioxins found in Site samples came from Metro-Atlantic's former HCP operation. The lack of evidence linking dioxins at the Site to an F020 waste source is overwhelming. *See*, *e.g.*, Letter from D. Scotti, LEA, to A. Krasko, EPA Region 1, Re: Remedial Alternative for Source-Area Soil (Sep. 11, 2007). Rather, current evidence points to NECC's drum reconditioning operation as the sole or predominant source of dioxin presently found at the Site.

EPA's application of the F020 waste code to dioxin at the Site is arbitrary and capricious because the record in this proceeding is entirely devoid of any evidence whatsoever that spills, releases, dumping, or disposal of any dioxin or dioxin-containing chemicals occurred in connection with Metro-Atlantic's HCP production process. Moreover, as discussed in Appendix A, the "profile" of the dioxin found in samples in the area of Metro-Atlantic's former HCP operation, and throughout the remainder of the Site, is completely inconsistent with the byproduct contaminants that likely would have been contained in the Na-2,4,5-TCP "starter" material that Metro-Atlantic procured as a raw material from Diamond Alkali. *See* Expert Report of Dr. Gregory Fu (Jan. 7, 2011), at 5; *see also* Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 26 ("Dioxin congener profiles of the 'source-like' samples at the Site are not consistent with Crude TCP delivered to the Site from Diamond Alkali in 1964-1965.").

In making its arbitrary and capricious determination that the source of the dioxin at the Site is a F020 listed waste, EPA completely disregards the most obvious and well-documented

source of Site dioxin – the drums received by NECC from customers of its drum reconditioning operation during the period 1952 through 1972. The administrative record documents indisputably that NECC received 55-gallon steel drums from at least 19 customers in the textile chemical industry, which contained approximately 650 different types of chemical residues. During the relevant time period, NECC also received 55-gallon steel drums from at least 10 customers in the chemical and petroleum industry, and from two military bases, containing approximately 370 different types of chemical residues. *See* Expert Report of Dr. James R. Kittrell (Jan. 15, 2009), at 4-45; Expert Report of Dr. Richard Aspland (Jan. 13, 2009), at 8-68.

Many of the chemicals attributable to NECC's customers have been found as contaminants at the Site. *See* Updated Expert Report of Dr. Gregory Fu (Feb. 6, 2009), at 5. According to Dr. Fu, a Firmenich Professor of organic chemistry at the Massachusetts Institute of Technology, of the various chemical residues present in 55-gallon steel drums that NECC is known to have received for reconditioning, nine contained dioxins as a contaminant. *Id.* Moreover, of the various chemical residues present in 55-gallon steel drums that NECC received for reconditioning during the relevant time period, over 150 generated dioxins during NECC's incineration process through one of two chemical processes known as the "precursor" and "de novo" routes. *See id*. at 5, 20. Dioxins also were produced during NECC's incineration process when certain chemical residues were in the presence of certain other chemical residues, such as those containing chlorine, through either the "precursor" or "de novo" routes. *Id.*

EPA's Office of Solid Waste has taken the position that "[i]f the waste in question cannot be traced back to an original process that would generate a waste meeting any listing description, then it is exempt from regulation providing that it does not fail a hazardous waste characteristic test." Letter from S. Lowrance, EPA, to J. Noles, Laidlaw Environmental Services (TS), Inc.

(Dec. 24, 1992) (PPC 9444.1992(09)); *see also* Memorandum from J. Skinner, Director, to D. Wagoner, Director, Air and Waste Management Division, Region VII (Jan. 6, 1984) (PPC 9441.1984(01)) Re: Soils From Missouri Dioxin Sites ("If the exact origin of the toxicants is not known, the soils cannot be considered RCRA hazardous wastes unless they exhibit one or more of the characteristics of hazardous waste …."). As noted previously, the dioxins in the soil and sediment that will need to be managed during the implementation of the Site remedy cannot be traced back to a single original process that would meet a hazardous waste code listing. Moreover, the dioxins are not characteristically hazardous waste. Thus, RCRA, and the F020 waste code, are not applicable.

Moreover, EPA's decision to apply the F020 listing to waste generated at the Site is inconsistent with EPA's decisions at other dioxin sites. For instance, at the Hatheway and Patterson Superfund Site in Mansfield, Massachusetts, EPA described the "Operational History" of the site in the Feasibility Study Report as follows:

> Wood treatment was accomplished by a variety of methods that changed over time. From 1953 through 1958, a solution of pentachlorophenol (PCP) in fuel oil, or creosote, was used for dipping lumber. After dipping, excess chemicals were allowed to drip off of the treated wood onto the ground surface. From 1958 through 1974, solutions of PCP in fuel oil and fluorochrome-arsenate-phenol (FCAP) salts in water were used in a pressure treatment process. From 1960 through 1984, PCP in mineral spirits was also used to pressure-treat lumber. From 1974 to 1984, operations incorporated PCP in fuel oil and chromated copper-arsenate (CCA) salts in water. From 1984 until operations ceased in 1993, solutions of CCA salts in water and PCP in water were utilized at the property. Wood was also infused with fire retardants including Dricon TM (boric acid and anhydrous sodium tetraborate). The various wood-treating chemicals were stored in aboveground storage tanks (ASTs), underground storage tanks (USTs), and sumps located inside and outside of the former process buildings (MADEP, 1994).

(*See* FS Report Section 1.2.3, at 1-3). This description provides a level of understanding similar to, if not greater than, that which is provided for the Centredale Manor site. Nonetheless, EPA

Region 1 rejected applying an F-listing to the contaminated media at the Hathaway and Patterson site:

> RCRA, the Resource Conservation and Recovery Act establishes a comprehensive scheme of regulation for the transportation, storage and disposal of hazardous waste. Although the Site was a wood treating facility, the contamination **was not found to constitute "listed waste" based on the limited available information about past operations at the Site**. Contaminated media at the Hatheway and Patterson Site may exhibit characteristics similar to RCRA "characteristic" waste. Therefore, certain requirements of RCRA must be met or considered during the remediation process and when determining the final condition of the Site.

Id. at Section 5.5, at S-6 to S-7 (emphasis added).

Similarly, for the Tittabawassee River and the Upper Saginaw River and Floodplain soils in Midland, Michigan, impacted by Dow Chemical Company ("Dow") operations, EPA did not require the application of a hazardous waste listing to wastes generated at the site, citing other potential but unknown sources of dioxins that have affected the watershed.

Further, in deciding on a petition submitted by Dow for the source area at the Dow plant, the Michigan Department of Environmental Quality ("MDEQ") stated that:

> [S]oils impacted by F039 hazardous waste must be managed as hazardous waste until the soils have been shown to not contain contaminants. The contaminants within these soils may include dioxins and furans, as well as metals and other organic constituents. The primary source of the dioxin and furan contaminants in Dow Midland Plant soils is thought to be from past waste disposal areas associated with 2,4,5-Trichlorophenol (2,4,5-T) and pentachlorophenol herbicide and related manufacturing/formulation plants that operated between the 1930s and the 1970s. The dioxins and furans were inadvertent byproducts or impurities formed during the manufacture of the chlorinated phenolic products. These dioxin and furan contaminated soils impacted by hazardous waste are the subject of the Petition submitted by Dow to the MDEQ. The variance does not apply to soils that are not hazardous waste. **River sediments are generally classified as solid waste rather than hazardous waste and, therefore, would not be affected by this variance**.

See MDEQ Interoffice Communication from G.A. Bruchmann, Chief, Waste and Hazardous Materials Division, to S.E. Chester, Director (May 8, 2008) (emphasis added).

EPA's application of the F020 waste code to the contaminated media at the Centredale Manor Site is particularly puzzling given that EPA refrained from applying a waste code to materials at the Diamond Alkali, Lister Avenue Superfund Site in Newark, New Jersey, the facility from which Metro-Atlantic obtained the Na-2,4,5-TCP as a raw material. Of particular note, EPA states that:

> [B]etween March 1951 and August 1969, the Diamond Alkali Company operated a facility located at 80/120 Lister Avenue (facility) and manufactured agricultural chemicals including dichlorodiphenyltrichloroethane (DDT), 2,4-dichlorophenoxyacetic acid (2,4-D), 2,4,5-trichlorophenoxyacetic acid (2,4,5-T), and 2,4,5-trichlorophenol (2,4,5-TCP). 2,3,7,8-TCDD is a by-product of the production of 2,4,5-T. Poor housekeeping practices during this time resulted in the release of DDT, 2,4-D, 2,4,5-T, 2,4,5-TCP and 2,3,7,8-TCDD to the Site soils and to the Passaic River.

See Request for Authorization to Conduct a CERCLA Non-Time Critical Removal Action at the Diamond Alkali Site, Newark, Essex County, New Jersey from E.J. Wilson, EPA Region 2 Section Chief, Removal Action Branch, to A.J. Steinberg, Region 2 Regional Administrator (Jan. 8, 2009), at 4. EPA further states that:

> Based on existing analytical data, a portion of the sediment has the potential to be classified as a characteristic hazardous waste due to the presence of hazardous constituents above the toxicity regulatory levels. The mean concentration of dioxin, based on the historical sediment sampling results from within the Phase I work area, is 244 ppb. Because this value is greater than the universal treatment standard (UTS) of 1 ppb, it was assumed that some of the sediment will require treatment (most likely incineration but the possible use of oxidizers and polymers will be considered as well) prior to disposal. Other than the sediment that contains characteristic hazardous waste or contains dioxin levels above 1 ppb, it is likely that the remainder of the sediment will not require treatment prior to land disposal. During design, the percentage of sediment requiring treatment will be refined further.

Id. at 12-13. Notably, nowhere in this document does EPA discuss a requirement to ascribe a RCRA F-listing to this contaminated media.

Unlike at the Lister Avenue Site, where there is a documented discharge to the Passaic River, the presence of contamination in the media cannot be traced back to a release of waste

from an original process meeting any listing description at the Centredale Manor Site. Soil sample results reveal significant concentrations of dioxin, furan and PCB congeners unrelated to either a Hexachlorophene ("HCP") manufacturing operation or the hazardous constituents for which a F020 waste code would apply. Moreover, the results of the radiometric age dating study suggest that there may be an alternate source for the dioxin contamination prior to 1965, when HCP manufacturing operations were conducted. This information is sufficient to satisfy EPA policy that "[i]f the waste in question cannot be traced back to an original process that would generate a waste meeting any listing description, then it is exempt from regulation providing that it does not fail a hazardous waste characteristic test." EPA's application of the F020 waste code at the Centredale Manor Site is both inconsistent with this policy and with EPA's recent decisions at other CERCLA sediment sites.

Moreover, EPA has taken internally inconsistent positions regarding the application of the F020 waste code during the course of the Site investigation. For example, EPA's contractor, Battelle, disposed of investigation-derived waste as a non-listed waste when implementing an EPA-approved sampling plan, notwithstanding that Battelle was sampling in the area of the former HCP manufacturing facility that EPA contends is the source of the dioxin. *See* Battelle, *Final Work Plan, Groundwater, Semi-permeable Membrane Device (SPMD) and Sediment Collections* (Apr. 2005), at 5, 6. Additionally, when the PRPs excavated soil from residential/recreational-use properties in the floodplain as part of a removal action, EPA approved the PRPs' request to dispose of the excavated soil without an F020 waste code. *See* Email from E. Vaudo, EPA Region 1, to J. Muys, Swidler & Berlin (Dec. 19, 2002). In contrast, EPA required that materials associated with the restoration of Allendale Dam, and materials removed from the footprint of and immediately proximate to the former HCP manufacturing

building, be characterized as F020 waste. Now, for the first time, EPA takes the position that *all* impacted media must be managed as containing an F-listed waste, without any indication in the administrative record or elsewhere that EPA is relying on new information.

EPA's arbitrary and capricious application of the F020 waste code to the environmental media at the Site limits the remedial options considered in the FS Report, and leads to EPA unnecessarily selecting a more costly proposed remedial alternative. If EPA had not applied the F020 waste code to contaminated media at the Site, the PRAP would have enabled excavated soil and sediment to be placed in a confined disposal facility ("CDF") not subject to RCRA closure requirements.

Furthermore, EPA fails to evaluate in the FS another implication of misapplying the F020 waste code to excavated soil, sediment or debris. There are just three incinerators within the United States that have the potential to accept F020 wastes: (1) Clean Harbors Deer Park Incineration Facility in Deer Park, Texas; (2) Veolia Environmental Services Facility in Port Arthur, Texas; and (3) Clean Harbors Aragonite Incineration Facility in Grantsville, Utah. Currently, however, none of these facilities are permitted to accept F020 waste. Although one or more of these facilities could potentially accept F020 waste with a permit modification, such modifications typically take several years to obtain.

As important, the facilities in Texas have capacity to accept 70 tons per day, and the Utah facility has capacity to accept 50 tons per day. These daily capacities represent the total capacity to accept hazardous waste from all shippers within the United States. In the unit costs presented in Appendix J of the FS Report and Addendum, EPA identifies off-Site hazardous waste disposal costs based on a quote from Clean Harbors. It is noted that EPA assumes a production rate for loading and off-Site disposal of hazardous waste of 260 tons per day. So, for example, even

assuming, under the excavation options considered in the PRAP, Addendum, and FS Report, that the estimated 112,900 tons of material to be removed and disposed off-Site legally could be received by the Clean Harbors facility in Texas as a hazardous waste, which could not occur without a permit modification, under current capacity constraints, it would take approximately five years for Clean Harbors to process the total volume of waste needed to complete the project. This calculation is based on EPA's unrealistic assumption that the Clean Harbors facility would accept waste from the Site exclusively for that entire period. A more realistic estimate would be based on the assumption that the material could not be shipped to the Clean Harbors' facility at maximum capacity on a daily basis, in which case it would take decades to complete the project.

While there are incinerators in Canada, there are few facilities in Canada that can accept the waste today, resulting in a less than competitive market. Thus, the disposal costs that would be incurred in shipping the waste to Canada – setting aside the cost and environmental impact of transport – are very high and are set by a few facilities. These increased costs are not factored into EPA's evaluation presented in the PRAP, Addendum, and FS Report. Clearly, EPA does not evaluate this alternative at the level of detail mandated by the NCP.

The application of the F020 waste code, and the determination that excavated material is a hazardous waste, also would subject this otherwise non-RCRA regulated material to the State of Rhode Island Hazardous Waste Generation Fee. This fee is $46 per ton of hazardous waste manifested in Rhode Island. EPA fails, though, to include this state levy in the estimated costs presented in the PRAP, Addendum, and FS Report. Thus, EPA must add approximately $5.2 million to its cost estimate for implementing the selected remedy because the excavated material carries the F020 waste code.

To comply with the NCP and its implementing guidance, EPA must re-evaluate its application of the F020 waste code and associated RCRA requirements to contaminated media at the Site, and revise its evaluation of the remedial alternatives considered in the PRAP, Addendum, and FS Report accordingly.

3. EPA Does Not Fulfill the Requirements of the IQA and Implementing Guidelines Because EPA Fails to Incorporate Current Site Data

As discussed in Appendix B, information and data disseminated by EPA must meet OMB and EPA standards for "objectivity," "utility," and "integrity." In order to meet the "objectivity" standard, the information and data must be "presented in an accurate, clear, complete, and unbiased manner" and be "accurate, reliable, and unbiased." The FS Report does not satisfy these requirements.

First, the information on which EPA bases its conceptual site model is not "accurate, reliable and unbiased." The conceptual site model does not reflect newly developed evidence regarding NECC's drum reconditioning operation and its identification as the likely source of the dioxin and HCX on the Site.

Second, the FS Report contains no discussion whatsoever of the March 30, 2010 flood event which occurred prior to EPA's release of the Report, and resulted in record high flows (>1750 cubic feet per second ("cfs")). It is noteworthy, but never mentioned by EPA in the FS Report, that these historically high flows resulted in no damage to the existing soil caps in the Source Area Soil action area. *See* EPA Memorandum Regarding Post-Flood Inspection of April 15, 2010 (Apr. 27, 2010). It must be assumed that disclosure of this finding in the Addendum and the FS Report would have engendered further support for retaining Alternative 2 (Monitor and Maintain Existing Surfaces) as the favored remedy for the Source Area Soil.

Emhart respectfully submits that EPA must update the FS Report to fully address the more recent Site data in its evaluation of remedial alternatives for Source Area Groundwater and Soil.

4. <u>EPA Improperly References in the Addendum and the FS Report the Draft Recommended Interim PRGs, Which Are Inapplicable to the Evaluation of Remedial Alternatives</u>

EPA improperly references in the Addendum and the FS Report the Draft Recommended Interim Preliminary Remediation Goals ("PRGs") for dioxin in soil. The Draft Recommended Interim PRGs have no bearing on the development of Site cleanup goals. They are not ARARs, nor are they "to-be-considered" materials ("TBCs"). In fact, EPA's *Public Review Draft of the Draft Recommended Interim Preliminary Remediation Goals for Dioxin in Soil at CERCLA and RCRA Sites*, OSWER Dir. 9200-3.56 (Dec. 2009) ("Draft Recommended Interim PRGs"), expressly states that: "the findings and conclusions in this document are for public review and should not be construed to represent any final agency determination or policy." *Id.* at document footer. Moreover, EPA states that: "[u]ntil these draft recommended interim PRGs are finalized, EPA will continue to use the 1998 recommended interim PRGs (EPA 1998)." *Id.* at 2. Thus, the Draft Recommended Interim PRGs for dioxin in soil are not intended for use until finalized, are inapplicable to any evaluation of remedial alternatives at the Site, and improperly were discussed by EPA in the FS.

Furthermore, the evaluation in Appendix N of the FS Report, which presents a cursory discussion of the potential effect of a revised PRG for dioxin on the implementability and cost of various remedial alternatives, is arbitrary and capricious because EPA lacks a basis to delineate or include additional areas within the spatial extent of the cleanup area represented by locations with dioxin toxic equivalent ("TEQ") concentrations below the current PRG for dioxin in soil (1 ug/kg). Similarly, if EPA is considering establishing any further RAOs in light of changes to

toxicological criteria for dioxin, it must re-examine the potential human health risk associated with potential exposure to dioxin within each exposure area. For example, for a residential property, the exposure area would include the full extent of the residential property, including the area outside of the floodplain which is part of the residential backyards. Unless EPA first determines the potential human health risks associated with exposures from the entire property, it cannot conclude whether any further remediation is necessary.

EPA recognizes the shortcoming of its analysis as it relates to possible changes to the PRGs for dioxin in soil. It states that:

> [T]he proposed cleanup areas or remedial footprints as conveyed in [Appendix N], are conceptual. More precise cleanup footprints will be developed during the remedial design, and the removal of contaminated media will be confirmed through appropriate sampling and monitoring.

FS Report, at N-3. Presently, EPA is unable to specify the spatial extent of any such additional areas and the concomitant additional soil volumes to be remediated, or the cost implications of remediating any such additional areas under a revised PRG. Consequently, EPA's attempt to assess the costs and feasibility of the various disposal options in the FS Report, and particularly in Appendix N, with reference to hypothetical future cleanup goals is of no utility.

In lieu of speculating about remedial alternatives based on a host of unknown variables, EPA must apply the current dioxin PRG to the known facts of the Site in the FS Report, Addendum, and the PRAP.

5. EPA's Analysis of Remedial Alternatives Must Give Proper Weight to Remedies That Reduce Uncertainties in Cost and Implementability

As discussed in Section A.1 of Appendix B, the Site cleanup goals, to which the remedial alternatives are addressed, must reflect CERCLA §121 standards. However, EPA fails to define the Site cleanup goals coherently and consistently in the FS Report and Addendum, thus

introducing uncertainty concerning both the spatial extent of the cleanup area and the volume of contaminated environmental media requiring remediation. These flaws, in turn, undercut the validity of EPA's analysis of the cost and feasibility of its PRAP.

However, EPA could eliminate this uncertainty regarding the cost and feasibility of the disposal alternatives, and significantly reduce the volume of contaminated soils and sediment requiring removal, by selecting for the Allendale and Lyman Mill Reach Sediment action area a remedial alternative that incorporates as a primary component the *in-situ* capping of impacted sediment, such as Alternative 8a (*Partial Excavation, Isolation Capping and Disposal and/or Treatment)*. The *in situ* remedial alternatives proposed for this action area are protective of human health and the environment, cost-effective, and feasible to implement. In addition, the selection of an *in situ* remedy would fulfill the National Remedy Review Board's ("NRRB") recommendations that EPA reconsider the merits of remedial alternatives that include both excavation and capping. *See* U.S. EPA, *National Remedy Review Board Recommendations for the Centredale Manor Restoration Project Site* (Oct. 28, 2010), at 4. However, EPA fails to fully and fairly evaluate such alternatives in the FS Report and Addendum, and did not select an *in situ* remedy in the PRAP.

Where EPA does calculate and apply a Site-specific cleanup goal to its analysis in the FS Report and Addendum, with respect to pond sediments and floodplain soils, its calculation of the cleanup goal is fatally flawed. Pond sediments and floodplain soils comprise, by volume, most of the environmental media slated by EPA for remediation. *See* FS Report, Table 3-8. EPA's volume estimates are based on the sediment and floodplain soil cleanup goals identified in Tables 3-3 and 3-4 of the FS Report, respectively. According to these tables, the basis for the

2,3,7,8-TCDD cleanup goals is "upstream background."[5] However, EPA acknowledges that upstream background data for sediments and floodplain soils is uncertain due to the paucity of data collected for these media.

The uncertainty in upstream background concentrations also translates to uncertainty in the removal volume estimates presented in the FS Report for Allendale and Lyman Mill Reach Sediment, Allendale Reach Floodplain Soil, and Lyman Mill Reach Stream Sediment and Floodplain Soil. This situation occurs because EPA is uncertain regarding how much sediment and soil must be removed to meet its putative cleanup goals. The absence of clarity regarding cleanup values, and the concomitant uncertainty concerning removal volumes, has significant implications for CDF design and/or off-Site disposal costs.

Furthermore, in suggesting that significant delineation of impacted soil during the remedial design would be required to determine removal volumes, EPA recognizes that it lacks knowledge of the extent of impacts to Site soils, particularly at depth. Therefore, the volume of soil required to be remediated based on the PRAP could vary substantially from EPA's volume estimate presented in the FS Report. Consequently, the soil and sediment removal volumes estimated in the FS Report likely are inaccurate (perhaps grossly so), resulting in an imprecise analysis by EPA of the remedial alternatives in the FS.

This deficiency must be corrected by according proper weight to the *in situ* remedial options, which are both fully protective of human health and the environment and are not directly dependent on the final values determined for upstream background media. The selection of an *in*

[5] Emhart does not agree with EPA that "upstream background" is the appropriate cleanup goal for pond sediments and floodplain soils at this Site. Nonetheless, Emhart believes that an accurate and fully informed calculation of upstream background levels would yield a higher number than that calculated by EPA, leading to the conclusion that a significantly higher cleanup value is consistent with the NCP.

situ remedy, such as Alternative 8 for sediments, would ensure that sediment remediation costs, volumes, and implementability do not vary significantly, even if EPA's assumptions regarding upstream background values change subsequently based on additional data that may be acquired in the future.

B. Discussion of EPA-Designated Action Areas

1. Allendale and Lyman Mill Reach Sediment

EPA considers five alternatives for Allendale and Lyman Mill Reach Sediment:

- no action.
- full excavation with the dams remaining in place (Alternative 7), with disposal either through: placement of excavated material in an "upland" confined disposal facility (CDF) (7a); placement of excavated material in a nearshore CDF (7b); on-Site incineration (7d); or off-Site disposal (7e).
- full excavation with the dams replaced with new weir structures, with disposal through placement of excavated material in a nearshore CDF (Alternative 10b).
- partial excavation and isolation capping alternative with the dams remaining in place (Alternative 8), with disposal either through: placement of excavated material in an "upland" CDF (8a); placement of excavated material in a nearshore CDF (8b); on-Site incineration (8d); or off-Site disposal (8e).
- partial excavation, isolation capping, and on-Site consolidation alternative with the dams replaced with new weir structures (Alterative 11f) (EPA screens-out the "channel-only" configuration for Alternative 11).

EPA selects Alternative 7a – full excavation, with the dams remaining in place, with disposal or placement of excavated material in an upland CDF. This selected remedy is contrary

to Emhart's recommended approach for Allendale and Lyman Mill Reach Sediment, which involves the placement of excavated sediments in a nearshore CDF or within isolation caps within the footprints of the ponds. Sediment that is not excavated would be capped *in-situ.* While EPA rejects a nearshore CDF at the Site, as discussed below, the Agency fails to satisfactorily address the many uncertainties inherent in the upland CDF disposal option, including serious questions regarding its implementability, due to the Mayor of Johnston's refusal to allow the placement of the excavated contaminated media on any properties in the Town.

a. <u>The Nearshore CDF Disposal Option is Implementable, Protective, and Cost-Effective</u>

In contrast to the upland CDF disposal option that EPA selects in the PRAP, the nearshore CDF disposal option is technically feasible and readily implementable. It also is equally protective of human health and the environment, and is not burdened by the need to acquire multiple properties whose availability is uncertain, and which the Mayor of Johnston has prohibited to be used for placement of excavated contaminated media. The estimated remedial costs for excavation with onsite containment in a nearshore CDF are approximately $9 million less than EPA's estimated costs for an upland CDF, the real costs of which remain unknown. Nevertheless, EPA proposes the upland CDF disposal option even though this option does not meet one of the NCP's primary balancing criteria – implementability – and despite its potentially exorbitant costs, in lieu of the implementable and cost-effective nearshore CDF option.

(i) EPA Inappropriately Relies on Executive Orders to Eliminate the Nearshore CDF Disposal Options from Consideration

EPA erroneously relies on Executive Order 11988 to effectively eliminate consideration of the nearshore CDF as a viable disposal option. EPA states that since "a portion of the

nearshore CDF would require the permanent occupancy and modification of the floodplain," Executive Order 11988 requires a determination "that there was no other practicable alternative before selecting this option as the preferred remedy." *See, e.g.*, FS Report, at 6-17. In fact, the nearshore CDF disposal option would not have any adverse effect on the floodplain; therefore, neither the Executive Order nor EPA policy requires that EPA make the stated determination.

Executive Order 11988 states that "[i]f an agency has determined to, or proposes to, conduct, support, or allow an action to be located in a floodplain, the agency shall consider alternatives *to avoid adverse effects* and incompatible development in the floodplains." Executive Order 11988, § 2(a)(2) (emphasis added). EPA policy emphasizes "[i]f there is no floodplain/wetlands impact identified, the action may proceed without further consideration of the remaining procedures set forth below." U.S. EPA, *Statement of Procedures on Floodplain Management and Wetlands Protection* (Jan. 5, 1979), at § 6(a)(1).

Hydrodynamic modeling performed by Anchor QEA, LLC ("QEA"), an EPA-approved contractor, has demonstrated that the remedial alternatives that use a nearshore CDF would "result in predicted flood inundation that has no appreciable effect beyond that for existing conditions for the areas adjacent to Allendale and Lyman Mill Ponds, even for 100-year flood events." QEA, *Hydrodynamic Analysis of Remedial Alternatives* (Nov. 16, 2007), at ES-2. Moreover, the results of the hydrodynamic modeling analysis demonstrate that the nearshore CDF alternatives "would have a negligible effect on flood stage height and floodplain inundation during high-flow events (100-year flood) in the region downstream of Manton Dam," and, further, that such alternatives can be engineered to minimize erosion. *See id.* at ES-2 to ES-3. Therefore, fully consistent with the Executive Order and EPA's Statement of Procedures, given

that no impact has been identified for the floodplain, EPA should consider the nearshore CDF disposal option viable and selected it for inclusion in the PRAP.

Moreover, EPA has never interpreted Executive Order 11988 as an absolute prohibition against selecting a remedy in a floodplain. On the contrary, EPA has routinely considered and selected alternatives in a floodplain where circumstances indicate that the remedy is the least damaging and most cost-effective alternative. When such remedies are selected, as stated in Executive Order 11988, efforts must be made to "reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains." EO 11988, at § 1.

One recent example of a floodplain remedy selection in Region 1 is the Record of Decision released on September 30, 2010 concerning the Nyanza Chemical Waste Dump Superfund Site (Operable Unit 4, Sudbury River) (Sep. 2010) ("Nyanza Chemical ROD"). In the Nyanza Chemical ROD, EPA fully acknowledges and accounts for Executive Order 11988 in considering various alternatives, yet selects a remedy involving the modification and occupancy of a floodplain. This selection does not result from a determination that all other remedies are prohibitive. Instead, EPA weighs the pros and cons of each possible alternative and concludes that the selected remedy "is the least damaging practicable alternative because this alternative impacts the smallest area among all active alternatives considered, is expected to meet cleanup goals in a short timeframe (approximately 10 years) in the most contaminated part of the river, and presents fewer impediments to successful restoration of the aquatic environment." Nyanza Chemical ROD, at 4. EPA equates "practicable" within the meaning of Executive Order 11988 to cost-effective, stating that the alternatives to the selected remedy "are not cost-effective under the conditions found at this Site, and therefore not practicable." *Id.* at 74.

The consideration of cost-effectiveness was hardly an aberration, as EPA routinely takes cost into account in its analysis of Executive Order 11988 and remedy alternatives. For example, at Pownal Tannery Superfund Site, Region 1 EPA chooses to locate a solid waste facility within a 100-year flood plain of the Hoosic River in Vermont. *See* ROD for Pownal Tannery Superfund Site, Pownal, Vermont (Sep. 2002) ("Pownal Tannery ROD"). The Pownal Tannery ROD states that off-Site disposal was investigated during the FS stage, but no solid waste facility was identified that could take the volume of dioxin-contaminated waste that would be generated. EPA further states that the waste "could be exported to Canada for treatment and disposal, *but for an impracticably high cost.*" Pownal Tannery ROD, Executive Summary, at 2 (emphasis added). "It was determined that the selected remedy of on-Site disposal of the waste in a consolidated landfill located within the higher area of the flood plain (outside of the higher energy flood way) is the most practicable and cost-effective alternative." *Id.* The Pownal Tannery ROD states that because the selected alternative could be designed and implemented to be resistant to flood damage, and would minimize the effects on the existing floodplain, the selected remedy was "the best practicable alternative." *Id.*

Therefore, EPA should not rely on Executive Order 11988 to effectively eliminate the nearshore CDF as a viable disposal alternative. Instead, consistent with the Executive Order, EPA policy, and remedy decisions at other sites in Region 1, EPA must give adequate consideration to the nearshore CDF, which is the most practicable and cost-effective disposal alternative evaluated in the FS Report and the Addendum.

(ii) Contrary to the NCP, EPA Erroneously Screens Out Effective Remedial Alternatives that Include the Nearshore CDF Disposal Option

Contrary to the NCP, EPA "screens out" the "channel-only" configuration for Alternative 11 for the Allendale and Lyman Mill Reach Sediment action area. The NCP allows EPA to

remove alternatives from consideration at the screening stage if they are not effective, implementable or cost-effective. *See* 40 C.F.R. § 300.430(e)(7). However, none of these factors justifies "screening-out" the "channel-only" configuration for Alternative 11. Rather, EPA unjustifiably screens out this alternative based on its application of improper criteria and in violation of the NCP, stating that "[l]ocal residents that live along the river *might* express concerns regarding replacing the dams, especially because this would result in a reduction of open water area." FS Report, at 5-30 (emphasis added). Moreover, EPA states in the FS Report that "[t]he channel-only configuration (Figure 5-22), however, is screened out because *it is expected* that there would be considerable public opposition due to the substantive reduction in the water area." *Id.* (emphasis added).

EPA cannot use the community acceptance criteria as the sole basis to screen out a remedial alternative at the FS stage. As discussed in Section A.2 of Appendix B in evaluating a remedial alternative, the NCP requires EPA to first consider the threshold criteria and then if these are met to consider the primary balancing criteria in selecting and screening out remedial alternatives for the FS. Applying any other evaluative process contravenes statutory and regulatory requirements and internal EPA guidance. In fact, EPA acknowledges in the FS Report that it may not circumvent the NCP alternatives evaluation process. *See, e.g.,* FS Report, at 6-1 ("The assessment of the modifying criteria is generally not completed until after state and public comments on the Proposed Plan are received"). The NCP specifically states that community acceptance *cannot* be assessed until comments on the proposed plan are received. *See* 40 C.F.R. § 300.430(e)(9)(iii)(I). Further, EPA guidance provides that "information available on the community acceptance criterion may be limited before the public comment period for the Proposed Plan and the RI/FS Report" and EPA "<u>should not speculate on</u>

community acceptance of the alternatives." U.S. EPA, *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*, OSWER Dir. 9200.1-23P (Jul. 1999) ("*Guide to Preparing Superfund Proposed Plans*"), at 3-9. (emphasis added).

Notwithstanding the requirements of the NCP and its own guidance, however, EPA screens out the channel-only configuration for Alternative 11 based on sheer conjecture regarding "expected" public opinion. This elimination of the "channel-only" alternative has occurred far in advance of the required public comment period, after which the NCP instructs that EPA shall apply the community acceptance criteria. Nonetheless, in an about-face, EPA does not apply potential public opposition as a selection criterion to any other alternative, particularly the upland CDF disposal option, to which the Town of Johnston already has expressed opposition in two sets of written comments provided to EPA. EPA must retain the "channel-only" configuration for Alternative 11 in order that the full range of effective, implementable and cost-effective remedial alternatives are subject to public comment, as mandated by the NCP.

b. EPA Fails to Address Key Uncertainties Concerning the Implementability and Cost Effectiveness of an Upland CDF

Several of the remedial alternatives contemplate disposal of excavated environmental media in one or more upland CDF(s). With respect to this disposal option, which EPA has selected in the PRAP, the Agency states that dewatered, contaminated sediment could be contained in one or more CDF(s) constructed on properties above the 100-year flood elevation that would be acquired and deemed "on-Site" for permitting purposes. In discussing the implementability of this disposal option, one of the NCP's *primary balancing criteria*, EPA states that "a large land area would be required for the upland CDF." PRAP, at 29. Further, in

discussing disposal options for material excavated during the implementation of Alternative 5, EPA states that "there is sufficient capacity at potential upland CDF locations for this volume, but multiple CDF locations may be required, depending on the locations selected." FS Addendum, at 6-19. Moreover, the potential CDF locations identified by EPA are shown in Figure 5-6 of the FS Report. None of the potential upland CDF locations identified by EPA are within EPA's defined area of the Centredale Manor site, and all of the locations are within the Town of Johnston.

In correspondence submitted to EPA on December 29, 2011, the Mayor of the Town of Johnston made it absolutely clear that the Town would not allow the construction of an upland CDF within the Town. *See* Letter from J.M. Polisena, Mayor of the Town of Johnston, to A. Krasko, EPA Region 1 (Dec. 29, 2011). The Mayor more recently stated that "we [the Town] do not benefit at all, and we will fight any effort for the federal government to dredge and put [contaminated soil] on any property in Johnston – public or private." Beth Hurd, *Mayor Polisena nixes EPA proposal to bury toxic soil in Johnston*, JOHNSTON INSIDER, Jan. 11, 2012. In that interview, the Mayor further stated: "I gave them the benefit of the doubt. As long as I sit in this chair, its not going to happen. I pulled the plug – as the Mayor of this community, I don't think its worth it to have it in our town." *Id*.

In a prior interview made on January 6, 2012 in the Johnston Patch, Mayor Poisnena said town officials "were never potentially considering it." Joseph Hutnak, *Mayor's Denial of EPA Plan "Awesome" Says Resident*, JOHNSTON PATCH, Jan. 6, 2012. Further stating that, "Guess what? We're not getting anything out of it, this is bad for the community, so as long as I'm sitting here, this is not going to happen." *Id.* The Mayor also said he plans to work with the town council to prevent property owners from accepting the material. *Id*. "There's no upside,

and we're going to fight any effort if someone tries to sell (EPA) their land and put it on their land," Polisena explained. "We're going to dig our heels in and fight it. We're not going to lay down." *Id*.

Thus, all potential locations contemplated by EPA in selecting the upland CDF for inclusion in the PRAP have been eliminated by the Town. Without acceptance by the Town of Johnston, the upland CDF disposal option is no longer viable, and therefore EPA's preferred remedial alternative presented in the PRAP is not implementable. Implementability is defined to include both technical and administrative feasibility. 40 CFR § 300.430(e)(7)(ii); 40 CFR § 300.430(e)(9)(iii)(F). The EPA Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA states that "administrative feasibility [an aspect of implementability] refers to the ability to obtain approvals from other offices and agencies." U.S. EPA, *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, OSWER Dir. 9355.3-01 (Oct. 1988). Without approval from the Town of Johnston, the upland CDF alternative is not administratively feasible, and therefore not implementable. "Alternatives that are technically or administratively infeasible or that would require equipment, specialists, or facilities that are not available within a reasonable period of time may be eliminated from further consideration." 40 CFR § 300.430(e)(7)(ii).

Although EPA does not consider the public acceptance of this disposal option, based on information published by local media outlets, it is not reasonably conceivable that it would be publicly accepted. Without the Town's acceptance , the alternative should have been "screened-out" by EPA. To argue that Town acceptance is not needed to satisfy this primary balancing criterion (implementability) is unfounded. The simple fact that EPA went through the exhaustive and costly process of speaking with Town officials about the possibility of constructing upland

CDFs within the Town demonstrates that EPA understood that such acceptance and pre-approval were required to satisfy the implementability criterion under 40 CFR § 300.430(e)(7)(ii) and 40 CFR § 300.430(e)(9)(iii)(F). Without acceptance by Town officials, in Johnston or elsewhere, the upland CDF disposal option does not exist. Thus, any alternatives incorporating the upland CDF disposal option are not implementable.

In conducting the FS, EPA is obligated to ensure that each alternative it considered was implementable, and, if not, then to screen-out such alternatives. By not fully exploring the upland CDF disposal option, EPA engages in a flawed process that did not allow for the full and complete development of alternatives that are implementable.

The EPA process is invalid, and fails to conform to the requirements of the NCP. This is particularly untenable given that EPA screens out other remedial alternatives where EPA believes the alternative would not meet with "public acceptance," *See* Section IV.B.1.a.ii, *supra*.

It is worth noting that EPA had more than ample time to re-evaluate the upland CDF disposal option and other remedial alternatives under consideration. In correspondence sent by Emhart's counsel to EPA regarding *Preliminary Questions in Evaluating Upland CDF Disposal Alternative*, no fewer than 14 itemized concerns were identified regarding the implementability of an upland CDF. *See* Correspondence from J. Muys, Sullivan & Worcester LLP, to E. Vaudo, EPA Region 1 Re: Preliminary Questions in Evaluating the Upland CDF Disposal Alternative (Jan. 18, 2008). This correspondence was submitted at the request of EPA. Thus, EPA recognized early on in the evaluation process that any alternative incorporating an upland CDF disposal option may not satisfy the primary balancing criterion of implementability. Setting aside the Town of Johnston's reluctance to site a hazardous waste landfill in their community,

other uncertainties concerning the implementability and cost effectiveness of an upland CDF were presented in the January 18, 2008 correspondence and are provided below in detail.

The total volume of Site sediment requiring removal, including the over-dredge allowance, is calculated by EPA to be 155,800 cubic yards ("cy"). If the Allendale and Lyman Mill Floodplain soils are included, an additional 29,700 cy would require removal. The excavated sediment would be dewatered, reducing its estimated volume to 97,900 cy.[6] FS Report, at J-55. If the dewatered sediment and the floodplain soils are included, EPA estimates the volume of material that would be placed in the upland CDF(s) to be 127,600 cy.

As an initial matter, EPA may not even consider the selection of this disposal option until the administrative record is supplemented to address the following threshold issues: (1) the capacity of the targeted properties to contain the excavated sediment and soil; (2) the availability of the targeted properties for purchase at fair market value; (3) the ability to obtain a waiver from the LDR requirements, if necessary; (4) the qualification of the properties for "on-Site" classification; (5) the suitability of the properties to contain the proposed CDFs; and (6) the implementability of EPA's "excavate and test" approach. Each of these considerations is discussed below.

(i) Properties Targeted By EPA for Placement of Upland CDFs Are of Limited Size

The size of the properties identified by EPA as potential locations for upland CDFs is limited. Thus, the capacity of any upland CDFs to be constructed on these properties also is limited.

[6] EPA assumes a reduction in sediment volume of approximately 37% resulting from the dewatering. There is no support in the administrative record for this assumption, which Emhart believes to be over-stated.

EPA proposes an "excavate and test" iterative approach to sediment and soil removal that is intended to address the potential capacity limitations. *See, e.g.,* FS Report, at 5-18. Under EPA's proposed approach, the total volume of sediment and soil that ultimately would be excavated from the Allendale and Lyman Mill Reach areas would not be known prior to remedy implementation, but provision would be made for the placement of a thin-layer cover over impacted sediments and soils that remain in place due to limits on the capacity of the CDFs:

> Alternative 6 assumes that a thin-layer cover would be placed over residual contamination rather than conducting continuous dredging; the latter would not be practical considering the limited capacity for on-Site disposal and the high cost of off-Site disposal and/or treatment.

Id. at 5-12.

EPA also acknowledges the need to limit excavation in implementing Alternative 7 due to the likely limited capacity of the proposed upland CDF(s):

> This alternative includes a thin-layer cover as a contingency provided confirmation sampling reveals areas of deeper contamination or areas where the residual concentrations are above the cleanup goals. A thin-layer cover would be placed in order to reduce residual contaminant concentrations throughout the ponds to acceptable levels so that the RAOs could be achieved. Cost estimates assume the thin-layer cover will be required.

Id. at 5-18.

In light of the substantial uncertainties regarding EPA's implementation of the "excavate and test" approach, EPA's cost estimates for this range of alternatives must be viewed as highly suspect. *See* Letter from D. Scotti, LEA, to A. Krasko, EPA Region 1 (May 16, 2008*)*. Accordingly, in order to determine whether an upland CDF may be a viable, cost-effective remedial alternative, EPA first must develop a sound excavation approach that is based on the known areal extent and depth of sediment and soil to be excavated, and which incorporates the application of a thin layer cover as contemplated in the FS Report. For example, Figure 5-6 of the FS Report shows three potential locations at Lyman Mill Reach where a CDF could be

constructed above the 100-year flood elevation. Possibly, a CDF could be constructed on the two proposed northern CDF locations, assuming that the existing soil within the footprint of the proposed CDFs was removed down to the ground surface elevation at the downhill dike and was shipped off-Site for disposal at a certified facility. However, EPA does not present any information regarding the quality of the soil at any of the proposed CDF locations. In the absence of such necessary information, EPA is unable to provide cost estimates for the disposal of any such soil, including the cost of the upland CDF disposal option.

Moreover, the FS Report indicates that, even using EPA's estimated volumes, the combined capacity of the two proposed northern CDF locations would be sufficient only to contain the excavated sediments (after mechanical dewatering), but not the floodplain soils to be excavated from Lyman Mill Reach. *See* FS Report, at 5-13. Thus, in order to realistically implement the upland CDF remedial alternative, construction of a third upland CDF with sufficient capacity for sediment and floodplain soil would be required, further south, near the head of Lyman Mill Pond, and above the 100-year flood elevation. *See* FS Report, Figure 5-6.

Also, the volume of sediment that ultimately will be removed from the ponds, the River, the floodplain, and the Oxbow area will not be known until the remedy is complete. EPA proposes to excavate, dewater and then dispose of the soil in the upland CDF, but has provided estimates of the degree of dewatering without performing any supporting studies. Thus, the volume of dewatered sediments could be significantly greater than estimated.

If the upland CDF is not sized properly, its capacity likely will be insufficient, in which case some volume of the excavated soil and sediment will require off-site treatment or disposal. As a result, EPA is unable to provide an accurate cost for the upland CDF alternative that it has selected.

(ii) Property for CDFs Has Not Been Purchased and Cost of Purchase is Not Included in EPA's Cost Estimate

The construction of upland CDF(s) at the locations identified on Figure 5-6 of the FS Report is dependent on the ability to acquire and access those properties. These properties must be acquired by purchase or condemnation to effectuate the proposed remedy, and EPA does not demonstrate that their acquisition can readily be achieved.

Recent experience with several current landowners illustrates that acquisition and/or access may not be readily achieved without significant negotiation or legal recourses. For example, Integral Consulting, Inc. ("Integral"), an environmental consulting company, on behalf of Emhart, attempted to obtain access to the properties identified by the Town of Johnston on property Map 35, Lot 8 and Map 36, Lots 187, and 186 for the purpose of collecting soil and sediment samples in the Oxbow Area of the Site. Lots 8 and 187 comprise a significant portion of the central CDF pictured in Figure 5-6 of the FS Report. Although Integral attempted to gain access to these properties, as well as Lots 6, 7, 8, 9, and 18 that border lots 8 and 187 to the west, access was denied by the property owner in a July 28, 2010 letter. EPA subsequently corresponded with this property owner in an August 24, 2010 letter from Anna Krasko attempting to facilitate access to these properties. Despite EPA's written access request, which suggested a "lengthy legal process under Superfund Law" might occur if access were not granted, the property owner denied access.

Similarly, Integral requested access to another parcel, also owned by the Town of Johnston, identified on Map 36, Lot 186, in connection with another planned sampling event in the Oxbow Area. This property also would have to be accessed if sediment were transported directly from Lyman Mill Pond to the southern-most proposed CDF location shown on Figure 5-6 of the FS Report. However, an August 6, 2010 letter from the Town of Johnston's Solicitor to

Integral stated, "the Town of Johnston is not prepared to provide consent for access to its property." This letter also stated that, "[t]he Town administration has repeatedly advised all parties that it is adamant in its opposition to disposal of contaminated sediment within the Town's limits."

Further, the April 8, 2009 notes prepared by EPA technical representatives from a report by its technical consultants, Battelle, regarding a meeting with a representative of Baccala Concrete Corp. state that the current owners of the southern-most CDF location shown on Figure 5-6 of the FS Report met with EPA representatives "to discuss the potential of locating a confined disposal facility (CDF) on the property." The notes are devoid of any comment, positive or otherwise, by the Baccala Concrete representative regarding the company's willingness to allow the EPA to locate a CDF on its property.

The PRPs who EPA may seek to require to perform the selected upland CDF remedy have no independent authority to compel the property owners to sell their land. *See, e.g.*, *United States v. Hardage*, 58 F.3d 569 (10th Cir. 1995). EPA has authority to seek court-ordered access to a property to effectuate a response action only if (1) EPA's right of entry has been obstructed; (2) EPA has a reasonable basis to believe that there may be a release or threat of release of a hazardous substance, pollutant, or contaminant; (3) EPA has sought consent to entry; and (4) the demand for entry is not arbitrary, capricious, an abuse of discretion, or otherwise illegal. *See, e.g., United States v. W.R. Grace & Co.*, 134 F. Supp. 2d 1182, 1185-86 (D. Mont. 2001). While EPA also may obtain property by condemnation under CERCLA § 104(j) if it is needed to conduct a remedial action, demanding possession of a parcel without adequate justification may be deemed arbitrary and capricious. *See id.* at 1189 ("If . . . the EPA sought access to an 'innocent' [*i.e.*, uncontaminated] tract of land in order to dump hazardous waste on it, its demand

for entry might be considered arbitrary and capricious. If other alternatives for disposal were plainly superior to the EPA's proposed actions, then its demand for entry might be an abuse of discretion."). Thus, a Rhode Island court may very well reject a demand by EPA for access to the properties upland of the Site based on a finding that the Agency's demand is arbitrary and capricious, and an abuse of EPA's discretion.

Finally, EPA fails to factor the cost of acquiring such properties into its cost estimate for the upland CDF disposal option, as required by the NCP and EPA guidance for purposes of conducting the detailed analysis of alternatives. *See* 40 C.F.R. § 300.430(e)(9)(iii)(G); *see also RI/FS Guidelines*, at 6-11. Also, EPA's cost analysis fails to consider that if one or more of the properties identified for the upland CDF are not available, the disposal costs would skyrocket.

(iii) Availability of an LDR Treatability Variance is Uncertain

EPA assumes, without substantiation, that it can obtain an LDR treatability variance to place dioxin-contaminated soils and sediments in upland CDFs. *See, e.g.,* FS Report, at 7-6. However, the FS Report does not contain the information required by EPA guidance to document the Agency's intent to comply with the LDRs through a treatability variance. *See* U.S. EPA, *Superfund LDR Guide #6A (2nd Edition), Obtaining a Soil and Debris Treatability Variance for Remedial Actions* (Sep. 1990), at 4. Once again, EPA's failure to follow the applicable procedural requirements in performing the FS has resulted in the Agency's selection of a remedial alternative, absent a sufficient basis to properly evaluate its effectiveness, implementability, and cost.

(iv) It is Uncertain Whether the Upland CDFs Would Be "On-Site" as Defined by CERCLA

As discussed, the FS Report identifies three potential locations for the upland CDFs, all situated within the Lyman Mill area: "The northern CDF would be built where the current

ground surface slopes up to the northwest of Lyman Mill Pond. The second CDF could be built south of the abandoned channel where the current ground surface slopes up along the western border of the Oxbow . . . . The third CDF with sufficient capacity (for sediment and floodplain soil) could be constructed further south, near the head of Lyman Mill Pond and above the 100-year flood elevation." FS Report, at 5-13 and Fig. 5-6. EPA acknowledges that use of these locations may result in some destruction of upland habitat and/or wetlands, and has stated that mitigation for wetland impacts would be required. Also, the proposed locations would require evaluation of their relative ecological functions and values during the remedial design. *See* FS Report, at 5-13.

For an upland CDF to qualify as "on-Site" for purposes of obtaining CERCLA permit waivers, it must be (1) necessary, (2) suitable, and (3) in very close proximity to the contamination area. *See U.S. v. General Electric Co.*, 460 F. Supp. 2d 395, 403 (N.D.N.Y. 2006). The proposed upland CDF locations perhaps may qualify as being in "very close proximity" to the Site. They are contiguous with Allendale Pond and Lyman Mill Reach and Pond, all of which comprise EPA-designated action areas requiring clean-up. The *GE* court found that a processing facility to be built within 1.4 miles of the Hudson River Site was in "very close proximity," even though the location itself was not contaminated with hazardous substances. *Id.* However, given the multitude of remedial options that are under consideration for the Site, if options not requiring disposal in an upland CDF(s) meet the NCP criteria, then the upland CDF may not be "necessary." Moreover, if there are significant issues concerning the impact on the wetlands and/or habitat, or concerning whether the EPA can obtain the land necessary for the upland CDF, the upland CDF may not be "suitable" for purposes of meeting the "on-Site" criteria.

(v) Suitability of the Targeted Properties for Placement of Upland CDFs Is Not Determined

Prior to issuing the PRAP, EPA fails to determine that the properties are suitable for upland CDFs. This assessment for suitability required that soil samples be collected and analyzed for geotechnical and chemical testing. The test results would indicate, for example, whether shallow bedrock is present that would preclude the proper construction of an upland CDF. Such testing also would indicate, for example, whether the soil at the property is contaminated, and the nature and extent of any such contamination.

Without this information, EPA cannot properly estimate the cost of the upland CDF disposal option because the cost to excavate and properly dispose of any contaminated soil that may be present at the properties is not known. Moreover, if the soil is contaminated, the question arises as to where the contaminated soil removed to create the CDF(s) would be disposed. As part of its alternatives analysis, EPA fails to consider whether the properties under consideration may have environmental issues that present significant hazards. Despite EPA's effort to estimate the costs associated with its selection of upland CDFs as the preferred disposal option, EPA fails to conduct any such testing and has not identified the locations of potential disposal facilities that could accommodate any contaminated soil that is found.

(vi) EPA's Confirmation Sampling Approach is Not Implementable

As already discussed, the "excavate and test" iterative approach to sediment removal proposed in the FS Report, *see, e.g.,* FS Report, at 5-36, does not allow for an accurate estimate of the volume of sediment to be excavated. Moreover, this approach, under which sediment samples would be collected following the excavation of impacted sediment, is infeasible to implement due to inherent time constraints in the approach. Assuming that the samples are obtained the day of excavation and are submitted for laboratory analysis that same day, the

earliest that the sample results would be known is approximately three weeks later. The results also would require validation and evaluation, which would take approximately an additional three weeks. It is assumed that, in the interim, other areas of sediment could be excavated. However, there would be limitations on the areas that could be excavated during this minimum six week time period, because the remedy would have to be conducted in an upstream to downstream manner. Thus, it is likely that remediation activities would be delayed due to the timing of receipt of the laboratory analytical results and their validation and/or evaluation.

This approach simply is not practicable or implementable during a construction project involving heavy machinery. Also, during this time, the excavated areas would be subject to impacts from precipitation events and the release of pond water from upstream reservoirs, making it very problematic to manage water within the remediation cells. One potentially implementable method to conduct this excavation remedy would be to forego the unnecessary "excavate and test" iterative approach and, instead, simply place a soil cover over areas excavated to a pre-determined depth, which already is contemplated by EPA. This latter method also would provide the requisite volume certainty in constructing the CDF.

(vii) Application of the Alternative Treatment Standards for Soil to Sediment is Not Practicable

EPA fails to identify how the concentrations of dioxin in excavated sediment can be identified to practicably apply the alternative treatment standard for soil to dewatered sediment in identifying off-site disposal options under the sediment alternatives. It is not possible to segregate sediment, or for that matter soil, to identify which sediments may be landfilled within an upland CDF. To segregate sediment on a concentration-basis requires that the sediment be staged at the site for several months after it is excavated to allow ample time for sample collection, analysis, data validation, and evaluation of the information. There is insufficient

space to stage excavated sediment, yet continue with the implementation of the remedy. Moreover, there simply is inadequate time to segregate sediment, or for that matter, soil on this basis. Thus, this disposal option, selected by EPA for the PRAP, must be reconsidered.

In addition, EPA's estimate that only 10% of the soil and sediment will exceed the alternative treatment standards for soil is based on limited data. The finding from the additional investigation activities recently completed within the Oxbow identified materials containing dioxin at concentrations above the standard that had heretofore not been considered for off-Site disposal. Thus, it appears possible that a much higher percentage of soil and sediment will contain dioxin at concentrations above the standard, therefore requiring off-Site disposal. Accordingly, the application of the alternative treatment standard for soil to sediment should be reconsidered.

c. Off-Site Disposal is Not Feasible

Under the off-Site disposal and/or treatment option, excavated soil, sediment, and debris would be shipped off of the Site, and disposed either by containment in a designated facility or by thermal treatment. As provided in the FS Report and Addendum, the dewatered, dredged material would be analyzed for dioxin and other contaminant concentrations to characterize the materials, and to determine which type of landfill would be required or if the materials need to be treated. Once the appropriate disposal facility was identified, the dewatered material would be loaded onto trucks and taken to a regional rail loading facility for transportation to the designated disposal facility.

Off-Site disposal is not a viable option for several reasons, including EPA's inability at this juncture to determine whether there would be any off-Site facilities capable of accepting the excavated material at the time that the remedy is implemented. Facilities that are capable of accepting the requisite waste types today may not have the capacity to accept such waste at the

time that the remedy would be implemented. Moreover, facilities that are operating today may not be in operation at the time that the remedy is implemented, or such facilities may not have the capacity to accept the waste or accept the waste on a schedule that is commensurate with the remediation schedule. The few facilities that may be able to accept the waste may be able to do so only on a schedule that is extended over many years, due to capacity constraints. Lastly, there are few facilities that can accept the waste today, resulting in a less-than competitive market. Thus, the disposal costs that would be incurred are subject to very high prices that are set by these few facilities. In a market that lacks competition, this could result in costs that are not realistically factored into the evaluation presented in the FS Report. Also, there is no known regional rail loading facility for transportation; nor has one been identified in the FS Report. Thus, the costs considered in the FS Report do not take into account alternative shipping methods.

Even if off-Site disposal were a feasible option, it is one that undermines EPA's extensive efforts to promote green remediation. One of the primary objectives of EPA's *Green Remediation Guidelines and Superfund Green Remediation Strategy* (Sep. 2010) is the minimization of air emissions. The transport of large volumes of contaminated soil and sediment would be directly contrary to EPA's directive that "[s]ite management plans should specify procedures for minimizing worker and community exposure to emissions, and for minimizing fuel consumption or otherwise securing alternatives to petroleum-based fuel." U.S. EPA, *Green Remediation: Incorporating Sustainable Environmental Practices into Remediation of Contaminated Sites* (Apr. 2008), at 14. Thus, the off-Site disposal option must be evaluated with appropriate consideration given to EPA's Green Remediation strategy.

d. Emhart's Recommended Approach for the Allendale and Lyman Mill Reach Sediment is Protective, Implementable, and Cost-Effective

To recap, Emhart recommends an approach for the Allendale and Lyman Mill Reach Sediment action areas that involves the placement of excavated sediments in a nearshore CDF or within isolation caps within the footprints of the ponds. Sediments that are not excavated would be capped *in-situ*. As discussed, this approach is described in the FS Report, in general, as Alternatives 10b (Dam Replacement, Excavation, and Disposal in a Nearshore CDF) and 11f (Dam Replacement, Partial Excavation, Isolation Capping and Consolidation). This approach is protective of human health and the environment, and is implementable and cost effective. Given the multitude of problems faced by EPA in implementing its selected remedial alternative, the Agency must revise its analysis of the upland CDF alternative to address the concerns raised above, and give full consideration to selecting the nearshore CDF option for inclusion in the PRAP.

2. Allendale Reach Floodplain Soil

EPA considers three alternatives for Allendale Reach Floodplain Soil:

(1) full excavation (Alternative 5), with a nearshore (Alternative 5b) or upland (Alternative 5a) CDF disposal option;

(2) full excavation, and on-Site thermal treatment (Alternative 5d); or

(3) full excavation and off-Site disposal and/or treatment (Alternative 5e).

EPA selects Alternative 5a – full excavation with an upland CDF disposal option. Although EPA treats Allendale Reach Floodplain Soil as a separate action area, the selected remedy for this area is subject to the same concerns and limitations as the alternative selected by EPA for the Allendale and Lyman Mill Reach Sediment, as discussed in Section IV.B.1. above. Thus, Emhart reiterates its objections to EPA's analysis of the remedial alternatives for Allendale

Reach Floodplain Soil, and submits that EPA should select Emhart's preferred alternative, namely placement of excavated sediment in a nearshore CDF or within isolation caps within the pond footprints, which is implementable, cost-effective, and protective of human health and the environment, as required by the NCP.

3. Lyman Mill Reach Stream Sediment and Floodplain Soil (Oxbow Area)

EPA considers two basic alternatives for Lyman Mill Reach Stream Sediment and Floodplain Soil:

(1) targeted excavation and enhanced natural recovery ("ENR") (Alternative 3), with containment in either a nearshore (Alternative 3b) or an upland (Alternatives 3a) CDF; on-Site incineration (Alternative 3d); or off-Site disposal (Alternative 3e); or

(2) partial excavation and ENR (Alternative 5), with containment in either a nearshore (Alternative 5b) or an upland (Alternatives 5a) CDF; on-Site incineration (Alternative 5d); or off-Site disposal (Alternative 5e).

EPA selects Alternative 3a – targeted excavation and ENR with containment in an upland CDF. The disposal option (upland CDF) identified in EPA's selected remedy suffers from the same problems as those discussed above for the Allendale and Lyman Mill Reach Stream Sediments action area. However, EPA's selected alternative is further flawed as discussed below.

a. EPA Arbitrarily Includes the Falco Street and Assapumpset Brook Floodplain Areas in the Proposed Lyman Mill Pond Floodplain Cleanup Area

In its evaluation of Lyman Mill Pond Floodplain soils, EPA overstates the area requiring remediation. EPA develops cleanup values based on uses of the floodplain. Further, the cleanup values are based on whether the receptor being protected is a residential receptor or an ecological receptor. EPA states that, subsequent to the 2002 and 2003 Non-Time Critical Removal Actions

("NTCRAs"), the floodplain soil along the shore of Lyman Mill Pond poses an exposure hazard to ecological receptors only. EPA designates ecological habitat as being either high value or not, and states that areas that do not represent high value ecological habitat were excluded from the proposed cleanup area. *See* FS Addendum, at 3-6.

EPA designates the "small area along the eastern shore south of Falco Street" as requiring remediation due to potential ecological hazards. EPA further states, parenthetically, and incorrectly, that "contaminant concentrations [in this area] are above the cleanup goals, including dioxin TEQ above EPA's recommended residential level." *Id.* at 3-6. In fact, a review of the data demonstrates that the highest dioxin TEQ concentration in samples collected from the area delineated on Figure G-4 near Falco Street is 145 ng/kg (sample RES-SS-11-433-02). This concentration is lower than EPA's recommended residential clean-up goal of 1000 ng/kg for dioxin.

As shown in Figure G-4 of the Addendum, the area along the eastern shore of Falco Street that is designated for cleanup is a residential area. That area, which is delineated by EPA in the Addendum, is part of the manicured residential backyards right down to the water's edge, outbuildings, and attached decks. An approximate representation of the cleanup area proposed by EPA in Figure G-4 of the Addendum is provided in the figure below.



The shaded area shows the approximate extent of the cleanup area.

EPA defines areas *not* representing high value ecological habitat as "areas that are developed, in close proximity to residential areas and lacking native vegetation…and where the riparian zone is only narrowly defined." This definition fits the description of the area near Falco Street shown above. Accordingly, EPA's proposed cleanup area cannot be considered high value ecological habitat because it largely comprises residential backyards. Rather, this area should be grouped with other "small isolated patches of floodplain vegetation occurring along the eastern shore" that do not require remediation. *Id.* at 3-6. Finally, this area cannot be considered as having a high potential for future erosion given its location relative to the primary flow of the River.

Soil sampling data from the Falco Street area represents residential soil. Therefore, given the current and foreseeable land use in this area, EPA should have compared the data from soil

samples collected in this area to residential soil clean up values (*e.g.*, 1,000 ng/kg for dioxin TEQ), and not ecological cleanup values. Nevertheless, EPA inappropriately compares chemical concentrations of soil samples collected from this area with ecologically-based cleanup goals. *Id.* at Table G-9. If EPA had used the appropriate residential cleanup values, they would have concluded that no remediation is necessary in this area. Contrary to EPA's parenthetical statement that the dioxin TEQ concentrations in the samples exceeded residential cleanup goals, the data demonstrates that the highest dioxin TEQ concentration in samples collected from the area delineated on Figure G-4 near Falco Street is 145 ng/kg, at sample RES-SS-11-433-02. This concentration is lower than EPA's recommended residential cleanup level for dioxin, 1,000 ng/kg.

Thus, EPA errs by including the Falco Street area in the cleanup footprint. EPA's decision is unwarranted and arbitrary and capricious because it does not comport with current and future land uses and the cleanup goals associated with those uses. Contrary to EPA's statements, this area does not require remediation as a high value ecological habitat or as residential area.

EPA also incorrectly includes in the proposed cleanup area the small peninsula north of the confluence of Assapumpset Brook and Lyman Mill Pond, based on its *Interim-Final Supplemental Baseline Ecological Risk Assessment. See* MACTEC Engineering and Consulting, Inc., *Interim-Final Supplemental Baseline Ecological Risk Assessment* (Sep. 30, 2004). EPA asserts that exceedences of ecological cleanup goals have occurred, and theorizes that the area is depositional and thus has the potential for erosion. *Id.* at 3-6. However, as detailed in Emhart's October 20, 2011 comments on EPA's *Interim-Final Supplemental Baseline Ecological Risk Assessment,* EPA improperly pools this area with other highly contaminated floodplain areas

(*e.g.*, the Oxbow Area). The consequence of failing to assess this area on its own is that EPA's risk assessment results are very highly skewed by data from other floodplain areas that are distant from the Assapumpset Brook floodplain area. EPA should have recognized that this area is distinctly different from the other areas based on: (1) its distance from those other floodplain areas (*i.e.*, it is not contiguous with any other significant floodplain areas evaluated by EPA); and (2) the chemical concentrations present in the samples collected on this peninsula. Moreover, EPA fails to account for the fact that the Assapumpset Brook area is influenced by a unique feature – the Brook. Thus, EPA's risk assessment approach is inconsistent with the Army Corps of Engineers' ("ACOE") functions and values assessment, which evaluated this peninsula independently of the Oxbow Area. *See* United States ACOE, *Oxbow Area Wetland Delineation Report and Functions and Values Assessment, Centredale Manor Restoration Project Superfund Site, North Providence, Rhode Island* (Apr. 2008).

Had EPA, in the risk assessment, evaluated the small peninsula north of the confluence of Assapumpset Brook and Lyman Mill Pond separately, it necessarily would have concluded that: (1) the potential risks to ecological receptors are *lower* in this area than the risks to the same receptors at upstream background locations (*i.e.*, the incremental risk would be negligible); and (2) that the dioxin TEQ concentrations in soil samples collected from this area are within the range of dioxin TEQ concentrations detected in upstream background samples. Given these facts, the NCP does not dictate that cleanup goals be derived for this area and, thus, remediation in this area is unnecessary.

b. EPA's Remedy Selection for the Oxbow Area is Arbitrary and Capricious

The NCP requires EPA to develop a fully informed conceptual site model consistent with the record evidence. Moreover, it outlines nine criteria that EPA must address in evaluating whether remedial alternatives meet the requirements of CERCLA § 121.

EPA's remedy evaluation for the Oxbow Area is based on an inadequately-developed conceptual site model. For example, EPA prepares its conceptual site model for this area without adequate information to make a reasonable determination of the fate and transport of chemicals into or out of the Oxbow Area. Therefore, EPA is unlikely to adequately evaluate two of the nine factors required by the NCP – (1) reduction of contaminant toxicity, mobility, or volume through treatment; and (2) short-term effectiveness.

Moreover, EPA has no depositional data within the Oxbow Area; therefore, the rate of current or future potential deposition is not known. Rather, EPA uses estimates of sediment deposition derived from sediment cores collected from within Lyman Mill Pond. Without sound basis, EPA assumes that the deposition rates within the Oxbow are 5 to 10 times lower than those predicted for Lyman Mill Pond. *See* Addendum, at M-58, n.a; *see also* FS, at 2-10. No technical basis is provided for the quantification of deposition rates within the Oxbow Area. Rather, EPA's assumed deposition rate, which forms the basis for the evaluation of the two NCP criteria identified above, was derived in an arbitrary and capricious manner.

Moreover, when contrasting the efficacy of the remedies under consideration, as required by the NCP, EPA plays "fast and loose" with the factors used to compare each remedy. For example, in the comparative evaluation of remedies to meet human health remediation goals, EPA states that: "the best estimates of the amount of time to reach the desired target hazard for the action-based alternatives is 25 years for Alternative 5 and 30 years for Alternative 3." EPA

further states that: "[t]he time to achieve the human health and ecological RAOs for the No Action alternative is unknown, but could be upwards of 200 years or more depending on the rate of natural recovery processes that are not monitored under this alternative (Appendix M)."

However, the language footnoted in the quoted text clearly shows a bias toward using values that result in much more favorable outcomes for EPA's preferred remedy. For example, EPA uses a deposition rate of 0.24 cm/yr and a half life of 12.9 yrs for 2,3,7,8-TCDD to assess the short term effectiveness of Alternatives 3 and 5. In contrast, it uses a deposition rate of 0.048 cm/y and no half life (*i.e.*, no degradation) when assessing the No Action alternative. *Id.* at 6-25. EPA provides no justification for the use of one chemical half-life for one alternative and no chemical half life for another. Also, the use of no half life for the No-Action alternative is contrary to statements made by EPA in Table M-15 and its corresponding notes, where EPA states that the "most likely outcomes for the remedial alternative," including the No Action alternative, have a 2,3,7,8-TCDD half life of 12.9 years. *Id.* at M-58. Also, though EPA states that the differing deposition rates are due to the construction of baffles with Alternatives 3 and 5, the increase of the deposition rate from such structures is completely undocumented.

EPA's use of unsubstantiated and arbitrarily selected values in its remedy assessment results from an incomplete understanding of the conceptual site model for this area. The absence of an accurate conceptual site model is readily apparent in EPA's contrasting response to the NRRB recommendation #4 and its discussion of its favored remedy in the FS and the Addendum. In the response to the NRRB's recommendation #4, EPA acknowledges that the proposed remedy may not operate in the way that EPA models it in the Addendum, and that potential recontamination of Lyman Mill Pond sediments may occur from transport of Oxbow surface soil. Specifically, in its response to the NRRB, EPA states:

> [T]he proposed remedy does not entirely eliminate the potential for recontamination into the sediment environment (particularly Lyman Mill Pond) and that some contamination left in place under the proposed thin-layer cover within the Oxbow Area could be remobilized and potentially transported through the aquatic food chain in the event of a catastrophic event.

See Letter from J.T. Owens, III, Director, Office of Site Remediation and Restoration, EPA Region 1, to A. R. Legare, Chair, NRRB (Sep. 28, 2011), at 4.

However, the FS and Addendum do not acknowledge the potential for recontamination of Lyman Mill Pond through sediment transport from the Oxbow Area into the pond. Due to its failure to discuss this transport mechanism in the FS and Addendum, EPA fails to consider the potential for recontamination in its assessment of either the short-term or long-term effectiveness of the Oxbow remedies or the Lyman Mill Reach sediment remedy.

The NCP compels that EPA prepare a viable and technically sound conceptual site model in order that the nine criteria can be evaluated consistently and fully. EPA clearly lacks a sound conceptual site model for the Oxbow Area as evidenced by the absence of foundational information needed to evaluate the remedies in the manner contemplated under the NCP. Additionally, EPA's FS conceptual site model for the Lyman Mill Reach Sediment Remedy fails to consider the recontamination problem referenced in EPA's response to the NRRB. EPA's evaluations of the NCP criteria for the Oxbow Area and the Lyman Mill Pond Sediments are incomplete, faulty, and arbitrary and capricious in the absence of an accurate conceptual site model.

4. <u>Source Area Soil</u>

EPA considers three alternatives for Source Area Soil:

(1) no action (Alternative 1);

(2) targeted excavation, upgrade and maintain existing surfaces, with off-Site disposal (Alternative 3); or

(3) targeted excavation, convert to RCRA caps and maintain, with off-Site disposal (Alternative 4E).

EPA selects Alternative 4E for inclusion in the PRAP – targeted excavation, convert to RCRA caps and maintain, with off-Site disposal. However, in the FS Report, EPA improperly "screens out" Alternative 2, which comprises long-term monitoring and maintenance of existing surfaces, including existing caps, parking lots, paved surfaces, rip rap and landscaped areas. For the reasons set forth more fully below, EPA's elimination of Alternative 2 is arbitrary and capricious, and must be reconsidered. Several removal actions already have been undertaken to remediate source area soil at the Site. In 2000, Emhart and others installed a soil cap (Cap No. 2), and flood control berm along the western extent of the Site. Moreover, in 2003, Emhart and others installed a cap (Cap No. 3) over contaminated soils and sediments within the former tailrace. Finally, during 2009 and 2010, Emhart performed the TCRA, described in Section IV.B.5.b., which involved the excavation and off-Site disposal of source area soils and sediments from both the Source Area Soil and Source Area Groundwater action areas, and the installation of an impermeable cap. All of these TCRA activities performed by Emhart were overseen by EPA, and determined by the Agency to be protective of human health and the environment.

In light of the foregoing, Emhart's recommended approach for the Source Area Soil action area to ensure the long-term protection of human health and the environment is to monitor and maintain the existing surfaces; extend the cap areas, as discussed herein, to address certain soils not currently capped; and, as necessary, conduct limited excavation of soils in areas exceeding Toxic Substance Control Act ("TSCA") requirements for PCBs. The soils requiring excavation could be consolidated and covered with a RCRA/TSCA compliant cap.

a. EPA Improperly Applies RCRA Closure Requirements

(i) In-Place Environmental Media Are Not Waste Subject to RCRA Closure Requirements

As discussed in Section IV.A.2., EPA concludes incorrectly that all contaminated media at the Site contain a RCRA F-listed waste. EPA not only makes an unsupportable assumption that the source area soils are a hazardous waste, it also incorrectly concludes that the RCRA cap remedial alternative for application in the Source Area Soil action area is the only alternative that would comply with all ARARs.

In fact, RCRA requirements only apply if the response activity "constitutes treatment, storage, or disposal" of a hazardous waste. *See* U.S. EPA, *CERCLA Compliance with Other Laws Manual, RCRA ARARs: Focus on Closure Requirements* (Oct. 1989), at 3. Even assuming, *arguendo*, that the contaminated media at the Site contain a hazardous waste, which Emhart disputes, disposal does not occur when wastes are consolidated within the same area of contamination or unit, treated *in situ*, or capped or left in place. *See id.* At the Site, the source area soils have been capped in place. Therefore, RCRA closure requirements are not applicable.

Because, as discussed in Sections C.1 of Appendix B, environmental media are not waste, RCRA does not apply to the Site environmental media unless and until they are removed from the land or the area of contamination. EPA implicitly concedes this point; most notably, it recently has concluded that the source area soil is not a waste by allowing Centredale Manor Limited Partnership LLC to manage soil excavated during a recent waterline replacement project as environmental media. EPA has allowed the placement of these soils – soils within the same source area and with the same contaminant concentrations – to be excavated and used as backfill within the areas of excavation. By this action, EPA acknowledges that the source area soils are

environmental media and are not subject to RCRA closure requirements. This interpretation by EPA, alone, should allow the source area soil to remain in place.

Moreover, in its comments, the NRRB notes that EPA views the dioxin-contaminated flood plain soils and millpond sediments as listed waste under RCRA. According to the NRRB, the classification of these contaminated media as listed waste affects (*i.e.*, likely limits) the range of available remedy options and potential RAOs. To help ensure consistency throughout the regions and the Superfund program, the NRRB recommends that the Region better explain in its decision documents and supporting administrative record the determination that the dioxin-contaminated flood plain soils and pond sediments are RCRA-listed waste, and the rationale for addressing those soils and sediments differently. The Region's response to this comment falls well short in this regard.

In its September 28, 2011 responses to the NRRB, the Region fails to sufficiently explain their determination. Region 1 states that it:

> [B]elieves that dioxin from the manufacturing process contaminated Site soil and sediment of the Woonasquatucket River. Waste generated from the manufacturing use of trichlorophenol is classified as F020 waste under 40 CFR §261.31. Sediment contaminated by a listed hazardous waste is subject to regulation as a listed hazardous waste. There are no exceptions that would apply to this waste.

Id. at 3.

This response is insufficient in several respects. First, there are a number of assumptions and leaps of faith to be made to get from the manufacturing use of impure trichlorophenol obtained from Diamond Alkali and high dioxin concentrations within a limited footprint of the Source Area, to EPA's conclusion that all Source Area soil, floodplain soil and pond sediment at the reaches of Allendale and Lyman Mill are F-listed hazardous waste. Merely stating that these media are hazardous waste does not make them hazardous waste.

Sometimes listed and characteristic wastes are spilled onto soil. The mixture and derived-from rules do not apply to such contaminated soil and materials because these materials are not actually wastes. Soil is considered environmental media (*e.g.*, soil, ground water, sediment). Environmental media are contaminated with hazardous waste in a number of ways. To address such contaminated media, EPA created the contained-in policy to determine when contaminated media must be managed as RCRA hazardous wastes.

Environmental media are not, in and of themselves, waste, but are regulated as hazardous waste when they contain (*i.e.,* are contaminated by) a RCRA listed hazardous waste or exhibit a hazardous characteristic. In these cases, the media must be managed as if they were hazardous waste.

(ii) There is an Insufficient Basis to Conclude that Principal Threat Waste is Present at the Site and Thus that RCRA Closure is Required

Identifying PTW combines concepts of both hazard and risk. In general, PTW are those source materials considered to be highly toxic or highly mobile, which generally cannot be contained in a reliable manner and/or would present a significant risk to human health or the environment should exposure occur. "Principal threats" include "liquids, soils and sediments contaminated with high concentrations of toxic compounds, and highly mobile materials." *Id.* § 300.430(a)(iii)(A). Low-level threat wastes are those source materials that generally can be reliably contained and that would present only a low risk in the event of a release. *See* U.S. EPA, *A Guide to Principal Threat and Low-Level Threat Wastes*, OSWER Dir. 9380.3-06FS (Nov. 1991), at 2. Low-level threats include source materials that exhibit low toxicity, low mobility in the environment, or are near health-based levels. *See id.* Wastes generally considered to be low-level threat wastes include non-mobile contaminated source material of low to moderate toxicity, surface soil containing contaminants that are relatively immobile in air or

groundwater, low leachability contaminants such as low molecular weight compounds, or low toxicity source material. *See id.*

The NCP provides that EPA is expected to employ treatment technologies to address the principal threats at a site, when practicable, and engineering controls to address waste that poses a relatively low long-term threat or if treatment is impracticable. *See* 40 C.F.R. § 300.430(a)(iii)(A)-(B). The essential point is that these "expectations" reflect the fact that source materials can be safely contained, and that treatment for all waste will not be appropriate or necessary to ensure protection of human health and the environment.

EPA identifies a limited area within the Source Area Soil action area under and south of the southern-most parking lot for the Centredale Manor Apartments as an area containing magnetic anomalies. *See* FS Report, at 2-2 to 2-3 and Figure 2-1. Although EPA defines this area in the RI Report simply as one within which soils contain magnetic anomalies, in the FS Report EPA classifies the soils in this area as constituting PTW under the NCP. *See* RI Report, at 1-5; FS Report, at 2-21.

In the Addendum, EPA changes its definition of PTW at the Site to include all Source Area soil, floodplain soil and pond sediment at the reaches of Allendale and Lyman Mill. However, EPA provides no basis for characterizing these environmental media as PTW. This classification is significant because it leads EPA to further conclude – erroneously – that RCRA closure requirements apply.

The source area soils reported to contain magnetic anomalies do not meet the definition of PTW. Geophysical surveys performed at the Site that resulted in the identification of these anomalies are simply a preliminary investigation tool to locate possible below ground surface anomalies, including buried drums. However, they do not provide the basis or support for EPA's

assertion that PTW is present in the source area soil, absent follow-up investigation that leads to the identification of drum-related hazardous substances that qualify as PTW.

In fact, more often than not, magnetic anomalies are not buried, intact drums containing hazardous material; rather, they are other relatively benign metallic debris. For example, although during the removal action a few crushed drum lids were found in the soils within the Source Area Groundwater action area, there were no findings indicating the presence of buried, intact drums of hazardous material that might constitute PTW. Thus, absent additional evidence, one would not expect to find drum-related hazardous substances in soils near the southern area of Cap Area #1.

Notwithstanding the foregoing, EPA states that "PTW include source materials at the Source Area including buried waste material that ***may be*** present particularly near the southern area of Cap Area #1 (possible buried metallic materials are shown in Figure 2-1 in the Feasibility Study). Buried waste material under Cap Area #1 ***could be*** highly toxic and highly mobile ***and could present*** a significant risk to human health or the environment should exposure occur." Letter from J.T. Owens, III, Director, Office of Site Remediation and Restoration, EPA Region 1, to A.R. Legare, Chair, NRRB (Sep. 28, 2011), at 6 (emphasis added). However, this assertion by EPA is solely speculation. In fact, the Agency fails to provide any justification for defining soils with magnetic anomalies as PTW, as there is no evidence in the administrative record supporting EPA's conclusion that soils defined by the boundaries shown in Figures 2-1, 5-28, and 5-29 of the FS Report are PTW.

The remedy in the PRAP uses treatment to address the alleged threats posed by the Source Area, to the maximum extent practicable. The proposed remedy includes excavation of this allegedly buried waste material under Cap Area #1 and off-Site disposal by incineration,

thereby reducing toxicity, mobility and volume through treatment. The estimated cost of this component of the selected remedy is $10-$15 million – to address something that EPA admits may not be present, highly toxic, or highly mobile, and may not present a significant risk to human health or the environment.

Moreover, EPA is unable to satisfy the statutory CERCLA § 121 requirement that the selected remedy permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, or contaminants because the data do not exist to provide a pre-remedy baseline against which EPA could compare post-remedy conditions. Finding no magnetic anomaly after implementing the proposed remedy would not satisfy the CERCLA requirement because a magnetic anomaly is not a measure of toxicity, volume, or mobility, no less the presence of a hazardous substance, pollutant or contaminant.

Further, EPA clearly states that the PTW determination "should be based on inherent toxicity and consideration of the physical state of the material." U.S. EPA, *A Guide to Principal Threat and Low-Level Threat Wastes*, OSWER Dir. 9380.3-06FS (Nov. 1991), at 2. Moreover, for presumptive remedies under CERCLA, EPA states that "the determination of whether the waste is principal threat waste cannot be made since the physical/chemical characteristics of the wastes are unknown." EPA Presumptive Remedy for CERCLA Municipal Landfill Sites, available at http://www.epa.gov/superfund/policy/remedy/presump/clms.htm (emphasis added). For the area of the magnetic anomalies, EPA's PTW determination is arbitrary and capricious as it is unsupported by the data. In this case, EPA cannot determine that PTW populates this area of the Site because the physical/chemical characteristics of the wastes in this area are unknown. EPA has not taken the necessary steps to confirm the physical presence of any drums or the chemical characteristics of any wastes that may be contained within any such drums at the Site.

Furthermore, the administrative record contains no support, and EPA provides no explanation, for characterizing as PTW all Source Area soil, floodplain soil and pond sediment at the reaches of Allendale and Lyman Mill. In contrast, EPA's remedy selections for other dioxin sites have allowed that contaminated soil and/or sediment remain in place. For instance, for the Pownal Tannery Superfund Site in Pownal, Vermont, the selected remedy, Alternative 4, involved "the excavation and consolidation of tannery lagoon waste, construction of a low permeability cap over the consolidated wastes on-site, long-term monitoring of river sediments and ground water, and institutional controls to prevent ground water consumption and excavation of waste in the lagoon area." Pownal Tannery ROD. In this decision, EPA declared that:

> The selected remedy does not include treatment which permanently and significantly reduces the toxicity, mobility or volume of the hazardous substances as a principal element. However, permanent and significant reductions in toxicity and volume will be achieved through capping which will prevent contaminant leaching into the groundwater and surface waters and through natural attenuation processes in groundwater. Approximately 85% of the lagoon sludge that exceeds the acceptable risk range in the saturated overburden will be excavated, consolidated and capped above the water table, which will greatly reduce the migration of contaminants into the groundwater and to the Hoosic River.

Id. at 82. As presented in the Pownal Tannery ROD:

> EPA has determined that on-site disposal within the floodplain is the best practicable alternative since there are few off-site facilities that will accept dioxin-contaminated material, off-site disposal costs would be significantly higher, and there are no upland locations on-site for locating the disposal facility. The consolidated material will be capped in a manner that will prevent erosion, leaching, or other disturbance of the contaminated material in the event of flooding, up to a 100-year flood event.

Id. at Table B-3. Also, at the Cabot Carbon/Koppers Superfund site, EPA allowed that:

> The most contaminated soil [principal threat waste (PTW)] will be treated within the consolidation area. An engineered cap will be constructed over the soil-consolidation area and over the vertical barrier wall.

See ROD, Cabot Carbon/Koppers Superfund Site, Gainesville, Florida (Feb. 2011), at 118 ("Cabot Carbon/Koppers ROD"). Here, EPA acts in an inconsistent manner. Without any

further investigation or other justification, it characterizes the contaminated environmental media as PTW.

In light of the foregoing, EPA selects a remedy in the PRAP that is based on unsubstantiated conclusions regarding the presence of PTW. Therefore, it lacks a basis to apply RCRA closure requirements or to require that soil within the Source Area Soil action area must be excavated for off-Site disposal. Given that EPA has not established that PTW is present at the Site, its selection of an excavation remedy for the Source Area Soil action area is arbitrary and capricious and contravenes the NCP.

Emhart respectfully submits that EPA must reconsider its refusal to include Alternative 2 in the array of remedial alternatives for Source Area Soil, and select that option, which entails long-term monitoring and maintenance of the existing caps and paved surfaces. The application of Remedial Alternative 2 in the Source Area Soil action area would ensure that the surfaces remain intact, thereby preventing direct contact with the underlying contaminated soils.

b. <u>EPA Errs in Screening Out Remedial Alternative 2</u>

Under Alternative 2, long-term monitoring and maintenance of the existing surfaces, including the existing caps, parking lots, paved surfaces, rip rap and landscaped areas, would be performed to prevent erosion and potential exposure of contaminated source area soil. Application of this alternative also would ensure that the surfaces remain intact, thereby preventing direct contact with the underlying contaminated soils.

The existing caps are protective of human health and the environment, and RCRA caps would be no more protective than the existing caps. *See* Letter from J. Loureiro, LEA, and J. Muys, Sullivan & Worcester LLP, to A. Krasko, EPA Region 1 (Jun. 8, 2007). The long-term protectiveness of the caps was demonstrated, although not mentioned in Section 2.3.5 of the FS Report, following the highest recorded flood event on the River, which occurred on March 30,

2010 and resulted in record high flows (>1750 cfs). Even with these historically high flows, no damage resulted to the present soil caps. *See* Letter from EPA Re: Interim-Final Feasibility Study (May 7, 2010), at 2 ("The flooding caused no significant structural damage to the caps or armoring.").

According to EPA, Alternative 2 would not comply with the ARARs for GB leachability, RCRA or TSCA closure, residential direct exposure, or EPA's recommended residential level for dioxin in soil (EPA, 1998). *See* FS Report, at 5-54. EPA concludes that these requirements must be met or waived in order for Alternative 2 to meet CERCLA requirements. *See id.* However, as discussed above, RCRA closure requirements do not apply. As for residential direct exposure to contaminated soils, with just a modest extension of the protective surfaces already in place, this concern could be fully addressed. (In contrast, as discussed in this section, the relocation of residents to avoid direct exposure to contaminated soils and sediments if Alternatives 3 or 4 are chosen is highly problematic.) As set forth in Section IV.B.4.b.(i) below, EPA incorrectly applies the GB leachability criteria. And, TSCA is not a bar to leaving impacted media in place, as discussed below in Section IV.B.4.b.(ii).

EPA's failure to acknowledge that the existing surfaces satisfy performance standards and its misapplication of the Site ARARs results in EPA "screening out" the most practicable alternative for the Source Area Soil action area. *See* FS Report, at 5-54 to 5-55.

(i) EPA Incorrectly Asserts that PCBs Are Present In Soil at Concentrations Above the GB Leachability Criteria

EPA asserts in the FS Report that Alternative 2 was screened-out because the existing caps would not reduce precipitation infiltration into the groundwater, nor would this alternative actively remediate the area where contaminants in the groundwater are above the Rhode Island

GB groundwater criteria and where contaminants in the soil are above the GB leachability criteria. FS Report, at 5-54.

In evaluating soil data, EPA compares contaminant concentrations to the Method 1 Soil Objectives specified in Table 2 of the State of Rhode Island and Providence Plantations, Department of Environmental Management, Office of Waste Management, *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases, Short Title: Remediation Regulations* (DEM-DSR-01-93) ("Remediation Regulations"). From its evaluation, EPA concludes that the concentration of PCBs in source area soil (mass) exceeds the GB leachability criterion of 10 milligrams per kilogram (mg/kg). However, this conclusion is premature; the Remediation Regulations allow for a comparison of the soil data to an alternative criterion for PCBs, not only to the Soil Objectives specified in Table 2. The Remediation Regulations provide that:

> [W]ith respect to any hazardous substance in soil, the Director may approve a leachability criterion provided it is demonstrated to the satisfaction of the Director that the application of such leachability criterion at the contaminated-site is protective of the following:
>
> a. The actual and potential uses of the groundwater at the contaminated-site by ensuring that, at a minimum, the leachability criterion will not contribute to an exceedance of the applicable groundwater objective for the hazardous substance; and
>
> b. Surface water at or in the vicinity of the contaminated-site from potential migration of groundwater.

See Remediation Regulations, at § 8.02(A)(ii)(1).

When describing Alternative 3 (Targeted Excavation, Upgrade and Maintain Existing Surfaces and Disposal and/or Treatment), EPA contemplates that if there is no potential to leach, then the soils containing PCBs that apparently exceed the GB leachability criterion can remain in place; thus, it is necessary to obtain an accurate assessment of whether migration of the PCBs is

likely. *See* FS Report, at 5-55 n.50. EPA does not complete the evaluation of whether or not PCBs have the potential to leach from the soil. While EPA performs a Method 1 analysis in accordance with the Rhode Island Department of Environmental Management ("RIDEM") regulations by comparing mass results to the tabulate criteria, this is only the beginning of the necessary evaluation. *See* Remediation Regulations, § 8.02. As noted in these regulations, as quoted above, this evaluation does not end with the Method 1 analysis. EPA fails to take this into consideration in performing its evaluation; therefore, it prematurely concludes that concentrations of PCBs in soil exceed the GB leachability criterion.

Rather, the soil should have been sampled and subjected to a leachability test, such as the Synthetic Precipitation Leaching Procedure ("SPLP"), in order to complete the evaluation of whether the PCBs have the potential to leach from the soil. The SPLP test was devised to provide a realistic evaluation of leaching potential; thus, it serves as an appropriate test upon which to determine the leachability of contaminants as identified in the RIDEM regulations discussed above. Nonetheless, EPA does not subject soils sampled in the source area to the SPLP test, thus failing to complete the necessary leachability evaluation. Therefore, EPA's conclusion regarding the potential leachability of PCBs from soil is based on an incomplete analysis and, accordingly, is arbitrary and capricious. In fact, based on the Site groundwater data, it is likely that SPLP testing of source area soil would demonstrate that PCBs do not have the potential to leach into groundwater.

Further support for the conclusion that precipitation infiltration is not contributing to leaching of PCBs in soil to groundwater is found in EPA's statement that: "the existing interim caps and parking lots in the source area currently appear to be effective in limiting the leaching of contaminants into groundwater, except in the vicinity of Well MW-05S in the Brook Village

parking lot where discharge of contaminated groundwater to the Woonasquatucket River occurs." FS Report, at 5-54. Moreover, as discussed in Section IV.B.5.b and c below, the TCRA completed in the Source Area Groundwater action area successfully addresses any potential impacts from the vicinity of the Brook Village parking lot, as acknowledged by EPA. Therefore, EPA's conclusion that concentrations of PCBs in soil exceed the GB leachability criterion is inconsistent with current data, which do not indicate that leaching is occurring. In light of the foregoing, it is imperative that EPA conduct the leachability testing under the Rhode Island Remediation Regulations prior to selecting the preferred alternative for the Source Area Soil action area

(ii) EPA Improperly Asserts that Alternative 2 Does Not Satisfy TSCA Closure Requirements

In the FS Report, EPA fails to consider that the EPA Region 1 PCB Coordinator has the discretionary authority, based upon a risk-based analysis, to allow source area soil impacted with PCBs to remain in-place under TSCA. EPA fails to perform such an analysis; therefore, it is unknown whether, under TSCA, PCB-impacted soils will require removal. Thus, Alternative 2, which would allow the impacted soils to remain in place, should be carried through a detailed evaluation. Alternative 3 includes targeted excavation to remove alleged PTW and contaminated soil that exceeds the TSCA and GB leachability criteria, as well as upgrading and maintaining the existing surfaces to prevent exposure to or migration of contaminated soil in the Source Area Soil action area. Excavated material would be shipped off-Site for disposal and/or treatment. However, as previously discussed, little or no data exist to support the assumptions regarding PTW and contaminated soil that underlie Alternative 3 or for that matter EPA's selected remedy, Alternative 4E, for source area soils at the Site. For instance, just west of the Centredale Manor apartment building, the proposed excavation and soil removal remedy is not consistent with the

data: there are no data that warrant the removal of soil from this area or the capping of the parking lot area. Further, EPA fails to justify why source area soils that have not been addressed yet need to be covered with an additional 12 inches of clean soil.

Undoubtedly, such action would be unnecessary because the TSCA requirements would be satisfied if the modified Alternative 2 approach suggested by Emhart is implemented: the consolidation of the soil that would be excavated under Alternative 3 (TSCA "hot spots") into a single RCRA/TSCA cap/cell placed over the area defined by EPA as containing magnetic anomalies.

With some simple modifications to address potential exposure to contaminated source area soils at several small landscaped areas, Alternative 2 would be equally protective of human health and the environment as Alternative 3 and Alternative 4E (Targeted Excavation, Convert to RCRA Caps and Maintain, and Disposal and/or Treatment). Thus, EPA's selection of a remedy costing nearly $20 million is arbitrary and capricious given that the same outcome could be achieved for approximately $5 million by selecting Alternative 2.

c. <u>EPA Retains Infeasible Alternatives While Improperly Screening Out Viable Ones</u>

EPA retains infeasible alternatives (Alternatives 3 and 4), which involve extensive excavation of soils. EPA fails to adequately consider the short-term negative impacts that would result from the implementation of Alternatives 3 and 4, and which would not result if Alternative 2 were to be implemented. Alternatives 3 and 4 would result in unnecessary and unacceptable risks to the resident population of the Brook Village and Centredale Manor apartments from the potential exposure to fugitive, airborne contaminants generated during the extensive excavation of soils.

In evaluating these alternatives, EPA fails to address the problems inherent in relocating the residents of the Brook Village and Centredale Manor apartments, which would be necessary to implement Alternatives 3 and 4. Nor does EPA's evaluation of Alternatives 3 and 4 consider the costs resulting from the relocation of the residents. This task would be formidable, if not impossible, given the demographics of the population residing at the Site. Under both Alternative 3 and Alternative 4, the existing surfaces (parking lot paving) would be removed up to the apartment buildings, exposing the impacted soils and sediments. Due to the risk to human health that would occur, access to the buildings over the exposed soils and sediments would be prohibited.

The human health risks associated with the short-term effectiveness of Alternatives 3 and 4 would make the implementability of either of these remedial alternatives highly questionable. In fact, the short-term risks to human health posed by implementation of Alternatives 3 and 4 would justify a waiver of applicable ARARs, if there were any, since "compliance with such requirement at the facility will result in greater risk to human health and the environment than alternative options." *See* 42 U.S.C. § 9621(d)(4)(B); *see also CERCLA Compliance With Other Laws Manual*, at 1-72 ("Meeting an ARAR could also pose greater risks to workers or residents . . . . If protective measures were not practicable, then use of this waiver might be appropriate.").

Despite what EPA states in the Addendum, no consideration is given to the impact of EPA's preferred alternatives on the residents or the costs of relocating residents. The treatment-based remedies of Alternatives 3 and 4 would result in greater overall risk to human health due to risks posed to the surrounding community during implementation, risks that could not otherwise be mitigated.

As EPA points out in the Addendum, there is concern that large scale excavation could not be conducted in a way that would allow residents to remain in their homes given the close proximity of the contamination to two apartment buildings, which were constructed on a portion of the Source Area. Excavation work would be performed up to the perimeter of the buildings, which would block access and have a high potential to generate dust and volatile emissions at concentrations that could increase health risks to the residents. Thus, the approximately 335 residents of the two apartment buildings – many of whom are elderly and handicapped – would require relocation during construction. Because of the age and health of the building residents, relocation could have significant unacceptable short- and long-term human health impacts coupled with significant implementability issues. *See* 55 Fed. Reg. 8666, 8703 (Mar. 8, 1990) (implementation of a treatment-based remedy would result in greater overall risk to human health and the environment due to risks posed to workers or the surrounding community during implementation).

Notwithstanding the foregoing, the Region explains that the proposed remedy for the Source Area includes a RCRA cap . . . as well as clean corridors for utilities, to prevent exposure to contaminated soil both to residents and utility workers. However, the Region fails to recognize the unavoidable fact that the proposed remedy is no less disruptive and risky to on-site residents than the NRRB's suggestion that all of the site be excavated. *See* Letter from J.T. Owens, III, Director, Office of Site Remediation and Restoration, EPA Region 1, to A.R. Legare, Chair, NRRB (Sep. 28, 2011). Clearly, the selected remedy cannot be conducted, as proposed, while the public is residing on the property. Implementation of the remedial alternative, therefore, is unnecessary because monitoring and maintaining the existing caps is equally

protective of human health and the environment and can be undertaken with minimal disturbance to the residents.

Moreover, the FS includes no diagram, such as by means of a cross section, of a RCRA cap relative to the existing buildings, sidewalks and other paved areas. Installation of a RCRA cap likely would result in the final ground surface being raised one to two feet above some of these features, which would be particularly unwieldy.

With regard to the primary contaminants of concern ("COCs") at the Site, dioxins and PCBs, it is noteworthy that these contaminants are not mobile and therefore are not expected to leach to groundwater. A review of the published literature on the fate and transport of these COCs in the environment confirms the view that these contaminants do not leach. Moreover, a review of the Site groundwater data demonstrates that these COCs are not present in groundwater. Nonetheless, EPA relies on its unsupported theory, the potential leaching of these COCs to groundwater, as the basis for its proposed remedial alternatives for source area soil. EPA steadfastly refuses to move from this position despite its failure to fully evaluate site data or subject soil samples to a leachability test such as the SPLP.

Furthermore, unlike Alternative 2, EPA's selected alternative is at odds with EPA's green remediation guidance, insofar as it requires transportation by truck of large volumes of waste material. *See* U.S. EPA, *Green Remediation Guidelines and Superfund Green Remediation Strategy* (Sep. 2010); U.S. EPA, *Green Remediation Incorporating Sustainable Environmental Practices into Remediation of Contaminated Sites* (Apr. 2008).

As recommended by Emhart, Alternative 2 must be fully evaluated with the suggested modifications. As modified, the entire cost of implementing Alternative 2 would be

approximately $5 million dollars, thus eliminating the additional estimated $15 million cost of shipping and disposing of impacted soils off-Site under EPA's proposed remedy.

5. Source Area Groundwater

EPA considers three alternatives for the Source Area Groundwater action area:

- excavation and dewatering (Alternative 2);
- *in-situ* treatment using chemical oxidation (Alternative 5); or
- no action (Alternative 1).

In the FS Report, EPA evaluates no fewer than five remedial alternatives each of which is solely aimed at remediating the shallow groundwater area that EPA already agrees is adequately addressed by Emhart's performance of the removal action completed in 2010. The remedial alternatives initially were evaluated based on Rhode Island's classification of the Site groundwater under state law as not a potential source of drinking water. However, in response to the comments of the NRRB, in the FS Report, EPA instead classifies the groundwater within the Source Area Groundwater action area under federal law. Moreover, rather than similarly classifying the groundwater under federal law as not a potential source of drinking water, EPA instead reclassifies it as a potential source of drinking water. As a result, federal drinking water standards become the ARARs at the source area. Thus, in the Addendum, EPA revises the RAOs for groundwater to prevent exposure to contamination in groundwater in excess of federal Maximum Contaminant Levels ("MCLs") and/or non-zero MCL goals ("MCLGs") for drinking water.

Further, based on the extent of groundwater contamination above these new cleanup goals, EPA expands the area proposed for remediation from 0.13 acres (the area covered by the removal action) to 8.0 acres (the groundwater beneath the entire Peninsula), establishing a "point of compliance" boundary at the downgradient edge of the Peninsula. Notwithstanding these

fundamental changes, EPA neglects to revise its evaluation of remedial alternatives in the Addendum to address the change in groundwater classification, the expansion of the area proposed for remediation (groundwater beneath the entire Peninsula), or the newly established RAOs.

In light of the foregoing, as discussed more fully below, EPA's evaluation of the remedial alternatives and proposed remedy for this action area are flawed. EPA's failure to re-evaluate the remedial alternatives, or reconsider the selected remedy for groundwater is arbitrary and capricious, or otherwise not in compliance with law.

a. Description of the Removal Action

In August 2009, Emhart voluntarily entered into an Administrative Settlement Agreement and Order on Consent ("AOC") with EPA (CERCLA Docket No. 01-2009-0086) to perform the removal action, wherein Emhart agreed to excavate and dispose off-Site delineated dioxin-contaminated soils within the Source Area Groundwater and Source Area Soil action areas, and to install an impermeable cap, at a cost of approximately $3 million. EPA issued a Notice of Completion for this action on July 27, 2010.

The removal action was approved by EPA in an Action Memorandum dated July 16, 2009, which described the remedial nature of the action as follows:

> Impacts to the Woonasquatucket River and groundwater can be effectively reduced by excavation and disposal of contaminated soils in the area near the eastern bank of the river at the southern end of the Brook Village parking lot. The subsequent installation of an impermeable cap will prevent percolation of precipitation through underlying soils and further mitigate the migration of any residual contamination. The cap also provides a physical barrier that minimizes the possibility of direct exposure to residual levels of dioxin in soils.

The language of the AOC reflected EPA's expectation that no further action would be necessary in this area following completion of the removal action: "EPA believes that, subject to post-implementation monitoring, the removal action will mitigate a potential risk to public

health, welfare or the environment posed by this area of the Site." AOC, at 9, *see also* EPA's September 7, 2010 Press Release entitled "Short-Term Clean-up Completed at Centredale Manor Restoration Project in N. Providence." As acknowledged by EPA, this removal action remediated successfully the shallow groundwater to meet all RAOs.

b. <u>Dioxin Was Not Migrating in Groundwater</u>

Notwithstanding the foregoing, the FS Report and Addendum appear to reflect a wholly unsubstantiated theory by EPA that groundwater flow toward and into the River has served as a contaminant transport mechanism, both pre- and post-removal action. This theory, referred to by EPA as "facilitated transport," is not supported by the Site data. As explained in submissions dated June 8, August 15, and October 15, 2007, and incorporated in the administrative record, Emhart has shown that sampling results from the area surrounding the former HCP building do not support the assumption of facilitated transport of dioxin in groundwater. *See* LEA, *Shallow Groundwater Data Report* (Sep. 12, 2008), at 8-1 to 8-3. EPA nonetheless asserts in the FS Report that "[t]he elevated concentrations of 2,3,7,8-TCDD in adjacent river sediment may reflect legacy contamination from historic site activities, *continuing contributions from contaminated groundwater*, or a combination of the two." FS Report, at 2-19 (emphasis added). This is sharply at odds with post-removal action groundwater monitoring data. *See* LEA, *Addendum No. 1-Completion of Work Report, Time Critical Removal Action* (Apr. 2010), at A.5-5.

c. <u>Even If Dioxins Were Previously Migrating in Groundwater, the Removal Action is Fully Protective</u>

Assuming, *arguendo*, that dioxin previously was migrating in source area groundwater, the removal action more than adequately mitigated the risks associated with this potential migration pathway such that further action is unnecessary. This is confirmed by the results of

groundwater samples collected on February 2, 2010, from the two monitoring wells installed as part of the removal action to verify the efficacy of the action. *See id.* Groundwater sampling results for 2,3,7,8-TCDD from these two monitoring wells were 1.7 pg/L and 6.7 pg/L; both of which are lower than EPA's proposed groundwater cleanup goal of 30 pg/L developed in the Addendum. *See* Addendum, Table 3-7. Thus, the removal action effectively mitigated any risk that may have been posed by groundwater transport of dioxin to surface water, if it had been occurring.

d. EPA Inappropriately Identifies Federal Drinking Water Standards as ARARs

In response to the comments provided by NRRB, in the FS Report, EPA applies the federal drinking water standards as the ARAR at the source area and changes the groundwater classification from Class III (Not a Potential Source of Drinking Water and/or of Limited Beneficial Use) to Class IIB (Potential Source of Drinking Water) for the groundwater within the Source Area Groundwater action area. As a result, the federal drinking water standards are ARARs at the source area. *See* Letter from J.T. Owens, III, Director, Office of Site Remediation and Restoration, EPA Region 1, to A.R. Legare, Chair, NRRB (Sep. 28, 2011), at 6. It is noteworthy that in its response to the NRRB, EPA describes a Site that is clearly not suitable for drinking water purposes, now or in the future. As provided by EPA:

(1) RIDEM has identified 18 state regulated waste sites along the River in the vicinity of the Site;

(2) EPA data from wells in the Town of Johnston, and RIDEM data from the other waste sites "show non-site related groundwater contamination beyond the Source Area;"

(3) "Since 1992, the groundwater *entirely* surrounding the Centredale Manor Site has been classified as a non-drinking water (GB) aquifer by the State of Rhode Island due to

the numerous non-Superfund sources located on both sides of the Woonasquatucket River (both downstream and upstream from the Source Area);" and

(4) Based upon a review of extensive historic groundwater data provided by RIDEM, locations away from the Source Area are influenced by releases (including TCE and PCE) *not attributable to the Site.* As a result, anthropogenic conditions beyond the Source Area represent background concentrations for the aquifer beyond the Source Area.

Id. at 2.

Clearly, groundwater under and in the vicinity of the Site is not, nor will it ever be, a useable source of potable water. Nonetheless, EPA applies the federal drinking water standards as ARARs, which is inconsistent with the Agency's decision making at other Superfund sites. For instance, in the Record of Decision for the Pine Street Canal Superfund site in Burlington, Vermont, EPA determined that:

> [F]ederal drinking water standards promulgated under the Safe Drinking Water Act are not relevant and appropriate, because it is highly unlikely that groundwater at the site will be used as a drinking water source. Primary Groundwater Standards, contained in the State of Vermont Groundwater Protection Act and Groundwater Quality Standards (10 V.S.A. Chapter 47 and 48) are applicable. The Vermont Agency of Natural Resources has classified groundwater under the Site as Class IV, suitable for some agricultural, industrial and commercial use but not as a source of potable water. The management objective for Class IV groundwater is to achieve the Vermont Groundwater Standards to the extent feasible.

See ROD for Pine Street Canal, Burlington Superfund Site, Vermont (Sep. 1998), at 50 ("Pine Street Canal ROD").

Similarly, for the Pownal Tannery Superfund Site, EPA identified the Vermont Groundwater Rule and Protection Strategy (10 VSA Ch. Sec. 1390-1394) as the applicable ARAR. "The selected alternative includes long-term ground water monitoring, which will satisfy the requirements of this standard." Pownal Tannery ROD. It is noteworthy that absent

from the federal regulatory requirements identified in Table B-3: *ARAR and TBC Summary for Alternative 4, Consolidation and Capping* are the Federal Safe Drinking Water Act standards. *Id*. Moreover, at the time the Records of Decision were issued for both the Pownal Tannery site and the Pine Street Canal site, the State of Vermont did not have an EPA-approved Comprehensive State Groundwater Protection Program.

Similarly, for the Record of Decision for the Atlas Tack Corp. Superfund site in Fairhaven, Massachusetts, EPA determined that:

> The Site's aquifer has been classified by the State (314 CMR 6.03). The groundwater is classified as either Class I (fresh potable water supply) or II (saline, water near tidally influenced areas) depending on the location under the Site. The future use of groundwater was evaluated based upon EPA Region 1's "Groundwater Use and Value Determination Guidance" (EPA, 1996). This guidance "is intended to result in more informed and focused decision-making and more commonsense and cost-effective groundwater cleanups." This guidance stresses the need for site-specific groundwater "Use and Value Determination" (performed by the State, with public input, and reviewed by EPA) before applying potential chemical-specific ARARs such as MCLs. The Groundwater Use and Value Determination for Atlas Tack Corporation Superfund Site was released by DEP on March 11, 1998 (Weston, 1998b).
>
> Additionally, DEP's determination concluded that, due to the low use and value of the aquifer, use of the aquifer for potable purposes was not likely. As such, the Safe Drinking Water Act's maximum contaminant levels (MCLs) and maximum contaminant level goals (MCLGs) are not applicable or relevant and appropriate and were not used to establish groundwater cleanup levels. At the same time, because the groundwater is not suitable for potable purposes even at locations not influenced by salt water because of contamination (see Table 3 for a summary of contamination found at certain well locations), institutional controls (*e.g.*, deed restrictions, including easements) will need to be established to prevent any future use of the groundwater at the Site for drinking water.

See ROD for Atlas Tack Corp. Superfund Site, Fairhaven, Massachusetts (Mar. 2000), at 36 ("Atlas Tack ROD").

As with the three Superfund sites discussed above, the groundwater beneath and surrounding the Site is impaired and not suitable for potable purposes. Accordingly, RIDEM classifies groundwater beneath the Site as a non-drinking water GB aquifer. Moreover, RIDEM

classifies all groundwater downgradient of the Site as a GB aquifer. Thus, there is no potential point of human exposure beyond the boundary of the Site. Nonetheless, EPA inappropriately, and inconsistently given its decisions at other similarly-situated Superfund sites, applies the federal drinking water standards as ARARs at the Site.

e. Effect of EPA's Decision to Re-Classify Groundwater

Based on a review of Site groundwater monitoring data, it is known that groundwater contamination at the Source Area is spatially widespread relative to federal drinking water standards. Elevated concentrations of perchloroethylene ("PCE") above federal MCLs were detected in deeper well intervals (deep overburden and bedrock) in two areas: (i) along the western portion of the Source Area in MW14M, MW07D, and MW12D, which are located south of the area excavated during the 2009–2010 removal action; and (ii) in the eastern portion of Cap Area #1 near MW02M, MW02D, MW13S, MW13D, MW13B, MW04D, and MW04B.

The removal action completed in 2010 was designed and implemented to address only the shallow groundwater in the area beneath the approximately 0.13 acres on the west side of the Brook Village parking lot. It is not intended to, nor will it, address all groundwater beneath the entire 8.0 acre Peninsula, which contains contaminant concentrations at the point of compliance in excess of the federal drinking water standards.

Moreover, by failing to revive its evaluation of remedial alternatives for groundwater to address the revised RAOs, the administrative record is unclear how EPA plans to evaluate post-remediation groundwater monitoring data in assessing whether further action is required at the Site.

As provided in the Addendum, EPA only identifies that groundwater monitoring be conducted to assess groundwater quality relative to the new RAOs (MCLs and non-zero MCLGs) at the point of compliance. Because the removal action only addressed the shallow

groundwater condition beneath the Brook Village parking lot, the groundwater monitoring requirement at the point of compliance is a superfluous requirement, one for which there is no technical basis. It only serves as an administrative requirement to satisfy the improper change to the groundwater classification for the Site that was made in response to the NRRB comments.

Therefore, EPA must eliminate this monitoring requirement (other than for the area of the removal action completed in 2010), or identify the RIDEM groundwater protection standards as ARARs, just as EPA previously had done during the FS. Alternatively, EPA must grant an ARAR waiver for the federal drinking water standards and establish alternate concentration limits for the Site, unless the Agency works with RIDEM to approve a Comprehensive Groundwater Protection Program that would enable EPA's use of RIDEM groundwater protection standards as ARARs.

Based on the foregoing discussion, EPA's analysis of the remedial alternatives and remedy selection in the PRAP for this action area is flawed. EPA changes the groundwater classification in a manner inconsistent with its decisions at other Superfund sites where the groundwater also was determined under state law not to be a potential source of drinking water. Moreover, EPA fails to evaluate the effect of that decision on the remedial alternatives in the FS, contrary to the NCP requirements. Further, in the PRAP, EPA selects a remedy for the Source Area Groundwater action area without explaining either how the proposed remedy is expected to meet the newly assigned RAOs in the Addendum, or how EPA plans to evaluate the post-remediation groundwater monitoring data contemplated to be collected under the PRAP. Based on all of these factors, EPA acts in an arbitrary and capricious manner or otherwise not in compliance with law.

V. Conclusion

In summary, in the FS Report, the Addendum and the PRAP, EPA disregards key legal requirements in CERCLA, and contrary to the NCP, ignores crucial technical facts and evaluation processes. These actions have rendered the resulting remedial alternatives analysis and selected remedies in the PRAP unreliable and, consequently, unsupportable under the standard of review in CERCLA § 113(j)(2) for numerous reasons, including the following:

- In the FS Report, the Addendum and the PRAP, EPA disregards key legal requirements in CERCLA and ignores crucial technical facts and required evaluation steps contrary to its own regulations;
- Contrary to its own regulations, rules, policy and guidance documents, EPA concludes that all impacted environmental media at the Site contain a RCRA F-listed waste, and that all Source Area soil, floodplain soil and pond sediment at the reaches of Allendale and Lyman Mill are PTW;
- EPA makes improper assumptions regarding community opposition to the most cost-effective remedial alternatives for the Ponds and the River sediment, while ignoring the high probability of community opposition to the alternative that EPA champions;
- EPA misconstrues RCRA and TSCA and misapplies the ARARs, leading to improper and unsupported conclusions regarding the scope of necessary excavation and capping of environmental media;
- EPA improperly applies EO 11988 when evaluating the implementability of the nearshore CDF, and ignores the hydrodynamic modeling demonstrating that the nearshore CDF would result in no appreciable flood inundation effects; and

- EPA fails to adequately assess the many uncertainties regarding the implementability of an upland CDF and the cost and timelines with which it could be sited.
- EPA incorrectly identifies groundwater ARARs for the Site or otherwise neglects to reconsider the remedial alternatives for groundwater to address entirely the area proposed for remediation, revised from 0.13 to 8.0 acres, and fails to explain how it plans to use the post-remediation groundwater monitoring data to assess the need for future action at the Site;
- EPA fails to accurately assess the remedial alternatives for both the Oxbow Area portion of the Lyman Mill Stream Sediment and Floodplain Soil, and the Lyman Mill Reach Sediment due to the absence of necessary data to compare the alternatives' effectiveness; and
- EPA fails to consider key components of its conceptual site model for the Oxbow Area as it relates to potential post-remediation releases of COPCs from the Oxbow Area into Lyman Mill Pond.

In light of the foregoing listed multiple failures of EPA to comply with the requirements of CERCLA and its implementing regulations, policy and guidance documents, EPA selects proposed remedies for the designated action areas at the Site that are infeasible to implement, unnecessary, and unreasonably costly, including remedies that would require excavation and off-Site disposal of large quantities of soil and sediment, and the installation of RCRA-compliant caps. Emhart's comments on the FS Report, Addendum and PRAP demonstrate that there are far more cost-effective, equally protective, and readily achievable remedial alternatives that would fulfill the mandates of CERCLA§ 121 and the NCP. By ignoring important evidence, and

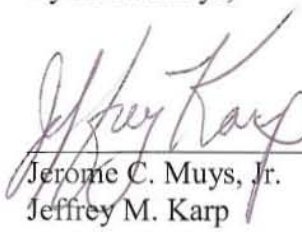
rigidly adhering to its sorely out-of-date and inapplicable conceptual site model, EPA premises its evaluation of remedial alternatives in the FS Report, Addendum, and PRAP on faulty and erroneous assumptions about the sources, types, and attributes of Site contaminants. Moreover, in failing to consider important facts and scientific data placed in the administrative record since the RI was conducted, EPA fails to give the requisite consideration to or select effective, implementable, cost-effective and equally protective alternatives.

The foregoing-described actions and decisions of EPA are arbitrary and capricious, as they are contrary to CERCLA, the NCP, and EPA's own policies and guidance. Accordingly, EPA must rectify its fundamentally flawed feasibility study process and PRAP by considering these comments and the accompanying appendices by: (1) updating its conceptual site model accordingly; (2) properly applying Site ARARs, including abandoning its incorrect F020 waste code, PTW designations for in-place contaminated environmental media, and classification of Site groundwater; and (3) re-evaluating and modifying the remedial alternatives under consideration for the Site and selected in the PRAP.

Respectfully submitted,

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APPENDIX A: SUMMARY OF EVIDENTIARY BASIS FOR EMHART'S COMMENTS THAT EPA'S CONCEPTUAL SITE MODEL AND RCRA WASTE CODE DETERMINATION ARE SERIOUSLY FLAWED

A. Introduction

Despite the passage of 12 years since the United States Environmental Protection Agency ("EPA") issued general notice of liability letters to Emhart Industries, Inc. ("Emhart") and New England Container Company, Inc. ("NECC"), and the receipt into the administrative record of hundreds of thousands of pages of testimony, statements, reports, investigations and scientific work, in its conceptual site model for the Centerdale Manor Superfund Site ("Site")[1] EPA still clings to the unfounded speculation that 2,3,7,8-tetrachlorodibenzo-p-dioxin ("2,3,7,8-TCDD") was discharged to the Site from a hexachlorophene ("HCP") manufacturing plant that Emhart's predecessor, Metro-Atlantic Chemical Corporation ("Metro-Atlantic"), operated for less than a year in 1964 and 1965. EPA ignores the compelling facts and scientific evidence that NECC, which operated a steel drum reclamation business on the Site, was the source of the 2,3,7,8-TCDD contamination at the Site.

Because of EPA's faulty conceptual site model, the Agency erroneously applies the Resource Conservation and Recovery Act ("RCRA") F020 waste code to all the contaminated media at the Site, despite the fact that, as demonstrated below, EPA cannot trace the release of hazardous waste to Metro-Atlantic's HCP operation. Moreover, the dioxins identified in Site samples are not characteristically hazardous wastes. Thus, RCRA, and the F020 waste code, are not applicable.

[1] The Site consists of two parcels located at 2072 and 2074 Smith Street (the "Peninsula") in North Providence, Rhode Island, adjacent to the Woonasquatucket River ("River"), and downstream areas that allegedly have been impacted by activities on the two parcels; including sediments in two downstream ponds – Allendale Pond and Lyman Mill Pond, and their associated floodplain soils.

The facts in the administrative record demonstrate that:

1. The Metro-Atlantic HCP plant was connected to the municipal sewer system and any liquid waste was discharged to the municipal sewer system;
2. There were no spills or other discharges of liquid waste to the environment from or in connection with the HCP plant;
3. All solid waste from the HCP plant was placed in a dumpster and disposed of off-Site; and
4. The main Metro-Atlantic manufacturing plant, and Metro-Atlantic's reserve salt and Trifluralin operations, did not use or generate dioxin-containing substances.

The scientific and other expert reports and depositions in the administrative record confirm that:

1. Even if liquids used or generated in Metro-Atlantic's HCP manufacturing process were released to the environment, they would have contained no detectable levels of 2,3,7,8-TCDD;
2. If Metro-Atlantic had disposed of the solid, activated carbon waste involved in the HCP operation, that activated carbon would have adversely affected EPA's internal standard recovery testing results; there is no evidence that it did so, which means there is no scientific evidence that Metro-Atlantic disposed of solid waste on the Site;
3. To the extent the "starter" material, sodium 2,4,5-trichlorophenolate ("Na-2,4,5-TCP"), Metro-Atlantic purchased for use in its HCP operation contained any 2,3,7,8-TCDD, the chemical profile of that manufactured "starter" material does not match the profile of samples from the Site that contain 2,3,7,8-TCDD from a manufactured source;

4. Metro-Atlantic's HCP manufacturing process could not have generated any 2,3,7,8-TCDD; and
5. The 2,3,7,8-TCDD detected on the Site originated with discharges from NECC's drum reclamation operation.

Despite five years of litigation between Emhart and NECC, including fact and expert discovery, NECC has not:

1. Provided any rebuttal to the documentary record and the eyewitness testimony demonstrating that there were no discharges of 2,3,7,8-TCDD-containing substances from the Metro-Atlantic HCP operation;
2. Rebutted in any scientifically valid way the expert analysis and scientific evidence – including the absence of any dioxin-containing activated carbon at the Site – establishing that Metro-Atlantic's HCP operation did not discharge any 2,3,7,8-TCDD-containing substances onto the Site;
3. Supported with any scientifically valid analysis or any fact evidence its speculation that the 2,3,7,8-TCDD detected on the Site was the result of discharges in connection with the Metro-Atlantic HCP operation, such as spillage from the hose used to deliver the "starter" materials from a tanker truck directly to the reaction vessels at the Metro-Atlantic HCP plant;
4. Supported in any scientifically valid way its assertion that the polychlorinated dibenzofuran ("PCDD/F") chemical profile of the "starter" material purchased by Metro-Atlantic is consistent with contamination found at the Site; or
5. Rebutted in any scientifically valid way the scientific and expert evidence that the source of the 2,3,7,8-TCDD detected on the Site was from the NECC operation.

In 1999, EPA "speculated" with no basis in fact or science that the Metro-Atlantic HCP plant was the source of the 2,3,7,8-TCDD detected on the Site. In the 12 years since then, EPA has not confirmed its speculation with either facts or scientific analysis. Nor can it present such confirmation, as the speculation is contrary to the fact record, and the scientific and expert matter in the administrative record. Yet, EPA persists in its scientifically flawed conceptual site model, which is based solely on its original speculation, and proposes the expenditure of tens, if not hundreds, of millions of dollars for the Site remedies it advocates.

EPA's arbitrary and capricious conduct in disregarding important facts and scientific data in the administrative record has resulted in EPA overlooking compelling evidence demonstrating that its conceptual site model is seriously flawed. In turn, these deficiencies have undermined the validity of EPA's analysis of remedial alternatives in the Feasibility Study Report and the Feasibility Study Report Addendum, as well as EPA's selection of preferred alternatives in the Proposed Remedial Action Plan ("PRAP"). Consequently, Emhart respectfully submits that it is incumbent upon EPA to re-evaluate its proposed remedies based on an accurate, comprehensive analysis of all the scientific data currently available. Following is the evidentiary basis for Emhart's position that EPA's conceptual site model and RCRA waste code determination are seriously flawed.

B. Metro-Atlantic's HCP Manufacturing Operations Could Not Have Caused 2,3,7,8-TCDD Contamination at the Site

1. Description of Metro-Atlantic's HCP Manufacturing Process

For a period of less than one year during the 1964-1965 time period, Metro-Atlantic manufactured HCP, which EPA has erroneously speculated is the source of the 2,3,7,8-TCDD contamination at the Site. As discussed below, that process did not generate any 2,3,7,8-TCDD

and did not result in the release of any 2,3,7,8-TCDD to the Site.[2] Thus, EPA cannot support its application of the RCRA F020 waste code to the contaminated environmental media at the Site.

Metro-Atlantic manufactured HCP using a novel process developed and patented by Thomas Cleary ("Cleary process"). Mr. Cleary developed this process to avoid infringing upon an existing patent held by Givaudan Corporation ("Givaudan process"). *See* Dep. of T. Cleary, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Feb. 10, 2003), at 21; *see also Cleary Statement* (Apr. 8, 2008), at 1. The Cleary process was a so-called "batch" process, in which a producer moves materials from one vessel to another, and completes a full production cycle before beginning another "batch." *See Cleary Statement* (Apr. 8, 2008), at 1; *see also* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3.

The Cleary process involved the purification of Na-2,4,5-TCP, which was used as a starter material by Metro-Atlantic in the production of HCP. By adding and removing other liquids (which were collected and recycled for reuse in subsequent batches), and by variously heating, agitating, and cooling the resulting mixtures in different reaction vessels during the production process, Metro-Atlantic facilitated a series of chemical reactions whereby the Na-2,4,5-TCP was removed from the "starter" solution, purified (*i.e.*, converted into pure Na-2,4,5-TCP), and ultimately converted into HCP. The HCP, in turn, was extracted into two distinct "crops" of solid products, a first crop of higher purity HCP and a second crop of slightly lower purity HCP. The entire process took about 24 hours and resulted in the formation of approximately 300 pounds of dry HCP per batch of starter material. *See Cleary Statement* (Apr. 8, 2008), at 1.

[2] None of Metro-Atlantic's other manufacturing operations did or could have produced dioxin, and there is no allegation that those operations were responsible for dioxin contamination at the Site.

Diamond Alkali Company ("Diamond Alkali") supplied Metro-Atlantic with a crude (*i.e.*, unpurified) alkaline starter solution of 30% Na-2,4,5-TCP in water, with a small percentage (less than 2%) of residual methanol remaining from the production of Na-2,4,5-TCP from 1,2,4,5-tetrachlorobenzene ("TCB"). *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 2; *see also* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 39. The solution also contained a small percentage of 2,4,5-trichlorophenol ("2,4,5-TCP") as a function of the solubility of 2,4,5-TCP in the aqueous solutions. This crude "starter" solution was transferred from a tanker truck directly into the first reaction vessel at the HCP building. *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 2, 23; *Cleary Statement* (Apr. 8, 2008), at 2.

After placement in the first reaction vessel, the crude starter solution from Diamond Alkali was treated with additional 30% aqueous sodium hydroxide ("NaOH") to convert any residual 2,4,5-TCP in the solution to Na-2,4,5-TCP. During this step, the Na-2,4,5-TCP precipitated out of the solution. The precipitate was separated from the solution by filtering it in a centrifuge. The precipitate, known as "filter cake," was recovered and washed with an additional 30% aqueous solution of NaOH. The 30% aqueous NaOH solution was collected and reused in subsequent batches. *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3; *Cleary Statement* (Apr. 8, 2008), at 2.

This procedure follows common and safe synthetic chemical practices and is among the most effective to achieve the starting reagent needed to produce HCP. *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3; U.S. Patent 3,499,045 (Mar. 3, 1970); *Cleary Statement* (Apr. 8, 2008), at 1-3. The procedure further indicates that Mr. Cleary was concerned with the yields of the reaction. Although this step is not strictly necessary, it was a reasonably-priced way

to maximize the quality of the HCP produced by decreasing the by-products overall. Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3. Because the Na-2,4,5-TCP "filter cake" was the desired end product of this first stage of the Cleary process, Metro-Atlantic had a strong economic incentive to recover all of the filter cake. To that end, it extracted all of the filter cake into perchloroethylene ("PCE") and transferred (*i.e.*, slurried) this Na-2,4,5-TCP solution from the centrifuge into a second reaction vessel and this mixture was heated to 50°C. *Id.* at 3.

In the next step of the Cleary process, which took place in the second reaction vessel, the Na-2,4,5-TCP was re-protonated, that is the sodium cation was replaced with a proton (H^+) forming 2,4,5-TCP. *Id.* Sulfuric acid was added slowly to this mixture with agitation (stirring). Agitation was stopped two hours following completion of sulfuric acid addition. This process allowed the biphasic mixture to separate, and resulted in a quantitative conversion of all the Na-2,4,5-TCP to 2,4,5-TCP. The acidic aqueous phase liquid was collected and re-used in subsequent batches. *See id.* at 3; *see also Cleary Statement* (Apr. 8, 2008), at 2. The organic phase, a solution of pure 2,4,5-TCP in PCE, was transferred to a third reaction vessel. *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3.

In the next stage of the Cleary process, which took place in the third reaction vessel, the 2,4,5-TCP in solution with PCE was heated to 75°C. Paraformaldehyde (0.5 equivalents) was added to the reaction mixture, followed by slow addition of sulfuric acid (0.5 equivalents). This reaction resulted in the formation of an intermediate compound; however, both the paraformaldehyde and sulfuric acid are limiting reagents in the reaction, and, as a result, there was only partial conversion to the intermediate. Therefore, some 2,4,5-TCP (approximately 0.5 equivalents) remained unreacted in the reaction vessel. The products of this reaction were not isolated, but rather were taken directly into the next step of the HCP manufacturing process. *Id.*;

see also Cleary Statement (Apr. 8, 2008), at 2-3.

In the next step of the Cleary process, the reaction mixture was maintained at 75°C and additional sulfuric acid (0.5 equivalents) was added slowly. The reaction mixture was agitated for two more hours after the addition of the sulfuric acid. This reaction resulted in the formation of HCP in a PCE solution. The reaction was complete after two hours and an aliquot of the liquid was removed and the melting point was determined to establish complete conversion to HCP. *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3; *see also Cleary Statement* (Apr. 8, 2008), at 3.

Still maintaining the reaction mixture at 75°C, approximately one pound of calcium carbonate was added to the reaction vessel to neutralize the residual sulfuric acid globules. A fine powder form of Nuchar (10 lbs.) was added to the reaction vessel and the solution was stirred for approximately 30 minutes. Nuchar is a brand name for a form of carbon black; it is a fine particulate material made of carbon atoms similar to graphite. The solution was hot filtered to remove the Nuchar and calcium sulfate byproducts. The filter cake was then washed with additional PCE. Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3; *see also Cleary Statement* (Apr. 8, 2008), at 3. This is the only step where Nuchar was added. The Nuchar was not reused in subsequent batches. *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3; *see also Cleary Statement* (Apr. 8, 2008), at 3.

The HCP solution, now in a fourth reaction vessel (and now "clear, almost colorless" because the Nuchar removed the color), was allowed to cool to room temperature, during which time some of the HCP precipitated out of the solution. Dep. of T. Cleary, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Feb. 10, 2003), at 42. This precipitate was collected by filtration, dried, placed in 50-lb. fiber drums, and sold as a "first crop" of pharmaceutical

grade HCP to Sterling-Winthrop, Inc. *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3; *see also Cleary Statement* (Apr. 8, 2008), at 3. The PCE from the filter press was recycled too. U.S. EPA, *Dioxins* (EPA-600/2-80-197) (Nov. 1980), at 108.

In the final step of the Cleary process, the remaining PCE-HCP solution (filtrate) was subjected to distillation to recover the PCE for reuse. Upon cooling, the additional HCP that precipitated out of the solution was collected by filtration, dried and sent to Kalo Laboratory as a second crop of HCP product. *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 3; *see also Cleary Statement* (Apr. 8, 2008), at 4.

The Cleary process – from introduction of raw materials into the first reaction vessel to production of the final product – took approximately twenty-four hours per batch. *See Cleary Statement* (Apr. 8, 2008), at 1. This process did not involve the use of steel drums. *Id.* at 3; *see also* Dep. of V. Buonanno, *Emhart Indus., Inc. v. NECC*, C.A. No. 06-218-S (D.R.I.) (Oct. 22, 2008), at 96:12-15.

It has been suggested that unidentified "still bottoms" may have existed at the end of the Cleary process because such wastes were reported in a 1972 report by Radian Corporation addressing the Givaudan process. However, the Givaudan process differed from the Cleary process in many respects because Mr. Cleary specifically developed the patented Cleary process to avoid infringing the patent on the competing Givaudan process. Among other things, as previously highlighted, the Givaudan process was a single-vessel "continuous" process, whereas the Cleary process was a multi-vessel "batch" process. Additionally, there is no indication in the record that the Givaudan process, like the Cleary process, resulted in multiple "crops" of HCP product or reuse of the PCE solution from which those "crops" precipitated. *See* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009) at 3; *see also Cleary Statement* (Apr. 8, 2008), at 3-4;

U.S. EPA, *Dioxins* (EPA-600/2-80-197) (Nov. 1980), at 108.

Thus, no evidence exists from which to conclude that the Cleary process generated residual "still bottoms" requiring disposal. To the contrary, the patent for the Cleary process describes a manufacturing process that did not involve "still bottoms." Supplemental Expert Report of Dr. Francesco Stellacci (Dec. 24, 2009), at 3; *Dioxins* (EPA-600/2-80-197) (Nov. 1980), at 107.

2. No Contaminating Liquids Exited the HCP Building to the Site

a. There Were No Spills of Liquids from the Metro-Atlantic HCP Process

There is no evidence in the administrative record that any spills occurred at any stage of the HCP production process. Mr. Cleary testified that no spills occurred on delivery or in the course of the manufacturing process. *Cleary Statement* (Apr. 8, 2008), at 2. He testified that the delivery method was such that spills would not occur due to the equipment used to make the transfer of Na-2,4,5-TCP to the HCP reactor vessel. *Id.; see also* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 21. It is highly unlikely that any such spills of the starter material occurred. That material was comprised of a liquid that rapidly evaporates leaving a strong phenolic odor that would cause severe human discomfort. As a consequence, the chemicals were maintained and transferred in a manner to avoid their exposure to the atmosphere. *See* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 20-21*; see also* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 2; *Cleary Statement* (Apr. 8, 2008), at 2.

Further, Metro-Atlantic had economic incentive to use all of the Na-2,4,5-TCP in its HCP manufacturing process and would not tolerate losses due to spillage. *See* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 20-21; *see also* Supplemental Expert Report of

Dr. James R. Kittrell (May 5, 2010), at 3. Metro-Atlantic had a limited supply of the Na-2,4,5-TCP (not exceeding 25,000 kgs) from Diamond Alkali, which further supports the conclusion that losses due to spillage would not be tolerated. *See* Dep. of T. Cleary, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Feb. 10, 2003), at Exh. 15.

There is no expert opinion to support the conclusion that there were spills. None of the NECC experts offers an opinion that liquids exited the hexachlorophene plant. Dr. Barbara Taylor, Mr. David Mauro, Mr. Martin Bide, and Ms. Muriel Robinette do not address the physical plant operation and supposed pathways for liquids to exit the plant into the environment; nor did any of the other NECC experts.

After presenting a detailed, but incorrect description of his understanding of the chemical process occurring at the HCP plant, Dr. Jurgen Exner testified that he was offering no opinion that liquids exited the plant. He did present, with no basis in fact or scientific reasoning (and contrary to the testimony and statements of the designer of the plant, Mr. Cleary), the wholly speculative view that Na-2,4,5-TCP was discharged from the hose of the tanker truck that delivered the product to the plant. Dr. Exner did so without any knowledge of the type of truck used, the system for pumping product, or the existence of valves and purging mechanisms and the like. In fact, Dr. Exner had no knowledge of the mechanisms or procedures for delivering fluids from tanker trucks in the 1960s or at any other time. Accordingly, his speculation about spillage during the delivery of Na-2,4,5-TCP is not a valid basis for the EPA's conceptual site model and stands in no better stead than EPA's initial baseless speculation.

Dr. Exner offered the further opinion, contrary to the direct testimony of Mr. Cleary, that the Na-2,4,5-TCP was delivered to a storage tank at the HCP building. In addition to being contrary to direct testimony, this opinion further demonstrates a failure to understand the HCP

manufacturing process and is inconsistent with the physical features of the HCP plant observable from aerial photographs. Specifically, in addition to using the Na-2,4,5-TCP "starter" material, Metro-Atlantic used *and recycled* three other fluids during the HCP manufacturing process: sodium hydroxide, sulfuric acid, and perchloroethylene. *Cleary Statement* (Apr. 8, 2008), at 2-3. Each of these three recycled fluids required a separate tank for storage and recycling purposes. *See* Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 22. And, in fact, exactly three storage tanks are visible in the aerial photographs of the HCP building and Site: two vertical tanks, suitable for storage and recycling of perchloroethylene and sodium hydroxide, and one smaller, horizontal tank, suitable for recycling sulfuric acid. *Id.* at 38. There are no additional storage tanks visible in any aerial photographs; thus, there is no evidence that Metro-Atlantic also stored Na-2,4,5-TCP in an on-Site tank.

b. <u>All Liquids Associated with HCP Manufacturing Were Discarded into the Municipal Sewer</u>

While it has been suggested that 2,3,7,8-TCDD might have been present in the HCP process from an alleged aqueous (water) waste stream and then discarded, this hypothetical scenario ignores the fact that the solubility of 2,3,7,8-TCDD in water is extremely low: only 0.000317 ppm (or 0.317 ppb). Supplemental Expert Report of Dr. Francesco Stellacci (Dec. 24, 2009), at 3. Thus, any aqueous waste streams disposed of from the HCP manufacturing operation would contain very little 2,3,7,8-TCDD (*i.e.,* on the order of 5 micrograms total for the duration of the HCP manufacturing process). Most importantly, this speculative argument ignores the compelling evidence that, to the extent there was any aqueous liquid waste from the HCP process, it would have been disposed of into the municipal sewer system, not the River or the Site, and thereafter would not be found at the Site. *See* Town Council of North Providence, Meeting Minutes (Jul. 6, 1964), at 3 (during visit to Metro-Atlantic, "all chemical waste was

deposited through the sewer system"); *see also* Trial Transcript of J. Buonanno*, Emhart Indus., Inc. v. NECC*, C.A. No. 06-218-S (D.R.I.) (Jan. 14, 2009), at 38-40; Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 25.

The sewer connections to the Site were available by the early 1940s. *See* Easement (Jan. 4, 1941) (beginning at Smith Street and running south down Mill Street); Easement (Oct. 7, 1939) (running along tailrace south of Steere Avenue); Easement (Jan. 23, 1939) (running north from Grover Street; parallel to tailrace); Easement (Jan. 17, 1939) (running mostly parallel to tailrace, to the north and south of Redfern Street, but cutting across the tailrace two plats north of Redfern Street); Easement (Jan. 17, 1939) (running south from Redfern Street, parallel to tailrace); Easement (Jan. 24, 1939) (running north from George Street, parallel to the tailrace); Easement (Oct. 2, 1940) (running south from George Street, parallel to the tailrace, and across Grover Street, cutting across portion of Site); Easement (Oct. 2, 1940) (running north from Stevens street along tailrace). Furthermore, in 1956, the local plumbing code enacted required that facilities be connected to the sewer system, where such connections were available. *See* Building Ordinance of the City of Providence, Article 17, Chapter 1700.0, *et al.* (1956).

Metro-Atlantic's main plant, which housed its textile operations, was connected to the sewer before the operations commenced at the HCP building. *See* Town Council of North Providence, Meeting Minutes (Oct. 1, 1956), at 1 ("Metro-Atlantic Co. has tied in its domestic sewage system with the Town."). When the HCP building was constructed, it also was connected to the existing sewer system. *See* Trial Transcript of J. Buonanno*, Emhart Indus., Inc. v. NECC*, C.A. No. 06-218-S (D.R.I.) (Jan. 14, 2009), at 38:19-39:2. This was further confirmed when pipes connecting the HCP plant to the sewer were unearthed in 2010 during the Time Critical Removal Action that was conducted at the Site. *See* Supplemental Expert Report of Dr.

James R. Kittrell (May 5, 2010), at 2; LEA-001237; LEA-002018; LEA-001283; Bennett Soil Boring Sample Tracings (Mar. 22, 2010) (showing location of pipes unearthed).

Also, Metro-Atlantic did not use a septic system to manage its waste. *See* Trial Transcript of J. Buonanno*, Emhart Indus., Inc. v. NECC*, C.A. No. 06-218-S (D.R.I.) (Jan. 14, 2009), at 38:22-39:4; Supplemental Expert Report of Dr. James R. Kittrell (May 5, 2010), at 2; Addendum to Expert Report of John R. Kastrinos (Mar. 31, 2010), at 6. Nor did it use dry wells or leaching pits. Addendum to Expert Report of John R. Kastrinos (Mar. 31, 2010), at 6. Given that Metro-Atlantic was connected to the sewer, any alleged aqueous waste from the HCP building would have been disposed of in the sewer. *See* Town Council of North Providence, Meeting Minutes (Jul. 6, 1964), at 3 (during visit to Metro-Atlantic, "all chemical waste was deposited through the sewer system"); Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 25; Supplemental Expert Report of Dr. James R. Kittrell (May 5, 2010), at 2; Trial Transcript of J. Buonanno*, Emhart Indus., Inc. v. NECC*, C.A. No. 06-218-S (D.R.I.) (Jan. 14, 2009), at 38:15-40:5, 42:8-44:8; Trial Transcript of J. Buonanno, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. No. 02-053-S (D.R.I.) (Sep. 14, 2006), at 85:7-19; Dep. of D. Paterson, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. No. 02-053-ML (D.R.I.) (Dec. 20, 2002), at 9:8-15; Trial Transcript of J. Priest, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. No. 02-053-S (D.R.I.) (Jan. 17, 2003), at 25:12-26:3; Dep. of J. Buonanno, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. No. 02-053-S (D.R.I.) (Jan. 17, 2003), at 15:3-14, 16:20-17:1, 116:6-11. Thus, no such alleged aqueous waste material would have been disposed of into the River or onto the ground at the Site. *See* Trial Transcript of J. Buonanno*, Emhart Indus., Inc. v. NECC*, C.A. No.06-218-S (D.R.I.) (Jan. 14, 2009), at 39.

3. The Nuchar Used in the HCP Manufacturing Process Removed Any 2,3,7,8-TCDD and other Dioxins and Was Disposed of Off-Site

Although it has been suggested that some dioxin might have been present as a contaminant in the Na-2,4,5-TCP starter material supplied to Metro-Atlantic by Diamond Alkali, any dioxin that might have been present as a contaminant was removed by the Nuchar that was added to the reaction. *See* Rebuttal Expert Report of Dr. Francesco Stellacci (Oct. 27, 2011), at 3-4; *see also* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 5; Expert Report of Dr. Francesco Stellacci (Jan. 10, 2011), at 1. The HCP process incorporated a decolorization step in which Nuchar was added to the reaction mixture. Nuchar has a large surface with a high affinity (*i.e.,* strongly attractive) to planar molecules such as dioxins or furans. Once a planar molecule with delocalized electrons (such as dioxin or hexachloroxanthene) binds to graphitic carbon, it does not detach. *See* Rebuttal Expert Report of Dr. Francesco Stellacci (Oct. 27, 2011), at 2. Carbon materials (when in graphitic form) are very rich in such electrons. Hence, the Nuchar would strongly attract small molecules such as dioxins that have delocalized electrons. *Id.*; *see also* Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 4.

Nuchar was used as a means to decolorize the final product because, in the HCP product, color was determined by the presence of small quantities of molecules with delocalized electrons. *See* Rebuttal Expert Report of Dr. Francesco Stellacci (Oct. 27, 2011), at 1. While the Nuchar was in contact with the reaction mixture (during the second to last step in the HCP production process), the Nuchar acted like a sponge, attracting and trapping all of the planar molecules (*e.g.,* dioxins/furans) that were present with delocalized electrons. Thus, Nuchar was the perfect material of choice to remove such planar molecules. *Id.* at 4. The effectiveness of the Nuchar filtration is evident in Mr. Cleary's testimony that the resulting liquid was clear, almost colorless. *See* Dep. of T. Cleary, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-

S (D.R.I.) (Feb. 10, 2003), at 42.

The quantity of the Nuchar used in the Metro-Atlantic HCP manufacturing process was sufficient to adsorb all of the dioxin from the solution mixture. In fact, more than 100 times the Nuchar needed to adsorb the dioxin was used in this stage of the process. In other words, 0.1 lbs. of Nuchar would have been sufficient to remove irreversibly all the dioxin from the reaction, yet Metro-Atlantic used 10 lbs. per batch treatment. Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 5-6.

The Cleary process of manufacturing HCP did not independently produce additional dioxin or any similar molecules. Such molecules were not generated even as trace by-products. *Id.* at 4; *Dioxins* (EPA-600/2-80-197) (Nov. 1980), at 107. Even if, as suggested, hexachloroxanthene ("HCX") had been present in the reaction vessel or potentially generated in connection with the Cleary process, it too would have been adsorbed on the Nuchar. HCX, like dioxin, is a planar molecule with delocalized electrons. Hence, for the reasons described above, HCX also would have been adsorbed on the free adsorption sites of the Nuchar. Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 4.

While it has been suggested that the dioxin at the Site may have resulted from Metro-Atlantic discarding Nuchar and other filter solids on the Site, there is no such evidence in the record. In fact, Metro-Atlantic disposed of the Nuchar by placing it in a dumpster that was trucked off the Site, as Metro-Atlantic did with other solid wastes in 1964 and 1965. *See* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 7; *see also* Trial Transcript of J. Buonanno, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. No. 02-053-S (D.R.I.) (Sep. 14, 2006), at 87:3-11; Trial Transcript of J. Nadeau, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. No. 02-053-S (D.R.I.) (Sep. 15, 2006), at 27:23-28:8, 48:5-49:10; Trial Transcript of J.

Turcone, *Emhart Indus., Inc. v. Home Ins., Co.*, C.A. No. 02-053-S (D.R.I.) (Sep. 18, 2006), at 5-7.

The application of internal standard recovery procedures used by EPA to validate its analytical procedures in extracting dioxin from Site samples further dispels any suggestion that the spent Nuchar was disposed of on the ground at the Site, given the absence of activated carbon in the samples analyzed. Expert Report of Dr. Francesco Stellacci (Jan. 12, 2009), at 9.

NECC has submitted no credible rebuttal to Dr. Stellacci's internal standard recovery analysis. Dr. Jurgen Exner, who testified that he has no expertise whatsoever regarding activated carbon of the type used by Metro-Atlantic, has offered the unsubstantiated opinion that there was insufficient activated carbon used to remove all of the 2,3,7,8-TCDD from the Metro-Atlantic HCP process. This opinion is based upon Dr. Exner's misinterpretation and selective use of a single literature data point, which is unrelated to Metro-Atlantic's use of activated carbon. By offering this opinion, Dr. Exner – who stated at his deposition that he is not holding himself out as an activated carbon expert – demonstrates that he lacks even a fundamental understanding of the properties of activated carbon or its mode of action. Similarly, Mr. David Mauro also challenged whether Metro-Atlantic used sufficient activated carbon to remove all 2,3,7,8-TCDD and whether such carbon would be active today, but he admitted at his deposition that he has "little" practical experience with solvents in relation to activated carbon and that he has no formal educational experience whatsoever with respect to activated carbon. In short, NECC has not provided any data, literature, or qualified expert opinion testimony to dispute the conclusion that Metro-Atlantic could not have disposed of activated carbon on the Site.

4. The Isomers, Congeners and Furans in Site Samples Show that the 2,3,7,8-TCDD Could Not Have Come From the Na-2,4,5-TCP Used in Metro-Atlantic's HCP Process

The scientific evidence also supports the conclusion that 2,3,7,8-TCDD identified in

samples on the Site did not come from the Na-2,4,5-TCP starter material that Metro-Atlantic used in its HCP manufacturing process. The chemical reaction that produces the Na-2,4,5-TCP made by Diamond Alkali also produces a variety of dioxin and furan congeners, including 2,3,7,8-tetrachlorodibenzofuran ("2,3,7,8-TCDF"), that are contaminants in the Na-2,4,5-TCP product. Unless Na-2,4,5-TCP is purified, the 2,3,7,8-TCDD produced is accompanied by other dioxin and furans congeners. *See* Expert Report of Dr. Gregory Fu (Jan. 7, 2011), at 5. However, various manufacturing processes and purification techniques alter the dioxin/furan pattern of the dioxin contaminants. *See* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 12-14; Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 14-15. Thus, 2,3,7,8-TCDD, coupled with the other dioxin/furan patterns, constitute unique fingerprints indicating whether it results from a purified or unpurified source of 2,4,5-TCP. *Id.*

The Site samples contain 2,3,7,8-TCDD produced from a manufacturing source (as well as 2,3,7,8-TCDD produced from combustion). Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 45. The dioxin/furan pattern from a manufactured source, found in Site samples (*i.e.*, those samples that predominantly contain only high concentrations of 2,3,7,8-TCDD) demonstrates conclusively that the 2,3,7,8-TCDD did not come from the Na-2,4,5-TCP Metro-Atlantic purchased from Diamond Alkali in the 1964-1965 time period for use in its HCP operation. *Id.* at 38-39; Dep. of Dr. James R. Kittrell*, Emhart Indus., Inc. v. NECC*, C.A. No. 06-218-S (D.R.I.) (Sep. 21, 2011), at 57:9-19.

The Na-2,4,5-TCP produced by Diamond Alkali at that time was not purified. Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 39; *see also Cleary Statement* (Apr. 8, 2008), at 1; Dep. of T. Cleary, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Feb. 10, 2003), at 40. Therefore, other dioxins and furans were present in

Diamond Alkali's Na-2,4,5-TCP, along with the 2,3,7,8-TCDD. Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 39. However, there were little or no other dioxin or furan congeners found in Site samples with the 2,3,7,8-TCDD produced from a manufacturing source. *Id.* at 38. Thus, the 2,3,7,8-TCDD found at the Site was from a purified product. *See* Expert Report of Dr. Gregory Fu (May 6, 2010), at 5. Accordingly, it could not have come from the 1964-1965 Diamond Alkali product used by Metro-Atlantic. Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011),at 38-39; Dep. of Dr. James R. Kittrell, *Emhart Indus., Inc. v. NECC*, C.A. No. 06-218-S (D.R.I.) (Sep. 21, 2011), at 67:15-21.

The National Institute of Occupational Safety and Health Dioxin Registry Reports ("NIOSH Reports") indicate that it was not until September 1967 that Diamond Alkali began to purify its Na-2,4,5-TCP, with a carbon cartridge filtration system. Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 14. However, unlike other manufacturers' purification processes, Diamond Alkali's process did not alter the dioxin/furan profile. *See* Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 9. Rather, Diamond Alkali's purification method lowered the concentrations of <u>all</u> dioxins and furans uniformly. Consequently, even the post-1967 purified Diamond Alkali Na-2,4,5-TCP would have contained a whole family of dioxin and furan congeners (albeit at lower total concentrations). Therefore, the 2,3,7,8-TCDD found on the Site could not have originated from the post-1967 Diamond Alkali product either.

Also, Diamond Alkali's manufacture of Na-2,4,5-TCP resulted in the formation of 2,3,7,8-tetrachlorodibenzofuran ("2,3,7,8-TCDF"). *See* Expert Report of Dr. Gregory Fu (Nov. 4, 2011), at 2; Expert Report of Dr. Gregory Fu (Jan. 7, 2011), at 5; *see also* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 14. The absence of 2,3,7,8-TCDF in

the Site samples predominantly containing only high concentrations of 2,3,7,8-TCDD is further evidence that the 2,3,7,8-TCDD found on the Site did not originate from the Diamond Alkali Na-2,4,5-TCP. *See* Expert Report of Dr. Gregory Fu (Jan. 7, 2011), at 5; *see also* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 14, 39; Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 26 ("Dioxin congener profiles of the 'source-like' samples at the Site are not consistent with Crude TCP delivered to the Site from Diamond Alkali in 1964-1965.").

5. No Dioxin Was Generated in Metro-Atlantic's HCP Manufacturing Process

It has been speculated by NECC's experts that additional dioxin was generated during the manufacture of HCP at Metro-Atlantic. That speculation lacks a scientific basis.

First, NECC's experts do not disclose literature citations to support their description of HCP manufacturing at Metro-Atlantic. In fact, the available literature concerning HCP manufacturing is contrary to their unsupported and entirely speculative opinions.

Second, NECC's experts appear to either disregard or completely ignore their own cited literature publications concerning the manufacture of HCP, which state that additional dioxins are not generated during the manufacture of HCP.

Third, the temperature and pH conditions under which Metro-Atlantic manufactured HCP would not have generated dioxins. The temperatures used in the manufacture of HCP are maintained at 100° C, which is *below* the temperature at which dioxin is known to form. *Dioxins* (EPA-600/2-80-197) (Nov. 1980), at 107-08. Moreover, Metro-Atlantic maintained the acidic conditions throughout the production of HCP, as distinguished from the excessive alkaline conditions used in TCP manufacture.

Lastly, even aside from the temperature and pH conditions used during HCP

manufacture, NECC's experts fail to recognize that the HCP process is run at ambient (atmospheric) pressure, compared to the high pressure – 350 psig – used during TCP manufacturing. This omission further demonstrates that NECC's experts lack a fundamental understanding of Metro-Atlantic's HCP reaction conditions, organic chemistry, reaction by-product formation, and the mechanism by which organic chemical reactions proceed.

C. NECC's Drum Reconditioning Process Generated and Was the Source of Dioxins at the Site

NECC brought to the Site customers' drums that contained 2,4,5-TCP, dioxin congeners including, but not limited to 2,3,7,8-TCDD, and other chemicals that degraded to 2,4,5-TCP or, when incinerated alone or in combination with other compounds, produced polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans ("PCDDs/PCDFs"). In erroneously determining that RCRA and the F020 waste code apply to the contaminated environmental media at the Site, EPA completely disregards this well-documented dioxin source.

1. Overview of NECC's Operations at the Site

From approximately 1952 to 1972, NECC operated a drum reconditioning facility on a portion of the Site located on a peninsula bordered by U.S. Route 44, the Woonasquatucket River ("River"), and the tail race. *See* NECC Supp'l CERCLA § 104(e) Response (Feb. 8, 2002). NECC's buildings were located along the tail race, a narrow channel with an upstream section, known as the head race, that is no longer connected to the River. The head race was filled prior to 1956. The tail race enters Allendale Pond near the southern terminus of the Peninsula. Historic aerial photographs indicate that NECC also used other areas of the Site for movement, storage and staging of drums, including an open area west of its buildings, various areas along the River, and an access road that roughly paralleled the River.

There were spills and leaks onto the ground from the drums prior to reconditioning. *See*

Dep. of R. Nadeau, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Dec. 17, 2002), at 12-13; Dep. of J. Cifelli, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Feb. 13, 2003), at 29-30; Dep. of C. Maine, *Emhart Indus., Inc. v NECC,* C.A. No. 06-218-S (D.R.I) (Apr. 29, 2009), at 12-13. NECC also buried drums that were not reconditioned in the southern portion of the Site. *See* Aff. of E. Izzo (Oct. 28, 2000); *see also* Admin. Dep. of T. Cambio, *In the Matter of: Centredale Manor Superfund Site, North Providence, Rhode Island* (Jun. 30, 1999), at 22-23.

As part of the reconditioning process, NECC moved drums through a furnace by placing them upside down on a conveyor. *See* Dep. of R. Nadeau, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Dec. 17, 2002), at 12; Dep. of J. Cifelli, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Feb. 13, 2003), at 19. Any liquid or sludge remaining in the drums was washed into an unlined earthen pit, drained into a cement pit under the conveyor, or was spilled onto the ground. *See* Dep. of R. Nadeau, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Dec. 17, 2002), at 12, 32; Dep. of J. Cifelli, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Feb. 13, 2003), at 19, 22; Dep. of C. Maine, *Emhart Indus., Inc. v NECC,* C.A. No. 06-218-S (D.R.I) (Apr. 29, 2009), at 12-13. When the pit was full, the material, including residual chemicals and ash from the furnace, was taken to an area south of the facility and dumped. *See* Dep. of R. Nadeau, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Dec. 17, 2002), at 12-13, 31-32.

NECC also had a drum washing operation in which closed head drums were washed in caustic liquid baths. *See* Dep. of T. Lussier, *Emhart Indus., Inc. v. NECC*, C.A. No. 06-218-S (D.R.I.) (Apr. 30, 2009), at 29-30; *see also* Dep. of R. Nadeau, *Russell-Stanley Holdings, Inc. v. Vincent J. Buonanno*, C.A. No. 01-cv-2818 (S.D.N.Y.) (Oct. 1, 2002), at 39:18-23, 41:18-42:4;

Dep. of J. Cifelli, *Emhart Indus., Inc. v. Home Ins. Co.*, C.A. No. 02-053-S (D.R.I.) (Feb. 13, 2003), at 42:4-51:1. Substantial amounts of contaminated liquids were released to the Site from this operation, which according to the aerial photographs necessitated that NECC build a retaining wall and create an impoundment for their liquid releases. *See* Expert Rebuttal Report of Robert D. Mutch (Dec. 11, 2009), at 3, 6-7; s*ee also* Dep. of C. Maine, *Emhart Indus., Inc. v. NECC*, C.A. No. 06-218-S (D.R.I.) (Apr. 29, 2009), at 9:5-7, 9:18-21; 12:20-13:10, 17:18-24, 30:1-9, Exh. 2. In fact, NECC constructed a wastewater impoundment into which wastewater from its operations was conveyed. *See* Expert Rebuttal Report of Robert D. Mutch (Dec. 11, 2009), at 3, 6-7.

2. <u>Chemicals Sent to the Site by NECC's Customers</u>

At the Site, between approximately 1952 and 1972, NECC received 55-gallon steel drums from at least 10 customers in the chemical and petroleum industry, and from two military bases (*i.e.,* 4800 drums from Quonset Naval Base ("Quonset") and Otis Air Base ("Otis")) containing approximately 370 different chemical residues, including compounds likely containing 2,3,7,8-TCDD, 2,4,5-TCP precursors, and PCBs. *See* Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 6, 38; *see also* Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 26; Expert Report of Dr. James R. Kittrell (Jan. 15, 2009), at 27; RI Report, at 4-12 to 4-13 ("[t]he former drum reconditioning facility probably received chemical shipping and storage containers from numerous sources and may be the original source of the PCBs. The former drum reconditioning operation in the source area likely washed pesticide and PCB residues into the source area soils."). These customers and chemical residues are identified in the expert report of Dr. James R. Kittrell (Jan. 15, 2009).

Moreover, NECC received 55-gallon steel drums from at least nineteen (19) customers in the textile chemical industry during the relevant time period. These drums contained

approximately 650 different chemical residues from dyes, pigments, textile auxiliary, specialty finishing chemicals and waste products. The chemical residues included mineral acids, organic acids, alkalis and salts, and other organic chemicals (*e.g.*, chlorinated solvents, alcohols, aromatic hydrocarbons, aliphatic hydrocarbons, and other oils, fats and waxes). These customers and chemical residues are identified in the expert report of Dr. Richard Aspland (Jan. 13, 2009). Other chemicals came from customers that were not in the textile chemical business. These chemicals were identified by Dr. Kittrell. *See generally*, Expert Report of Dr. James R. Kittrell (Jan. 15, 2009). Further, chemicals identified by Dr. Kittrell as coming from NECC customers to the Site were identified in Site samples. *See id.*; Expert Report of Dr. Gregory C. Fu (Jan. 12, 2009), at 29.

Numerous chemicals that were handled by NECC's customers in 55-gallon drums during the relevant time period have been detected as contaminants in samples taken at the Site. *See* Updated Expert Report of Dr. Gregory Fu (Feb. 6, 2009). According to Professor Fu, a Firmenich Professor of organic chemistry at the Massachusetts Institute of Technology ("MIT"), of the various chemical residues present in 55-gallon steel drums received by NECC for reconditioning, nine contained dioxins as a contaminant. *See id.* at 5. Certain compounds or formulations that were sent to the Site from Quonset and Otis, such as Silvex and 2,4,5-trichlorophenoxyacetic acid ("2,4,5-T"), degrade swiftly to 2,4,5-TCP and also are contaminated with 2,3,7,8-TCDD. *See* Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 29.

The administrative record is clear that NECC received chemicals from its customers that contained 2,3,7,8-TCDD, and, as discussed below, other chemicals that when incinerated generated 2,3,7,8-TCDD. *See id.* at 7-9; *see also* Updated Expert Report of Dr. Gregory Fu

(Feb. 6, 2009), at 5, 20.

3. The Dioxin Found in Site Samples Compels the Conclusion that It Came from NECC's Customers

a. NECC's Incineration Process Created 2,3,7,8-TCDD and Other Dioxins

Dioxins and furans were generated during NECC's drum reconditioning operation via two known pathways: the "precursor" route and the "de novo" route, when organic chemicals are incinerated. *See* Expert Report of Dr. Gregory C. Fu (Jan. 12, 2009), at 3. The precursor route forms dioxins and furans during incineration, by having a chemical with the aromatic ring preformed prior to incineration. *Id.* The de novo route requires a carbon source, a chlorine source, and heat. *Id.* Conditions in the NECC incinerator were conducive to the formation of dioxins and furans by both routes during the 25 years of NECC's incineration operation. *Id.* Furthermore, as discussed above, some chemicals delivered to the Site contained dioxins and furans as an artifact of their own manufacturing conditions. *Id.* NECC's incineration process was a source of dioxins and furans to the Site and did not affect chemicals received at the Site that already contained dioxins and furans.

b. Dioxin-Containing Chemicals Manufactured by Companies Other than Diamond Alkali Were Disposed of on the Site

2,3,7,8-TCDD and other dioxins and furans are contained in 2,4,5-TCP, Silvex and 2,4,5-T, all of which were detected on the Site. The mix of dioxin congeners and isomers present in these products, as well as their mix of furans, varies from manufacturer to manufacturer and according to the time of manufacture. *See* Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 6. Analysis of the congener, isomer and furan patterns, therefore, can help identify the manufacturer and time of manufacture of a given 2,3,7,8-TCDD-containing product. *Id.* In the case of the Site, such analysis demonstrates that the 2,3,7,8-TCDD from a

manufactured source that was detected on the Site could not have originated in the 2,4,5-TCP product that Diamond Alkali supplied to Metro-Atlantic; rather, it likely came from residuals in the drums that NECC's customers shipped to the Site for refurbishing. *Id.* at 7.

Reports prepared the National Institute of Occupational Safety ("NIOSH") detail the manufacturing processes employed in the 1960s by the manufacturers of 2,4,5-TCP, which is used to manufacture both 2,4,5-T and Silvex. *Id.* at 5. These processes enable a qualified chemist and chemical process engineer to determine the congener, isomer and furan content of the 2,4,5-TCP of different manufacturers. *Id.* at 6. In the absence of actual samples of these chemicals as they were manufactured in the 1960s, the NIOSH reports, properly understood, provide the best evidence of the components of the 2,4,5-TCP manufactured at that time by various manufacturers.

The administrative record demonstrates that 2,3,7,8-TCDD detected on the Site could not have come from the crude Na-2,4,5-TCP supplied by Diamond Alkali to Metro Atlantic. Specifically, the 2,3,7,8-TCDD profile found at the Site is from a purified Na-2,4,5-TCP, with a congener profile distinct from that of Na-2,4,5-TCP purchased from Diamond Alkali by Metro-Atlantic. *Id.* at 4. As discussed, unlike some other manufacturers, Diamond Alkali did not use a purification process that altered the dioxin/furan congener patterns at the time it was supplying Na-2,4,5-TCP to Metro-Atlantic. *Id.* at 2.

As early as 1965, manufacturers other than Diamond Alkali began purifying their Na-2,4,5-TCP in an attempt to remove the 2,3,7,8-TCDD by-products. Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 15. Dow's manufacturing procedure, for example, included a TCA decantation process to remove the dioxin by-products from its Na-2,4,5-TCP *See* DAVID A. MARLOW, ET AL., DIOXIN REGISTRY REPORT OF THE DOW CHEMICAL CO. (Jan.

1991), at 16. This procedure removed the higher chlorinated dioxin congeners, leaving a small amount of 2,3,7,8-TCDD, but virtually none of the other dioxin congeners. *See* Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 24-25.

In 1967, another producer of Na-2,4,5-TCP, Occidental Chemical Company (f/k/a Hooker Chemical), purified its 2,4,5-TCP by vacuum distillation. The vacuum distillation method did not remove all 2,3,7,8-TCDD from the 2,4,5-TCP, however, but left up to 1 ppm 2,3,7,8-TCDD in the 2,4,5-TCP. *See Id.* at 21. Since the boiling points of the dioxin congeners other than 2,3,7,8-TCDD are higher than that of 2,3,7,8-TCDD, in this purification process the dioxin congeners other than 2,3,7,8-TCDD would not boil off with the purified 2,4,5-TCP. Accordingly, the 2,4,5-TCP purified by a vacuum distillation process would have a dioxin congener profile with 2,3,7,8-TCDD but little or no other dioxin or furan congeners. The samples from the Site have such a profile.

The "purified" dioxin profile found at the Site compels the conclusion that this dioxin could not have come from the crude Diamond Alkali Na-2,4,5-TCP used by Metro-Atlantic. Supplemental Expert Report of Dr. James R. Kittrell (Nov. 7, 2011), at 38. Rather, more likely than not, this dioxin came from the materials in NECC's customers' drums, specifically the drums from the military. *See id.* at 1-2, 5-6, 38 ("the source of the 2,3,7,8-TCDD contamination at the CMRP site was more likely than not due to spillage, leakage from, or dumping of, barrels from the NECC barrel reclamation facility on the CMRP site, such as the 2400 drums NECC received from Quonset Naval Base, and the 2400 drums that NECC received from Otis Air Force Base in 1969"); *see also* Supplemental Expert Report of Dr. James R. Kittrell (Jan. 7, 2011), at 4, 26 (stating that the contamination more likely than not "originated from NECC barrels brought on Site and stored in the vicinity of the Metro-Atlantic plant and originating from herbicides

leaking from those barrels").

D. Conclusion

As the administrative record makes clear, the 2,3,7,8-TCDD at the Site resulted from the NECC operation and not from the Metro Atlantic HCP manufacturing plant. EPA lacks a supporting foundation for its speculation that the 2,3,7,8-TCDD found on the Site came from the Metro-Atlantic HCP operation. EPA ignores compelling fact and scientific evidence throughout the administrative record that the 2,3,7,8 TCDD detected on the Site came from discharges in connection with the NECC operation and not from the Metro Atlantic HCP manufacturing plant. This speculation has further caused EPA to erroneously apply the RCRA F020 waste code to the contaminated environmental media at the Site.

In light of the foregoing, EPA must re-evaluate the remedial alternatives and the remedies selected in the PRAP, based on an accurate and comprehensive analysis of the scientific data and factual information currently available.

APPENDIX B: SUMMARY OF APPLICABLE LAWS, REGULATIONS, AND GUIDANCE

A. CERCLA and NCP Requirements for Remedy Selection

1. CERCLA § 121

Section 121 of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") sets forth the requirements for selecting remedial actions at CERCLA sites, including the Site at issue here. *See* 42 U.S.C. § 9621. CERCLA § 121 requires the selection of remedies that comply with the NCP, are highly reliable, and provide long-term protection of human health and the environment. *Id.* § 9621(a). Cost-effectiveness is an essential requirement for any remedial action selected for a CERCLA site. *Id.* § 9621(a) & (b). Section 121 also requires selected remedial actions to comply with legally "applicable or relevant and appropriate requirements" ("ARARs"), which are cleanup standards and other environmental protection standards and criteria established under federal law, and under state law if the state requirements are more stringent than federal obligations. *Id.* § 9621(d).

CERCLA § 121(e)(1) provides that "[n]o Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely onsite, where such remedial action is selected and carried out in compliance with this section." 42 U.S.C. § 9621(e)(1). The National Contingency Plan ("NCP") defines "on-Site" as "the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action." 40 C.F.R. § 300.400(e)(1). For an area to qualify as "on-Site," it must be (1) necessary for implementation of a response action, (2) suitable, and (3) in very close proximity to the contamination area. *U.S. v. General Electric Co.*, 460 F. Supp. 2d 395, 403 (N.D.N.Y. 2006). The definition of "on-Site" is broader than the related concept of "area of contamination" and, thus, provides flexibility when implementation of the response action

requires activities outside the area of contamination itself and/or areas not contiguous with the site. *See* U.S. EPA, *Introduction to ARARs: Applicable or Relevant and Appropriate Requirements* (Jun. 1992), at 5.

2. NCP Requirements

a. Development of Conceptual Site Model

The NCP requires the Environmental Protection Agency ("EPA") to develop a "conceptual site model" at the earliest stages of the RI process. *See* 40 C.F.R. § 300.430(b)(2) (EPA "shall . . . develop a conceptual understanding of the site based on the evaluation of existing data . . ."). EPA interpretive guidance also recognizes the development of a "conceptual site model" as a critical part of the site investigative process. *See* U.S. EPA, *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, OSWER Dir. 9355.3-01 (Oct. 1988) ("*RI/FS Guidelines*"), at 2-3 to 2-7. The *RI/FS Guidelines* identify the development of a conceptual site model as a specific activity to be conducted in the project planning stage for the RI/FS. It is used to assess "both the nature and the extent of contamination and to identify potential exposure pathways and potential human health and/or environmental receptors." *Id.* at 2-3. The *RI/FS Guidelines* further identify the categories of information to be considered in developing the conceptual site model. The "conceptual site model should include known and suspected sources of contamination, types of contaminants and affected media, known and potential routes of migration, and known or potential human and environmental receptors." *Id.* at 2-7.

In applying the conceptual site model to the RI/FS process, EPA guidance clearly recognizes that the conceptual site model should be "carefully maintained and updated throughout the life of the site activities." *See* U.S. EPA, *Data Quality Objectives Process for Hazardous Waste Site Investigations,* EPA QA/G-4HW, EPA/600/R-00/007, January 2000, at

15 L (providing guidance on developing data quality objectives for environmental data collection in support of hazardous waste site investigations, including Superfund remedial investigations).

Regarding the process for developing and screening remedial action alternatives for the Feasibility Study ("FS"), EPA guidance states that "[s]ite characterization activities are typically continued throughout the . . . process," and that "[t]he need for additional data may be determined at any time and/or a number of times throughout the process." U.S. EPA, *The Feasibility Study: Development and Screening of Remedial Action Alternatives*, OSWER Dir. 9355.3-01FS3 (Nov. 1989).

b. <u>Remedy Selection Criteria</u>

The NCP identifies the criteria EPA must use in evaluating remedial alternatives for cleaning up a Superfund site consistent with CERCLA § 121 cleanup standards. *See* 40 C.F.R. § 300.430. For each remedial alternative being considered in the cleanup of a Superfund site, the NCP requires EPA to conduct a detailed analysis based on nine criteria. These criteria include two "threshold criteria," five "primary balancing criteria," and two "modifying criteria." 40 C.F.R. § 300.430(f)(1)(i)(A)-(C).

The two threshold criteria are (1) overall protection of human health and the environment; and (2) compliance with ARARs. *Id.* § 300.430(e)(9)(iii)(A)-(B). The first threshold criterion focuses on whether the proposed remedial alternative provides adequate protection to human health and the environment – assessing both long-term and short-term effectiveness. The second threshold criterion assesses whether the proposed remedial alternative is in compliance with specific federal and state environmental regulations, and includes consideration of chemical-specific, location-specific, and action-specific ARARs. If an ARAR cannot be met for any particular remedial alternative, EPA must consider whether a waiver of that particular requirement is appropriate. *See RI/FS Guidelines*, at 6-7 to 6-8.

The five primary balancing criteria are: (1) long-term effectiveness and permanence, which assesses the risk remaining at the site upon completion of a remedial action; (2) reduction of toxicity, mobility, or volume through treatment, and how such treatment will address the site's principal threats; (3) short-term effectiveness, which assesses the remedial alternative during the construction and implementation phase and considers factors such as environmental impact and protection of the community and workers during the remedial action; (4) implementability, which evaluates the technical and administrative feasibility of the remedial alternative; and (5) cost, which includes consideration of direct and indirect capital costs, annual operation and maintenance costs, and net present value of such costs. 40 C.F.R. §§ 300.430(e)(9)(iii)(C)-(G). Cost is a "central factor in all Superfund remedial selection decisions." *Id.* § 300.430(e)(9)(iii); *see also* U.S. EPA, *The Role of Cost in the Superfund Remedy Selection Process*, Pub. 9200.3-23FS (Sep. 1996), at 1.

The two modifying criteria are: (1) state acceptance, including consideration of a State's key issues and concerns, as well as state ARARs and use of waivers; and (2) community acceptance – taking into consideration community support and opposition to a proposed remedial alternative. 40 C.F.R. § 300.430(e)(9)(iii)(H)-(I).

EPA must follow specific procedures in applying these nine criteria. *See* U.S. EPA, *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*, OSWER Dir. 9200.1-23P (Jul. 1999) ("*Guide to Preparing Superfund Proposed Plans*"), at 1-5. As explained by the U.S. Court of Appeals for the D.C. Circuit:

> While the NCP identifies nine criteria to be used in selecting a remedy, all of the criteria are not given equal weight. Instead, they are divided into three classifications: threshold criteria, primary balancing criteria, and modifying criteria. Under this structure, "[o]verall protection of human health and the

> environment and compliance with ARARs (unless a specific ARAR is waived) are threshold requirements that each alternative must meet in order to be eligible for selection." 40 C.F.R. § 300.430(f)(1)(i)(A). EPA explained in the preamble to the NCP that remedial alternatives "must be demonstrated to be protective . . . in order to be eligible for consideration in the balancing process by which the remedy is selected." 55 Fed. Reg. 8726 (1990).

State of Ohio v. EPA, 997 F.2d 1520, 1531 (D.C. Cir. 1993).

Thus, a proposed remedial alternative is only eligible for consideration if it meets the two threshold criteria. 40 C.F.R. § 300.430(f)(1)(i)(A). Thereafter, EPA must use the five primary balancing criteria to evaluate each remedial alternative. *Id.* § 300.430(f)(1)(i)(B). EPA must select preferred remedial alternatives that satisfy the threshold criteria and provide the "best balance of trade-offs" with respect to the five primary balancing criteria. *Id.* § 300.430(f)(1)(ii)(E). The preferred remedial alternatives selected in the FS are to be based on EPA's assessment of these first seven criteria.[1]

Once the preferred remedial alternatives are selected for the site, EPA prepares and publishes a proposed plan for public and state consideration. *Id.* § 300.430(f)(2). If necessary, EPA can modify the plan based on the comments received from the state and the community, thereby applying the "state acceptance" and "community acceptance" modifying criteria. *Id.* § 300.430(f)(4). As EPA notes in its RI/FS Guidelines, "[m]odifying criteria, . . . may be considered to the extent that information is available during the FS, *but can be fully considered only after public comment is received on the Proposed Plan*. In the final balancing of trade-offs between alternatives upon which the final remedy selection is based, modifying criteria are of equal importance to the balancing criteria." *Guide to Preparing Superfund Proposed Plans*, at 3-7 (emphasis added).

3. Standard of Review

In the event of judicial review, a court will evaluate EPA's remedy selection process under the standard of judicial review set forth in CERCLA § 113(j), which provides that "judicial review of any issues concerning the adequacy of any response action taken or ordered by the [EPA] shall be limited to the administrative record." 42 U.S.C. § 9613(j)(1). CERCLA § 113(j)(2) further provides that, in considering objections, the court may reject the response action selected if "the objecting party can demonstrate, on the administrative record, that the decision was arbitrary and capricious or otherwise not in accordance with law." *Id.* § 9613(j)(2).

In assessing whether EPA's remedy selection process is arbitrary and capricious under CERCLA § 113(j), courts examine whether "[t]he agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it would not be ascribed to a difference in view or the product of agency expertise." *United States v. Burlington N.R.R. Co.*, 200 F.3d 679, 689 (10th Cir. 1999).

Burlington Northern demonstrates the standard EPA must meet under § 113(j). In 1984, EPA placed a wood treatment facility owned and operated by Broderick Investment Company ("BIC") on the National Priorities List. *U.S. v. Burlington N. R.R. Co,* 200 F.3d 679, 682 (10th Cir 1999). The facility treated wood products with hazardous substances such as creosote and pentachlorophenol, and disposed of process waste in two unlined impoundments, which created sludge. *Id.* On June 30, 1988, EPA issued a Record of Decision ("ROD") for Operable Unit 1

[1] The RI is the key tool for initially collecting and characterizing the relevant site data, which can then be used to conduct a detailed analysis of proposed remedial alternatives in the FS, applying the threshold and primary balancing criteria consistent with the requirements of CERCLA and the NCP. *Id.* § 300.430(e).

("OU1"), which addressed treatment of impoundment sludge via on-site incineration. *Id.* EPA issued an amendment to the ROD for OU1 in 1991, which called for off-site reclamation of the sludge because incineration prices had increased and reclamation was an equally protective alternative. *Id.* Upon beginning to implement the ROD, Allied-Signal, the off-site sludge reclaimer, notified EPA that rocks in the sludge clogged the pumping equipment, adhered to the liners of the holding cells, and settled during transport to form "tar heels" in the rail cars used to transport the sludge. *Id.* As a result, Allied-Signal had to charge extra for installing a gravity settling box to pump sludge into the railcars, incinerating plastic liners and other miscellaneous materials in the holding tanks, and scraping and incinerating the "tar heels." *Id.* at 692. The added requirements increased the costs associated with the amended ROD for OU1 from $2.2 million to $3.5 million, or by approximately 60 percent. *Id.* Based on evidence in the administrative record cited by BIC, the court held that EPA's failure to make a second amendment to the ROD for OU1 was arbitrary and capricious because (1) it left PRPs like BIC out of the decision-making process, (2) it resulted in fundamentally altering the remedy with respect to scope and cost, and (3) the cleanup, as undertaken, conflicted with the amended ROD's provision rejecting off-site incineration of sludge, all inconsistent with the NCP. *Id.* at 694.

State of Minnesota v. Kalman W. Abrams Metals, Inc. is another case where a response action was held to be arbitrary and capricious under § 113(j)(2) because it was inconsistent with the NCP. *State of Minnesota v. Kalman W. Abrams Metals, Inc.,* 155 F.3d 1019, 1024-25 (8th Cir. 1998). The lead agency, the Minnesota Pollution Control Agency ("MPCA") issued a Request for Response Action ("RFRA") seeking to require a response action addressing lead-contaminated soil on Gerald McGuire's property, which was used for burning insulation of wire

from local scrap dealers, and re-selling the wire. When McGuire refused to comply, the MPCA responded to the contamination by hiring a contractor, Microbial Biotechnology, Inc. ("MBI"), to perform on-site lead extraction soil washing. *Id.* MBI could not successfully complete the soil washing procedure due to mechanical problems with equipment and soil conditions that were not conducive to soil washing. *Id.* After hiring two additional contractors, MPCA rejected the soil washing procedure and instead completed on-site stabilization of the soil followed by off-site disposal. *Id.*

In January 1996 the State of Minnesota commenced an action seeking cost recovery against the scrap dealers alleged to have been the source of the material processed on-site. *Id.* The defendants argued that MPCA's response action was arbitrary and capricious under § 113(j)(2) of CERCLA. The U.S. District Court for the District of Minnesota found that MPCA conducted the response action in an arbitrary and capricious manner because it: (1) failed to complete a feasibility study before selecting the soil washing remedy; (2) ignored an EPA contractor's warning that "soil washing was 'questionable' because it would not 'address total lead concentrations" and its recommendation that "complete removal of the contaminated material would be the most environmentally sound and cost-effective method at this site"; (3) provided minimal public notice of the proposed soil washing remedy; (4) contracted to implement the remedy before the public comment period ended; and (5) failed to effectively wash the soil. *Id.* The Eighth Circuit Court of Appeals affirmed the District Court for the stated reasons above and also because MPCA: (1) failed to verify MBI's financial stability; (2) failed to require MBI to post a performance bond; and (3) the remedy selected was high-risk and high-cost. *Id.*

B. Principles for Managing Contaminated Sediments

EPA issued its *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites* to provide technical and policy guidance for federal and state project managers considering remedial response actions under CERCLA. *See* U.S. EPA, *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites*, OSWER Dir. 9355.0-85 (Dec. 2005), Executive Summary ("*Contaminated Sediment Remediation Guidance*"). The emphasis of this guidance is on evaluating alternatives during the feasibility study and remedy selection stage. *See id.* at 1-2. As EPA points out, "many aspects of the cleanup process may be more complex at sediment sites versus sites with soil or ground water contamination alone," and a number of potentially complicating factors for addressing contaminated sediment sites are identified:

- sediment sites may have a large number of sources, some of which can be ongoing and difficult to control;
- the sediment environment is usually dynamic, and understanding the effect of natural forces and man-made (anthropogenic) events on sediment movement and stability as well as contaminant transport can be difficult;
- cleanup work in an aquatic environment is frequently difficult from an engineering perspective and may be more costly than other media;
- contamination is often diffuse and the sites are often large and diverse (*e.g.,* mixed use, numerous property owners);
- many sediment sites contain ecologically valuable resources or legislatively protected species or habitats;
- for large sites, a number of communities with differing views and opinions may be affected; and

- there may be significant injuries to trustee resources at sediment sites.

See id. at 1-3 to 1-4.

The *Contaminated Sediment Remediation Guidance* incorporates EPA's *Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites*, OSWER Dir. 9285.6-08 (Feb. 2002) ("*Principles for Managing Contaminated Sediment Risks*"), issued by the Office of Solid Waste and Emergency Response. *See Contaminated Sediment Remediation Guidance*, at 1-5. *Principles for Managing Contaminated Sediment Risks* outlines a framework for making risk management decisions concerning hazardous waste sites that have contaminated sediments. It presents an iterative approach to site evaluation to ensure that the site is fully understood before remedial decisions are made. *See Principles for Managing Contaminated Sediment Risks*, at 1. Specifically, the guidance in the *Principles for Managing Contaminated Sediment Risks* presents eleven risk management principles to be considered, the following eight of which predominate:

- develop and refine a conceptual site model that considers sediment stability;
- use an iterative approach in a risk-based framework;
- carefully evaluate the assumptions and uncertainties associated with site characterization data and site models;
- select site-specific, project-specific, and sediment-specific risk management approaches that will achieve risk-based goals;
- ensure that sediment cleanup levels are clearly tied to risk management goals;
- maximize the effectiveness of institutional controls and recognize their limitations;

- design remedies to minimize short-term risks while achieving long-term protection; and
- monitor during and after sediment remediation to assess and document remedy effectiveness.

Id. at 2-9. These principles are intended to be applied within the framework of EPA's existing statutory and regulatory requirements, including the NCP's nine remedy selection criteria (40 C.F.R. § 300.430). *See id.* at 1-2.

Moreover, the *Contaminated Sediment Remediation Guidance* instructs the remedy selection teams to refer to *OSRTI Sediment Team and NRRB [National Remedy Review Board] Coordination at Large Sediment Sites*, OSWER Dir. 9285.6-11 (Mar. 2004), to help ensure that the principles are appropriately considered before making site-specific risk management decisions. *Contaminated Sediment Remediation Guidance*, at 1-5.

C. Applicable or Relevant and Appropriate Requirements ("ARARs")

CERCLA § 121(d)(2) requires that the level of control for any contaminant that will remain on-Site after completion of the remedial action must meet ARARs established by federal environmental law and more stringent state laws. *See* 42 U.S.C. § 9621(d)(2); *see also* U.S. EPA, *CERCLA Compliance With Other Laws Manual: Interim Final* (Aug. 1988) ("*CERCLA Compliance With Other Laws Manual*"), at 1-2. EPA may obtain a waiver of an ARAR if, *inter alia*, (1) compliance with an ARAR will result in greater risk to human health and the environment; (2) compliance with an ARAR is technically impracticable; (3) the selected remedy will attain an equivalent standard of performance; or (4) a state has not consistently applied the ARAR. *See* 42 U.S.C. § 9621(d)(4); *see also CERCLA Compliance With Other Laws Manual*, at 1-71 to 1-75.

Requirements are "applicable" if they "specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site." 40 C.F.R. § 300.5. In order for a requirement to be applicable, "the remedial action or the circumstances at the site [should] satisfy *all* of the jurisdictional prerequisites of a requirement." *CERCLA Compliance With Other Laws Manual*, at 1-10 (emphasis added). Requirements that are not applicable may be "relevant and appropriate" if they "address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site." *See* 40 C.F.R. § 300.5. A determination must be made that the requirement is both relevant *and* appropriate based on the evaluation of site-specific factors. *See CERCLA Compliance With Other Laws Manual*, at 1-10.

1. Resource Conservation and Recovery Act ("RCRA")

a. Definition of Hazardous Waste and the Contained-In Policy

RCRA regulates the identification and management of hazardous waste. *See* 42 U.S.C. § 6902. RCRA is potentially applicable to remedies at sites that involve the cleanup of material identified as RCRA hazardous waste. Before a material can be identified as a RCRA hazardous waste, however, it must first be classified as a solid waste. EPA's RCRA regulations set forth the scope of what is considered solid waste, which generally includes any material that is discarded, disposed, abandoned, or recycled in a way that is inherently "waste-like." 40 C.F.R. § 261.2.

Pursuant to EPA's "contained-in policy," environmental media (including soil and sediment) are not "solid waste" and therefore, cannot themselves be hazardous waste.[2]

[2] As discussed in the LDR Phase IV Final Rule, "[u]nder the 'contained-in' policy, EPA requires that soil (and other environmental media), *although not wastes themselves*, be managed as if they were hazardous waste if they contain hazardous waste or exhibit the characteristic of hazardous waste." *See* 63 Fed. Reg. 28,556, 28,621 (May 26, 1998);

Moreover, contaminated environmental media are not subject to regulation under RCRA unless they "contain" hazardous waste. U.S. EPA, *Management of Remediation Waste Under RCRA* (Oct. 1998), at 9. EPA guidance provides that contaminated environmental media contain hazardous waste: "(1) when they exhibit a characteristic of hazardous waste; or (2) when they are contaminated with concentrations of hazardous constituents from listed hazardous waste that are above-health-based levels." *Id.* If contaminated environmental media contain hazardous waste, they are subject to all applicable RCRA requirements until they no longer contain hazardous waste. Contaminated environmental media no longer contain hazardous waste: "(1) when they no longer exhibit a characteristic of hazardous waste; and (2) when concentrations of hazardous constituents from listed hazardous wastes are below health-based levels." *Id.* at 9-10.

b. Land Disposal Restrictions

Congress created EPA's Land Disposal Restrictions ("LDR") program under authority provided through enactment of the Hazardous and Solid Waste Amendments of 1984 ("HSWA"). The implementing regulations are found at 40 C.F.R. Part 268. The LDR program is intended to ensure that toxic constituents present in hazardous waste are properly treated before hazardous waste is land disposed.

As part of its implementation of the LDR program, EPA has developed mandatory technology-based treatment standards that must be met before hazardous waste is placed in a landfill. Wastes that do not meet treatment standards cannot be land disposed unless EPA has

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see also Letter from U.S. EPA to Thomas C. Jorling, Commissioner, Department of Environmental Conservation, State of New York (Jun. 19, 1989) (PPC 9441.1989(30)) ("Under our regulations, *contaminated media are not considered solid waste* in the sense of being abandoned, recycled, or inherently waste-like as those terms are defined in the regulations.") (emphasis added); Letter from U.S. EPA to John E. Ely, Enforcement Director, Virginia Department of Waste Management (Mar. 26, 1991) (PPC 9441.1991(04)) ("Our federal regulations at 40 C.F.R. Part 261.3 identify hazardous wastes. Among other things, these regulations state that a solid waste mixed with a hazardous waste is a hazardous waste. However, these regulations generally do not specifically address environmental media, *which are not solid wastes*, mixed with listed hazardous waste.") (emphasis added).

granted a variance, extension, or exclusion, or the waste is managed pursuant to an approved "no migration" petition. Solvents and dioxin-containing wastes both are subject to established treatment standards.

(i) Alternative Treatment Standards for Contaminated Soil

Remediation of hazardous waste sites will often produce contaminated soil that the generator must handle as hazardous waste because it contains a listed hazardous waste or it exhibits a characteristic of hazardous waste. These remediation wastes, due to either their large volume or unique properties, are not always amenable to the applicable treatment standards. Because of this, EPA designated soil as a unique treatability group and promulgated alternative soil-specific treatment standards in the Phase IV Final Rule (63 Fed. Reg. 28,556; May 26, 1998). As with hazardous waste, RCRA prohibits the land disposal of hazardous soil until the soil has been treated to meet LDR standards. The soil standards mandate reduction of hazardous constituents by 90 percent, capped at 10 times the universal treatment standard ("UTS").

As provided in the FS Addendum, EPA has chosen to apply the alternative treatment standards for soil to dewatered sediment for off-site disposal options under the sediment alternatives.

(ii) Variance from a Treatment Standard

With the establishment of soil-specific standards, EPA promulgated an additional provision in 40 C.F.R. § 268.44 for contaminated soil. Pursuant to § 268.44(h)(3), variances from otherwise applicable LDR treatment standards may be approved if it is determined that compliance with the treatment standard would result in treatment beyond the point at which short- and long-term threats to human health and the environment are minimized. This allows a site-specific, risk-based determination to supersede the technology-based LDR treatment standards under certain circumstances, allowing regulators to align cleanup levels and treatment

levels. Alternative LDR treatment standards established through site-specific risk-based variances are required to be within the range of values the Agency generally finds acceptable for risk-based cleanup levels. Decisions to grant or deny these variances are made by EPA Regions or authorized States.

(iii) Dioxin-Containing Waste

EPA has determined that incineration is the Best Demonstrated Available Technology ("BDAT") for the treatment of dioxin-containing restricted RCRA hazardous waste. *See* 40 C.F.R. § 268.40. While any technology short of dilution is permissible for achieving the required contaminant levels, only incineration has been able to achieve them.

c. Applicability of "F" Waste Code

Solid waste is considered to be hazardous if it is a material listed by regulation under one of four waste codes (F, K, P and U), or is a material exhibiting any of the following characteristics: (1) ignitability, (2) corrosivity, (3) reactivity, or (4) Extraction Procedure ("EP") Toxicity. 40 C.F.R. § 261.11. The F code listings represent hazardous wastes from "non-specific sources," and include waste material from industrial and manufacturing processes. *See* 40 C.F.R. § 261.31. The F020 code, which is at issue at the Site, is applied to wastes "from the production or manufacturing use . . . of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)." 40 C.F.R. § 261.31.

EPA policy states that "[s]ite managers are not required to presume that a CERCLA hazardous substance is a RCRA hazardous waste unless there is affirmative evidence to support such a finding." U.S. EPA, *Determining When Land Disposal Restrictions (LDRs) Are Applicable to CERCLA Response Actions*, OSWER Dir. 9347.3-05FS (Jul. 1989), at 2. Moreover, "[w]here a facility owner/operator makes a good faith effort to determine if a material

is a listed hazardous waste but cannot make such a determination because documentation regarding a source of contamination, contaminant, or waste is unavailable or inconclusive . . . one may assume the source, contaminant or waste is not listed hazardous waste . . . ." *Management of Remediation Waste Under RCRA*, at 5. Therefore, provided the material in question does not exhibit a characteristic of hazardous waste, RCRA requirements do not apply. *See id.*

EPA has discussed this approach in a number of contexts. In the preamble of the proposed NCP, EPA noted that it is often necessary to know the source of a waste to determine whether it is a RCRA listed hazardous waste and that "at many CERCLA sites no information exists on the source of the wastes." 53 Fed. Reg. 51,394, 51,444 (Dec. 21, 1988). EPA recommended that available site information, such as manifests, storage records and vouchers, be used to ascertain the sources of wastes, but when this documentation is not available or inconclusive, it may be assumed that the wastes are not listed wastes. *Id.* EPA confirmed this approach in the preamble to the final NCP. *See* 55 Fed. Reg. 8,666, 8,758 (Mar. 8, 1990); *see also Management of Remediation Waste Under RCRA*, at 4-5.

In the HWIR-Media proposed rule, 61 Fed. Reg. 18,780 (Apr. 29, 1996), EPA expanded the policy to also cover dates of waste disposal – if, after a good faith effort to determine dates of disposal, a facility owner/operator is unable to make such a determination because documentation of dates of disposal is unavailable or inconclusive, one may assume disposal occurred prior to the effective date of applicable LDRs. *Id.* at 18,805. EPA concluded that "if information is not available or inconclusive, facility owner/operators may generally assume that the material contaminating the media were not hazardous wastes." *Id.*

The LDR Phase IV Final Rule, 63 Fed. Reg. 28,556 (May 26, 1998), supports this interpretation and provides guidance on the type of assessment needed to determine the source of waste. EPA reiterated that "if information is not available or inconclusive, it is generally reasonable to assume that contaminated soils do not contain untreated hazardous waste placed after the effective dates of applicable land disposal prohibitions." *Id.* at 28,619. Further, "program implementers and facility owners/operators cannot make the determination that information on the types of waste contamination or dates or placement is unavailable or inconclusive without first making a good faith effort to uncover such information." *Id.*

d. <u>Applicability of RCRA and the LDRs to In-Place Contaminated Soil</u>

In-place contaminated environmental media are not subject to RCRA LDR regulations, because the LDRs do not apply to *in-situ* contaminated soil. This is consistent with the EPA policy that "[i]n order for something to be classified as a hazardous waste *it must first be a solid waste*. In-place media *does not meet the definition of solid waste*. That's where it is supposed to be. It's not discarded." U.S. EPA, Training Curriculum: Session 10, RCRA Hazardous Waste Identification: Special Regulatory Conventions (emphasis in original).

EPA explicitly states in its 1998 Phase IV LDR rulemaking that the LDRs do not apply to *in-situ* contaminated soils:

> Land disposal restrictions only attach to prohibited hazardous waste (or hazardous contaminated soil) when it is (1) generated and (2) placed in a land disposal unit [footnote omitted]. Therefore, if contaminated soil is not removed from the land (i.e., generated), LDRs cannot apply. Similarly, if contaminated soil is removed from the land (i.e., generated) yet never placed in a land disposal unit, LDRs cannot apply.[43] In other words, *LDRs do not apply to contaminated soil in situ or force excavation of contaminated soil*. If soils are excavated, however, LDRs may apply, as discussed below.

63 Fed. Reg. at 28,617 (emphasis added).

Footnote 43 in the quoted text discusses EPA's area of contamination policy:

> Note that, as discussed later in today's preamble, nothing in today's final rule affects implementation of the existing "area of contamination" policy. Therefore, soil managed within areas of contamination, even if it is "removed from the land" within such an area, would not be considered to be "generated."

Id. at 28,617 n. 43.

In publishing the HWIR-Media proposed rules, EPA made clear that the contaminated media rules apply only after a decision has been reached under other rules and guidance to remove contaminated media and manage them other than *in-situ*:

> EPA wishes to emphasize that the proposed HWIR-media rules would not affect which media or wastes at a site must be cleaned up, or how much contaminated media should be excavated. Such decisions are usually made according to federal or state cleanup laws and regulations, most of which specify certain guidelines or criteria for determining how sites are to be cleaned up. Only after those decisions are made would these HWIR-media regulations come into play.

61 Fed. Reg. at 18,789.

Capping wastes in-place does not constitute a placement/land disposal management practice for purposes of the LDRs. *See* U.S. EPA, *Superfund Management of Investigation-Derived Wastes During Site Inspections,* OSWER Dir. 9345.3-02 (May 1991). When managed *in-situ*, environmental media not removed from the area of contamination do not trigger the LDRs:

> In the area of contamination policy, EPA interprets RCRA to allow certain discrete areas of generally dispersed contamination to be considered a RCRA unit (usually a landfill). 55 FR 8758-8760 (March 8, 1999). *This interpretation allows hazardous wastes (and hazardous contaminated soils) to be consolidated, treated in situ or left in place within an area of contamination* without triggering the RCRA land disposal restrictions or minimum technology requirements – since such activities would not involve "placement into a land disposal unit," which is the statutory trigger for LDR. EPA clarifies that its interpretation of LDR applicability for contaminated soil does not, in any way, affect implementation of the area of contamination policy.

63 Fed. Reg. at 28,620 (emphasis added).

2. Toxic Substances Control Act ("TSCA")

Pursuant to TSCA, EPA has promulgated regulations to address the cleanup and disposal of PCB remediation waste. *See* 40 C.F.R. Part 761, Subpart F. "PCB remediation waste" includes "waste containing PCBs as a result of a spill, release, or other unauthorized disposal . . . prior to April 18, 1978, that are currently at concentrations > 50 parts per million ("ppm") PCB, regardless of the concentrations of the original spill." 40 C.F.R. § 761.3. Bulk PCB remediation waste (*e.g.*, soils and sediments) with concentrations less than or equal to 100 ppm may remain in-place in low occupancy areas if the area is capped. *Id.* § 761.61(a)(4)(i)(B)(3). The cap must be of sufficient thickness to "prevent or minimize human exposure, infiltration of water, and erosion" and be subject to appropriate institutional controls. *Id.* § 761.61(a)(7)-(8).

3. Preliminary Remediation Goals ("PRGs") for Dioxins in Soils

The current PRG for dioxin in residential soil is 1 ug/kg. In May 2009, EPA issued a "Science Plan for Activities Related to Dioxins in the Environment" detailing a plan, with interim milestones, for completion of the Agency's reassessment of the health risks of exposure to dioxin, entitled "Exposure and Human Health Reassessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin ("TCDD") and Related Compounds" and commonly known as the "dioxin reassessment." One of the plan's interim milestones is the issuance of updated interim PRGs for dioxins and dioxin-like compounds (including certain PCBs) in soils. In late December 2009, EPA issued its draft updated interim PRGs. The draft interim PRGs proposed by EPA are more stringent than the existing ones, and would reduce the PRGs for soil in industrial and commercial areas from between 5,000 and 20,000 parts per trillion ("ppt") to 950 ppt, and the PRGs for soil in residential areas from 1,000 ppt to 72 ppt. U.S. EPA, *Public Review Draft, Draft Recommended Interim Preliminary Remediation Goals for Dioxin in Soil at CERCLA and RCRA Sites*, OSWER Dir. 9200.3-56 (Dec. 30, 2009)("*Public Review Draft*"), at 13. Notice of the draft interim PRGs

was published in the Federal Register on January 7, 2010, *see* 75 Fed. Reg. 984 (Jan. 7, 2010), and EPA has not yet finalized the interim PRGs.

EPA's *Public Review Draft* expressly states that: "the findings and conclusions in this document are for public review and should not be construed to represent any final agency determination or policy" (document footer). Moreover, EPA states that: "[u]ntil these draft recommended interim PRGs are finalized, EPA will continue to use the 1998 recommended interim PRGs (EPA 1998)." *Id.* at 2.

4. Executive Orders

EPA does not consider Executive Orders to be ARARs; instead, they are "to-be-considered" materials ("TBCs"). U.S. EPA, *Considering Wetlands at CERCLA Sites*, Pub. 9280.0-03 (May 1994), at 11-12. In its guidance, EPA states that TBCs "are meant to complement the use of ARARs, not to compete with or replace them. TBCs are not legally enforceable and therefore are not ARARs. Their identification and use are not mandatory." *Id.* at 11. EPA also states that Executive Orders "differ from other TBCs in that they are orders of the President to all Executive Branch employees, so that even though they are not ARARs under CERCLA they *should* be complied with." *Id.* at 12 (emphasis added).

5. State ARARs

On-site remedial actions must attain promulgated state environmental and facility siting requirements that are more stringent than federal ARARs, if the state requirement is identified in a "timely" manner. *See* 42 U.S.C. § 9621(d)(2); *see also* U.S. EPA, *CERCLA Compliance With Other Laws Manual: Part II. Clean Air Act and Other Environmental Statutes and State Requirements*, OSWER Dir. 9234.1-02 (Aug. 1989) ("*CERCLA Compliance With Other Laws Manual: Part II*"), at 7-1. Potential state ARARs include requirements regarding the siting of waste treatment, storage and disposal facilities; control of discharges to surface waters; and

preventing further degradation of surface waters and groundwater. *CERCLA Compliance With Other Laws Manual: Part II*, at 7-10, 7-26 to 7-27, 7-28, 7-30. A state ARAR may be waived if the state has inconsistently applied the standard at cleanup sites within the state. *See* 42 U.S.C. § 9621(d)(4)(E).

Chemical-specific state ARARs identified by EPA for the Site include the State of Rhode Island and Providence Plantations, Department of Environmental Management, Office of Waste Management, *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases, Short Title: Remediation Regulations* (DEM-DSR-01-93) ("Remediation Regulations"). In accordance with Rule 8.02 of the Remediation Regulations, unless otherwise specified, "soil contaminated as a result of a release of hazardous materials shall be remediated in a manner which meets the direct exposure and leachability criteria for each hazardous substance established in Rule 8.02.B (Method 1 Soil Objectives: Tables 1 and 2), Rule 8.02.C (Method 2 Soil Objectives) or Rule 8.04 (Method 3 Remedial Objectives); or the background concentration of the hazardous substance as established by Rule 8.06 (Background Concentrations for Soils)."

Soil at the Site has been determined to contain contaminants subject to the Rule 8.02.B soil objectives. In accordance with Rule 8.03 of the Remediation Regulations, "groundwater contaminated as a result of a release of hazardous materials located in a GB area shall be remediated to a concentration which meets the groundwater objective for each hazardous substance established in Rule 8.03.B.ii (Method 1 GB Groundwater Objectives) and specified in Table 4, Rule 8.03.C (Method 2 GB Groundwater Objectives) or Rule 8.04 (Method 3 Remedial Objectives); or the background concentration of the hazardous substance." Groundwater at the

Site has been determined to contain contaminants subject to the Rule 8.03 GB groundwater objectives.

Action-specific state ARARs identified by EPA for the Site include RIDEM Rules and Regulations for Hazardous Waste Management (Amendment Eff. Feb. 9, 2007) ("Hazardous Waste Regulations"). Rhode Island has been delegated authority to administer the federal RCRA statute through its regulations. The standards set forth in 40 C.F.R. Part 261 are incorporated into the state requirements by reference. The Hazardous Waste Regulations set forth requirements for hazardous waste determination according to federal (40 C.F.R. § 262.11) and state (Rule 5.08) definitions. As provided in Table 3-1 of the FS Report, "[s]olid waste generated by excavation of soils or sediments at the Site is required to undergo hazardous waste determination." EPA takes the position, as presented in Table 3-1 of the FS Report, that the RIDEM standard is "*relevant and appropriate* because wastes that may be classified as hazardous waste were disposed of prior to 1980."

D. <u>Information Quality Act ("IQA")</u>

The IQA, Section 515(a) of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554; H.R. 5658), was passed in 2000 as a rider to an omnibus budget package. The IQA directs the Office of Management and Budget ("OMB") to develop guidelines to "ensur[e] and maximize[e] the quality, objectivity, utility, and integrity of information" disseminated by federal agencies "in fulfillment of the purposes [of] the Paperwork Reduction Act." *Id.*

In 2002, OMB issued *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies* ("*OMB Guidelines*"). 67 Fed. Reg. 8452 (Feb. 22, 2002). Pursuant to the OMB Guidelines, EPA issued its *Guidelines for*

Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency in October 2002 ("*EPA Guidelines*").

Information and data disseminated by EPA must meet OMB and EPA standards for "objectivity," "integrity," and "utility." *EPA Guidelines*, at 3. According to the *EPA Guidelines*:

> "Objectivity" focuses on whether the disseminated information is being presented in an accurate, clear, complete, and unbiased manner, and as a matter of substance, is accurate, reliable, and unbiased. "Integrity" refers to security, such as the protection of information from unauthorized access or revision, to ensure that the information is not compromised through corruption or falsification. "Utility" refers to the usefulness of the information to the intended users.

EPA Guidelines, at 15.

REPOSITORY TARGET SHEET

US EPA New England
Superfund Document Management System /
RCRA Document Management System
Native Files Target Sheet

SDMS Document ID #: 506583

Site Name: Centredale Manor Restoration Project

File Type(s) Attached (examples: Excel file or .jpg):

.PDF

Document Type this Target Sheet Represents:

[ ] Map [ ] Photograph [ ] Graph/Chart

[ ] Video [ ] Compact Disc [X] Other (Specify below)

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Index and 26 Cited documents

To view the attached files, open the "Attachment Panel" by clicking on the paper clip - - at the bottom left of this window.

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In The Matter Of:

Hearing-Centerdale

Centerdale Manor Restoration Project Superfund Site
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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

PROCEEDING AT HEARING :

IN RE: CENTERDALE MANOR RESTORATION

PROJECT SUPERFUND SITE

DATE: DECEMBER 7, 2011
TIME: 2:00 P.M.
PLACE: CENTERDALE MANOR
2074 SMITH STREET
NORTH PROVIDENCE, RI 02911

PRESENT:

Larry Brill, Hearing Officer

Stacy Greendlinger

Anna Krasko

(HEARING COMMENCED AT 2:08 P.M.)

MS. GREENDLINGER: Hi, everyone. We're going to go ahead and get started. If anybody can't hear me, please put your hand right up, and I'll make sure to speak louder or use the microphone.

My name is Stacy Greendlinger, and I'm with the US Environmental Protection Agency. It's nice to see some faces that we've seen before. Thank you so much for coming out today, especially on this raining, kind of yucky day to talk with us about the Superfund site, the Centerdale Manor restoration project here in this area.

I'd like to thank Tony Simon from Senator Whitehouse's office for coming out and joining us on this, again, on this beautiful day we have here.

MR. SIMON: I'm actually representing the rest of the congressional delegation, as well, Senator Reed and Congressman Langevin, as well. We're kind of splitting up the meetings amongst the staff. So thanks for having me.

MS. GREENDLINGER: Thank you, Tony, for being here, and for the other offices, as well. We do appreciate that.

Why are we here today, because we were just down here in early November? And I want to make sure that we're clear about why we're here. And hopefully people

have picked up a copy of the agenda. And if you didn't already have a copy of the proposed plan -- if you can just borrow yours real quick -- a copy of the proposed plan.

THE SPEAKER: Oh, my.

MS. GREENDLINGER: And we have Frank Bursie from the mayor's office here in North Providence. He's joined us, as well. Thank you, Frank, for joining us.

MR. BURSIE: You're very welcome.

MS. GREENDLINGER: Okay. So we're here for two purposes. There are two parts of the meeting today. The first part is an informational session. Because we did some informational sessions in the beginning of November, this one's going to be very short.

The main purpose of why we're here today is to do a formal public hearing. What does that mean? A formal public hearing is when we capture your comments into the record so we respond to it as part of our final cleanup plan decision process. And I'll explain that more.

But during the formal hearing, we cannot answer any clarifying questions that you have, or any comments. We can't respond to that. So if you have

things that you're uncertain about, the information portion, the first part of this meeting, that's when you should be asking us during the question and answer portion. Because once we change to that formal hearing, we're just here to listen and to capture it for the formal record.

So let me go ahead onto the informational part of today's discussion. So what is Superfund? I mentioned that, that term. Superfund is the federal program for dealing with hazardous waste sites throughout the country. And Centerdale Manor is one of those sites.

And it's -- basically, the Superfund process is composed of assessing the problem, what's going on, investigating the problem, where you really get a handle on what contamination is there, where is it, to what extent, and what potential health impacts or impacts to the environment does that contamination cause. And then the last part of the Superfund process is where you take action and you address those issues that you found in your investigation.

So where are we in the process? There have been years of investigation here at Centerdale Manor. And as some of you who have lived here, have been through short-term cleanups that we've done. We've done four of them here. You've seen the sampling efforts that

are happening through your windows, or driving down the path here, as well as the next mile and half of the rivers that comprise the Superfund site.

So we're at the point now where we've issued this proposed plan. That plan has a series of potential approaches to cleaning up this site. And in that, it also has the one EPA feels is the best way to go forward. And we're putting that out to public comment to you to say, this is what EPA thinks. What do you think? Please, let us know before we make any final decisions.

And so that's the point where we're at. We have a public comment period that started on November 14th. It was slated to end on January 12th, 2012. I'd like to announce that we're extending the comment period. We have received multiple requests to extend the comment period, and that will now end on February 13th. So we're adding an additional 30 days to the existing 60 days. So, again, the new comment period will end on February 13th.

Why take action at this site? What did we find that's making us think we should do something about it? The past use here, and, actually, where we are right now is what we call the source area. This approximately nine-acre location before these apartment

complexes were here consisted of a chemical manufacturing building, as well as a drum recycling building. From that you have the resulting contamination predominantly was dioxin and PCBs. There are other contaminants, as well, but those are the main ones that we have to concern ourselves with.

Just because we have contamination does not mean that there's actually a human health risk. You have to have a means of being able to be exposed to that contamination. And part of the investigation that we did was to determine is there an exposure pathway at this site to the contamination that would make us concerned, or make us want to take action.

What we discovered is that eating the fish, or having direct skin contact with the contaminated sediment, or accidentally eating it, if your hands go in the mud, and then your hands go to your mouth, those are exposure pathways with which we have to be concerned. And those are enough to make us say we need to take action here at the site.

So now I'm going to ask if Anna Krasko can come up. Anna is our project manager, for those of you who may not have met her before. And she's going to, again, briefly go through what it is that we're proposing to do. We know that we need to take action

here. And now Anna's going to suggest that -- what it is that EPA prefers. And, again, if you can hold your questions until the end, the question and answer time, we'll be happy to answer your questions.

MS. KRASKO: Hi, everybody. So if we can go to the next slide. So where did we find the contamination, and where is it all going to happen? So this is the map, and it's the same one that you have in the brochure that was mailed out, and we have available on the table there.

As Stacy just mentioned, the source area is where we all are right now. You can look outside and see the beginning of the Allendale Pond, and you can see Route 44. And, basically, between Allendale Pond and Route 44 is where contamination historically was released.

In addition, what we found out is contamination is now located in about a mile and a half of the Woonasquatucket River. It's what is called Allendale Pond and Lyman Mill Pond. And because of this problem right below this area, we're going to address the sediment that is on the bottom of these ponds, as well as floodplain, or the low-light areas that are adjacent to those ponds, including the large wetlands, which is shown in, kind of, yellow/green color on the map. This is one of the largest wetland remaining in this area of

Rhode Island. It's a 20-acre habitat that provides critical functions for ecological wildlife in this area.

In addition to what I just mentioned, there is also groundwater, or water that has become contaminated under this source area. And the groundwater has been cleaned up in the last year. You've probably seen construction happening right on the Brook Village parking lot. And groundwater monitoring that was done after that work shows that we don't see contamination at the elevated level under that parking lot anymore. So that has been successful. But we do continue to monitor the situation.

Next slide. So what are we proposing to do in the next, you know, five, ten years? We're proposing to remove 184,000 cubic yards of material from the Allendale and Lyman Mill Pond area up from floodplain adjacent to the Woonasquatucket River, as well as some of the contaminated material that we think still is located under a portion of the area of where we currently are in the source area.

We estimate that the total cost is over $100 million. Most of the contaminated material will be put in an upland confined disposal facility. And we're currently looking at three properties in

Johnston. Actually, more than three properties in Johnston where the facility can be located. The most -- or highly contaminated material would be shipped off site, and will not be stored in that confined disposal facility.

In addition, the interim caps that were installed as part of those four short-term actions that Stacy mentioned will be upgraded to permanent and secure caps. Right here, the parking lots, the landscaped areas, and the driveways, will be converted into permanent caps to cover the contamination that is still underground.

We estimate that because of the steps that we need to take in the Superfund process it will take five years before construction can start. And after the construction, EPA will still be responsible for monitoring the maintenance of disposal properties.

So why are we proposing to put this material that we're going to excavate into a confined disposal facility? The contamination that we found here are largely dioxin and PCBs. And those are contaminants that do not volatilize or vaporize easily. And they also don't dissolve in the water. So they are a good candidate for permanent storage, because they're not going to leak, and they're not going to go into the

air. So as Stacy said, there will be no chance for humans to come into contact with those contaminants.

The highest levels, as I said, will be shipped off site, and will not be here anyway. This will get the contamination out of the river, where it could be shown that additional contaminant movement can happen should high flows in the river happen in the future.

Upland contained disposal facility is providing an opportunity for beneficial reuse, and it also meets regulatory criteria. And compared to other options, like, when we do things like shipping it off site, bringing portable incinerators on site, it is less cost there.

Next. This is an example of a beneficial reuse of where material has been stored at the Superfund site. Similar to Centerdale, it has dioxins and polyaromatic hydrocarbons, or PAHs. A community park had been built on top of this facility. And the municipally and a bunch the responsibile parties came to an agreement or arrangement that satisfied the community plans. So now Stacy is going to finish up the presentation, and open to Q and As.

MS. GREENDLINGER: There are a lot of ways that you can comment. And your comments are incredibly important to us before we determine what our

final cleanup decision is. So we are -- once we conclude this portion of the meeting, as I said, we will go to the hearing. So today, this afternoon, you can provide your comments orally. You can also come this evening at 7:00 -- sorry. Let me forward. 7:00 tonight, in the North Providence Town Hall, we'll also be doing the same thing. So you can provide oral comments again tonight.

It doesn't stop there. As I said, the comment period has extended until February 13th. After today, you won't have a chance to do it orally, but you can still send us a fax. You can send us an e-mail. Or you can write us a letter.

And all of this information that's on the board here is on the back page, the very last page of your proposed plan. So you have that. Obviously, the proposed plan has a January date, but you can update that to the February date. And the information stays the same for how you can provide comments to us.

So what happens after the comment period? I do want to give you a sense of what are the next steps that happen here. I've said that we can't make the final decision until we hear from the public.

Once the comment period closes, we will look at all of the comments that we received. We will consider

them. We have to respond to them in what's called a responsiveness summary. And, basically, we will respond to each comment that we get.

That responsiveness summary will be part of the public record. It will be out there for people to read. It will also be part of what's called a record of decision. A record of decision is simply a bureaucratic term to say final cleanup plan. And we plan on issuing that this coming September 2012.

Once we issue it, we then start negotiations with the potentially responsible parties. A lot of people say to me, how is this going to be paid for. Superfund is based on the premise that polluters pay. So once we have a final cleanup plan in hand is when we engage with the potentially responsible parties with the objective of having them come to the table and actually do the cleanup themselves. EPA does not go away. We stay in the role of overseeing the cleanup in a supervisory position.

Those negotiations can take a couple of years. You heard Anna reference five years as a potential time period until work could start. It could take a couple of years to do negotiations with the potentially responsible parties.

Once those negotiations close, we then have to do

design work. Much like you people have heard me use the example before of if you were building a deck on the back of your house, you would need to figure out how much weight can this deck support. How much lumber do I need. How much is it going to cost me. How many nails. How deep do I need to dig this.

That's exactly the type of detailed work that we need to determine that we can't do that until we have a final cleanup plan, and until those negotiations have occurred. So I know some people have said for those who live in the area, it's those details that you're the most interested in. And I don't blame you. I would be interested in those details, as well. You want to know how many trucks, hours of operations, those type of things that impact you on a day-to-day basis. And although we have general ideas of things, the real details of it won't happen until after the comment period has closed, after we have a final cleanup plan, after the negotiations have concluded.

But that doesn't mean that public involvement goes away February 13th, when our comment period closes. Absolutely not. We stay engaged in the community. You may not hear from us for a while while those negotiations happen, because those don't happen out in the public. But once those negotiations conclude, we

will be working with the municipalities, both North Providence and Johnston.

We have Pam Sherrill here from the Town of Johnston. So we will stay engaged working with the municipalities. We will also stay engaged working with the communities that are impacted. We don't go away from that.

We also have Alicia Lehrer here from the Woonasquatucket River Watershed Council. And Alicia's group has what's called a technical assistance grant, where they receive money from EPA to be able to understand the technical information that's here. Alicia's a wonderful resource with that TAG grant. I would encourage people to get her contact information. I'm putting you on the spot, Alicia.

MS. LEHRER: I have cards with me, by the way. I'll just put them out on the table, too. And I'd love people to contact us. Anything that we can help explain further, we'd be happy to do that.

MS. GREENDLINGER: Thank you. And that's part of the purpose of having a technical assistance grant in the community, so the community has an independent technical person to go to to say, what about this, or what about that. And Alicia can help facilitate that connection and interaction.

So we work and stay in contact with Alicia. So we're not going away. And when we get to the point where the details start happening, we will be back out to the community to share those details. So I just wanted to share that with people, because that's been raised to my attention as a concern that people have.

So I would like to get to the question and answer part before we conclude and go to the hearing. So this is your opportunity. Again, once we start that hearing, we can't respond. So I would love to be able to answer any questions that you have, anything that you just need a little bit of clarifying on, we'd be happy to answer them, or we can go right to the hearing. Yes, Pam.

MS. SHERRILL: My name is Pam Sherrill, S-H-E-R-R-I-L-L, town planner for the Town of Johnston. Could you explain what assistance EPA would give the property owner, the Town of Johnston, for development of reuse of these confined disposal sites?

MS. GREENDLINGER: Okay. I can start, and then I can -- Anna or Larry can feel free to jump in. We have Larry Brill here who's going to be the hearing officer. He's also the chief of the Superfund program.

Basically, we do have limitations on what we can

spend our Superfund monies on. So under the Superfund program, we're limited to dealing with the cleanup, and what has to happen. But at the same time, we feel that reuse is very important. And we don't, gone are the days where we clean up a site, put barbed wire fencing around it, and a sign saying, warning, stay away. We really try to get to the point where that property or parcel can be back to the community in a beneficial reuse for the community.

And so we try to, and that's why it's really important to us before we start the design process to know what are the potential reuses of an area. And you all heard Anna say that part of our proposal is having a confined disposal facility. And that has the opportunity to have potential reuse on it, as you saw with the example. That's -- the type of things that Anna would want to know is what is the reuse, where would parking be, where would fields be, if it's going to be recreational use, so that she can have that incorporated in the design of a confined disposal facility, whether it's putting in clean corridors, or making sure it's done to be able to handle certain loads, or we're configuring it so that it accommodates where parking would be, or where fields would be.

However, we would not be able to put up the tot

lot climbing structures. Or we wouldn't be able to put up the backstop or bleachers for watching a sporting event for the potential reuse. That's the type of thing that, Superfund, we're limited by law as to what we can do.

Or in the case of its potentially responsibile parties, we can't force them to do that, either. Because if it's something that we weren't going to do, we can't force the potential responsible parties to, you know, put a concession stand in. However, that does not mean that there cannot be discussions between a municipality and the potentially responsible parties to see what they will bring to the table, to see what they have done.

There's lots of different case studies through the country where there have been reuse, and where those conversations have worked, where the potentially responsible parties invest a significant amount to be able to have that parcel go back to potential reuse. There are also examples where the municipality has put money in it. There are examples of both.

But there are legal limitations on what we can do with Superfund dollars, or require the potentially responsible parties do under a Superfund cleanup. Larry, did you want to add anything to that?

HEARING OFFICER BRILL: No, that's pretty good.

FRANCIS: I'm just wondering --

MS. GREENDLINGER: Can you say your name for the stenographer?

FRANCIS: Francis. Anyway, I'm wondering if that's only one disposal area, how many more will they need?

MS. GREENDLINGER: Anna, do you want to speak to whether we would need potentially more than one disposal area? The question was, for those who may have not have heard it, was that might be one location, how many would potentially be needed?

MS. KRASKO: That's a difficult question. We know, basically, the volume of materials that we have to dispose of. And we looked at what's available out there. And in the proposed plan in the brochure that is on the table, there are three properties identified that by themselves or in combination can provide the necessary storage.

Right now we're looking at those, and we're in discussion with the Town of Johnston that there could be, potentially, other properties that are available for beneficial reuse and confined disposal facility.

Right now we're looking at either one property

that will store all the waste, or two properties that we would need to store all the material that we need to dispose of. So between one and two.

FRANCIS: Thank you. And, also, what does "cap" mean? They're going to put that -- close the dirt?

MS. GREENDLINGER: So what do we mean when we say "cap" a location?

MS. KRASKO: Right. The cap is the proposed remedy for this source area. And it's a multilayer cover. Basically, it consists of several layers to isolate the material that is underneath, and to prevent water from going into that waste material.

It consists of a low permeability layer, like clay. It also has a plastic layer. We have an example of what plastic -- yep, Frank can show it to you. This is part of it. And then on top of it, two to three feet of soil. And then on top of it there is either a grassy area, or asphalt.

FRANCIS: And it's surely going to cost a lot of money?

MS. KRASKO: That portion of the remedy for the source area soil I think is about 20 million. It's not cheap. There's nothing cheap here.

FRANCIS: Thank you.

MS. GREENDLINGER: Other questions? Yes, sir.

MR. BURNS: Donald Burns. There seem to be some heavily contaminated areas of the Oxbow area that aren't going to be removed. Does that create a problem later on for Lyman Pond?

MS. GREENDLINGER: The question, for anybody who may not have heard it, is there seems to be significant contamination in the Oxbow area. The Oxbow area is downstream from here, and it's a wetland area. So the question is: If that remains, does that post problems for Lyman Mill, which is downstream of that?

MS. KRASKO: The proposed remedy for that large wetland is a combination of excavation and a thin layer of cover over the remaining contamination. The excavation is proposed in the areas based on two criteria. One is where erosion of material is most likely. And we're concerned that that material may contaminate the Woonasquatucket River downstream, or excavation will be done in the areas that exceed the state and EPA criteria for human exposure to the contaminants. So the highest levels of contamination will be excavated.

What is left is going to be lower levels, and we've done some calculations to show how many years it

will take to reach safe levels in those areas. And for human health, I think it was four years. And significantly longer for ecological receptors.

But the main thing is that the criteria for excavation are based on the areas where either erosion is likely, or where the highest levels in the soil exist.

MS. GREENDLINGER: Yes, ma'am.

MS. GRENIER: I'm more concerned not over there, is this area right here. This part of this river here, they put -- they filled it up. And they, I think by filling it up they made it worse. There's nothing. Only trees have grown in there. No life, no frogs, no pollywogs, and even the ducks can't even swim in there anymore like they used to.

MS. GREENDLINGER: Do you have a question about it, or a general comment?

MS. GRENIER: Yes, are they going to work on that part, too?

MS. GREENDLINGER: So the question is whether our proposal involves doing any work behind Centerdale Manor here where we have done some short-term efforts in the past?

MS. KRASKO: Yes, this is the area that we refer to as former tail race. And there was an

interim cap installed there. And as part of the proposal for this area, that cap will also be upgraded, along with everything else.

MS. GRENIER: They're dumping more than they were over here.

MS. GREENDLINGER: You said they were dumping?

MS. GRENIER: Yeah, because water was all -- each shade of water would be a different color.

MS. GREENDLINGER: Other questions?

THE REPORTER: Can I have your name, please?

MS. GRENIER: Barbara Grenier.

MS. GREENDLINGER: Did I see another hand up over here?

MR. BURNS: Yes, Don Burns, again. I'm a little confused about the natural recovery process for dioxin.

MS. KRASKO: That's what we talked about in the wetland, in the large wetland, what we called enhanced natural recovery. And you're correct, dioxin does not break down. It doesn't degrade. Enhanced natural recovery for dioxin is basically mixing clean material with material that is contaminated. And burying there more contaminated material with clean

material that's coming up from upstream. That's what we refer to in this particular remedy.

MS. GREENDLINGER: Okay. I think we're going to switch gears, unless there's anything burning.

MR. SIMON: I have one question, and you introduced me earlier. I'm Tony Simon, from Senator Whitehouse's office. So there will be a local -- while all this is going on, there will be a local office with a local phone number and a representative on the ground out here in case there are other questions or anything that comes up in the process, as well, right?

MS. GREENDLINGER: Tony, do you mean when the work is actually happening?

MR. SIMON: When the work is actually beginning, yes.

MS. GREENDLINGER: I'm not sure if Anna's relocating here.

MS. KRASKO: Sure, I can answer it. Just like when we did other actions here, short-term ones, there will be a field office here, with a phone, and a fully operational full-time office. I don't know if there's going to be some sort of trailer somewhere, or if they're going to rent a space, because it is going to be a long-term construction. But it will be like your regular construction site.

MR. SIMON: But there will be a local place for people to go to?

MS. KRASKO: There will be a local place, and there will be people here in constant contact with our office in Boston. But, yes, there will be, just like they were at the previous work that we've done.

MR. SIMON: Okay.

MS. GREENDLINGER: And we also have Lou Maccarone here from the Rhode Island Department of Environmental Management. And if Lou holds to what he's done in the past when we've had short-term cleanup actions, you can find Lou down here on a frequent basis, as well.

Okay. I would like to switch us. And, again, this portion is going to be headed up by Larry Brill, our hearing officer.

HEARING OFFICER BRILL: I'm going to try -- can everyone here me if I don't use the mic? Great. This is the more formal part of the presentation. I'm Larry Brill. I'm chief of the Superfund branch at the US EPA New England regional office in Boston. And I'm going to serve as the hearing officer for today's proceeding.

I would like to take a moment to describe the

purpose and format of this process. First, the purpose of the hearing is to accept if anyone has any oral comments on the proposed cleanup plan for the Centerdale Manor Superfund site, that way it will go into the formal record.

During the formal hearing, we will not be responding, as Stacy said, to any questions. It's just comments. However, all oral comments received will be responded to as part of the site record, and will be responded to EPA in writing in a document referred to as a responsiveness summary. And it will be part of the final record of decision, which is the overall cleanup plan for the site.

The responsiveness and the record of decision should be done, hopefully, by the end of our fiscal year, which will be September 2012. And it will be available -- and the information repositories are in both the Johnston and North Providence libraries, and in EPA's Boston office.

After all oral comments have been recorded, I will close the formal hearing. If you feel uncomfortable about speaking today, you can also just, as we said, either send us by e-mail or by letter, as we have before, to Anna Krasko of EPA Region 1. Comments, they have to be in by February 13th. That's the last day of

comments. And they all will be addressed.

So are there any questions on the purpose of this process? So if you want to have a formal comment, please raise your hand so I can call on you. As I call on you to make your statement, please come forward to the microphone so the stenographer can hear you. When you speak, please identify yourself. Spell your name, and provide your address.

MR. RHODES: Good afternoon, everyone. My name is Don Rhodes, and the spelling of the last name is R-H-O-D-E-S. I am a North Providence citizen. Recently retired, so I have the time to be here. We just had a North Providence environmental council meeting about ten days ago where an engineer from the EPA spoke. And two of the things that I took from that is this procedure we need a lot of patience, because when -- when we go out to the people that did the contamination, sometimes they really don't exist anymore. So the legal thing that is going to have to happen we need to be patient for, because that is going to be a long procedure.

And the other thing I wanted to comment on is the highly contaminated issues, and where this project is going to be. From what the gentleman at the EPA meeting, the North Providence meeting said, a lot of

those contaminants are going to be shipped to Canada, where they have the facilities to take care of these sort of contaminants. So not that we are happy that they're getting them, but in some cases, the less that's here, the better. Thank you, very much.

HEARING OFFICER BRILL: Thank you.

MS. SHERRILL: Hi. Pam Sherrill, town planner for the Town of Johnston, offices at 100 Irons Avenue. I would like to reiterate the mayor's two requests as expressed in previous meetings. Number one, the town must be assured that the town will not be liable for any maintenance or failure of any future confined disposal facilities that are located in the Town of Johnston. Secondly, state contractors and workers should be selected for remediation and construction. The mayor is very adamant that these projects -- these jobs not go to out-of-state contractors.

I would like to offer the following comments as my comments as town planner. Number one, the Town of Johnston is an abutter of the Centerdale Manor site. None of the pollution was generated in the Town of Johnston. And, yet, we are being asked to bear the brunt of the disposal on site, on up -- in upland areas.

Secondly, the Town of Johnston has -- bears a disproportionate burden statewide in the disposal of landfill material. This must not continue without a win for the town. And we realize that this is an opportunity for a win-win for the Town of North Providence, the Town of Johnston, and the EPA if this is cleaned up right, and if it is a net benefit to the Town of Johnston. We're definitely supportive of cleanup of the waters, but it cannot be at a cost to the Town of Johnston.

Several sites have been -- I believe there were five sites that are looked at in the Town of Johnston. We are very concerned that any of these sites do not adversely affect the tax revenues to the Town of Johnston, and that would be with property tax or tangible tax.

Secondly, that this does not displace jobs in the Town of Johnston. This is very important to us, that we need to be supportive of the existing jobs that we have in town. It's much easier to retain a job than to attract new jobs.

Thirdly, this must be a -- or in going -- in the discussion of the jobs issue, those jobs also have a multiplier effect in the community. For every employee that works at these sites, they build, or they use the

local economy. They support the pizza parlors, et cetera, et cetera. And so there's a multiplier effect for those jobs in the local economy, and that should be addressed.

Number three, it must be a win-win, as I said, for the Town of Johnston and for the EPA. And the mitigation for -- mitigation for use of confined disposal sites must recognize this for the Town of Johnston.

We are supportive at this time of selection of 100 Irons Avenue, the DPW site, as a potential confined facility disposal site. We are -- and we're also supportive of use of the former tire dump that we understand has been remediated up along Railroad Avenue. That's at this time, these are -- this is information that we have currently.

We are -- the Town of Johnston is working with an EPA contractor on visioning for reuse of the sites, specifically, at 100 Irons Avenue. And I want to call people's attention to the fact that we have scheduled a visioning workshop on January 11th, 2012, at 5:00, at the Sarah Barnes Elementary School, to discuss recreational -- the potential for recreational reuse of the site at 100 Irons Avenue.

A couple of issues, though, that need to be

addressed, and I wanted to comment on those specifically. We do have preliminary support for relocation of the DPW elsewhere in town, but this must be paid by the EPA, or the potentially responsible party.

Secondly, we do have preliminary support at this time for recreational reuse, again, to be paid by EPA and the potentially responsible party. Third, we need the assistance of EPA in public education regarding health risks for use of recreational facilities. We understand that this is a concern among residents in town, and we really look to the EPA for support in this area.

And Number four, we understand your limitations, or you've expressed your limitations today on how far the EPA and the potentially responsible parties can go in assisting the town in beneficial reuse of the sites. This is a huge burden to put on the Town of Johnston to expect us to negotiate with the potentially responsible parties to make sure that the outcome is a win-win. And I feel that this is a disproportionate burden put on the town, and any kind of assistance from EPA is definitely appreciated. Again, these are my comments, only.

One other point that I want to raise regarding use

of 100 Irons Avenue is that there's a Narragansett Bay Commission sewer intercepter that bisects the site. We need to maintain access, or the Bay Commission needs to maintain access, not just to the manholes that are located on the DPW property, but access to the line, itself, in the event that it would ever need to be replaced or repaired. And we're concerned that any -- any deposition on top of that could adversely affect the integrity of that line, itself.

Again, these are not comments coming from the Town of Johnston. These are just concerns that we feel that the Bay Commission should be aware of. In closing, I'd like to say that the town is supportive of restoring water quality in the Woonasquatucket River, but it must be a win-win for the Town of Johnston.

HEARING OFFICER BRILL: Thank you. Anyone else?

MR. RHODES: Yes. I just wanted to say that I sympathize with the Town of Johnston about this matter, and one of the reasons why is when we were looking for our second house, we were, um, we thought we found our dream house up near the landfill, um, up Center Avenue, way across from that. And we went to an event where some people came out to us and said, Don, if you go, like, three, or four, or five miles up from

where that house was, you'll change your mind.

And what happened is when we went up there, we found boarded-up, beautiful homes, um, recreational ball fields that could no longer be used. And so that is something that even though Johnston -- I -- I wouldn't feel that positive about wanting to have that kind of contamination stored in our city, because I've seen what some of the contamination has already done to Johnston.

HEARING OFFICER BRILL: Any other comments? Well, thank you. And I close the formal public hearing. As I said, all the comments will be addressed as part of the final document on the cleanup decision. Please remember that the public comment period on the Centerdale Manor site ends February 13th. Thank you, and have a good afternoon.

(HEARING CONCLUDED AT 2:54 P.M.)

C-E-R-T-I-F-I-C-A-T-E

I, Tammi Burnham, RPR, Notary Public, do hereby certify that I reported in shorthand the foregoing proceedings, and that the foregoing transcript contains a true, accurate, and complete record of the proceedings at the above-entitled hearing.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 29th day of December, 2011.

_____

Tammi Burnham, RPR, Notary Public

MY COMMISSION EXPIRES: November 26, 2012

IN RE: CENTERDALE MANOR RESTORATION

PROJECT SUPERFUND SITE

DATE: DECEMBER 7, 2011

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In The Matter Of:

Hearing-Centerdale

Centerdale Manor Restoration Project Superfund Site
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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

PROCEEDING AT HEARING :

IN RE: CENTERDALE MANOR RESTORATION

PROJECT SUPERFUND SITE

DATE: DECEMBER 7, 2011
TIME: 7:00 P.M.
PLACE: NORTH PROVIDENCE TOWN HALL
2000 SMITH STREET
NORTH PROVIDENCE, RI 02911

PRESENT:

Larry Brill, Hearing Officer

Stacy Greendlinger

Anna Krasko

(HEARING COMMENCED AT 7:02 P.M.)

MS. GREENDLINGER: Good evening. Hi, everybody. We're going to go ahead and get started. Hi, guys. I feel like a teacher at school. How many people remember this from elementary school, when the teacher raises their hand, and all of a sudden the room goes silent. Wow, it still works. You all had an awesome elementary school teacher. We have some people in the hallway that are signing in. I'm going to let those folks sign in, but we are going to get started in a minute.

Good evening, everybody. Welcome, and thank you so much for coming out on such a beautiful evening that we're having. We really do appreciate it. Before I get started, if at any point during tonight's proceedings, if you can't hear, can you just flag to us, and we'll make sure that we speak clearer and louder for everybody.

So, again, thank you for coming out. My name is Stacy Greendlinger. And I'm with the US Environmental Protection Agency. And we're here tonight to talk about the Centerdale Manor restoration project Superfund site. So it's the cleanup of the Woonasquatucket River for about a mile and a half stretch between, pretty much, the Brook Village and

Centerdale area, going down a mile and a half.

So that's a great cue. If you have any cell phones, if you can put them on vibrate, that would be awesome. Thanks to whoever did that for me.

So we are here tonight, as I said, to talk about the Centerdale Manor. We have two portions of tonight's meeting. Hopefully, when you came in, you not only signed in for me, but you picked up a copy of the proposed plan, if you didn't already have one. This is -- what this is is a series of suggested approaches for cleaning up the river with EPA's preferred one included. And, also, if you hopefully picked up an agenda that we will follow this evening.

So we ran a series of about three public informational meetings in the beginning part of November. And because we've had those meetings, tonight is going to be an abbreviated version of the information meetings, because the primary purpose tonight is to be able to hear from you all, formally, into the public record for the formal hearing portion.

So there's two parts, as I said. The first part is going to be a short informational session. You will have the opportunity to ask questions, and so we can answer. I am going to ask during the informational session if you can please hold your questions until we

get to the question and answer period. We will answer your questions.

Once we conclude that, and I'm targeting 7:30 for that, we will switch gears, or maybe a little bit later, since we're starting -- 7:35. We're going to switch gears to the formal hearing. Again, during the formal hearing, the purpose of that is for us to be able to capture into the record your comments about EPA's proposed cleanup.

We cannot respond to you during the formal portion of the hearing. It is just to capture it into the record. That's why we're having an informational session to begin with. Before I get started, I'd like to thank Nancy Langrall for being here from Senator Reed's office. She's also here representing the full delegation. So thank you, Nancy, for coming out and being ears for the full delegation. We appreciate that.

And where's Frank Bursie? Thank you, very much, to Frank Bursie and North Providence for hosting us this evening. We do appreciate it, and all the help that you've provided us.

So we are here, as I said, to talk about the proposed plan. What is Superfund? Just let me briefly say Superfund is EPA's federal program for cleaning up

hazardous waste sites throughout the country. It's really kind of broken into three areas, if you will, assessing the situation, does it belong in Superfund, does it belong in the state program. We have Lou Maccarone from the Rhode Island Department of Environmental Management. If it's a state program, it would go to Lou's group. If it's a federal program, it would come to us. And if it's a non-Superfund program, it would get kicked out at that point, and go into the appropriate program.

So the first part is assessing it. The second part is investigating. What kind of problems, what kind of contamination, where is it, what's the extent of the contamination, and what are possible ways of dealing with it. So that's really the investigative stage. That can take a long time. And we've done years worth of investigation here along the river.

Once the investigation part closes down, it culminates in a proposed plan where we issue it out to the public saying based on our research and our investigations, this is what we think we should do moving forward. You, the public, tell us what you think before we make that final decision. So we're at the point where we're gathering input from people.

Public comment period started November 14th. As

you notice on here, it was slated to end on January 12th. We have just extended that comment period, based on requests to do so. And the new comment period, close of the comment period, will be February 13th, 2012. I'll get to later the different ways that you can comment.

Once those comments close, you get to the act stage. So first we had assess. Second we had investigate. And then the third part of the Superfund program is acting. We'll talk some more about what's the next step, and where we are, and how to move forward.

Why take action? Well, we've done a lot of investigation, as I've said, here at this site. And the information that we found leads us to conclude that we need to take action here at this site. The industrial legacy that's been left here is what's propelling that. The past uses, if you were to go to what we call the source area, it's currently where Centerdale Manor and Brook Village are located. It's approximately nine acres. And on that site, there used to be a chemical manufacturing facility, as well as a drum recycling facility. And that is where the origins of the pollution, the contamination that now exists about a mile and a half down the river.

The resulting contamination predominantly is dioxins and PCBs. There are other contaminants, as well, but dioxins and PCBs are largely what's driving the cleanup. So just because you have contamination doesn't actually necessarily mean you need to take action. You have to have an exposure pathway. You have to have a way that you are being exposed, you or the environment is being exposed to the contamination.

What we found from our investigations is that there are indeed exposure pathways here at the site. And as you can see, it's really based on eating contaminated fish from the river, as well as having direct skin contact or accidental ingestion. If your hands were to go in the sediment and then decide to have a cigarette, or a sandwich, or something like that, that's accidental ingestion.

Those are really the ways at the site. They don't volatilize. It's not something you're going to breathe in. It's from these pathways that the potential human health risk exists, as well as ecosystem risks.

So we found -- we understand what the contaminants are. We understand where they are. We understand that there are actual possible exposure pathways. And that's led us to the conclusion that we do, indeed, need to take action here at the site.

So Anna Krasko is our technical project manager. She's going to walk you through what it is that we're proposing that we do to address the contamination here.

MS. KRASKO: Okay. So we're going to look at the map of the area where we want this to happen. And this is from Route 44, and going down Woonasquatucket River about one and a half miles. And it includes Allendale Pond and Lyman Mill Pond. And we're proposing to remove contaminated sediment which is primarily located underneath the water surface, as well as contaminated soil in the floodplain adjacent to those ponds.

We are also proposing to remove contamination from a large wetland area shown here in the light green, which is one of the last remaining environmental habitats in this part of Rhode Island. In addition to addressing the river, we're also going to look at the source of the contamination, itself, and provide the program solution there.

So what is going to be done? We're proposing to remove over 184,000 cubic yards of contaminated material, and that's a large volume for us. And it will be from the river, from the floodplain, and from the source area, itself. After the sediment is dewatered, we're expecting to be left with about

110,000 cubic yards that we have to dispose of somehow.

The cost of the remedy is currently estimated at over $100 million. And the restoration period, itself, is about four years. We don't expect the construction to be starting for another five years, and we'll explain why.

Most highly contaminated material, we think about ten percent of the excavation -- of excavation will be shipped off site, because we cannot store it next to the river. We're proposing that this 110,000 plus cubic yards will go into on-site confined disposal facility. It's basically a permanent storage facility constructed next to the site.

We're currently looking at potential sites on the west side of the river in Johnston. We have three proposed potential locations on page 21 of the proposed plan. And one of those, or a combination, or maybe some other locations nearby will be used to store the material. After the construction is completed and this containment is constructed, EPA will be responsible under Superfund for the long-term operation and maintenance.

So why we are proposing to put material in an upland confined disposal facility? We looked at the full potential of disposal at this site. One was to

ship all the material off site. And one was to bring a portable incinerator and proper material near site. That option was an upland confined disposal facility. And the other one was to leave material within confines of the river, basically, near-shore containment.

The upland CDF is ideal for this site, because most of the contaminants, like PCBs and dioxin, do not dissolve, and do not evaporate. They have no odors. And once you put them in a permanent and secure storage, there is no possibly for human contact. Therefore, there's no risk, as Stacy just explained. The highest levels will be shipped off site, anyway.

We will get contamination out of the river and floodplain, which provides a permanent solution. It also provides an opportunity for beneficial reuse, because the Town of Johnston may be able to construct a facility that can be used by Johnston residents on top of that CDF. It would meet the criteria of both state and EPA, and it's highly protective at lower cost than bringing an incinerator on site, or containing off site.

This is a confined disposal facility, CDF, built in downtown Camilla, Georgia, just like this site, because dioxins and polyaromatic hydrocarbons are major contaminants. It was constructed in 2007, and the

municipality built and operates a park on top of this facility.

Although EPA cannot pay for and construct specific facilities beyond cleanup of Superfund on this site project, just as other projects around the country, there was an agreement that the municipalities and private properties will construct a facility right there for beneficial reuse.

And now Stacy will finish her presentation and tell you ways to comment on our proposal, and open to Q and As.

MS. GREENDLINGER: EPAs take very seriously the opportunity for the public to be able to provide comments for us. It's really important that we hear your voices and your opinions before we make a final cleanup decision. So the comment period really is very important, and we really do encourage you to take advantage of it, and to be able to provide us with your comments.

So there are various ways of being able to provide comments. Clearly, this evening, the main purpose is to be able to give you the opportunity to orally provide comments. And we have a stenographer, as you all can see, here to be able to capture those into the formal record.

But it's not just tonight. If you want to go back and read more in the proposed plan and discuss things more with other folks, you have the opportunity, as you can see here, to provide comments by fax, by e-mail, by mail. And as I said earlier, especially for those of you who came in a little bit later, the comment period has now been extended to February 13th. So you have an additional 30 days to be able to provide comments by fax, by e-mail, or by mail.

I did want to touch on what are the next steps, so that people can understand that portion of it, and this is part of the Superfund process. As I said, the comment period closes in February. We then go through and review all of the comments that we've received. We do respond back to each of the comments.

And that response is put into what's called a responsiveness summary. It is a public document. And it will be part of the cleanup plan, which we call the record of decision. We don't expect to issue that record of decision or final cleanup plan until this coming September 2012.

Once that happens, we have a final cleanup plan in hand, and we can then engage with the potentially responsible parties, or the private parties that Anna referred to, and negotiate with them.

The full principle behind the Superfund program is that the polluter pays. So it's important for us to go and to engage with the potentially responsible parties, with the objective to have them come to the table and to conduct the cleanup.

Once those negotiations are concluded, we then have to do a design. Much like if you were -- people have heard me use this example before, if you were to build an extension on your house, or a deck on your house, you need to think about what's the load capacity. How much lumber do I need. How deep do I need to dig the footings. Those types of details are exactly what happens in the design stage.

Once that design is done is then when we start. So Anna alluded to approximately five years. It can take a while to negotiate with the -- with the potentially responsible parties. So if we don't have a cleanup plan in hand until next September, it could be several years out after that until you actually see actions in your community in terms of the excavations that will be occurring in the river. And by the way, it is excavation, as opposed to dredging.

I also wanted to clarify first for some folks some feedback that I've heard or questions that I've heard is, well, gosh, for those who are living along the

river, the details is particularly what you're interested in. I certainly can understand that in terms of how many trucks are we talking about. How long is the excavation going to take. How large will the trucks be. What are the hours of operation. And those are exactly the type of details, although we might have a broad sense of that now, but those are the details that really come out in the design stage. We can't determine those until we have a cleanup plan in hand, and until those negotiations happened with the potentially responsible parties.

So the comment period has to close before that for us to be able to issue a final cleanup plan, and to then have the negotiations. So I just wanted to offer that point of clarification.

But we don't go away. EPA is here. Your opportunity as the public and people who live here, your opportunity to share your input and to share your concerns doesn't go away. It doesn't end February 13th. Although we may not have a formal comment period, we will be engaging the municipalities. We will be engaging the people who live along the area to make sure that you're informed about what's going on.

And as the design goes along, we do it in, like,

30 percent design, 60 percent design, 90 percent design, and then we finally have the complete 100 percent design. When we get to the point where we have enough information, we come to the community and we share that with you, and we get input from the community. So your opportunity doesn't go away come February 13th. And I just really wanted to clarify that.

I also wanted to point out another resource that you have, Tim O'Connor, Tim, I'm going to put you on the spot. Tim works with the Woonasquatucket River Watershed Council. And they have, the council has what's called a technical assistance grant. Tim is their technical contractor. They have a grant from EPA for them to look at the technical information. They are a resource.

And Alicia Lehrer, who is the executive director, her business card was on the front. If people didn't get that, or don't know Alicia, you can see Tim afterwards, or you can see me afterwards. But the Woonasquatucket River Watershed Council is a resource for you to be able to go to and say, I don't understand that, and ask them. That's exactly why Tim is hired by them, to be able to provide those answers. So you do have some other resources. So I wanted to point that

out. And thank you for letting me put you on the spot there, Tim.

So public participation, again, does not stop on February 13th. So having said that, I would like to move to the question and answer period. And I want to let people know, I'm going to ask if you can ask one question at a time. I will come back to you. You can tell there's a large number of people here. I want to make sure that everybody has the opportunity to ask questions. So I will hold you to one question. But I will come back after those who haven't had a chance to ask a question have asked already.

So I'd like to shift to the question and answers. And once we do the questions and answers, we'll move to the second part, which is the formal hearing. So right now this is not for entering comments into the formal record. This is for clarification, if you have anything you need clarification on.

I'm sorry. Our stenographer is asking if people can state your name, and if you can stand up. If you can't, that's fine, too.

MS. REYNOLDS: Holly Reynolds. And my question is you said it's excavation and not dredging. What is the difference?

MS. GREENDLINGER: So the question is --

I'll repeat it. The question is I had stated that we're talking about excavation here, not dredging. What exactly is the difference between the two? I'll let Anna answer that.

MS. KRASKO: All right. Yes, as Stacy said, what they're proposing to do is excavation. The difference is excavation is in the dry. The dredging will be a dredging without draining the pond. Because we have control of the Allendale Dam, which we constructed in 2001, and we are proposing to reconstruct the Lyman Mill floodgate, as well, we will be able to drain one part of the pond, and just like what we did on the Allendale Dam, itself, in the dry. The excavation will be done in the dry. That would allow us more control over the depth of excavation, and also allows us to minimize contamination downstream.

MS. GREENDLINGER: Any other clarifying questions? Hi.

MR. GONNELLA: My name is Tony Gonnella (phonetic). And I'm just curious, I don't really understand what the public comment period is for. In other words -- and you know we've referred to the correspondence, a number of neighbors have gotten together and we've shared our concerns. I sent you an e-mail regarding that. What we would like to know is,

you know, what is our role in this?

I mean, if we found that there was some hazard, for instance, connected to the cleanup, dust carrying, all of these materials entering our yards, our homes, our lungs, is it, you know, what recourse do we have? Can we close this thing down as neighbors? I mean, how much power do we have in this? Is this just exercise, or is this a serious --

MS. GREENDLINGER: Oh, no, it's quite serious. Let me, in case people didn't hear, Tony is asking me what exactly is the role of the public. And, Tony, I think I heard, kind of, a couple of questions this there. One in terms of what is the role during this particular comment period, and then later when cleanup is under way, if you were finding issues and problems, what recourse do you have at that point. So those were the two questions that I was hearing.

Let me take the first one. As I said, the comment period is on anything that you see in here, or any of the technical documents that support this. There's a slew of technical documents in here. You'll see our administrative record. It's online, so you can look at it that way. It's also at the library in both North Providence and Johnston. So there's a lot of technical documents that are behind this. This is kind of a

summary of all those technical documents. They're open for public comment, too.

So I can't tell you what to comment on. You know, whatever your opinion is about what we're laying out here. It doesn't have to be on EPA's proposed cleanup that we're putting forward. It could be on one that we didn't choose. You can say, I disagree. I think you should have chose that, or you should have done a combination of the two, or a combination of the three. Whatever it is that you think is fair game for public comment.

So you can put a comment in saying I'm worried about the future when cleanup is underway. I'm worried that we won't have recourse. You can absolutely put a comment in like that. That's important. Because we will formally respond to it. So anything is fair game.

I know a lot of people here are going to say use of Rhode Island labor is important. That's fair game. This is a public comment period. It's whatever your opinion or your concern is. And it can be on any of the technical documents, any of the cleanups, or anticipating into the future.

So, again, I can't tell you what to say. But that's what the purpose is. We need to be able to make our final cleanup plan, or decision on the cleanup

plan. And we're looking for input to help guide us in making that decision.

Now, for your second part, once -- looking to the future, once we're under way, if things are happening that are concerning you, if you feel like we're not controlling the dust well enough during the excavation portion of it, you do have recourse. You will be able to reach me. You will able to reach Anna. You will be able to reach Lou.

We have procedures that are set in place. We'll have parameters within the -- that the construction needs to happen. We'll have action levels that if things -- if air monitoring shows that dust is going too high, and it is above our action levels, we will shut down and figure out what's going on, what procedures, what steps need to be taken.

I might say that we've had four short-term cleanups here on site, and they've been in concentrated areas. So we have worked, for instance, Brook Village, their parking lot, you know, 2010 -- 2009/2010, their parking lot was ripped up. And we were, you know, excavating their parking lot and the river bank there while they were living there, accommodating, you know, getting to their cars. And all of those types of procedures were in place.

So, sure, on a smaller scale and in a particular location, but we have done this here along the Woonasquatucket River. So there would be things in place where we'll have open dialogue. I always encourage people who are here to let us know what's going on so that we can react in realtime and be able to be on it and working with the contractors that are actually doing work to address whatever the issue is. So you do have recourse. But I welcome you to put that in as a comment. Absolutely.

MR. BUTERA: My name is David Butera. I hear a lot of fluff, to be honest with you. What if there's enough people in this room right now that don't want it done, that don't want you to clean that, don't want you to tear up everything on that lake and do this?

MS. GREENDLINGER: I welcome you to put it as a comment, and that's something that we'll consider.

MR. BUTERA: Because it's a lot of fluff.

MR. JOSEPH SABITONI: Joseph Sabitoni. In your slide you identified the primary route of exposure as ingestion. What measures has the town taken to prevent and/or discourage people from fishing

in those waters, and going down swimming, or what have you, where they could potentially be exposed to contamination?

MS. GREENDLINGER: That's a great question. And, actually, eating contaminated fish is the biggest concern. Direct contact and ingestion is a concern, too. But, really, primarily, eating contaminated fish.

So there are signs throughout the river. We've actually worked with the Woonasquatucket River Watershed Council to go in inventory, and to look at are there other places that need additional signs. We actually just went through that effort and posted additional signs through in the areas where it didn't go.

We have a brochure called the dos and don'ts of the Woonasquatucket River, that, again, the council distributes. They have a lot of different activities, bike rides, canoe paddles, et cetera, where they're out with people who use the resource who would be most likely to come into contact with it. We issue a press release, and it gets covered. That actually does get picked up to run in the newspapers to remind people of the dos and don'ts.

A significant portion along the river has fences

up. Hello, Mr. Mayor. It's good to see you. Thank you for joining us. We do have in some areas there are fences that are up preventing people from actually being able to get right to the river. So those are the different measures. And Anna wants to say something.

MS. KRASKO: I just want to add that since about, I think, 1996, Rhode Island Department of Health put a fishing advisory on the Woonasquatucket River below the Smithfield fishing device. So it's catch and release only. And it's -- we've done surveys of people along the river. It seems about everyone is aware of it.

MS. GREENDLINGER: Yes.

MS. JOHNSON: Lori Johnson. Who exactly is eating the fish, and how many people have been sickened by the fish?

MS. GREENDLINGER: So we don't have data from -- in terms of who's eating the fish. I wish Bob Vanderslice from the health department was here. And he's answered that question before. I think you may have asked him that question before. I certainly don't have the expertise that Bob does. So the answer that he gave you at the last meeting --

MS. JOHNSON: Could you just repeat his answer?

MS. GREENDLINGER: To the best of my ability, I will, because I certainly am not the health expert that he is, and we don't have ours with us. Bob was basically saying that we don't have health data on that. But he was -- and I think he also was saying that there aren't blood tests, or things that you can take to be able to show the direct cause to it.

I also know that our health -- our risk assessor has based it on 30 years of consumption. I don't know -- in the proposed plan, I don't recall the numbers offhand in terms of how much fish you need to consume over a 30-year time period to be able to have a potential health concern. So it's a significant amount that you have to eat for a long duration. It's not one of those --

MS. JOHNSON: So no one has come to the department of the health to say I have eaten fish from this river and it has made me sick?

MS. GREENDLINGER: I'm not aware of anybody going to the department of public health and saying that they're sick from eating the fish. So, again, I'm going to ask that -- I want to be conscious of allowing people to have comment time. So, again, clarifying questions.

MR. CANZONIERI: My name's David

Canzonieri, and I worked on a job in 2009. There wasn't any problems. They had a water truck to keep the dust down. They had a hygienists all the time. And EPA was there every single day taking samples.

There was so many barrels that they took out. Even that little area, I think it was about 1200 -- maybe not even 1200 feet long. They put piles in. They took the water out, and then they took the dirt out, and took it away. And they put new dirt in.

MS. GREENDLINGER: Thank you for sharing.

MR. CANZONIERI: And they put a whole new parking lot in. Right over here.

MS. GREENDLINGER: Brook Village.

MR. CANZONIERI: I think it's Sal Mancini.

MS. GREENDLINGER: Brook Village Apartments.

MR. CANZONIERI: Is that Brook Village, the name of it?

MS. GREENDLINGER: Yep. So thank you for sharing that.

MS. CARLINO: My name is Marie Carlino, C-A-R-L-I-N-O. My question has to do with that permanent cap. Now, I'm thinking not five years from

now or ten years from now, I'm thinking 15 to 20 years down the road, the EPA is primarily responsible for long-term maintenance, as I think I heard that. What does that mean? Does that mean testing that facility, that upland containment facility for any odors that are emitted? Is there a venting system on this? Does there need to be a venting system? Because I'm thinking about the problems with the landfill right now, the smell. I'm thinking 20 years down the line where there's an issue who is responsible, is it EPA, is it DEM? And I just want to clarify that.

MS. GREENDLINGER: Yep. I can clarify that, and Anna can add anything she wants to add. Whatever waste is left in place, which in this case we're proposing that that be the case, the US Environmental Protection Agency must, on a five-year basis, go in and do a five -- what's called a five-year review to make sure that the cleanup tank is functioning the way we expected it to.

The specifics of what we would do for that, I'll let Anna answer. But it is EPA that's responsible every five years to do that. After a certain period of time, the -- what's called operation and maintenance of the site, meaning, the long-term monitoring, does switch over to the state. But EPA still is involved

even when the operation and maintenance goes on, because we have to do those five-year reviews. So we don't go away, either, even when the operation and maintenance goes -- that responsibility goes to the state. Do you want to speak to what would be typically involved in the five-year review?

MS. KRASKO: Sure. In addition to the five-year review, there is usually an annual monitoring. And there will be a monitoring plan developed as the facility is being constructed. And it will be available, obviously, to the public. It will be in the public domain. And that will spell exactly what will be monitored, and in what frequency.

Usually it involves monitoring groundwater, you know, water underneath and around the facility, for contaminants that may be present. We don't expect any off-gases, or any volatilization, or need for vents, because there is no solid waste going into this facility.

And what we see on the landfill over there is when the solid waste is decomposed it generates methane and other gases. And that's why you get the smell. Here it's going to be basically a soil, just like soil we see on the street. Because after the sediment is processed, it's going to become soil. Basically, it's

going to be a pile of soil, and you don't need to vent it.

There will be a liner on the bottom, like this on the table. There is an example of a liner. It's high density polyethylene. It's 40 millimeters thick on the bottom. There will be similar plastic on the top. There will be a drainage layer to move water away from the facility. There will be a leachate collection system, if necessary. So if any water gets into the facility, it's collected and directed away. And it's basically done in perpetuity on at least a yearly basis. With this facility there is really no reason to expect any serious problems.

MS. GREENDLINGER: Yes, Michael.

MR. MICHAEL SABITONI: Michael Sabitoni. I heard your presentation using the time frame of five years for construction of this to start, and the potential of delays to that time frame. So my question is: If there is the potential of delays out further than that five years that you had mentioned, would that potentially trigger the potential that this project never happens because of the particular amount of resources that went into -- and the studies that have formed to get us to this point?

And in addition to that, contained on page 9, if

you look, it says that the stated goal for the Rhode Island Rivers Council policy and plan that was amended in 2004 says that this river be deemed fishable and swimmable, and return back to that place by 2020. If we lose this opportunity now, could potentially the taxpayers of the state and/or the municipalities be on the hook in the future to clean up the river on its own?

MS. GREENDLINGER: Let me answer that with no, they're not. I can answer that one easy, fast. No, the municipalities would not be on the hook for the cleanup. So, in terms of potential delays, it, you know, it's an estimate of the time frame because of those discussions and negotiations that have to happen. And we, you know, it's unfair of me to say, oh, this is a definite thing to people. I don't want to mislead you.

Those are negotiations and dialogue that have to happen, that we can guesstimate as to how long they'll take based on other experiences. But we won't know until we're in it and it happens to know exactly how long it takes.

Part of what I think you were getting at was, and let me just say, our intent is to have potentially responsible parties come to the table. We often get

the question of so what if that doesn't happen, or what if it doesn't happen to the extent that we need it to, which is part of your question, would it then fall apart and never get cleaned up? It then happens at -- if we didn't get the, either, if we have didn't have any kind of agreement with them, or if it was only a partial agreement, no, we would not go back to the municipalities and ask them for it. It would go to the US EPA to be funded and be what's called a fund lead site, where we would do -- take responsibility for doing the cleanup.

Now, having said that, there are other sites in the country in the Superfund program that are in that predicament where, maybe, there aren't responsible parties, or they are looking to have EPA funding. So EPA has a process where different sites that are like that have to get ranked with each other in terms of who gets the funding first. So it's not a question of if you'll get funding, it's just a question of in what order, because there are other sites that are in the queue. So that's what would happen. It's just a matter of when.

MR. CORRENTE: Lenny Corrente. My question, also, is, too, on the start of the date of the construction. The money's there. The project's

there. The contaminants are there. The longer we wait, the longer it goes downstream. And every time there's a flood, it goes into yards. I mean, there's no way of streamlining this, you know?

MS. GREENDLINGER: Wish us luck with negotiations.

MR. CORRENTE: I think it's a win-win situation with the City of North Providence and Johnston. It's going to create jobs. It's going to clean up our area.

MS. GREENDLINGER: We hear you. We certainly hope that it's faster than five years. And, again, we hope that we have fruitful conversations with the potentially responsible parties so that we can get on to doing the work.

I'm going to hold for just one second in case there are others who haven't asked a question and want to ask a question.

MS. BISSANTI: Carol Bissanti. I'm kind of responding to what this gentleman said about how things went well when they resurfaced the parking lot. As I understood what he said, there were a variety of people with a variety of roles at that site. I'm assuming that's for monitoring the process. But I'm also anticipating that there's anticipation about

potential risks when the processes are in place. Could you address what those potential risks are to the residents?

MS. GREENDLINGER: To the residents, um, I -- yeah, I'm going to let Anna answer that. I know that she was looking -- just to say, first, workers are closer to it than residents are. So they're, you know, things are based on what would the workers' risk be, because they have the highest risks. I'm going to have Anna answer it. I don't know if you have the authority to answer that.

MS. KRASKO: I'm going to say about workers' risk, I think we've run a calculation on workers thinking that they are in the soil, and they come into contact with groundwater and soil. And as far as the residents, it's noise. It's the dust. It's light pollution, lighting. And those types of activities can be controlled by engineering.

So we have monitors, and there were monitors at the environmental construction site to monitor for dust, or to monitor for any emissions. I don't believe there was any detected, any contamination detected. It was monitored. As far as dust, you can use like foam, or you can use like water from water truck to keep the dust down. As far as noise, you can also put controls

on the machinery, and control the hours of operations. So that -- in those engineering plans that support the proposed plan, there is a section that is called short-term impact, and it describes all those types of impacts. And it says that basically that there are means available to control the impacts on -- just like we do on construction sites, plus potential emissions that we will be monitoring for contamination.

MS. GREENDLINGER: I'm conscious of time, and the fact that the primary purpose of tonight is to have a formal hearing. I know more of you may have questions. We'll be here afterwards to -- I'd like to be able to shift us to the formal hearing. And, again, comment period goes to February 13th. So tonight is not your only opportunity to be able to submit comments. So, yes, you.

MR. CANZONIERI: Before they do anything, every piece of dirt is tested and sent out, and they know how much is in there. I'm working on one now in Newport. So if the people want to see what one's like, they can go to Newport, or send somebody to film it and show them. That's what we do. We fill the trucks. We tape the trucks. They close the trucks. And they take the dirt to Vermont.

MS. GREENDLINGER: And it's true, we've

done a lot of this at other sites. I'd be happy to share that after the meeting, what happened at other sites where we had trucks going right through the neighborhood, very narrow streets, an elementary school a block away, a bike path that they had to go over to be able to get to the site. So we had a lot of other experiences that deal with a lot. Here, we can share with you what we did there.

I am going to have us switch to the formal hearing. Again, we can't respond during this time. I'm going to ask Larry Brill to come up. He's going to be our hearing officer for tonight's hearing portion.

HEARING OFFICER BRILL: Thank you. My name's Larry Brill. I'm the chief of the Superfund branch at the US Environmental Protection Agency's regional office in Boston, Mass., and I'll be serving as the hearing officer tonight. I would like to be able to start the process. I'll try not to be redundant, because Stacy mentioned most of this. This is the official hearing part of the process where all your comments will become part of the record, and we will have to respond to those comments.

Again, the purpose for tonight is to accept, either, your oral comments, if you want to give them, on our proposed plan centered at Centerdale, and that

is the Superfund site, and become part of the formal record.

During the hearing, we will not be responding to oral comments, but we will have to respond to all of them in writing, and that will become part of the final document of our cleanup and how we're going to address the site. And that is hopefully targeted to be done by September of this fiscal year, September 2012. And that information will be available at both the Johnston and North Providence libraries, and at EPA's office.

After the oral comments have been recorded, I'll close the formal hearing. If you don't feel comfortable speaking tonight in public, feel free, as we said, you can send any comments in writing or e-mail to Anna Krasko. And then those will become part of the permanent record about the site.

And then EPA's responsibility is that we will have to respond to those and address those. Any comments about safety, any issues, we'll address those in our responsiveness summary.

Again, it has to be submitted by February 13th. After that, we can no longer accept the comments. So I guess if there's any questions on the purpose of the format of the hearing, I can take that. Otherwise, if you would please raise your hand. I'll call you to

speak. Again, if you can give us your full name for the stenographer. She's going to have to capture it for the sake of the record. And, please, identify yourself, and provide us with your name and address. I'll open it to public comments.

MR. ASLYN: My name my name is Don Aslyn (phonetic). I live along the river, and your objective for this river is to make it swimmable and fishable; is that correct?

HEARING OFFICER BRILL: Unfortunately, I know it's bizarre. I cannot answer. In this process, I can't answer. We will answer that question in writing and identify the answer. But I -- I will talk to you after the meeting. But I can't -- this part of the hearing I can't answer questions.

MR. ASLYN: You can't answer that question?

HEARING OFFICER BRILL: I'm sorry. That's the process.

MR. ASLYN: Okay. All right. Well, that's the thing that I'm hearing, you want to make it swimmable and fishable, correct?

HEARING OFFICER BRILL: I'm going to talk to you after this. Obviously, that's the goal of the federal government and the Clean Water Act.

MR. ASLYN: And you're going to spend $101 million to accomplish this, and it's going to take years and years of construction work, and possibly threaten the health of the people that live along the river by digging up all this contaminated soil and spreading it all over the neighborhood.

That's a very realistic possibility that could happen. This is pretty nasty chemicals. Dioxin is used in Agent Orange based on war. Okay. It's serious stuff. And you're just going to dig it all up and truck it through the neighbors, and it's going to get spilled all over the place. And there's going to be stuff blowing around in the area.

It gets very windy on that river. And the wind can pick up 30, 40 miles an hour in no time. It's a wide open area. And you're talking like 42 acres.

You've also got a problem -- even if you did spend the 101 million and you cleaned it all up, and dug it all out, and went through all that, what's to stop it from getting recontaminated by another chemical mill, or some other manufacturing plant upstream accidently dumping chemicals into the river and repolluting the whole area after it's been cleaned up. There's no way of forecasting if that's going to happen, correct? It's a possibly. All right.

Number two, you've got a problem with sewage getting into the river. You've got the Smithfield sewer plant upstream. What happens when it rains like hell? It overflows. Where does it go? Into the Woonasquatucket River.

You've got highways, huge parking lots, all kinds of roads where the water runs off, goes into the river. That's full of pollutants. So this river is consistently polluted. Not just the chemicals you've got dumped in there 60 years ago, you've got constant pollution going in there. And my thought is I wouldn't swim in that river if you paid me. Would you swim in it? I don't think so. Thank you, very much.

HEARING OFFICER BRILL: Thank you. Anyone else?

MS. GREENDLINGER: Is this working now? Okay. Can you hear it now?

MR. JOSEPH SABITONI: My name's Joseph Sabitoni. I live at 126 Hawkins Boulevard in North Providence. I grew up in Johnston. Spent a lot of my childhood along the Woonasquatucket River. Presently, I'm a member of Local 271. I work for the New England Laborer's Training Academy in Pomfret, Connecticut, where we provide the best hazardous waste training in the country.

Our members are the safest and most productive workers. They have experience in cleaning up ponds like this. We have concern for the residents of these areas who are facing the problem of -- worried about the contamination that could spread. It's not going to happen. The controls that are in place, the highly trained individuals who perform this work can give members of the community confidence that this will be done right, on time, and on budget.

(APPLAUSE)

HEARING OFFICER BRILL: You, and then you. Front to back.

MS. CARLINO: Marie Carlino. My comment is I've heard a lot about the excavation of the ponds and the lakes, but I've heard very little about how we are going to -- whatever we need to plant, whatever we need to stock the pond back up with fish, I heard nothing about that. So in the five to ten years it's going to take to excavate it, we're going to have a bunch of water sitting in a dirty hole. That's what I'm seeing.

Because right now there is plenty of wildlife back there, and I have pictures to prove it. And I posted some on the Watershed Council's site. So I would just like to know at some point what are we going to do to

bring the wildlife back?

MS. ROMANO: Tara Romano, 34 A Stone Trail. I personally support this project. Although I don't live along the site, itself, I think there are a slew of benefits to it. First and foremost, you're creating an influx of jobs that will provide family supporting incomes. These families can then in turn invest their money in the local communities, services, goods, creating this multiplier effect which the economy needs.

Aside from that, you are removing contaminants. Which the gentleman over there pointed out, dioxin, a lot of these contaminants are classified carcinogenics. They are also linked to cancers, and other -- other diseases that are bad.

There is no financial burden on the municipality being another benefit of this project. Just touching upon the carcinogenics that are being removed, we don't ultimately know if they sit there, if they're going to just further contaminate, and it's going to get worse. There's no way to predict the future here.

In my opinion, you're improving the environment, the ecosystem, and the landscape, itself, and you're putting people at work.

(APPLAUSE)

MR. BUTERA: I'll take it. My name is David Butera. I have -- I have a lot of things that are a problem. Yes, I understand jobs are necessary, but we don't know, for one, that the company or companies can pay for it. And if they can't pay for it, the 101 million is a low estimate, or is a ballpark. You're looking at 150 to $200 million. If the companies cannot pay for that, the taxpayers pay for it. The EPA is the tax-funded entity in the United States government. We pay for it.

So, yes, it benefits in the long run, but we pay for it. I looked at these photographs. Do you know every single one of these birds and wildlife on here are back there. I've got photos of them. I sent it to this gentleman right here. As a matter of fact, I just took a picture of an otter two weeks ago, staring me in the face from me to my wife. Beautiful.

You're going to take two feet, two and a half feet in draining the pond, in draining the pond, two and a half feet bulldozer all the way around. All the way around this lake. See the blue? Two and a half feet all the way around, killing everything, brush, wildlife, fish, otters, everything. Wiping it clean. Estimated, from what I could gather from what they're showing us, 30 years before it comes back.

So if you're wiping out two and a half feet all the way around, wiping it clean, you have no fish. That means you have no birds. You have no otters. You have no nesting areas. You have an environmental cleanup that is fluffened up as you're hearing it now.

I live on the lake. I understand jobs. But 150 to $200 million, they're going to have their thumb on companies from now until eternity. Because if they can't pay for it, guess what, I'm going back to you again. I'm going to you again, and again, and again. Over, and over, and over, they're going to keep going back.

And if the site that we live on, or live next to, does fail, they're going to go back again. And they're going to put their thumb on companies from now until the day I die, and further. Is that what this country is living for? Is that how this country works?

Long-term effect, who is going to, A, take care of that property, mow the lawn, take care of the maintenance, make sure kids don't play on it? I know it's not coming out of you or the EPA. It's got to come somewhere. And it's coming out of the back pockets right here. Right here. In this state, in this town.

I agree with jobs. We need them. But do we need

it at this type of expense? Do we need this type of impact in our communities?

(APPLAUSE AND BOOING)

HEARING OFFICER BRILL: Let's keep the comments about the cleanup.

MR. CORRENTE: I understand there's already been tests performed on the wildlife and on the fish that they are already contaminated. And there is -- at this precise moment now there is buried material underground there, also, at this precise moment and time. I mean, you do want this cleaned up. It would be beneficial for everybody.

MR. CANZONIERI: Do people still want to breathe what's in the area? If it doesn't get cleaned up, they're still breathing it every day. Your life gets shorter, and shorter, and shorter. They don't know how much is out there if it hasn't been tested.

And, usually, when they take something away, they usually put it back. Like I said, I'm working on a site in Newport. They took out I don't know how many tons, at least 500 truckloads. And they put 500 truckloads of clean fill back. You know, so it just goes and it comes back.

And every truck gets sealed. It gets sealed. We glue it, and we tape it. And then the truck gets cover

on it before it goes out. And every cartridge, they have a cartridge on every site that we work at. And ever day that cartridge gets read what's in it. And they tell you the next morning what's in the cartridge. And if it's, you know, too much whatever they're looking for, they do something different. You know, if it's not too much, they do less. And that's how it is.

But I wouldn't want to live there knowing that this stuff is still coming out of the air every day. People don't know what's over there. I mean, just by smell, you can't tell by smell what you're smelling. You might take ten years off your life.

HEARING OFFICER BRILL: Sir.

MR. GONNELLA: My name is Anthony Gonnella. Did you want an address? I live on the river. I'm one of the people that lives on the river. And I'm one of the people that's going to be most affected by whatever happens here. And I wrote a letter to Stacy. And I want to thank Stacy. I think you have a tough job, Stacy, and I think you're doing it very well.

However, in the letter, I'll be brief, I won't read the entire letter. What I wrote is the public comment period ends long before the engineering plan has been devised. And this means that the affected

community's comments will be based on highly incomplete information. In informational meetings held by the EPA at North Providence Town Hall, the community has been informed about the objectives for the cleanup, but not how these objectives will be accomplished. If the river is to be drained, the bed exposed, and 8,000 truckloads of sediment removed over a two-year period, as been presented at informational meetings, it seems there's a potential for significant health hazards, especially if the newly exposed dioxins, and PCBs, furans, pesticides, VOCs, SVOCs, and metals become airborne by the strong winds which are prevalent along the river. This is an obvious concern. However, having no experience in such matters, and being aware that the devil's often in the details, I fear my neighbors and I really can't anticipate how dangerous and disruptive the cleanup will be.

The community can't know pertinent questions to ask or comments to make until the engineering process has been decided upon and clearly and simply communicated. This letter has been signed by 18 people in the neighborhood. I'd like that to go on the record. Thank you.

HEARING OFFICER BRILL: Any others?

MR. RHODES: My name is Don Rhodes. I

was at the Centerdale Manor meeting earlier this afternoon. And some of the concerns I have were when the planner for Johnston, who was at that meeting, I don't know if she's here tonight, but the only thing that we heard about with moving of the sediment in the soil was that would be done to Johnston, as long as -- and the only term I heard was win, win, win, win, win, win, win. What does that -- what does that constitute? Is it just jobs? Okay. Is it just more, more opportunities for employment?

Ten years ago my wife and I looked into Johnston to buy our second house. And at that time, if you go up Atwood Avenue, and turn up to Star Avenue, where Allendale is, we thought we found our dream house. It was beautiful.

The next day, we went to a family event, and some people said, well, why don't you take another drive and go about five miles up that road from where you think your dream house is. And on that road, there's nothing but boarded-up house, recreational ball fields that haven't been touched in years, and years, and years. And if this is going to happen at Johnston, which borders North Providence, what, you know, I hope something has been done to address that.

MR. MICHAEL SABITONI: Michael Sabitoni.

No disrespect to the gentleman that just spoke, but I live in that neighborhood. And that ball field is probably one of the most used ball fields in the State of Rhode Island, currently. Actually, it holds -- there's a whole housing in Johnston, girls' softball league. There's been extensive reclamation in that area. Those houses have been removed, along with in addition with the Department of Environmental Management, EPA, DEM, it makes the best of a difficult situation where the trash in the State of Rhode Island has to go somewhere. You ask the residents who live in that community, including myself, I live three miles from the landfill, would I wish to have a landfill three miles from my home? Absolutely not. As I'm sure all the residents that live along this river, would you wish to live on the river that's contaminated with all the things that are in this report? Absolutely not.

So what is the option? Nothing. It's there, to leave it there. What about the quality of life of people in the future? What about the property values in the area? You have a potential to not only create jobs. And, yeah, jobs are a big part of this. These are members that live in this community right now that's currently 50 percent unemployment.

Every time when they talk about constructing a

bridge, or cleaning up a project, or doing this, or doing that, we always run into, in the construction industry, which I work for -- I'm also president of the building trade representing 10,000 construction men and women in and around the State of Rhode Island -- of not my backyard. And I understand that. Coming from the area that I hail from. But looking at the long-term potential impacts, the good impacts to the quality of life in the future, yeah, it will be short-term pains for long-term gains.

There will be inconveniences with construction. They will be remediated and mitigated, as my colleague and cousin had mentioned, where this isn't just a flashing of hand. The Environmental Protection Agency has been around for a little bit. We've done some cleanups, I imagine. This isn't your first time at the merry-go-round. So we're not the guinea pig to do this type of cleanup. I'm sure we've tackled bigger fish, to use a pun. And it's all about the quality of life for the residents of this state, the residents of this community, the Towns of Johnston and North Providence.

I understand the concerns. I live with the concerns. I raise a family three miles from that landfill. So it's not I'm coming into a different community. As my cousin and colleague had mentioned, I

also grew up along the Woonasquatucket River. I also played ball on Heinz Field, which now houses the Johnston DPW, and played along that industrial park. And we used to run around down the railroad tracks. And I'd squeal on you when you used to shoot the squirrels with the BB gun.

So this is our community, also, and we understand that. I don't live right on the river, but I spent a lot of time in and around these communities. And we represent a substantial amount of people in these communities that are looking for a quality of life, a better future, not only for your local community directly on that river, but both communities as a whole.

I know both Mayor Lombardi and Mayor Polisena support this. And one of their big supports of this is not only about the long-term quality of life, but for the immediate residents, but also the long-term quality of life and economic impacts it will have on both communities going forward. To put these communities as not known as a landfill and dirty river, but communities that are taking steps to mitigate years of pollution, and to wrong a right [sic]. Which isn't going to be easy. The easiest thing to do is to stare at those fish, to stare at those birds, but don't touch

those birds, don't touch those fish. Admire from afar. Don't get too close. Don't get too close.

So we wholeheartedly support this project. We have hundreds, if not thousands of residents in these communities that will support this project, and projects like this that will not only be a two-for. Clean up the community. Clean up the quality of life in the existing community, with some short-term pain. That will happen. There'll be some inconvenience. But the long-term gain, not only for the existing residents, but the future residents of that neighborhood for years to come. Thank you.

(APPLAUSE)

MS. FEDEROWICZ: Hi. Yvonne Federowicz, 36 Hawthorn Street. And I have a cold, sorry. So I have friends who played in that river in spite of all the fencing and everything as kids. So, you know, I -- I think you had an excellent comment, the gentleman who just spoke before me. I'm happy to see the long-term planning that the EPA has put together here. I think it's a good plan. It makes it safer for our community, and our children, and grandchildren, long-term.

Right now it is not safe. You might think, oh, it's sitting there at the bottom of the pond. But that's no guarantee. It's like having buried land

mines, or something, that, you know, you're never going to know if there's going to be some future flood that's going to be bigger, and some dioxin is going to be, you know, right down the stream into the path of some kid who's playing outside of the fenced area. And, you know, kids aren't going to respect those fences anyway.

So I'm happy that there's a long-term plan that has, you know, the best chance that the technologists can give it, anyway, to keep it upland and away from the floodplain. I think that's an excellent idea. And I think -- and, also, there's fish, you know, those fish aren't going to stay right there. Those little fish that get the dioxin in them, they're going to go downstream. And some bigger fish are going to eat them. And it's going to end up in your sandwich if you leave that sitting there. So it's not safe just sitting there. Thank you.

MS. BISSANTI: Carol Bissanti, 518 Woonasquatucket Avenue. I guess what I would like us to consider in terms of this cleanup is that as we begin to deal with decades of abuse in our area, that we also consider what the current threats are in our area. And right now we have an asphalt plant across from the Allendale Dam that commits many of the list of environmental contaminants that I saw at a meeting here

several months ago.

No one has done a formal study about how that is currently impacted. And that is, I think, about $101 million. If this cleanup is successful, and hopefully it will be, if that is not addressed, how will that continue to emit toxins or contaminants that may affect the long-term cleanup of that river, and the environment, and its effect on the residents of our community?

HEARING OFFICER BRILL: Any other comments?

MS. JOHNSON: My name is Lori Johnson, and I am a taxpayer of the Town of Johnston. I am totally against this super site fund [sic]. I feel that it provides potential hazards with no immediate hazards until the work begins and we start moving around the sediment. I do not want my town to hold three sediment containers. The Town of Johnston already hosts a dump that smells to high heaven.

And I hate to tell all of you people, but the town, the taxpayers of North Providence and Johnston are not going to get jobs. They are not going to be hired. The companies who already do this type of work already have all the people that they need to do this type of work. So no new jobs are going to be created

from this super site fund that I will work every day to make sure never happens in my town. Thank you, very much.

HEARING OFFICER BRILL: Anybody?

MR. MICHAEL SABITONI: Just as a comment, just on the potential construction jobs that will be created to give you a for-instance in different areas around the state, the Newport Navy Base, as my member Mr. Canzonieri is working on currently, does a substantial amount of cleanup on that base due to old emissions, dumps, tank compounds, et cetera. And the companies that do come in, some of which are from Rhode Island, subcontractors, or large remedial firms that come in from out of state, when they do come in here, they hire a local workforce.

As you heard, the training that goes into the hazardous waste remedial field is not something easily -- that you can be transparent, or transfer from state to state to different regulations and licenses. So we have the workforce that's here and trained through hazardous waste, radiation, remediation, asbestos, lead, all of the technical aspects that we need to conduct this type of construction.

Same thing with the bridge and road construction, the same workforce. Sometimes you do have contractors

that come in from other areas. I know we would like to see the maximization of local employers, local contractors, local haulers, to conduct and inform this project. But the workforce will be the local workforce.

And that's the history of the building trades for well over a hundred years, where any major construction project of this magnitude, any single one, you can point it out and you can bring it up, the workforce that's completed that, including the second phase of what we're doing now further on down the Woonasquatucket River, which is the Narragansett Bay combined sewer overflow project that you might see DiGregorio Corporation now just as you get to the Providence line, is a local workforce.

I'll give you the last one, in interest of time, when we constructed a three-mile tunnel 275 feet beneath the City of Providence with one of the largest tunnel boring machines ever used in the World, the company came from Los Angeles, California. 85 percent of the tradesmen and women, Teamsters, electricians, laborers, operating engineers, came from the Rhode Island Building Trades. They didn't come from California. They came from right here.

We have one of the best, most sophisticated

building trade organizations in the country. And we will perform this work for whatever contractor is lucky enough to win the project, and that's the true track record.

(APPLAUSE)

HEARING OFFICER BRILL: Let's try to keep the comments about the cleanup, and try to keep us on schedule. Any comments we get, we will address and try to respond in writing. It will be good to try to stay focused on the cleanup plan. That's what we're going to be commenting on.

MR. CORRENTE: Lenny Corrente. I understand about the local hiring very well. I'm the community organizer, organize union workers and nonunion workers. I understand when these companies come into the area, they sign project labor agreements, community benefit agreements, contractor -- responsible contractor policies. In these community benefit agreements it states -- it stipulates you have to hire local help, plain and simple. Local help will be here. There's no doubt about it. I mean, when the main Lowe's was built, local help. It's a proven fact.

MS. JOHNSON: Local help, not new hires.

HEARING OFFICER BRILL: Any more comments about the proposed EPA state cleanup plan?

That's the key reason for the meeting. If not, I want to thank you all for coming. This will conclude the formal public hearing process. If you have any other comments you want to submit, February 13th. Thank you.

(HEARING CONCLUDED AT 8:22 P.M.)

C-E-R-T-I-F-I-C-A-T-E

I, Tammi Burnham, RPR, Notary Public, do hereby certify that I reported in shorthand the foregoing proceedings, and that the foregoing transcript contains a true, accurate, and complete record of the proceedings at the above-entitled hearing.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 29th of December, 2011.

_____

Tammi Burnham, RPR, Notary Public

MY COMMISSION EXPIRES: November 26, 2012

IN RE: CENTERDALE MANOR RESTORATION

PROJECT SUPERFUND SITE

DATE: DECEMBER 7, 2011

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