SUPERFUND PROPOSED PLAN
FACT SHEET

WARD TRANSFOMER SITE OPERABLE UNIT 1
RALEIGH, NORTH CAROLINA
August 2007

INTRODUCTION

This Proposed Plan identifies the preferred alternative for remedial action at the Ward Transformer Site (the Site) Operable Unit 1 (OU1). OU1 deals with areas downgradient from the Ward Transformer facility.

The Proposed Plan presents EPA's recommendation concerning how best to address contamination at the Ward Transformer Site OU1. It presents the alternatives that were evaluated, and explains the reasons EPA recommends the preferred alternative. It solicits public review of and comment on all alternatives described, and provides information on how the public can be involved in the remedy selection process.

This document is issued by the U.S. Environmental Protection Agency (EPA), the lead agency for site activities, and the North Carolina Department of Environment and Natural Resources (NC DENR), the support agency. EPA, in consultation with the NC DENR, will select a final remedy for the Site after reviewing and considering all information submitted during the 30-day public comment period. The final remedy decision will be documented in a Record of Decision (ROD). A ROD is a public document that explains which cleanup alternative will be used at a Superfund site and the reasons for selecting the alternative.

DATES TO REMEMBER

PUBLIC COMMENT PERIOD:
August 6, 2007 to October 4, 2007
U.S. EPA will accept written and oral comments on this Proposed Plan during the public comment period.

PUBLIC MEETING:
August 14, 2007, 7:00 pm
U.S. EPA will hold a public meeting to explain this Proposed Plan and all of the alternatives considered. Oral and written comments will also be accepted at the meeting. The meeting will be held at:
Hilton North Raleigh
3415 Wake Forest Road
Raleigh, North Carolina, 27609-7330
Phone (919)-872-2323

For more information regarding the Site, see the Administrative Record at the following locations:

EPA Records Center	North Raleigh Library
61 Forsyth Street SW	7009 Harps Mill Road
Atlanta, GA 30303	Raleigh, NC 27615
(404)562-8946	(919) 870-4000

EPA, in consultation with the NC DENR, may modify the preferred alternative or select another response action presented in this Proposed Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the alternatives presented in this Proposed Plan.

EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund; Pub. L. No. 96-510), as amended at Pub. L. No. 99-499, and Sections 300.430(f)(2) and f(3) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). EPA relies on public input to ensure the concerns of the community are considered in the selection of an effective remedy for each Superfund site.

This Proposed Plan summarizes information that can be found in greater detail in the Remedial Investigation (RI) and Feasibility Study (FS) Reports and other documents contained in the Administrative Record file for this Site.

EPA and the NC DENR encourage the public to review these documents to gain a more comprehensive understanding of the Site and Superfund activities that have been conducted at the Site.

SITE BACKGROUND

The Ward Transformer Site is located along Mount Herman Road, in a predominantly industrial area of northwestern Raleigh, Wake County, NC. The Ward Transformer facility is located 600 feet (ft) south-southeast of the Northern Wake Expressway/Interstate-540 (I-540), 1,000 ft southwest of US highway 70, and is adjacent to property owned by the Raleigh-Durham International (RDU) Airport. RDU Airport proper (i.e., terminals) is located approximately 2 miles south of the Site, with airport runways located less than 1 mile south.

The Ward Transformer facility is owned by Ward Transformer Company, Inc. The facility was built on approximately 11 acres of previously undeveloped land in 1964 and electrical transformers were built, repaired, sold, and reconditioned at the Site until around 2005. As a result of Ward's operations, polychlorinated biphenyls (PCBs) were released into the environment. An EPA-lead phased remedial investigation was conducted from April 2003 to April 2007. As part of the investigation, soil, sediment, surface water, groundwater, and fish samples were collected. The investigation covered the facility property and surrounding properties, together with more than 30 miles of waterways including unnamed tributaries to Little Brier Creek (Reach A, B and C), Little Brier Creek (Reach D), Brier Creek Reservoir, Brier Creek, Lake Crabtree and some tributaries, Crabtree Creek and some tributaries, and a 0.5 mile segment of the Neuse River (See attached figure 1-5).

In September 2005, EPA signed an Administrative Settlement Agreement and Order on Consent with a group of potentially responsible parties (PRPs) to implement a removal action. The removal action is underway and includes contaminated soil/sediment removal at the Ward Transformer facility and some immediate surrounding areas, including Reach A.

Operable Unit 1, the subject of this proposed plan, includes Reaches B, C and D; Brier Creek Reservoir; Brier Creek; Lake Crabtree; and Crabtree Creek. These areas are all downgradient from Reach A and the facility.

Community Relation Activities

The Ward Transformer Superfund Site was included on the National Priorities List (NPL) or Superfund list in April 2003. EPA has conducted community relations activities to inform and involve the community about site activities. Community relations activities conducted include mailing information fact sheets and e-mails, press releases, availability sessions, sampling plans development meeting, presentations and public meetings. The following is a summary of community meetings conducted in Raleigh:

Event	Date
Remedial Investigation (RI) " Kick-off" Public meeting	March 13, 2003
RI findings meeting	November 16, 2004
Task Force Presentation	August 4, 2005
Sampling Plan Development meeting	October 27, 2005
Public Availability Session	January 19, 2006
Public Meeting	June 21, 2006
Public Availability Session	March 17, 2007

Study Area Characteristics

For the purpose of this Proposed Plan, the study area begins with Reach B. Reach A and the Ward facility are being addressed under a removal action and, as a result, these areas are not discussed in this Proposed Plan.

The Study Area included:

Surface Water Body		Length of Reach (miles)
Unnamed Tributary to Little Brier Creek	Reach B	0.3
	Reach C	0.4
Little Brier Creek proper	Reach D	0.8
Brier Creek Reservoir		1.7
Brier Creek		1.8
Lake Crabtree Tributaries include Stirrup Iron Creek, Upper Crabtree Creek, Black Creek, and Haleys Branch		1.5
Crabtree Creek (entire watershed) Tributaries include Reedy Creek, Sycamore Creek, Turkey Creek, Haresnipe Creek, Richland Creek, Mine Creek, Beaverdam Creek, Big Branch, Pigeon House, and Marsh Creek		21.5
Neuse River		0.5

Summary of RI Findings

An EPA-lead Remedial Investigation (RI) was conducted from April 2003 to April 2007. As part of the investigation, soil, sediment, surface water, groundwater, and fish samples were collected. The following is a summary of the findings of the investigation for OU1. For more specific details, please refer to the Remedial Investigation report located in the information repository.

Sediments/Soil

PCBs were detected above the 1 mg/kg level in at least one sediment sample collected from Reaches B, C and D. Sediment samples collected downgradient from each of Reach D did not exceed 1 mg/kg. The following list summarizes the sediment results for PCB analyses for Reach B and areas downgradient:

Location	Number of Samples	Max PCB Aroclor concentration mg/kg
Reach B	20	3.0
Reach C	18	2.6
Reach D	13	4.2
Brier Creek Reservoir	6	0.31
Brier Creek	2	0.28
Lake Crabtree	20	0.48
Crabtree Creek	13	Not detected
Neuse River	1	Not detected

Soil samples collected downgradient from Reach A did not exceeded 1 mg/kg.

Fish Tissue

Whole body fish samples were collected and analyzed to assess ecological risks, and fish filet tissue samples were prepared and analyzed to assess human health risks.

The following are fish action levels recommended by the State of North Carolina:

PCB concentration	**NC Recommendation**
<0.05 mg/kg	Unlimited consumption
0.05–0.10 mg/kg	One meal per week.
0.10–0.50 mg/kg	One meal per month
>0.5	Do not eat

Based on the analytical results of the fish tissue samples and the above-mentioned action levels, the State of North Carolina Department of Health and Human Services issued fish consumption advisories for Little Brier Creek (downstream of Brier Creek Parkway), Brier Creek Reservoir, Lake Crabtree, and Crabtree Creek. The Little Brier Creek and Brier Creek Reservoir fish consumption advisory recommends that fish should not be consumed. The Lake Crabtree advisory recommends that catfish and carp should not be eaten and that no more than one meal per month of other fish species should be eaten. The advisory for Crabtree Creek recommends that consumption of carp, catfish, and largemouth bass be limited to no more than one meal per month.

Fish tissue data from Crabtree Creek shows PCBs in fish below Lake Crabtree. Although the sediment samples from Crabtree Creek did not contain detectable concentrations of PCBs, their presence in fish samples indicates uptake and bioaccumulation of PCBs via the food chain.

EPA, the State of North Carolina, and Wake County have posted signs for the areas subjected to the fish advisories.

Lake Crabtree Soil and Surface Water Samples

Soil samples were collected at recreational areas around Lake Crabtree and at the Cedar Fork athletic fields. No PCBs were detected in any of the samples collected.

Surface water samples were collected at Lake Crabtree. No PCBs were detected in any of the samples collected.

SCOPE AND ROLE OF REPONSE ACTION

The Ward Transformer Site has been divided in two areas for remediation purposes:

Operable Unit 1(OU1) – This operable unit is the subject of this Proposed Plan. It includes the following areas downgradient from the Ward Transformer facility: Reaches B, C and

D; Brier Creek Reservoir; Brier Creek; Lake Crabtree; and Lower Crabtree Creek.

Removal Action Area – the area undergoing the removal action includes the Ward Transformer Facility and immediate surrounding areas including Reach A.

Operable Unit 2 (OU2) – OU2 will include the final remedy for the areas subjected to the on-going removal action, and any groundwater issues.

REMEDIAL ACTION OBJECTIVES FOR OU1

The Remedial Action Objectives for OU1 include:

Eliminate or minimize any potential risks to human health or the environment due to consumption of contaminated fish from Brier Creek, Brier Creek Reservoir, Lake Crabtree, and Lower Crabtree Creek, by reducing PCB concentrations in fish to regulatory or risk-based levels.

Eliminate or minimize any potential risks to human health or the environment due to direct contact with contaminated sediments in Reaches B, C, and D, and lower Brier Creek by reducing PCB concentrations in sediments to regulatory or risk-based levels.

Minimize any potential downstream migration of PCB-contaminated sediments.

SUMMARY OF RISKS ASSESSMENTS

Risk assessments were conducted to determine the potential risk of any current and future exposure of human and ecological receptors to contaminants. Provided below are the main conclusions of the risk assessments. For more specific details, please refer to the risk assessments included in the Remedial Investigation report located in the information repository.

Human Health Risk Assessment

Based on the results of the human health risk assessment, the main risks associated with contaminants at the Operable Unit 1 study area are due to human consumption of contaminated fish; and the potential exposure to sediments with PCB concentrations above 1 mg/kg.

Ecological Risk Assessment

Based on the results of the ecological risk assessment, the main risk associated with contaminants at the Operable Unit 1 study area is due to ecological receptor exposure to contaminated fish.

REMEDIAL ALTERNATIVES

The following Remedial Alternatives were developed and documented in the Feasibility Study for the Site.

Alternative 1 – No Action

- Assumes no action to be taken.
- Conduct five-year reviews.

The No Action alternative is evaluated as required by law to serve as a baseline for other alternatives. Under the No Action alternative, no remedial actions would be implemented at the Site. The existing site conditions would continue to remain in place without any active remediation technologies or institutional controls. Risks posed by PCBs under hypothetical future scenarios would likely remain for an extended period of time. Any

contaminant reduction would be due to naturally occurring processes.

Although the State of North Carolina has already issued fish consumption advisories and EPA, the State of North Carolina and Wake County have fish consumption signs already in place, for the purpose of this evaluation, it is assumed that the fish advisories and signs are not part of the No Action alternative. The No Action alternative would only include a review of the remedy every 5 years for 30 years (five year reviews).

Alternative 2 - Institutional Controls

- Continue existing North Carolina fish consumption advisories and signs.
- Conduct educational and community outreach programs.
- Conduct five-year reviews.

Under this alternative, North Carolina fish consumption advisories and signs would continue to remain in effect. Additionally, community outreach and public educational programs would also be conducted to inform the public of the fish consumption advisories and signs. The continued implementation of fish advisories and signs would reduce the potential risks to humans through fish consumption. Fish advisories and signs would remain in place until such time as the PCB concentrations in aquatic biota decline to less than 0.05 mg/kg. Because this alternative does not include any monitoring of PCB levels, attainment of these levels will not be known. Five-year reviews will also be conducted as required by CERCLA.

Alternative 3 - Monitored Natural Recovery (MNR) and Institutional Controls

- Continue existing North Carolina fish consumption advisories and signs.
- Conduct educational and community outreach programs.
- MNR; periodic monitoring of sediments and aquatic biota.
- Conduct five-year reviews.

MNR is a remedy for contaminated media that typically uses a wide range of ongoing naturally occurring processes to contain, destroy, or reduce the bioavailability or toxicity of contaminants in media, thereby reducing any potential risk to human and/or ecological receptors. MNR is especially suitable for a Site such as this where the main source of contamination will be removed (On-going Removal Action at Reach A and the Ward Transformer facility).

Current levels of PCBs in sediment samples within OU1 are low enough that continued burial, dispersion, and mixing-in-place of sediments alone would reduce the PCB concentrations significantly even without the destruction or transformation of PCBs.

MNR would involve the periodic monitoring of sediments which would enable assessment of variations in PCB concentrations in sediments over time. In addition, monitoring of aquatic biota (fish sampling) would support decisions for continuance and/or justify modifications to existing North Carolina fish consumption advisories and signs.

Like Alternative 2, Alternative 3 includes the continuance of the North Carolina fish consumption advisory and signs, the educational and community outreach programs, and the 5 year reviews.

Alternative 4 – Excavation and Off-Site Disposal of Sediments in Reaches B, C, D,

and Lower Brier Creek; MNR in Brier Creek Reservoir, Lake Crabtree and Lower Crabtree Creek; and Institutional Controls

- Continue existing North Carolina fish consumption advisories and signs.
- Conduct educational and community outreach programs.
- Conduct pre-excavation sampling and endangered mussel study.
- Excavate sediments in Reaches B, C, D and lower Brier Creek, and transport sediments off-site for appropriate disposal.
- Site and stream restoration.
- MNR; periodic monitoring of sediments and aquatic biota.
- Conduct Five-year review.

Under this alternative, a pre-excavation sediment sampling program will be implemented. This sampling program will be conducted to more accurately define the limits of excavation areas in Reaches B, C, D, and lower Brier Creek.

A mussel survey will also be conducted to determine if threatened/endangered mussel species are present in the areas selected for excavation.

Based on the results of the pre-excavation sampling program, sediments with PCB concentrations above 1 mg/kg will be excavated from Reaches B, C, D, and lower Brier Creek. Sediments will be disposed off-site in an appropriate landfill. Stream restoration would be performed once the contaminated sediments are removed.

Like Alternative 3, Alternative 4 includes periodic monitoring of sediments and aquatic biota (fish sampling) associated with MNR, the continuance of the North Carolina fish consumption advisory and signs, educational and community outreach programs, and the 5 year reviews.

Alternative 5 - Excavation of Sediments in Reaches B, C, D, and Lower Brier Creek; Excavation/Dredging of Sediments in Brier Creek Reservoir and Lake Crabtree; Off-Site Disposal of Sediments; MNR in Lower Crabtree Creek and Institutional Controls

- Continue existing North Carolina fish consumption advisories and signs.
- Conduct educational and community outreach programs.
- Conduct pre-excavation sampling and endangered mussel study.
- Excavate sediments in Reaches B, C, D, and lower Brier Creek, and transport sediments off-site for appropriate disposal.
- Dredge or excavate sediments in Brier Creek Reservoir and Lake Crabtree, and transport sediments off-site for appropriate disposal.
- Site and stream restoration
- MNR; periodic monitoring of sediments and aquatic biota.
- Conduct Five-year review.

Like Alternative 4, Alternative 5 includes excavation of sediments from Reaches B, C, D, and lower Brier Creek, periodic monitoring of sediments and aquatic biota (fish sampling) associated with MNR, the continuance of the North Carolina fish consumption advisory and signs, educational and community outreach programs, and the 5 year reviews.

In addition, sediments in the Brier Creek Reservoir and Lake Crabtree will be dredged or excavated and transported off-site for disposal. The choice of dredging or excavation technologies to be implemented in the Lake and the Reservoir will be determined in the remedial design phase.

PCB levels detected in Brier Creek Reservoir and Lake Crabtree are already in the low part per million (ppm) ranges. Therefore, for the purpose of this alternative, it is it is assumed that all of the sediments in Brier Creek Reservoir and Lake Crabtree would have to be removed to ensure that the availability of very low PCB levels is completely eliminated for ecological receptors.

Excavated/dredged areas will be restored once the sediments are removed.

COMPARATIVE ANALYSIS OF ALTERNATIVES

The alternatives were compared to one another using various criteria and guidelines. The comparative analysis considered potential positive, negative, or neutral aspects of the various alternatives. EPA has also developed factors or principles specifically for sediment sites such as this Site. Consideration of these principles and more specific details about the nine criteria evaluation can be found in the Feasibility Study (FS) report located in the information repository. The nine evaluation criteria are discussed below.

Evaluation Criteria for Superfund Remedial Alternatives
Overall Protectiveness of Human Health and the Environment
Compliance with ARARs
Long-term Effectiveness and Permanence
Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment
Short-term Effectiveness
Implementability
Cost
State Acceptance
Community Acceptance

Overall Protection of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

Alternative 1 would not be protective of human health or the environment because there are no actions associated with this alternative.

Alternative 2 and 3 will be more protective than Alternative 1 because of the fish advisories and signs, and the educational and community outreach programs to inform the public about the fish consumption advisories and the risks of consuming PCB-contaminated fish.

Alternatives 1 and 2 may eventually achieve clean up goals, but without monitoring, it would not be possible to determine when those goals are reached. Alternative 3 may also eventually achieve clean up goals, and the monitoring program will document achievement.

Alternatives 4 and 5 are more protective of the human health and the environment than Alternative 3, because these alternatives remove contaminated sediments with concentrations above 1 mg/kg from Reaches B, C, D, and lower Brier Creek, therefore limiting any potential exposure to sediments above this level. Modeling results show that excavating sediments with PCB concentrations above 1 mg/kg from Reaches B, C, D, and lower Brier Creek will accelerate the natural recovery processes in sediments at Brier Creek Reservoir and Lake Crabtree. Therefore, in Alternative 4, PCB levels in sediments in Brier Creek Reservoir and Lake Crabtree would gradually decrease through natural processes at

a much faster pace than in Alternative 3. As a result, PCB concentrations in fish would also gradually decrease to levels below the threshold for fish consumption advisories and signs.

In addition to sediment removal from the streams, Alternative 5 would also remove sediments in Brier Creek Reservoir and Lake Crabtree. As a result, the time required to achieve acceptable fish tissue PCB concentrations after completion activities may be less than the timeframe required in Alternative 4. However, due to the complexity of Alternative 5, the total time required for planning, design and implementation of this alternative would be considerable greater than Alternative 4.

With regards to protection of the environment, Alternative 3 may take a long time to achieve clean up goals. Alternatives 4 and 5 will achieve clean up goals in a shorter period of time than Alternative 3, but would destroy/disturb the habitat and aquatic biota in segments of the remediated streams. Therefore, the benefits of removing sediments must be weighed against the disruption or destruction of aquatic and biota habitats in and around the streams.

In addition, the large-scale excavation/dredging operations in Brier Creek Reservoir and Lake Crabtree in Alternative 5 will disturb or destroy benthic and other aquatic biota and habitats in the reservoir and the lake. The dredging/excavation activities of Alternative 5 could also adversely impact threatened bald eagles within the reservoir and lake areas for foraging and breeding. Thus, for Alternative 5, the benefits of removing sediments from the reservoir and the lake must be weighed against the disruption or destruction of aquatic and avian biota and habitats during excavation/dredging.

Compliance with ARARs evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site. (ARARs = Applicable or Relevant and Appropriate Requirements)

Chemical-specific ARARs may not be met in Alternatives 1 and 2. Because monitoring is not included as part of these alternatives, achieving cleanup goals would be unknown.

In Alternative 3, the chemical-specific ARAR of 1 mg/kg for PCBs may be met in the long-term for sediments in Reaches B, C, D, and lower Brier Creek through natural recovery processes. In Alternatives 4 and 5, chemical-specific ARARs of 1 mg/kg for sediments in Reaches B, C, D and lower Brier Creek will be met after excavation activities are completed.

Action-specific ARARs are not relevant for Alternatives 1, 2, and 3 because there are no active remedial actions associated with these alternatives. In Alternatives 4 and 5, all applicable action-specific ARARs would be met during the remedial actions. Measures will be taken to minimize any dust during excavation activities. In addition, for Alternative 5, any NPDES permit requirements will be met, if water from dewatering operations requires treatment prior to being discharged.

Location-specific ARARs are not relevant for Alternatives 1, 2, and 3 because there are no active remedial actions associated with these alternatives. In Alternatives 4 and 5, applicable location-specific ARARs would be met. Precautions will be taken to minimize any impact on identified local endangered and

threatened species. Also, activities will be conducted in accordance with the laws and regulations associated with floodplain management, protection of wetlands, preservation of historic and archaeological landmarks (Umstead Park), construction, and erosion and sediment control.

Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.

Alternative 1 does not offer protection to human health or the environment in the short or long-term basis. In Alternatives 2, 3, 4 and 5, potential risks associated with fish consumption are expected to be lower because of the fish consumption advisories and signs.

Due to the absence of monitoring programs in Alternatives 1 and 2, the long-term reduction of risks would not be known. Also, without monitoring, the continuing need for Institutional Controls in Alternative 2 could not be evaluated.

In Alternative 3, risks to humans and the environment are expected to gradually decrease over time with the reduction of PCB concentrations in sediment through natural processes and will be documented by a long term monitoring program. PCB concentrations in fish are expected to decline with the decrease of PCB concentrations in sediment.

In Alternatives 4 and 5, the removal of sediments to levels below 1 mg/kg PCB from Reaches B, C, D, and lower Brier Creek will reduce any potential risks associated with sediment exposure. In Alternative 4, once the sediments with PCB concentrations above 1 mg/kg are removed from these areas, the natural recovery process of Brier Creek Reservoir, Lake Crabtree, and beyond would speed up.

In addition to sediment removal from the streams, Alternative 5 would also remove sediments in Brier Creek Reservoir and Lake Crabtree. As a result, the time required to achieve acceptable fish tissue PCB concentrations after completion activities may be less than the timeframe required in Alternative 4. However, due to the complexity of Alternative 5, the total time required for planning, design and implementation of this alternative would be considerable greater than Alternative 4

In Alternative 5, if dredging is used, due to technology limitations, some dredging residuals levels will remain in the reservoir and lake, including low levels of PCB contamination in the biologically active sediment zone. PCBs in dredging residuals could impact fish concentrations in the reservoir and lake for many years after completion of the dredging operations.

In addition, the large-scale excavation/dredging operations in Brier Creek Reservoir and Lake Crabtree in Alternative 5 will disturb or destroy benthic and other aquatic biota and habitats in the reservoir and the lake. The dredging/excavation activities of Alternative 5 could adversely impact threatened bald eagles within the reservoir and lake areas for foraging and breeding. Over the long term, re-establishments of these habitats may be difficult.

Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the

environment, and the amount of contamination present.

EPA will use treatment to address site contaminants wherever practicable; however, because of the relatively low levels of PCBs in the sediments, treatment is not proposed for any of the alternatives. Therefore the statutory preference for treatment is not met.

Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.

Alternatives 1, 2, and 3 do not involve any active remedial action; therefore, they would not pose any additional risks to the community or workers during implementation, nor would they result in any adverse environmental impacts.

In Alternative 3, under current conditions (assuming that the Removal Action at the Ward Transformer facility and Reach A is completed before commencement of OU1 activities), modeling indicates that PCB concentrations in sediments at Brier Creek Reservoir and Lake Crabtree may take more than 30 years to decline to levels that correspond to acceptable PCB levels in fish.

In Alternatives 4 and 5, the potential for additional risks to the community may exist due to dust and excessive noise from the construction of access roads, construction equipment, and vehicular traffic to the off-site disposal facility. Risks to the community will be minimized by establishing buffer zones around the work areas, limiting work hours, and using dust-suppressing techniques. Risks to the environment may include clearing of vegetation and trees for access roads and excavation/dredging equipment. Measures will be taken to minimize the impact on the environment by avoiding the wetlands and floodplain areas to the extent possible. There will be adverse impacts to the stream and lake habitats due to the sediment removal activities, especially for benthic and other aquatic organisms. Many of these organisms may be disturbed or destroyed during the excavation/dredging activities. The presence or absence of threatened or endangered mussel species needs to be established prior to commencing intrusive activities. If threatened or endangered mussel species are identified, additional safeguards will need to be put into place to protect these species. In addition, the potential for adverse impacts to threatened bald eagles utilizing areas within OU1 as foraging and breeding habitat exists and precautions would be required to minimize these potential impacts. Due to the larger extent and complexity of excavation/dredging activities associated with Alternative 5, all the above-mentioned impacts will be much greater for Alternative 5 than Alternative 4.

In Alternative 4, the estimated time required to complete the remediation work is 3 to 5 months. The estimated time required to attain acceptable PCB concentrations in fish tissue at the Brier Creek Reservoir is approximately 14 years. The time required to attain acceptable PCB concentrations in fish tissue at Lake Crabtree is approximately 9 years.

Due to the complexity of Alternative 5, it is estimated that planning, design and implementation of this alternative would require a considerable greater amount of time than Alternative 4. In addition, it is estimated that any dredging activities associated with Alternative 5 would take at least 3 years to complete after all design and planning documents are completed.

In Alternative 5, the estimated time required to attain acceptable PCB concentrations in fish tissue at the Brier Creek Reservoir is approximately 12 years after the completion of excavation/dredging. The time required to attain acceptable PCB concentrations in fish tissue at Lake Crabtree is expected to be 8 years.

Therefore, between Alternatives 4 and 5, removing a larger amount of sediments in Alternative 5 does not necessarily correspond to a shorter amount of time to achieve clean up goals than in Alternative 4.

Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

Alternatives 1, 2, and 3 can be easily implemented because there is no construction, involved. Alternatives 1 and 2 can be easily implemented because there are no monitoring activities.

In Alternatives 2, 3, 4 and 5, the North Carolina fish consumption advisories and signs are already in place. In Alternatives 3, 4 and 5 reduction in PCB concentrations in sediment and fish will be determined through the periodic monitoring program, which can be easily implemented.

Alternative 4 is technically feasible to implement. Contractors are readily available for construction of access roads, excavation, and off-site disposal. Coordination with other agencies and obtaining approvals and permit equivalencies for excavation, transport of excavated materials, etc. will be required. The implementation of Alternative 5 is much more complex and difficult than Alternative 4, and it will require much more time. In addition to all the components that are included in Alternative 4, excavation/dredging of sediments at Brier Creek Reservoir and Lake Crabtree is included in Alternative 5. Dredging is a specialized technology, which requires advanced planning, selection of the proper dredging method, and detailed remedial design. Dewatering and treatment of water are also significant design and cost components of the dredging alternative.

During the implementation of Alternatives 4 and 5 a pre-remediation mussel study will be conducted to determine if the endangered/threatened species exists in the streams to be excavated. Consultation with the respective federal and state agencies will be required prior to the commencement of the excavation activities.

Some portions of OU1 consist of wetlands and floodplains. Coordination with federal agencies will be required to ensure that the impact on these areas will be minimal. Threatened bald eagles nest at the Lake Crabtree and forage at Lake Crabtree and Brier Creek Reservoir. State endangered/threatened mussel species have been reported in the nearby Umstead State Park, which is part of the Crabtree Creek watershed.

The Crabtree Creek Recreational Demonstration Area (Umstead State Park) is a historical site listed in the National Register of Historic Places. Precautionary measures will be taken to minimize harm to historic property to the extent practicable during remedial actions conducted in this area and in the vicinity. Consultation with federal and state historic and archeological agencies will be necessary before initiating any activities in the vicinity of this area.

Costs include estimated capital and annual operations and maintenance (O&M) costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value.

There are no capital costs associated with Alternative 1. However, 5-year reviews will be conducted, as required by CERCLA. For costing purposes, it is assumed that 5-year reviews would be conducted for 30 years.

For Alternative 2, in addition to the 5-year review, yearly operation and maintenance costs for community outreach and educational programs are included for 30 years. For Alternative 3, all the costs in Alternative 2 plus yearly MNR monitoring costs are included for 30 years.

Alternative 4 includes the same costs associated with Alternative 3 plus the capital costs associated with excavation and off-site disposal of sediment from Reaches B, C, D, and lower Brier Creek (because remedial actions would last for less than 6 months, there are no recurring costs associated with this alternative). Capital costs of remediation include pre-remediation sampling, mobilization/demobilization, construction of access roads, temporary staging areas, excavation, off-site transport and disposal, and site restoration.

For Alternative 5, in addition to the costs associated with Alternative 4, dredging and off-site disposal of sediments in Brier Creek Reservoir and Lake Crabtree are included. There are additional components related to dredging operations, for example, dewatering and effluent treatment.
For Alternatives 4 and 5, the MNR monitoring costs were included for only 15 years, because it is expected that the clean up levels would be met in less than 15 years.

The present-worth costs for the remedial alternatives are summarized below:

Alternative 1: $ 332,000
Alternative 2: $ 476,000
Alternative 3: $ 2,247,000
Alternative 4: $ 4,989,000
Alternative 5: $ 540,982,000

Alternative 5 would be extremely expensive, considering the large volume of sediments to be removed. According to modeling results, the time difference in achieving the clean up levels associated with fish consumption in Alternative 4 and 5 is only a few years. But due to the complexity of Alternative 5, it is estimated that planning, design and implementation of this alternative would require a considerably greater amount of time than Alternative 4. Therefore, removing a larger amount of sediments does not necessarily correspond to a shorter amount of time to achieve clean up goals. Based on the foregoing, it would be far more cost-effective to consider Alternative 4 over Alternative 5.

State/Support Agency Acceptance considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.
The Waste Management Division and the NCDENR (North Carolina Department of Environment and Natural Resources) agree with the preferred alternative.
Community Acceptance Community acceptance of the preferred alternative will be evaluated after the public comment period and will be described in the Record of Decision (ROD) for the Site.

SUMMARY OF THE PREFERRED ALTERNATIVE

The preferred alternative is Alternative 4: Excavation and Off-Site Disposal of Sediments in Reaches B, C, and D, and Lower Brier Creek; Monitored Natural Recovery (MNR) in Brier Creek Reservoir, Lake Crabtree and Lower Crabtree Creek; and Institutional Controls. The preferred alternative includes:

- Continue existing North Carolina fish consumption advisories and signs.
- Conduct educational and community outreach programs.
- Conduct pre-excavation sampling and endangered mussel study.
- Excavate sediments in Reaches B, C, and D and lower Brier Creek, and transport sediments off-site for appropriate disposal.
- Site and stream restoration.
- MNR - Periodic monitoring of sediments and aquatic biota in the Brier Creek Reservoir, Lake Crabtree, and Lower Crabtree Creek.
- Conduct Five-year review.

Based on the information available at this time, EPA and the NC DENR believe the preferred alternative provides the best balance of tradeoffs of all the alternatives with respect to the balancing and modifying criteria. EPA expects the preferred alternative to satisfy the statutory requirements of CERCLA §121(b), which include that the alternative would be protective of human health and the environment, would comply with ARARs, would be cost-effective, and would utilize permanent solutions. The preferred alternative can change in response to public comment or new information.

EPA provides information regarding the cleanup of the Ward Transformer Site to the public through Emails, Fact Sheets, public meetings, and the Administrative Record file for the Site. EPA and the State encourage the public to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted at the Site.

Information regarding the public comment period, public meeting and the locations of the Administrative Record files, are provided on the front page of this Proposed Plan. For further information on the Ward Transformer Site, please contact:

Luis E. Flores, Remedial Project Manager
(404) 562-8807 or E-mail: flores.luis@epa.gov
Or
Angela Miller, Community Involvement Coordinator
(404) 562-8561 or E-mail: miller.angela@epa.gov

US EPA
61 Forsyth Street, SW
Atlanta, GA 30303-8960

USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on this Proposed Plan for the Ward Transformer Site OU1 is important to EPA. Comments provided by the public are valuable in helping EPA select a final cleanup remedy for the Site. You may use the space below to write your comments. Comments must be postmarked by October 4, 2007. If you have any questions about the comment period, please contact Luis E. Flores at (404) 562-8807. Those with electronic communication capabilities may submit their comments to EPA via the internet to *flores.luis@epa.gov*.

Comments may also be mailed to:

Luis E. Flores
Superfund Division-SRSEB
US Environmental Protection Agency
61 Forsyth Street, SW
Atlanta, GA 30303

U.S. Environmental Protection Agency
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Superfund Remedial and Site Evaluation Branch
Angela Miller, Community Involvement Coordinator
Luis E. Flores, Remedial Project Manager

Official Business
Penalty for Private Use