



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

Centredale Manor
29
9237

Enforcement Confidential Materials Attached

MEMORANDUM

DATE:

SUBJ: Request for Change of Scope and a 12-Month Exemption for a Continued Removal Action at the Centredale Manor Site, North Providence, Rhode Island - **Action Memorandum - Second Addendum**

FROM: Ted Bazenas, OSC *TB*
Site Evaluation and Response Section II

THRU: Steven R. Novick, Section Chief *(S)*
Site Evaluation and Response Section II

TO: Patricia L. Meaney, Director
Office of Site Remediation and Restoration

I. PURPOSE

The purpose of this Action Memorandum - Second Addendum is to request and document approval for a change of scope and a 12-month exemption to continue a Removal Action at the Centredale Manor Site in North Providence, Rhode Island.

As a result of the successful discovery and pursuit of five potentially responsible parties (PRPs) by the Enforcement Team, EPA - New England issued a Unilateral Administrative Order (UAO) on April 12, 2000 for completion of the Removal Actions at the Site. All five parties have indicated that they will comply with the terms of the UAO, which became effective on April 24, 2000. The scope of the UAO is limited to completion of the second interim cap over contaminated soil on the Site.

The Action Memorandum dated May 04, 1999 and the Action Memorandum Addendum dated September 13, 1999 proposed a series of removal actions. The Removal Program mobilized to the Site in May, 1999 and since that time, several of the proposed actions have been completed. After evaluating the extent of

9237

contamination, the Agency Site Team determined that the other actions proposed in the previous Actions Memoranda were beyond the scope of a Removal Action. These actions and other alternatives will be evaluated under the Remedial Program through the Engineering Evaluation and Cost Analysis (EECA) process and the Remedial Investigation/Feasibility Study. An EECA was initiated to evaluate the options for mitigating the potential for exposure to dioxin-contaminated soils associated with Allandale Pond. The EECA is expected to be completed in the fall of 2000, with field construction to begin in spring of 2001. Early coordination with the Remedial Project Manager ensured that Removal Program actions were not only consistent with, but contributed to the anticipated goals of the Remedial Program. All analytical data has been incorporated into the remedial program database. Site survey work has provided base maps and the interim caps have been designed to be consistent with any long-term remedy.

The Removal Program Enforcement Actions have included issuing Potentially Responsible Party Notice Letters, Information Request Letters (104e), failed negotiations for an Administrative Order on Consent, consideration of Cash-Out Proposals (denied), and issuing the Unilateral Administrative Order. These activities were time-consuming, and necessary, and did delay the schedule for completing removal actions. Therefore, a 12-month exemption is requested to provide EPA oversight of PRP removal activities under the terms of the UAO. Removal funds previously committed will remain in place during PRP activity under the UAO in the event that a fund-lead takeover is necessary.

As described in previous decision documents, this Action Memorandum - Second Addendum proposes to address the threat to public health presented by exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin), poly-chlorinated biphenyls (PCBs), and other hazardous substances in contaminated surface soils, sub-surface soils and exposed sediments at the site, and further, to address the potential migration of contaminants by moderating the impact of flood conditions at the Site. This Addendum requests no additional funds. The current Action Memorandum ceiling remains \$3,952,000. This action is necessary to prevent, minimize, and mitigate potential damage to the public health or welfare, and the environment posed by a release of hazardous substances to the environment.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS Identifier:	RID981203755
Site Identifier:	016P
Category of Removal:	Time Critical
Nationally Significant/ Precedent Setting:	Yes
NPL Status	Included on the NPL on March 06, 2000

A. Site Description

1. Background

The Centredale Manor Site encompasses the following:

- the Brook Village Apartment property (Brook Village), located at 2072 Smith Street, North Providence, Providence County, Rhode Island

- the Centredale Manor Apartment property (Centredale Manor), located at 2074 Smith Street, North Providence, Providence County, Rhode Island

- and the flood plain of the Woonasquatucket River, as defined in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map of the 100 year flood plain, from Route 44 southerly, up to and inclusive of the Allendale Dam and its associated structures, including the tailrace of the Allendale Dam, in North Providence, Providence County, Rhode Island

The Brook Village and Centredale Manor are zoned for residential occupancy and encompass a total of 9.7 acres of land. Centredale Manor is an eight-story apartment building for elderly and handicapped residents which was completed in 1983. There are two paved parking lots located to the north and west of the building. Brook Village is an eleven story apartment building for elderly and handicapped residents which was completed in 1977. A series of three parking lots extend to the south of the building. The area around both buildings is landscaped with grass ground cover.

For additional information, please refer to the initial Action Memorandum, dated May 04, 1999 and the Action Memorandum Addendum dated September 13, 1999.

2. Removal Site Evaluation

EPA has conducted numerous investigations including a Preliminary Assessment of Centredale Manor and Brook Village in August of 1986, a Screening Site Inspection in October of 1990, and Site Inspection Prioritization in May of 1997. These previous investigation led to an Expanded Site Inspection (ESI) in September of 1998. A total of 45 sediment and surface soil samples from Centredale Manor, Brook Village and the Woonasquatucket River were collected and analyzed for the ESI. Dioxin was found in surface soils and exposed swale sediments at Centredale Manor at elevated levels up to 15.8 parts per billion (ppb). The data were evaluated for public health implications by the Agency for Toxic Substances and Disease Registry (ATSDR). In a Draft Health Consultation

and a Record of Activity (March 19, 1999), ATSDR concluded that although current exposures are probably low, significant risks could exist for children or adults who have frequent contact with contaminated soils or sediment. ATSDR made several recommendations, including that public access be restricted to surface soils which exceed 1 part per billion (ppb) of dioxin. Occasional contact with sediment from the river is not expected to pose a public health problem.

Additional sampling has documented widespread dioxin contamination at the Site. Dioxin has been found at levels up to 140ppb in surface soil, with somewhat lower levels in subsurface soils. Other contaminants found at the Site include volatile organic compounds (VOCs) up to 10,000ppm total VOCs, semi-volatile organic compounds (SVOCs) up to 1,800ppm total SVOCs, and PCBs up to 1300ppm total PCBs.

3. Physical Location

The Site encompasses the flood plain of the Woonasquatucket River from the bridge at Route 44 downstream to the Allendale Dam, and the Brook Village and Centredale Manor apartment properties which are located at 2072 and 2074 Smith Street in North Providence, Providence County, Rhode Island. The geographic coordinates for the Site are 41° 51' 29.5" north latitude and 71° 30' 28.5" west longitude.

Please refer to the initial Action Memorandum dated May 04, 1999 and the Action Memorandum Addendum dated September 13, 1999 for additional information.

4. Site Characteristics

Two multi-story apartment buildings for elderly and handicapped residents are located on the site. There are several paved parking lots associated with the buildings. Other areas around the parking lots and the buildings are landscaped with a grass ground cover. Elevation of the property is approximately 100 feet above mean sea level. The property slopes slightly to the west.

Please refer to the initial Action Memorandum dated May 04, 1999 and the Action Memorandum Addendum dated September 13, 1999 for additional information.

5. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin) is a hazardous substance as defined in Section 101(14) of CERCLA and is listed at 40 C.F.R. 302.4. Analytical data from the samples collected at the Site indicate dioxin concentrations up to 140

ppb in surficial soils or exposed swale sediments. Dioxin has also been identified in samples collected from surface soils in wetlands and flood plain areas downstream of the Site. The past use of the Site as a chemical manufacturing company and a barrel reclamation facility is not inconsistent with the presence of dioxin. EPA has established that hexachlorophene was manufactured at the Site; dioxin is a well-documented byproduct of hexachlorophene production.

Other contaminants have been identified in soils at the Site, including PCBs up to 1300ppm, chlorobenzene up to 1000ppm, toluene up to 430ppm, xylenes up to 270ppm, tetrachloroethylene up to 1700ppm, trichloroethene up to 2400ppm and benzene up to 480 ppm.

Other VOCs and semi-volatile organic compounds (SVOCs) were identified in soils and sediment at lower concentrations.

6. NPL Status

The Site was listed on the National Priority List (NPL) on March 06, 2000. Although this Removal Action will address the short term needs of the site, inclusion on the NPL is the best means to address long term issues. The Removal, Remedial and Site Assessment programs have closely coordinated their actions to date. The Removal Actions in this document have been developed through a cross-program Agency team to be consistent with listing the Site on the NPL, and with any remedial actions.

B. Other Actions to Date

1. State Actions

From 1970 to 1986 the Rhode Island Department of Environmental Management (RI DEM) conducted or supervised several investigations at the Centredale Manor property. Over 800 drums were eventually inventoried at the property. Approximately 400 drums contained hazardous chemicals which required disposal; the remaining empty drums were crushed and disposed of as non-hazardous. Legible drum labels and visual inspection of residual materials indicated that caustics, halogenated solvents, polychlorinated biphenyls (PCBs), and ink wastes may have been contained in the drums.

Please refer to the initial Action Memorandum dated May 04, 1999 and the Action Memorandum Addendum dated September 13, 1999 for additional information.

2. Federal Involvement

EPA involvement in the Site began when EPA contractors conducted a Preliminary Assessment (PA) of the Centredale Manor property in August of 1986. Since that time, many EPA programs have contributed to the project including Site Assessment, Pre-remedial, Remedial, Quality Assurance, Community Involvement, Removal, Enforcement and Contracts.

EPA has also implemented a community outreach and education program to disseminate information about the Site to the residents and neighbors. A Management Action Committee (MAC) has been established to work with EPA in an advisory role regarding communication with the community, and in review of technical documents.

Please refer to the initial Action Memorandum dated May 04, 1999 and the Action Memorandum Addendum dated September 13, 1999 for additional information.

3. Current Actions

A. Removal Actions

The Removal Program mobilized to the Site on May 18, 1999 and has completed the following actions to date:

- the site was prepared for activity by grubbing and clearing approximately six acres of undergrowth;
- over six hundred (600) soil samples were collected and shipped for dioxin and PCB analysis. The samples are comprised of hand auger samples and geoprobe samples from both on-site and residential areas, and sediment samples from Allendale Pond near the dam. The samples were collected in accordance with the Sampling QA/QC Plan and will be useful in determining the area and depth of soil contamination. In addition to dioxin analysis, a representative number of samples were also analyzed for VOCs, SVOCs, pesticides and metals.
- 850 feet of cedar fence was erected in high visibility areas at the Site; over 5000 feet of chain-link fence has also been erected, primarily in residential areas adjoining Allendale Pond.
- the OSC and team members participated in weekly or biweekly Management Action Committee (MAC) meetings to inform the community, local and state government of the progress and activity at the Site.
- the OSC participated in public meetings with residents from each building to discuss their concerns and answer questions regarding the Site

- EPA entered into an Inter-Agency Agreement with the Army Corps of Engineers to complete a Flood Evaluation Study of the Site and surrounding area, provide flood control options and designs, and design interim soil caps for specific areas of the Site.

- an interim protective cap (Cap #1) was constructed over the wooded area immediately south of the Centredale Manor parking lot. This area is prone to flooding and has the highest concentrations of dioxin and PCB contamination in surface soil found at the Site.

- a second interim protective cap (Cap #2) was partially constructed over the grassed area between the Woonasquatucket River and the Centredale Manor building. This area is prone to flooding and has significantly elevated levels of dioxin in surface soils. Proximity to the river necessitates construction of flood control measures to control erosion of the cap. Although significant progress (50%) was made toward completion, construction was halted in December as the weather conditions became unpredictable. All personnel and equipment were demobilized for the winter season. However, enforcement activities continued and a Unilateral Administrative Order was issued in April, 2000. Interim protective cap #2 will be completed in the spring under the UAO.

- a report entitled *Final Site Investigation Report - Centredale Manor Restoration Project*, was completed by EPA contractors in March of 2000. The report contains the analytical results of all samples collected under the Removal Program.

B. Remedial Activities

EPA Remedial Program activities began in the summer of 1999, with data collection for the initial phase of remedial investigation. Under an Approval Memorandum, an Engineering Evaluation and Cost Analysis (EECA) was also initiated to evaluate alternatives for non-time critical activities on residential properties around the Allandale Pond.

C. State and Local Authorities' Roles

Management Action Committee (MAC) includes federal, state and local government representation and serves as the forum for their involvement at the Site. The MAC meets either weekly or bi-weekly for site progress updates and to discuss upcoming site activities. As a team, the MAC has reviewed and provided comments to fact sheets, press releases and sampling plans. Through the MAC, EPA has disseminated site specific information such as the ESI report,

the Sampling Plan, POLREPs, fact sheets and the Final Site Investigation Report.

2. Potential for Continued State/Local Response

EPA and RI DEM will continue to coordinate the site activities to ensure compliance with state regulations. RI DEM is coordinating wetlands issues with their state counterparts.

The Management Action Committee will continue to have an active advisory role in the Removal Actions at the Site. Weekly meetings will continue at the North Providence Town Hall.

North Providence Mayor Ralph Mollis has pledged the Town's assistance and cooperation in providing local information and personnel. The Town will continue to provide access to meeting rooms, historical documents and other support services.

III. THREATS TO THE PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND STATUTORY AND REGULATORY AUTHORITIES

Dioxin occurs as a contaminant in the manufacturing process of certain chlorinated organic compounds, especially chlorinated phenols such as hexachlorophene and herbicides such as 2,4,5-trichlorophenoxyacetic acid (2,4,5-T). Use of hexachlorophene and 2,4,5-T is currently restricted in this country. Other chlorinated compounds, like pentachlorophenol (PCP) used to preserve wood, may also contain dioxins. The use of PCP is also restricted in this country. Dioxin occurs in surface soil at the Site at concentrations up to 140ppb.

Dioxin has a tendency to persist in the environment. It can bind to soil particles and bioaccumulate in the food chain, especially in foods such as meats, dairy products, and fish. Dioxin can enter the human body through ingestion, inhalation, and dermal absorption. Human exposure to very high levels of dioxin causes a skin condition called chloracne and is suspected of causing immunological problems and liver impairment.

The EPA currently considers dioxin to be a probable human carcinogen; however, EPA is re-evaluating the toxicology of dioxin and it is possible that its status as a probable carcinogen may change. Dioxin has been shown to cause biochemical alterations; thyroid, reproductive and immune toxicity; and cancer in animals. It is suspected of causing cancer in humans.

Animal studies have shown that dioxin is highly toxic although there are a wide

variety of responses among the various species tested. Adverse health effects in animals tested include reproductive and developmental toxicity, hepatotoxicity (liver), immunotoxicity, and carcinogenicity.

Polychlorinated biphenyls have been identified at the Site at levels up to 1300ppm for Aroclor 1254 in soil. Most exposures to PCBs occur from consumption of fish and aquatic animals that accumulate high levels in body fat. Excessive occupational exposures have caused irritation of the nose and lungs, and skin irritations called chloracne. PCBs will accumulate in human body fat and may cause reproductive problems and liver damage. Some studies have shown that PCBs caused liver cancer in laboratory animals.

Chlorobenzene has been identified at the Site at levels up to 1000ppm in soil. Exposures occur when chlorobenzene is inhaled, or consumed in contaminated food or water. Exposure to high levels in air can cause adverse nervous system effects, including unconsciousness. Long term exposures to low levels of chlorobenzene will affect the nervous system and can damage the liver, kidney and blood systems.

Tetrachloroethylene was identified at the Site at levels up to 1700ppm in soil. At high levels in the air, tetrachloroethylene can cause dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, and possibly unconsciousness and death. Skin irritation may result from direct contact. Long term exposure can cause liver and kidney damage, and cancer.

Trichloroethylene has been identified at the Site at levels up to 2400ppm in soil. Most exposures to trichloroethylene occur through breathing air or drinking water which is contaminated. Dizziness, headache, sleepiness and facial numbness have occurred in workers exposed to Trichloroethylene for short periods of time at high levels. Longer term exposures may produce nervous system changes, liver and kidney damage, and possibly leukemia.

Benzene has been identified at the Site at levels up to 480ppm in soil. The most common exposure to benzene comes from breathing air containing benzene. Brief exposure to very high levels of benzene in air can cause headaches, dizziness and drowsiness or at extremely high levels, death may occur. Overwhelming evidence has determined that benzene is carcinogenic. Long term exposure to benzene may lead to blood cancer (leukemia).

Toluene has been identified at the Site at levels up to 430ppm in soil. Toluene has harmful effects on the central nervous system. Short-term exposure to high levels of toluene results in light-headedness, euphoria, followed by dizziness, sleepiness, unconsciousness, and eventually death. Long-term exposure has been

linked to permanent brain damage effecting speech, vision, hearing and memory.

Xylene has been identified at the Site at levels up to 270ppm in soil. At high levels in the air, xylene can cause irritation of the skin, eyes, nose and throat; difficulty in breathing; impaired memory; stomach discomfort; and changes in liver and kidney functions. Exposure to very high levels of xylene for even a short period of time may lead to death.

A. Threats to the Public Health or Welfare

Section 300.415(b) of the National Contingency Plan (NCP) provides that EPA may conduct a removal action when it determines that there is a **threat to human health** or welfare or the environment based on one or more of the eight factors listed in 300.415(b)(2) of the NCP. The following factors listed below are present at this Site:

- 1. "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;" [300.415(b)(2)(i)].**

There are contaminated surface soils, sub-surface soils, and sediments in proximity to residential areas at the Centredale Manor Site. Contaminated soils have been identified within fifty feet of an eight-story residential apartment building for the elderly, and in wetlands immediately adjacent to a residential neighborhood. Levels of dioxin up to 140ppb, PCBs up to 1300ppm, and several other chemicals have been identified in soil samples from the Site. In a Health Consultation dated June 07, 2000, and a Record of Activity (March 19, 1999), the Agency for Toxic Substances and Disease Registry has recommended that EPA take actions to reduce exposure at the Site.

- 2. "Hazardous substances or pollutants or contaminants in drums, barrels, tanks or other bulk storage containers, that may pose a threat of release;" [300.415(b)(2)(ii)].**

Evidence from historical photographs, state report files, and preliminary geophysical testing results indicate that buried drums may be found in several areas of the Site. Empty drums are visible at the surface in several areas and the RI DEM has previously performed drum removals at the Site. Buried drums may be a source of dioxin or other contaminants.

- 3. "High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;" [300.415(b)(2)(iii)].**

Analytical data from surface soil, sub-surface soil and sediment samples collected from the Site indicate dioxin contamination at levels up 140 ppb at the Site and adjacent areas.

4. "Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;"
[\§300.415(b)(2)(v)].

Heavy rainfall may produce significant flooding of the Woonasquatucket River. These conditions have occurred in the past on an irregular basis and may have resulted in the migration and deposition of dioxin to the flood plain .

5. "The availability of other appropriate federal or state response mechanisms to respond to the release;" [\§300.415(b)(2)(vii)].

The RI DEM has indicated that funding and staffing limitations will restrict their ability to respond to this situation. EPA has entered into an Interagency Agreement with the Army Corps of Engineers (ACOE) for engineering design and flood evaluation. ACOE has provided the design for cap #2, flood plain evaluations for the entire site area, and preliminary designs for reconstruction of the Allandale Dam. Conditions at the Site support removal actions as described in the NCP.

6. "Other situations or factors that may pose threats to public health or welfare or the environment." [\§300.415(b)(2)(viii)].

Public access to the contaminated surface soils is restricted by fencing to reduce exposure via contact and incidental ingestion. However, potential migration of the contaminants will continue to pose a human health threat until addressed by the action proposed in this document.

B. Threats to the Environment

The environmental effects of many chemicals are only known from studies done under laboratory conditions, not in the field, and are therefore difficult to assess.

Due to the toxicity and persistence of **dioxin** in the environment, there may be adverse effects on animal populations. Dioxin accumulates and concentrates in the food chain, especially in food such as meat, dairy products and fish. Adverse health effects in animals tested under laboratory conditions include reproductive and developmental toxicity, hepatotoxicity (liver), immunotoxicity, and carcinogenicity.

Polychlorinated biphenyls are known to accumulate and concentrate in animals, especially fish and aquatic vertebrates. In laboratory conditions, animals that ate PCB contaminated feed showed liver, stomach, and thyroid gland injuries, and had reproductive problems.

Benzene is a known human carcinogen, and has been shown to cause cancer in laboratory animals.

Chlorobenzene is known to be moderately toxic to animals, as is xylene and other volatile organic compounds.

Section 300.415(b) of the National Contingency Plan (NCP) provides that EPA may conduct a removal action when it determines that there is a threat to human health or welfare or **the environment** based on one or more of the eight factors listed in 300.415(b)(2) of the NCP. The following factors listed below are present at this Site:

1. "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;" [300.415(b)(2)(i)].

Analysis of fish and eel tissue samples collected in the Woonasquatucket River indicate that elevated levels of dioxin are present in these animals and the food chain.

2. "Actual or potential contamination of drinking water supplies or sensitive ecosystems;" [300.415(b)(2)(ii)].

Dioxin, PCBs and other contaminants have been identified at elevated levels in wetlands, surface soils and flood plain soil samples. Wetlands, sediments and flood plains are sensitive ecosystems.

3. "Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;" [§300.415(b)(2)(v)].

Significant flooding of the Woonasquatucket River has occurred in the past on an irregular basis and may have resulted in the migration and deposition of dioxin and other contaminants to the flood plain .

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum Addendum, may continue to present an imminent and substantial endangerment to public health, or welfare, or the environment. Federal, state and local agencies are recommending that further immediate response actions be taken to reduce potential exposure.

V. Exemption from Statutory Limits

CERCLA §104(c) states that removal actions can exceed the 12-month statutory limits if conditions meet either the "emergency exemption" criteria or the "consistency exemption" criteria. The consistency exemption requires that the proposed removal be appropriate **and** consistent with the remedial action to be taken. As described below, conditions and proposed actions at the Site meet the criteria for the consistency exemption.

A. Appropriateness

EPA OSWER directive 9360.0-12 states that an action is appropriate if the activity is necessary for any *one* of the following reasons:

1. To avoid a foreseeable threat;
2. To prevent further migration of contaminants;
3. To use alternatives to land disposal; **or,**
4. To comply with the off-site policy

The proposed actions outlined below **do meet criteria two**. Completion of the interim cap will isolate the contaminated soil with a protective cover to prevent surface migration of dioxin-contaminated soil and minimize the threat to human health and the environment. The addition of a flood control berm will protect the cap from erosion.

B. Consistency

This Site is on the National Priorities List (NPL). The proposed Removal Actions have been coordinated with the Remedial Programs and will contribute to the performance of planned long-term remedial actions. Completion of the interim cap will enhance protection of public health and the environment. The actions outlined below have been coordinated with RIDEM to ensure their consistency with State regulations.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

Additional characterization of the Site since EPA mobilization in May of 1999 has indicated that due to the nature and extent of contamination, a comprehensive cleanup of the Site exceeds the scope of a Removal Action. Early coordination with the Remedial Program has ensured a smooth transition to evaluation of a long-term remedy.

The Case Attorney and the Removal Program Enforcement Coordinator collaborated to identify five responsible parties:

- Brook Village Associates Limited Partnership
- Centredale Manor Associates Limited Partnership
- Emhart Industries, Inc.
- Crown-Metro, Inc.
- New England Container Company, Inc.

A Unilateral Administrative Order was signed on April 12, 2000 that compels the parties to comply with the terms of the Order or face penalties.

The Statement of Work within the UAO directs the parties to complete construction of cap #2, including any associated flood control measures.

Plans for the cap and associated flood controls were prepared by the U.S. Army Corps of Engineering (ACOE) for EPA, and provided to the ordered parties.

EPA Removal Program will complete minor restoration work at the property to meet pre-removal conditions. Restoration work may include repairs to the lawn sprinkler system, patching damaged asphalt, repairing chainlink fence and other minor tasks. Restoration work will be completed within four weeks.

These actions are based on documents and data which are available to the public review in the Administrative Record, as described in the National Contingency Plan (40 CFR 300.415(m)(i)). The proposed actions were developed as a continuing response action to reduce the potential for migrations of, and direct contact with dioxin-contaminated soils until a subsequent, comprehensive remedial action is developed. The actions proposed are consistent with CERCLA as amended, and are consistent with the NCP.

EPA/ OSWER Directive 9200.4-26, Memorandum - Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites, April 13, 1998, was considered in developing interim cleanup goals for dioxin at this Site. OSWER 9200.4-26 recommends a clean-up starting point of 1 ppb dioxin (TEQ) for surface soils that are reasonably expected to be used as residential property, and for sediments that are considered to be a direct exposure pathway for human receptors.

The actions proposed are consistent with recommendations made to EPA in the Draft ATSDR Health Consultation - Woonasquatucket River, March 10, 1999; ATSDR Record of Activity, # 99-1185, March 19, 1999; and the ATSDR Health Consultation for the Woonasquatucket River and Centredale Manor, June 07, 2000.

Other actions proposed in the previous Action Memorandum and Action Memorandum Addendum are determined to be beyond the scope of a Removal Action, and are being evaluated by the Remedial Program.

2. Contribution to Remedial Performance

Performing this removal action will serve to protect public health and the environment by reducing the potential for further release of and exposure to contaminants found at the Site. These proposed actions are the result of an integrated effort of the Removal Program and the Remedial Program via the Centredale Manor Team with the objective of accelerating the agency's response time, while simultaneously fulfilling the needs for a fast track listing of the Site. As such, the implementation of the proposed actions will contribute to and be consistent with the performance of any remedial action that may be undertaken at a later date.

3. Applicable or Relevant and Appropriate Requirements (ARARs)

The federal ARARs determined to be practicable for this Site is the Resource Conservation and Recovery Act (RCRA). State ARARs have been received from RI DEM and are included in the site file. EPA will comply with state ARARs whenever practicable, but reserves the right to waiver of ARARs as described in the NCP.

B. Estimated Costs and Schedule

The OSC's (independent government) estimate of the costs associated with these actions are unchanged. Although several of the proposed actions will be evaluated by the Remedial Program under an EECA or RI/FS, funds will remain in the removal budget as approved, but not obligated, until remedy

implementation.

TOTAL EXTRAMURAL COSTS CEILING \$3,702,000

TOTAL INTRAMURAL COST CEILING \$ 250,000

TOTAL REMOVAL PROJECT CEILING \$3,952,000

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

In the absence of the removal action described herein, conditions at the Centredale Manor Site can be expected to remain unaddressed, and threats associated with exposure to hazardous substances will continue.

VIII. OUTSTANDING POLICY ISSUES

Until the agency's reassessment of the toxicity of dioxin is complete, EPA/OSWER Directive 9200.4-26, Memorandum - Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites, April 13, 1998 provides guidance for setting starting points for remediation goals at dioxin sites. The proposed actions are consistent with the guidance document. OSWER concurrence for this Nationally Significant Removal Action was signed on May 05, 1999.

IX. ENFORCEMENT

ATTACHED TO THIS DOCUMENT - FOR INTERNAL DISTRIBUTION ONLY

X. RECOMMENDATION

This decision document represents the selected removal action for the Centredale Manor Site in North Providence, Rhode Island. It was developed in accordance with CERCLA, as amended, and is consistent with the National Contingency Plan (NCP). The basis for this decision will be documented in the Administrative Record to be established for this Site.

Conditions at the Site meet the criteria set out in the NCP due to the presence of:

"Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;" [300.415(b)(2)(i)].

"Hazardous substances or pollutants or contaminants in drums, barrels, tanks or other bulk storage containers, that may pose a threat of release;" [300.415(b)(2)(ii)].

"High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;" [300.415(b)(2)(iii)].

"Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;" [§300.415(b)(2)(v)].

"The availability of other appropriate federal or state response mechanisms to respond to the release;" [§300.415(b)(2)(vii)].

"Other situations or factors that may pose threats to public health or welfare or the environment." [§300.415(b)(2)(viii)].

I recommend you approve this Action Memorandum-Second Addendum to continue and complete the removal action proposed above. The total Action Memorandum ceiling remains \$3,952,000 with as much as \$3,702,000 from the EPA-New England removal allowance. The control of dioxin contamination at the Site will mitigate the potential negative impacts of exposure to the residents living at and adjacent to the Centredale Manor Restoration Project Site.

APPROVAL: *Patricia L. Mang* DATE: 6/1/00

DISAPPROVAL: _____ DATE: _____