EPA NEW ENGLAND

FINAL RECORD OF DECISION SUMMARY

OLD SOUTHINGTON LANDFILL SUPERFUND SITE
SOUTHINGTON, CONNECTICUT

SEPTEMBER 2006

DECLARATION FOR THE RECORD OF DECISION

A. SITE NAME AND LOCATION

Old Southington Landfill
Old Turnpike and Rejean Road
Town of Southington
Hartford County, Connecticut
CTD980670806

B. STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) document presents the final selected remedial action for the Old Southington Landfill in Southington, Connecticut, which was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 USC § 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300 et seq., as amended. The Deputy Director of the Office of Site Remediation and Restoration (OSRR) has been delegated the authority to approve this Record of Decision.

This decision was based on the Administrative Record, which has been developed in accordance with Section 113 (k) of CERCLA, and which is available for review at the Southington Library and Museum located at 255 Main Street in Southington, Connecticut and at the United States Environmental Protection Agency (EPA) Region 1 OSRR Records Center in Boston, Massachusetts. The Administrative Record Index (Appendix G to the ROD) identifies each of the items comprising the Administrative Record upon which the selection of the remedial action is based.

The State of Connecticut concurs with the Selected Remedy.

C. ASSESSMENT OF THE SITE

The response action selected in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

D. DESCRIPTION OF THE SELECTED REMEDY

This ROD follows the 1994 Record of Decision for Interim Remedial Action for Limited Source Control (1994 ROD) for the Old Southington Landfill Superfund Site (the Site) that addressed the landfill. The 1994 ROD required relocation of residences and businesses, relocation of

excavated hot spot soil contamination into a lined cell beneath the cap, placement of a cap on the landfill, and continued groundwater investigations.

The selected remedy is a comprehensive approach for this final decision that addresses all remaining current and potential future risks at the Site. The remaining risks are from vapor intrusion into buildings above groundwater contamination at the Site. The 1994 ROD addressed all of the other media exposure pathways of concern (See 1994 ROD for more detail.) Specifically, this final remedial action includes implementation of engineering controls, institutional controls, and long term monitoring on property located immediately west of the Site and Old Turnpike Road. The focus of this remedial action is currently on three properties: Chuck & Eddy Salvage Yard property, the Radio Station property, and the former Lori Corp. property. However, if additional information becomes available, including any information obtained during long-term monitoring, that indicates vapor intrusion presents an unacceptable risk to any additional existing or proposed buildings or properties affected by the Site groundwater plume, additional remedial action(s) will be taken to address this risk consistent with the actions taken at the other three properties under this ROD. In addition, operation and maintenance, long-term monitoring, as well as five-year reviews will be conducted to assure that the final remedy provides overall protection to human health and to the environment in the long term.

a. 1994 ROD

The remedial action selected in the 1994 ROD was based principally upon EPA's *Presumptive Remedy for CERCLA Municipal Landfill Sites* (EPA, 1993), EPA Document No. 540-F-93-035. (Presumptive Remedy Guidance).

The 1994 ROD addressed all affected media (i.e. soil, soil gas, surface water, and sediment) at the landfill, at the adjacent Black Pond, and at the Unnamed Stream across Old Turnpike Road west of the landfill. The following are the major components of the 1994 ROD:

- Relocation of existing residences and businesses located on top of the landfill;
- Construction of a synthetic cap over the landfill to prevent human contact with contaminated subsurface soil, stop rainwater infiltration through the soil to the groundwater, and allow for the containment and collection of landfill gas;
- Excavation and consolidation of a highly contaminated area "hot spot" in a lined cell underneath the landfill cap;
- Removal of all buildings from the landfill;
- Installation of a soil gas collection/treatment system;
- Performance of long term operation and maintenance; and
- Performance of long-term monitoring.

b. 2006 ROD

This ROD sets forth the final selected remedy that addresses risks from vapor intrusion into buildings above groundwater contamination at the Site. The components of this final remedy compliment those in the1994 ROD. In addition, this ROD confirms that the components of the 1994 ROD are the final components for the remedial action for the areas of the Site addressed by that ROD. As such, the 1994 ROD is effective in the long term, protective of human health and the environment, meets applicable and relevant and appropriate requirements (ARARs), fully addresses the principal threats posed by that portion of the Site, and addresses the statutory preference for treatment that reduces the toxicity, mobility and volume consistent with EPA's Presumptive Remedy Guidance.

Description of Remedial Components

The major components of this ROD are as follows:

1.) Institutional controls, in the form of Environmental Land Use Restrictions (ELURs) as defined in Connecticut's Remediation Standard Regulations (CT RSRs) will be placed on properties or portions of properties where groundwater Volatile Organic Compound (VOC) concentrations exceed the CT RSR volatilization criteria for residential or commercial/industrial use (also denoted as volatilization or vapor intrusion criteria) as appropriate. Periodic inspections would be performed or other procedures or requirements would be put in place to ensure compliance with the institutional controls and to ensure notification to EPA and the State and the appropriate local governmental agencies if the institutional control is breached.

2.) Building ventilation (sub-slab depressurization systems or similar technology) will be used in existing buildings located over portions of properties where VOCs in groundwater exceed the CT RSRs volatilization criteria to either prevent migration of VOC vapors into buildings or to control the level of VOCs in vapors beneath existing buildings. Similarly, vapor barriers (or similar technology) or sub-slab depressurization (or similar technology) will be used to control vapors in new buildings.

3.) Groundwater monitoring will be conducted in areas where the potential for vapor intrusion is a concern. Such areas include, but are not limited to, the three parcels that are the initial focus of this remedial action (Chuck & Eddy's, Radio Station, former Lori Corp.), the properties adjacent and south of Chuck & Eddy's, and the new residential neighborhood west of Chuck & Eddy's. Compliance wells will be installed at appropriate locations, to collect groundwater to evaluate long-term fluctuations in accordance with the monitoring requirements of the CT RSRs and other federal requirements to ensure the protectiveness of the remedy in the future.

4.) Conduct operation, maintenance, and monitoring of engineering and institutional controls to ensure remedial measures are performing as intended and continue to protect human health and the environment in the long-term.

5.) Five-year reviews.

This Record of Decision addresses the low level threat presented by vapor intrusion by the use of engineering controls and institutional controls to prevent exposure to contamination that presents an unacceptable risk to human health and the environment.

E. STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable. However, this remedy does not satisfy the statutory preference for treatment as a principal element of the remedy.

Because this remedy will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure (groundwater and land use restrictions are necessary), a review will be conducted within five years after initiation of remedial action, and every five years after that, to ensure that the remedy continues to provide adequate protection of human health and the environment.

F. ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this Record of Decision. Additional information can be found in the Administrative Record file for this site.

1. Chemicals of concern and their respective concentrations (Connecticut RSRs). See Tables G1, G2, and G2 in Appendix B.

2. A finding of potential harm to human health

3. Action Levels for vapor intrusion pathway (Connecticut RSRs). See Table L-1 in Appendix B.

4. Land and groundwater use that will be available at the Site as a result of the selected remedy

5. Estimated capital, operation and maintenance (O&M), and total present worth costs; discount rate; and the number of years over which the remedy cost estimates are projected; and

6. Key factor(s) that led to selection of this final remedy

G. AUTHORIZING SIGNATURES

This ROD documents the final selected remedy for the Old Southington Landfill Site, located on Old Turnpike Road and Rejean Road in Southington, Connecticut. This remedy was selected by EPA with concurrence from the Connecticut Department of Environmental Protection.

U.S. Environmental Protection Agency

By: _____ Date: 9-29-06

Richard Cavagnero
Deputy Director
Office of Site Remediation and Restoration
EPA – New England

A. SITE NAME, LOCATION AND BRIEF DESCRIPTION

The Old Southington Landfill Superfund Site encompasses the approximately thirteen acres of the former municipal landfill (Landfill) located on the east side of Old Turnpike Road, in Southington, Connecticut (see figure 1-1.) as well as all areas where contamination has come to be located (Site). Rejean Road abuts the Site to the north. Black Pond abuts the Landfill to the east. An unnamed stream is located across Old Turnpike Road and directly west of the Site. The Site is located in a mixed residential, industrial, and commercial area. A small road traverses the southern portion of the Site from Old Turnpike Road to a construction company that abuts the Site to the east. The Quinnapiac River is approximately 3,100 feet west of the Landfill. The Site includes the former location of a municipal and industrial landfill that operated between 1920 and 1967.

A more complete description of the Site can be found in Section I of the *Supplemental Remedial Investigation Report*, Kleinfelder, June 2006.

B. SITE HISTORY AND ENFORCEMENT ACTIVITIES

1. History of Site Activities

During the period from about 1920 to 1967, local residents and area businesses used portions of the landfill for disposal of waste materials. During this time frame, the landfill was known as the Old Turnpike Landfill. Based upon historical information, Remedial Investigation (RI) data, and differences in ownership between the northern and southern portion of the Site, it is clear that the northern and southern portions of the landfill were used for distinct and separate purposes. The northern portion of the landfill was a "stump dump" that was used for the disposal of wood and construction debris. The southern portion of the landfill was used throughout the period the landfill was in operation for the co-disposal of municipal and industrial waste. Historical information, interviews with current and past Town employees, and information contained in public documents on disposal practices indicate that for a short period of time (1964-1967) two areas (SSDA 1 and SSDA 2) in the southern portion of the landfill (see Figure 1-1) were used for disposal of semi-solid industrial wastes. Closure of the landfill was completed shortly after it ceased operating in 1967 and included compaction, cover with two feet of clean fill, and seeding for erosion control.

Between 1973 and 1980, the landfill property was subdivided and sold for residential and commercial development. Several residential and commercial buildings were built on the Site and on adjacent areas.

The landfill is located approximately 700 feet southeast of the former municipal Well No. 5, which was installed in 1965 by the Town of Southington Water Department and was used as a public water supply. The Connecticut Department of Public Health and Addiction Services (then the Department of Health Services) sampled Southington Production Well No. 5, located west and north of the Site, on several occasions between December 1978 and March 1979. Analyses

of the water samples collected indicated the presence of chlorinated volatile organic compounds (VOCs). Because of the detection of 1,1,1-trichloroethane (TCA) at levels that exceeded State standards, Well No. 5 was closed in August 1979. The well has permanently been closed since that time.

In February 1980, EPA authorized a hydrogeologic investigation aimed at defining the nature and extent of contamination in groundwater in the area around Well No. 5. Analysis of groundwater samples collected from two monitoring wells installed between the landfill and Well No. 5 indicated the presence of VOCs (Warzyn Engineering, Inc., 1980). In November 1980, the Connecticut Department of Environmental Protection (CT DEP) collected soil samples from a manhole excavation within the industrial park located on land that had previously been part of the landfill. Analysis of the soil samples indicated the presence of chlorinated and non-chlorinated VOCs.

Based on the above findings and a hazard ranking performed in 1982, EPA, on September 8, 1983, proposed that the Old Turnpike Landfill be placed on the National Priorities List (NPL), pursuant to Section 105(8)(b) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9605(8)(b). On September 21, 1984, the Old Turnpike Landfill was listed on the NPL as the Old Southington Landfill Superfund Site.

A more detailed description of the Site history can be found in Section I of the *Supplemental Remedial Investigation Report*, Kleinfelder, June 2006.

2. History of Federal and State Investigations and Removal and Remedial Actions

In 1987, EPA entered into an Administrative Order on Consent (AOC) with three Potentially Responsible Parties (PRPs or Potentially Responsible Parties) to define the nature and extent of Site contamination. In 1993, the PRPs completed an RI, a Human Health Risk Assessment (HHRA), an Ecological Risk Assessment (ERA), and a Feasibility Study (FS). EPA issued an Addendum to the RI/FS Report in 1994.

In September 1994, EPA issued the 1994 ROD that addressed the landfill and included the following major components:

- Relocation of existing residences and businesses located on top of the landfill
- Construction of a synthetic cap over the landfill to prevent human contact with contaminated subsurface soils, stop rainwater infiltration through the soil to the groundwater, and allow for the containment and collection of landfill gas;
- Excavation and consolidation of a highly contaminated area "hot spot" in a lined cell underneath the landfill cap;
- Removal of all buildings from the landfill;
- Installation of a soil gas collection/treatment system;

- Performance of long term operation and maintenance (O&M); and

- Performance of long-term monitoring.

The remedy selected in the 1994 ROD also required additional groundwater studies be undertaken concurrent with the implementation of the cap on the landfill. In addition, because it was uncertain whether or not the landfill gas collection system would be effective and protective of human health, the 1994 ROD required an additional evaluation be conducted.

In 1998, a Consent Decree was entered between EPA and approximately 320 PRPs, two of which are the Performing Settling Defendants (Performing Settling Defendants or PSDs). Pursuant to the Consent Decree, the PSDs were required to implement the remedy selected in the 1994 ROD. Construction of the remedy selected in the 1994 ROD was completed in 2001. Operation and maintenance as well as long term monitoring are currently being conducted by the PSDs.

As discussed above, the PSDs agreed to conduct additional groundwater studies (a second RI/FS) to address the remaining issues at the Site under the 1998 Consent Decree. In 1999, the PSDs initiated the Supplemental Groundwater Investigation (2006 Remedial Investigation or 2006 RI). The 2006 RI and the Amended Feasibility Study (2006 FS) were completed in June 2006. The first five-year review for the Site was conducted in September 2005.

A more detailed description of the Site history can be found in Section I of the *Supplemental Remedial Investigation Report*, Kleinfelder, June 2006.

3. History of CERCLA Enforcement Activities

In January 1993, EPA notified approximately 320 parties who either owned or operated the facility, generated wastes that were shipped to the facility, arranged for the disposal of wastes at the facility, or transported wastes to the facility of their potential liability with respect to the Site.

In June 1998, EPA and a group of Potentially Responsible Parties entered into a Consent Decree to address the remedy selected in the 1994 ROD. Pursuant to this Consent Decree, two parties agreed to perform the remedial action selected in the 1994 ROD (PSDs). The Performing Settling Defendants were also required to complete groundwater investigations (the second RI/FS) in the 1998 Consent Decree. The results of these investigations formed the basis for the 2006 ROD.

In June 1999, EPA entered into two additional settlements: one with six parties and the other with 119 de minimis parties who all agreed to contribute to the cost of the remedial action in the 1994 ROD.

C. COMMUNITY PARTICIPATION

Prior to cleanup activities taking place at the Site, community concern and involvement was high. At this time, community participation can be characterized as low. EPA, CT DEP and the parties conducting the work have kept the community and other interested parties apprised of site activities through public informational meetings, fact sheets, press releases, and door-to-door canvassing throughout the immediate vicinity of the landfill. Below is a brief chronology of the significant Superfund public outreach efforts since the Site was listed on the National Priorities List.

• In October 1988, EPA released a community relations plan which outlined a program to address community concerns and keep citizens informed about and involved in remedial activities.

• On December 14, 1988, EPA held an informational meeting in the Southington Public Library and Museum to describe plans for the Remedial Investigation and Feasibility Study. EPA published and mailed a December 1988 Superfund Program Fact Sheet.

• In June 1990, EPA published and mailed a Superfund Program Fact Sheet which described the status of ongoing and upcoming field activities and the availability of the Superfund Technical Assistance (TAG) program.

• In July 1991, EPA published and mailed a Superfund Program Fact Sheet which described the completion of Phase I Remedial Investigation activities.

• On August 26, 1992, EPA held an informational meeting in Southington to discuss issues related to methane gas at the Site.

• In January 1993, EPA announced that a TAG grant had been awarded to a local citizens group known as Southington Old Landfill Victims (SOLV).

• In April 1993, EPA published and mailed a Superfund Program Fact Sheet which described the completion and preliminary results of site activities from 1989 - 1991.

• In November 1993, EPA attended a community meeting held by SOLV and presented a project status update.

• On May 23, 1994, EPA made available the administrative record to support the 1994 proposed remedy for the site. These documents are available for public review at EPA's offices in Boston, Massachusetts and at the site repository at the Southington Public Library in Southington, CT.

• The proposed plan was made available to the public on May 23, 1994 at the Southington Public Library.

• EPA published a notice and brief description of the proposed plan on June 1, 1994 in the Meriden Record Journal and on June 2, 1994 in the Southington Observer.

• On June 14, 1994, EPA held a public meeting to discuss the results of the Remedial Investigation,

the cleanup alternatives presented in the Feasibility Study, and to answer questions regarding the Agency's proposed plan.

• From June 15, 1994 to July 14, 1994, the Agency held a 30-day public comment period to accept written comments on the Feasibility Study, the alternative recommended by EPA in the proposed plan, and on any other documents previously released to the public. On June 29, 1994, community residents requested a 30-day extension of the public comment period to August 13, 1994 which was granted by EPA.

• On July 12, 1994, the Agency held a public hearing to accept comments on the proposed cleanup plan. A transcript of this hearing and comments, along with the Agency's response to comments are included in the Responsiveness Summary found in Appendix A of the 1994 Record of Decision.

• In 1998, EPA completed the relocation process for all residential and commercial properties from the site.

• On June 24, 1998, EPA held a meeting attended by approximately 24 local residents to update the community about upcoming predesign field activities at the landfill.

• In late July 1998, EPA distributed a neighborhood notice alerting local residents of field work scheduled to begin on August 3 at the landfill.

• In the spring of 1999, EPA conducted community interviews in preparation for a Community Involvement Plan Update of the 1988 Community Relations Plan. The Update was completed and released in June 1999 in an effort to keep citizens informed and involved in remedial activities.

• On June 30, 1999, EPA held a community meeting to update the community about activities and schedules for both landfill field activities and groundwater studies.

• During the fall of 1999, EPA distributed a Community Survey in an effort to better understand community concerning regarding the appearance and potential passive reuse of the landfill upon completion of construction activities. Twenty-three completed surveys were returned to EPA.

• On December 1, 1999, EPA held a community meeting to update the community about the results of the survey and to further discuss the status of the final landfill design. Following subsequent meetings with town officials, agreement was reached in June with officials and local residents that the northern portion of the landfill would be landscaped and made available to the public for passive recreation, but would not be designated as a town park.

• On March 20, 2000, EPA held a pre-construction meeting with local public safety officials to discuss emergency planning and coordination during the upcoming landfill construction period.

• On April 3, 2000, EPA held a public meeting to discuss the start of landfill construction activity including schedules, air monitoring, and traffic plans.

• In the fall of 2000, EPA published and mailed a Community Update Fact Sheet which described the

completion of construction activity in 2000 and outlined activities to be resumed in the spring of 2001.

• In the spring of 2001, EPA published and mailed a Community Update Fact Sheet which described ongoing soil gas and groundwater monitoring and upcoming landfill construction activities.

• In June 2005, EPA announced that a five-year review was in process for the Site. Community interviews were conducted by EPA during the summer and the five-year review was completed and released at the end of September.

• In early October 2005, EPA distributed a Neighborhood Notice in the vicinity of the landfill to describe upcoming groundwater investigations to be conducted over a five-week period beginning October 10.

• In early June 2006, EPA mailed the proposed plan that addresses vapor intrusion issues at the Site to approximately 650 residents, local media, town and elected officials, including individuals associated with the Solvents Recovery Services of New England PRP Group. Bulk copies of the proposed plan were made available to the public at both the Southington Town Hall and the Southington Public Library. Copies were also distributed door-to-door in the immediate vicinity of the landfill in the neighborhood overlying the down gradient groundwater plume.

• EPA published a public notice of the public comment period and a brief analysis of the proposed plan which appeared in the Meriden Record Journal on June 14, 2006 and in the Southington Observer on June 16, 2006 announcing the availability of the plan and supporting documents beginning June 21, 2006 at public information repositories at the Southington Public Library and Museum and at EPA's office in Boston, Massachusetts.

• On June 21, 2006, EPA made the administrative record available for public review at EPA's office in Boston and at the Southington Public Library and Museum.

• On June 21, 2006, EPA held a public meeting to discuss the results of the Remedial Investigation and the cleanup alternatives presented in the Feasibility Study and to present the Agency's recommended cleanup plan to a broad community. At this meeting, representatives from EPA and CT DEP answered questions from the public.

• From June 22, 2006 to July 24, 2006, the Agency held a 30-day public comment period to accept public comment on the alternatives presented in the Feasibility Study and the proposed plan and on any other documents previously released to the public.

• On July 6, 2006, EPA held a public hearing to discuss the proposed plan and to accept any comments. A transcript of this meeting and the comments and the Agency's response to comments are included in the Responsiveness Summary, Part 3 of this Record of Decision.

• On July 21, 2006, an extension to the public comment period was requested and on July 25, 2006, EPA issued a press release to announce that the comment period had been extended to August 24, 2006.

D. SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

The selected remedy provides overall protection of human health and the environment by addressing the risk presented from vapor intrusion. The selected remedy for the Site addresses the remaining risks from the Site taking into account decisions made in the 1994 ROD. This ROD addresses the threat that remains from groundwater should vapors from groundwater present an unacceptable risk to residents/occupants of buildings/dwellings existing above the contaminated groundwater by taking appropriate action to address this risk. The selected remedy provides for a combination of engineering controls (sub-slab depressurization systems or vapor barriers (or similar technologies)) to prevent exposure from the volatilization of contamination in groundwater, institutional controls to prevent any future use of the Site that might result in an unacceptable exposure to contamination, and long-term monitoring and operation and maintenance to insure that the remedy remains protective in the long term. This decision relies on the fact that the 1994 ROD required construction of a landfill cap and gas collection system and also required the relocation of businesses and residents from the Site. This final remedy for the Site also confirms that the remedy selected in the 1994 is appropriate as the final remedy for the portion of the Site addressed by the 1994 ROD. As with the 1994 ROD, this ROD requires five-year reviews to insure that the remedy continues to be protective of human health and the environment.

In summary, the response action contained in this ROD addresses the remaining threats to human health and the environment posed by groundwater at the Site.

E. SITE CHARACTERISTICS

This section presents an overview of the groundwater-related Remedial Investigation for the Site. The initial Remedial Investigation (RI) for the Site was conducted by the PRP group and is documented in *Remedial Investigation Report*, Volumes 1-3 Environmental Science & Engineering, Inc., December 1993. The 2006 Remedial Investigation, focusing primarily on groundwater at the Site, was also conducted by the PRP group and is documented in the *Supplemental Remedial Investigation Report*, Volumes 1 and 2, Kleinfelder, approved in June 2006. Section 1.0 of the 2006 Feasibility Study contains a summary of the 2006 Remedial Investigation.

Groundwater at the Old Southington Site has been sampled extensively. Sampling was conducted in 1993 in support of the initial Remedial Investigation for the Site. During the Phase I component of the 2006 RI, groundwater microwell sampling for volatile organic compounds (VOCs) was conducted. In addition, extensive groundwater sampling has been conducted under the site long term monitoring program, with semi-annual to quarterly groundwater sampling having been conducted since May 2000. The information summarized below can be found Volume 1A of the 1993 RI and Sections 1-6 of the *Supplemental Remedial Investigation Report.*

1. Site Setting, Geology, and Hydrogeology

Site Setting

The Old Southington Landfill lies in the Plantsville Section of the Town of Southington in Hartford County, Connecticut (Figure 1-1). The Site itself encompasses approximately 13 acres and is defined as the area encompassed by the capped landfill and bordered on the west by Old Turnpike Road, and on the north by Rejean Road , and also includes all areas where contamination has come to be located. Along its northeastern boundary, the Site is bordered by Black Pond. The landfill is bordered by residential areas to the north, commercial businesses to the immediate west and a mixture of commercial and residential areas to the east and south. As noted above, the landfill was capped in accordance with the 1994 ROD. All commercial and residential buildings were removed from the landfill footprint which is now grass covered. The area studied included the landfill and surrounding areas extending northwest, southwest, and west to the Quinnipiac River.

Site Geology

The Old Southington Landfill Site is located within the Connecticut Valley Lowland section of the New England physiographic province in west-central Connecticut. It is characterized by moderately broad valleys separated by low north-northeastward-trending ridges. This north-south trending lowland section, also known as the Triassic Basin, is about 17 miles wide and is flanked by uplands consisting of crystalline igneous and metamorphic rock complexes. Southington is on the western flank of the lowland within the subarea known as the Quinnipiac Lowland. The Quinnipiac Lowland is underlain by Triassic sediments including the New Haven Arkose (red sandstone). Locally, the igneous West Rock Diabase intrudes into the New Haven Arkose coring the north-northeast trending hills south of the Site.

The sediments in the area studied are glacial in nature and correlate with Wisconsinan time. The regional topography can be termed kame and kettle. The regional surface is a complex area of kames, comprised primarily of gravel and sand interspersed with kettle lakes. Unconsolidated deposits associated with glacial, glaciolacustrine and glaciofluvial sedimentation, in addition to fluvial sediments, overlay bedrock throughout the area studied.

Bedrock beneath the area studied is overlain by undifferentiated sand and gravel considered to be glacial till. This sand and gravel has varying amounts of silt and cobbles and is generally more compact than the overlying deposits. Overlying the sandy, gravelly till at certain locations are interfingering deposits of fine sand, laminated fine sand and silt, and/or undifferentiated sand. Above the interfingering deposit is an upper sand and gravel unit that contains relatively less silt than the lower sand and gravel unit. This upper sand and gravel unit may extend to the surface or be overlain by peat deposits in certain locations. A locally extensive peat deposit associated with Black Pond is of varying depth and thickness and underlies most of the Site.

Bedrock beneath the Site is mapped as New Haven Arkose. This bedrock is sedimentary in origin and consists of grayish-orange-pink arkose with inter-bedded micaceous siltstone of the

Triassic age. An L-shaped bedrock basin lies beneath the area studied with overburden depths to bedrock ranging from approximately 83 to 180 feet.

Site Hydrogeology

The unconfined overburden aquifer of the area studied is comprised of layers of permeable glacial drift that overlie less permeable sandstone bedrock. There are no significant confining layers with the exceptions of the landfill itself and the sediments of Black Pond.

At the Site, the depth to the water table is quite variable and ranges from less than 10 feet below ground surface (bgs) at certain locations in the northern portion of the Site, to 30 to 40 feet bgs, at certain locations in the southern portion of the Site. Overburden aquifer transmissivities in the range of 100,000 to 250,000gpd/ft have been suggested based upon pump tests conducted in the area studied.

The overburden aquifer is primarily recharged by precipitation. Immediately upgradient of the Site, a limited contribution to the shallow aquifer is believed to derive from Black Pond. Immediately to the west and downgradient of the Site, significant recharge from precipitation occurs tending to depress the groundwater plume leaving the landfill.

Groundwater flow in the shallow, moderate, and deeper depth overburden aquifers is generally from east to west across the Site, moving toward the Quinnipiac River. Downgradient of the Site, groundwater flow in the moderate depth and deeper overburden aquifer shifts to a somewhat more northwesterly direction as it approaches the Quinnipiac River, slightly over a half mile away.

Groundwater Classification and Use

Groundwater both beneath and downgradient of the Site is currently classified by CTDEP as GB (nonpotable). This classification extends downgradient to the Quinnipiac River that serves as the surface discharge point for groundwater from the Site. The northern boundary of a groundwater aquifer area classified as (potable) GA by CTDEP is located several hundred feet to the southwest of the Site.

The GB classification for groundwater immediately downgradient of the Site permits certain designated uses including 1) industrial process waters and cooling waters, and 2) base-flow for hydraulically connected surface water bodies presumed not suitable for human consumption without treatment. A groundwater use evaluation was conducted as part of the 2006 RI. The results indicated that there were currently no private residential wells in use in the area between the Site and the Quinnipiac River and that all of the residences within this area were supplied by water from the Town of Southington system.

2. Nature and Extent of Contamination in Groundwater

Landfill Source Contamination

The primary sources of groundwater contamination at the Site are wastes including liquid organic solvents and semi-solid organic sludges, deposited in the landfill during its operation. Deposition of limited amounts of metal containing wastes has also contributed to localized areas of elevated levels of certain metals, in groundwater beneath the landfill.

Overall, the RI results indicated that industrially related chemical waste was deposited primarily in the southern portion of the landfill. VOCs were detected in soils at sporadically high concentrations throughout this portion of the landfill. Low to moderate concentrations of several other contaminants, including semivolatile organic compounds (SVOCs) [primarily polycyclic aromatic hydrocarbons (PAHs)], polcyclic biphenyl compounds (PCBs) and some metals, were also detected, although less frequently. Studies during the original RI identified two areas (SSDA 1 and SSDA 2) where semisolid industrial waste materials contaminated with relatively high levels of VOCs and/or SVOCs were deposited. Past records and results also indicated that the northern portion of the landfill was primarily used as a dump for stumps and demolition debris with waste materials including wood, ash, cinders and some brick and asphalt. Moderate concentrations of PAHs were detected in soils at certain locations in the northern portion of the landfill.

Test borings conducted throughout the southern portion of the landfill during the RI, indicated that elevated levels of soil volatile organic contamination were sporadic but relatively widespread. The primary VOCs detected were chlorinated solvents including tetrachloroethene (PCE), trichlorethene (TCE), 1,2,-dichloroethene (1,2-DCE), and vinyl chloride (VC). Some volatile aromatic solvents including ethyl benzene, toluene, and xylene were also observed at certain subsurface soil locations.

Nature and Distribution of Contaminants in Groundwater

The results of groundwater sampling conducted during the RI indicated that VOCs were the primary contaminants of concern measured in groundwater beneath and immediately downgradient of the Site. Metals were detected to a significantly lesser extent at certain locations beneath the landfill. SVOCs, pesticides and PCBs were rarely detected and when detected were at generally low levels. VOC contamination in groundwater was widespread beneath and immediately downgradient of the southern and central portions of the landfill with little VOC contamination detected downgradient of the northern portion of the landfill. These results were consistent with the historical uses of the southern and northern portions of the landfill.

RI results indicated that given the north-south configuration of the landfill and distribution of the contaminant plume downgradient of the southern portion of the Site, contaminants were not being introduced into groundwater from any single, isolated source area. Rather multiple locations in the southern and central portions of the landfill were acting as VOC sources. This conclusion is consistent with the results of the soil boring studies. The primary VOCs detected in groundwater were chlorinated ethenes, (including TCE, 1,2-DCE, and VC), chlorinated

ethanes (1,1,1-trichloroethane), and petroleum related aromatics (including benzene, toluene, and xylenes) while other VOCs were detected but less frequently and, generally, at lower levels. Metals were detected in excess of maximum contaminant levels (MCLs or maximum contaminant levels) at some locations.

3. Fate and Transport of Contaminants in Groundwater

Groundwater Plume Delineation

The results of the 2006 RI confirmed that groundwater flow beneath the Site is generally east to west. However, the groundwater has developed a somewhat more northwesterly flow in the moderate depth and deeper overburden as it approached the Quinnipiac River. Overall, groundwater flow was postulated to generally follow the bedrock topography, flowing along a west-northwest trending bedrock trough, with the impact of the bedrock topography being potentially greater on the flow in the deeper portions of the aquifer. Hydrogeologic evaluations also indicated that the bedrock surface rises in the western part of the area studied, pinching out the overburden groundwater aquifer west of the Quinnipiac River.

The dissolved contaminants derived from the waste mass in the southern portion of the Site flow relatively quickly down into the medium to deep portions of the aquifer, upon leaving the landfill. This appears to be due to significant differences in the permeability of the waste mass versus the very permeable sand and gravel aquifer and the impact of precipitation recharging such a permeable aquifer. Contaminants are then transported at depth to the west by regional groundwater flow. Contaminants from the northern portions of the landfill move downward more slowly and migrate greater distances through the shallow aquifer immediately west and northwest of the landfill.

Groundwater Plume Contaminants

Extensive sampling was conducted from 2000-2006 during the long-term monitoring of groundwater. Sampling was conducted at over 30 monitoring wells screened throughout the shallow, moderate and deeper depths of the overburden aquifer. Results indicated that the primary contaminants of concern in the downgradient groundwater contaminant plume are chlorinated volatile organics, primarily TCE and its related daughter products 1,2-DCE and VC. Other VOCs, including chlorinated ethanes and several volatile aromatic compounds, when detected, are found within the footprint of the TCE plume and are generally measured at concentrations considerably lower than TCE-related contaminants. No SVOC plume appears to be emanating from the Site. SVOCs have only been detected sporadically throughout the area studied and in most cases at trace concentrations. Long-term monitoring results also did not indicate evidence of a metals plume emanating from the Site. In the downgradient aquifer, metals have only been detected sporadically at certain locations with no consistent pattern of detection that would suggest a plume originating at the landfill.

As noted above, the bulk of the VOC plume migrates into the deeper portions of the overburden aquifer after leaving the landfill footprint. VOC concentrations at most downgradient well locations tend to increase with depth.

The concentrations of VOCs in the downgradient groundwater plume vary widely depending upon location and sampling depth. Most of the highest VOC concentrations were observed at specific monitoring wells immediately downgradient of the southern portion of the landfill. Representative maximum concentrations detected during long-term monitoring for specific VOC contaminants include the following:

Trichloroethene – 900 ug/L
Cis, 1,2-dichloroethene – 11,000 ug/L
Vinyl chloride – 1,600 ug/L
1,1,1-Trichloroethane – 150 ug/L
Toluene – 20,000 ug/L
Ethyl benzene – 10,000 ug/L
Xylenes – 14,000 ug/L

Chlorinated VOC concentrations in the core of the groundwater plume further downgradient are significantly lower than these values. Representative ranges for chlorinated VOCs in certain wells located in core portions of the groundwater plume approximately 500 to 800 feet downgradient of the Site are as follows:

Trichloroethene – 110-300 ug/L
Cis, 1,2-dichloroethene – 88-230 ug/L
Vinyl chloride – 8-29 ug/L
Chloroform – 64-170 ug/L

Further to the west as the plume migrates toward the Quinnipiac River, chlorinated VOC concentrations tend to slowly diminish, apparently in response to groundwater dilution processes.

The results of long-term monitoring conducted from 2000 to 2006 indicate that the overall groundwater chlorinated VOC concentrations have changed relatively little since the 1994 RI sampling was conducted. Some decreases have been noted for certain contaminants at certain locations. However, at other locations, concentrations of certain contaminants appear to have increased since the original RI. Overall plume chlorinated VOC concentrations appear to be diminishing, but only very slowly. These results indicate that the VOC source within the landfill has not been depleted and that VOC migration from the landfill will probably persist for a long time, possibly decades.

Long-term monitoring results also indicate that natural attenuation processes, particularly biodegradation processes, appear to be having relatively little impact on the overall downgradient chlorinated VOC plume. At a few locations immediately downgradient of the landfill, biodegradation processes appear to be active, apparently due to the presence of adequate dissolved organic matter. However, throughout the bulk of the downgradient plume, there is relatively little evidence of TCE being degraded to 1,2-DCE and/or VC.

4. Conceptual Site Model, Exposure Pathways, and Vapor Intrusion

The sources of contamination, release mechanism, and exposure pathways to receptors for the soil, groundwater, surface water, sediment and air were considered while developing a Conceptual Site Model (CMS). The CMS is a three dimensional picture of the site conditions that identifies contaminant sources, release mechanisms, exposure pathways, migration routes, and potential human ecological receptors. It documents current and potential future site conditions and shows what is known about human and environmental exposure through contaminant release and migration to potential receptors. The risk assessment and response action for all environmental media at the area studied are based on this CMS.

With the exception of vapor intrusion, there are no current or potential pathways of exposure to the VOC plume to human health or environmental receptors. The overall hydrogeologic results indicate that the bulk of the groundwater plume remains relatively deep within the aquifer throughout most of its migration from the Site to the Quinnipiac River. Available information suggests that the bulk of the plume remains more than 30 feet bgs until it closely approaches the Quinnipiac. There is also no firm evidence that the plume discharges to any surface waters prior to discharge to the Quinnipiac. Studies suggest that although some elements of the plume closely approach the Unnamed Stream immediately downgradient of the northern portion of the Site, it does not appear to discharge to the stream.

The absence of plume discharge to surface water bodies other than the Quinnipiac River, coupled with the prohibition of use of the downgradient aquifer as a potable water source, minimizes environmental and human health exposure pathways. Calculations also indicate that dilution from surface waters in the Quinnipiac eliminates direct exposure concerns in the discharge area. However, potential human exposure may occur through VOC vapor intrusion from the shallow aquifer into buildings downgradient of the Site.

Shallow Aquifer VOC Distributions and Vapor Intrusion

Shallow groundwater leaving the northern portion of the landfill does not migrate downward into the aquifer as quickly as in the southern portion of the aquifer. Extensive groundwater drive-point VOC sampling studies conducted in fall 2005 as part of the 2006 RI indicated the presence of chlorinated VOCs in shallow groundwater (less than 30 feet) immediately downgradient of the central and northern portions of the landfill on what is known as the Former Lori Corporation parcel, the Radio Station, and on the parcel known as Chuck & Eddy's, west of Old Turnpike Road. As groundwater continues to migrate in a westerly direction from these properties, the contamination migrates deeper into the aquifer, increasing in depth from the ground surface, greatly diminishing any potential impacts from vapor intrusion. Based on three shallow wells placed adjacent to the Quinnipiac River (SDW 6, SDW 7, and SDW8), shallow groundwater adjacent to the River does not reveal high concentrations of VOCs that might be of concern for vapor intrusion.

Due to the volatile nature of the compounds detected in the shallow aquifer immediately west of Old Turnpike Road, there is the potential for groundwater contamination to be a potential source of vapor contamination in buildings situated directly over this area. At many locations sampled, certain chlorinated VOC concentrations in shallow groundwater exceeded Connecticut's

volatilization criteria for vapor intrusion (CT RSRs) applicable to either residential or commercial land use. Most of the observed exceedences were due to elevated levels of vinyl chloride in the shallow groundwater. Concentrations of vinyl chloride in the shallow aquifer at Chuck & Eddy's (MW 304A) were as great as 2000 times the CT RSR value. Other volatile compounds such as 1,1-dichloroethylene, cis-1,2 dichloroethylene, benzene, carbon tetrachloride, 1,2-dichloroethane, ethylbenzene, tetrachloroethylene, toluene, trichloroethylene and xylenes also exceeded their respective volatilization criteria in the shallow downgradient aquifer at one or more sample locations. Appendix B, Tables G-1 through G-3 present the Connecticut volatilization criteria for residential and commercial/industrial land use, the well identifier, and the shallow groundwater results for samples exceeding the Connecticut volatilization criteria at the Former Lori Corporation, the Radio Station, and at Chuck & Eddy's.

Although vapor intrusion is not considered a principal threat as this term is defined in EPA guidance (EPA, November 1991), the selected remedy addresses this contamination due to the risk presented from vapor intrusion. It should be note that the1994 ROD addressed principal threats presented for that portion of the Site consistent with EPA's Presumptive Remedy Guidance.

F. CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

Land Uses

1.) Current land use on the former Landfill Property

The landfill portion of the Site has been capped on the northern part with a single low permeability cap and on the southern part of the Site with a double low permeability cap. A soil gas vent system has been installed underneath and through out the entire capped area that currently operates as a passive venting system. The northern part of the landfill has been enclosed with a 3-foot high chain link fence that provides public access and is used as a passive recreation area. The southern part of the landfill is enclosed with a 6-foot high fence and public access is not allowed.

2.) Current land use adjacent to the former landfill /surrounding area

This portion of the Site is situated in a mixed residential, commercial, and industrial zoned area. Directly to the north of the landfill is a residential neighborhood. East and adjacent to the northern part of the landfill is Black Pond that is used for recreation such as canoeing and fishing. East of Black Pond is a hill and east of the hill is another residential area. East of the southern part of the landfill is a commercial property consisting of a storage facility and construction company. To the south of the Site is a mixture of commercial and residential properties. Directly west of the Site and Old Turnpike Road are several commercial and industrial facilities. At least three of these properties will be directly addressed by the remedy selected in this ROD. These properties are Chuck & Eddy's Salvage Yard located at 450 Old Turnpike Road, the Radio Station property located at 440 Old Turnpike Road, and the former Lori Corp. property located at 384 Old Turnpike Road.

3.) Reasonably anticipated future use and basis for future use assumptions

Based on discussions between representatives from Chuck & Eddy's Salvage Yard and representatives from the PSDs, it appears that the owner of Chuck & Eddy's Salvage Yard plans to construct new structures and a large parking lot some time in the near future. Other than that, based upon discussions with local business representatives, Town of Southington officials, and the PSDs, it is reasonable to assume that the current land use on and surrounding the landfill will remain the same as current land use in the foreseeable future (residential/commercial/industrial).

- **Ground/Surface Water Uses:**

1. Current ground/surface water uses

In1993, the Town of Southington petitioned the State to reclassify the aquifer in this area. The Connecticut Department of Environmental Protection reclassified the groundwater within the area studied and west to the Quinnipiac River as a GB aquifer (see figure 1-2). A GB aquifer signifies that the aquifer is not suitable for human consumption. Historically this area has been a highly urbanized area. Groundwater use studies have been completed throughout the area studied: from east of the Site, west to the Quinnipiac River and north of the Site to Main Street and Maple Street and south to Mulberry Street, and west of the Quinnipiac River to Canal Street. The groundwater use studies have confirmed that public drinking water is available in the entire area studied and that groundwater is not, and may not be, used for drinking water within this area. Therefore, there are no dermal or ingestion receptors via this pathway. There is, however, a vapor intrusion pathway in an isolated area that is discussed in more detail in Sections D and G of this document.

Black Pond is currently a limited recreational water body with expected similar use in the future. Black Pond is adjacent and east of the northern portion of the landfill. The unnamed stream is an intermittent stream located west and across Old Turnpike Road from the Site and is currently used as a drainage pathway and is expected to be used in a similar fashion in the future. Surface water sampling in these areas does not indicate adverse impacts from the landfill.

G. SUMMARY OF POTENTIAL HARM TO HUMAN HEALTH AND ECOLOGICAL RECEPTORS

1. Human Health Receptors

Connecticut DEP has classified the groundwater within the study area (between the landfill and the Quinnipiac River) as "GB" which means that groundwater is not suitable for use as a drinking water supply. Consequently, potential human health risks resulting from ingestion and other exposures related to use of groundwater as a domestic water supply (e.g. dermal contact and inhalation of volatile compounds while bathing) were not evaluated through a formal human health risk assessment process. Groundwater that is contaminated with volatile constituents and which is in close proximity to the ground surface, may serve as a source of indoor air contamination via vapor migration through the subsurface. Thus, occupants of structures overlying shallow groundwater contamination may potentially be exposed to volatile

contamination originating from the groundwater.

The following represents the route of potential human exposure to site-related contamination relevant to this ROD and that is described in detail below:

- Inhalation of volatile organic compound (VOC) constituents indoors resulting from the migration from shallow contaminated groundwater through the subsurface, and into an overlying structure.

a. Potential Human Health Risk Due to Vapor Intrusion

In general, contaminated groundwater from the landfill migrates in a westerly direction toward the Quinnipiac River. As it travels, it descends in depth west of Old Turnpike Road (Figure 14, Supplemental RI, 2006). Thus, parcels immediately to the west of the landfill along Old Turnpike Road include areas where contaminated groundwater is relatively close to the ground surface. Such contaminated shallow groundwater may serve as a source of volatile contamination that may migrate through the subsurface, into an overlying structure where exposure may occur.

Connecticut has established CT RSRs for groundwater (RCSA, Section 22a-133k-3c) that include specific volatilization criteria developed for the purpose of providing public health protection as a result of vapor intrusion. Due to the complexity of evaluating site-related vapor intrusion risk at facilities together with the fact that Connecticut has regulations governing vapor intrusion, a quantitative baseline human health risk evaluation was not performed for the vapor intrusion exposure pathway at this Site. Instead, concentrations of volatile contamination in the shallow groundwater aquifer were compared to Connecticut's regulations for groundwater vapor intrusion. Shallow groundwater concentrations noted in excess of CT DEP RSR criteria for vapor intrusion were used as justification for remedial action in accordance with EPA Directive 9355.0-30 (Role of the Baseline Risk Assessment in Remedy Selection, 1991).

Connecticut's volatilization criteria for groundwater are health based chemical specific standards that are specific to the type of land use (i.e. residential or commercial/industrial) overlying the contaminated groundwater. CT RSRs were subject to rulemaking in 1996 and have been consistently applied by CT DEP since they were promulgated, with many provisions meeting the definition of ARARs under CERCLA. In March of 2003, Connecticut proposed revisions to the volatilization criteria that included revised numeric criteria for several compounds as well as the provision that the criteria be applied to polluted water located within 30 feet of the ground surface (previously, the RSRs applied only to contaminated groundwater located within 15 feet of ground surface). The proposed revisions to the CT RSRs of March 2003 are viewed as "to be considered" criteria by EPA for decision-making purposes.

The following represents a parcel-by-parcel summary of those parcels for which concentrations of contaminants in shallow groundwater exceed either the promulgated or the proposed CT RSRs for vapor intrusion. All other parcels overlying contaminated groundwater sit above contamination that is either too deep to be subject to the Connecticut regulations or that does not exceed CT RSRs for vapor intrusion. The summary below is based on groundwater monitoring

data collected between December 2003 and November 2005. A complete record of all samples obtained can be found in Tables 1 and 7 of the *Supplemental Remedial Investigation Report, 2006.*

b. Summary of Vapor Intrusion Threats at the Former Lori Corporation Parcel

One or more promulgated and proposed exceedences of Connecticut's volatilization criteria for both residential and industrial/commercial land use for vinyl chloride were noted in well locations G314A, SDW3, SDW4, and M63 (Appendix B, Table G-1, and Appendix A, Figure 1, and Figure 2). This suggests a potential for harm to human health via vapor intrusion given current commercial/industrial land use as well as for any future residents who may reside on this parcel should land use change. As several shallow wells (M26, M27, M70, and M71) located between the landfill and these four locations did not exceed the volatilization criteria for vinyl chloride, there is some question as to the source of the observed shallow groundwater contamination on the former Lori Corporation parcel. Consequently, further investigation of the vapor intrusion pathway is warranted for the former Lori Corporation parcel before a decision can be made regarding whether or not this is a Site –related risk.

c. Summary of Vapor Intrusion Threats at the Radio Station Parcel

On the Radio Station parcel, well locations M28, M30, M31, M32, M45, M46, M47, M68, PZ-2, and PZ-3 had one or more detections of vinyl chloride exceeding both the promulgated and proposed Connecticut's volatilization criteria for both residential and commercial/industrial land use (Appendix B, Table G-2, and Appendix A, Figure 1 and Figure 2). A few shallow groundwater samples (M30, M31, and M45) had detections of vinyl chloride that were between 50-400 times the volatilization criteria for vinyl chloride. As this parcel is presently used for commercial purposes, the data suggest there may be potential harm to human health via vapor intrusion given current land use thereby warranting the need for remedial action. Furthermore, the data suggest there may be a potential threat to future residents at this parcel via vapor intrusion should the parcel be used for residential purposes in the future. In addition to vinyl chloride, M31 also had detections of 1,1 DCE and cis-1,2 DCE in excess of the volatilization criteria for residential land use but not exceeding the volatilization criteria for commercial/industrial use.

d. Summary of Vapor Intrusion Threats at the Chuck and Eddy's Parcel

Fifteen shallow wells located on the Chuck and Eddy's parcel had one or more detections of vinyl chloride exceeding both the promulgated and proposed Connecticut's volatilization criteria for both residential and commercial/industrial land use (Appendix B, Table G-3, and Appendix A, Figure 1 and Figure 2). Two adjacent sample locations (G304A and M36) had concentrations of vinyl chloride that were between 100 to 2000 times the volatilization criteria. Shallow groundwater concentrations exceeding commercial/industrial volatilization criteria for TCE, 1,1-DCE, and CCl_4 were also noted but were limited in extent to a few locations (G304A, M36, M41, and M60). Based on these observations, the data suggest there may be a threat via vapor intrusion given the current commercial/industrial use of the parcel such that remedial action is warranted. Locations G304A, M36, M40, M41, M42, M54, M55, M60, M76 also noted

concentrations in shallow groundwater in excess of the residential volatilization criteria for benzene, cis-1,2 DCE, 1,2-dichloroethane, ethylbenzene, PCE, toluene, and xylene in addition to vinyl chloride, TCE, 1,1-DCE, and CCl_4 (Appendix B, Table G-3). Thus, there may be a threat to public health via vapor intrusion should the Chuck and Eddy's parcel be used for residential purposes in the future.

Appendix A, Figure 1 and Figure 2 denote locations where the CT RSRs for vapor intrusion have been exceeded for residential and commercial/industrial land use respectively for the three parcels described above.

2. Ecological Receptors

An Ecological Risk Assessment (ERA) was conducted during the RI for the 1994 ROD and is included as Volume 2A of the first RI/FS. The ERA included the delineation of existing wetlands and an evaluation of the social significance, effectiveness, and viability of the wetlands (Wet II), as well as an evaluation of potential impacts to aquatic and terrestrial wildlife. The ERA relied upon previous ecological field assessments and surface water and sediment analytical data collected during the RI and concluded that potential risks to aquatic or terrestrial wildlife are generally minimal, and limited to specific, isolated locations.

The ERA resulted in the following findings:

> Surface water is not adversely impacted by chemical stressors identified in the area studied and is not a significant risk to environmental receptors;
>
> Sediment is not adversely impacted by metals. Sediment at sampling locations SED-5, SED-6, and SED-8 has been somewhat impacted by PAH and chlordane. However, it is unlikely that a risk exists to environmental receptors because of the lack of bioavailability of these compounds at the concentrations detected; and
>
> Surface soil in the area studied is impacted by SVOCs primarily PAHs. There may be an increased risk to terrestrial receptors in areas where PAH concentrations in surface soil exceed background concentrations.

The risk from surface soil has been eliminated with the placement of the cap on the landfill. Surface water and sediment samples were collected during the 2006 RI (Section 4.2 *Supplemental Remedial Investigation Report*). The results were similar and in many cases have decreased in concentrations when compared to the samples from the first RI used for the ecological risk assessment. Thus, no unacceptable adverse impacts to the ecology at Black Pond or at the unnamed stream exist at the Site with the placement of the cap at the landfill.

For more information regarding the ecological risk assessment see *Ecological Risk Assessment,* Volume 2A of the *Remedial Investigation*, December 1993 and Sections 1 and 4 of the *Supplemental Remedial Investigation Report, 2006.*

3. Basis for Response Action

In conclusion, threats to human health via vapor intrusion on the Radio Station and Chuck and Eddy's parcels given current land use exist and consequently warrant remedial action. In addition, a potential threat exists from vapor intrusion at these two locations in the future, should the land use change to include residential use. While there is evidence indicating that vapor intrusion may pose a potential health risk to current occupants of the building located on the former Lori Corporation parcel, the source of the contamination warrants further investigation. Potential health threats via vapor intrusion to receptors on other parcels in the area studied were not significant at this time.

H. REMEDIAL ACTION OBJECTIVE

Based on preliminary information relating to type of contaminants, environmental medium of concern, and the one identified potential exposure pathway, a response action objective (RAO) was developed to aid in the development and screening of alternatives. This RAO was developed to mitigate and prevent existing and future potential threats to human health.

The RAO for the selected final remedy for the Site is to prevent inhalation of VOCs by occupants of residential/commercial/industrial buildings resulting from volatilization of VOCs in groundwater, in excess of 10^{-4} to 10^{-6} excess cancer risk, a hazard index >1 and/or to comply with applicable or relevant, and appropriate volatilization criteria.

I. DEVELOPMENT AND SCREENING OF ALTERNATIVES

A. Statutory Requirements/Response Objectives

Under its legal authorities, EPA's primary responsibility at Superfund sites is to undertake remedial actions that are protective of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences, including: a requirement that EPA's remedial action, when complete, must comply with all federal and more stringent state environmental and facility siting standards, requirements, criteria or limitations, unless a waiver is invoked; a requirement that EPA select a remedial action that is cost-effective and that utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and a preference for remedies in which treatment which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances is a principal element over remedies not involving such treatment. Response alternatives were developed to be consistent with these Congressional mandates.

B. Technology and Alternative Development and Screening

CERCLA and the National Contingency Plan (NCP) set forth the process by which remedial actions are evaluated and selected. In accordance with these requirements, a range of alternatives was developed for the Site.

With respect to the groundwater/vapor intrusion response action, the 2006 RI/FS developed a

limited number of remedial alternatives that potentially could attain site-specific action levels; engineering control alternatives ; and a no action alternative. These alternatives were initially screened to determine whether or not they were technically implementable.

As discussed in Section 2.0 of the 2006 FS, from this initial screening, groundwater/vapor intrusion alternatives were identified, assessed and screened again based on implementability, effectiveness, and cost. Section 3.0 of the 2006 FS presented the remedial alternatives developed by combining the technologies identified in the previous screening process in the categories identified in Section 300.430(e)(3) of the NCP. These combined alternatives were then screened again as to implementability, effectiveness, and cost. The purpose of the screening steps was to narrow the number of potential remedial actions for further detailed analysis while preserving a range of options. Each alternative that was retained during the screening process was then evaluated in detail in Section 4.0 of the 2006 FS.

In summary, of the 14 remedial technologies screened in Section 2.0 of the 2006 FS, six were retained as possible options for the cleanup of the Site. From these screening steps, remedial options were combined, and 3 alternatives were selected for detailed analysis.

J. DESCRIPTION OF ALTERNATIVES

This Section provides a narrative summary of each alternative evaluated in the detailed analysis to address groundwater/vapor intrusion. Three remedial alternatives have been developed:

- **Alternative GW-1: No Action**

No action would be taken under Alternative GW-1. As required by the NCP, the No Action alternative is carried through the detailed analysis for comparative purposes.

Under Alternative GW-1, volatilization of VOCs from groundwater would not be addressed through active remedial measures and no institutional controls would be put in place. This Alternative would not prevent exposure to VOCs in vapor resulting from volatilization from groundwater. As a result, this Alternative does not reduce toxicity, mobility or volume through treatment; does not minimize residual risks and/or afford long-term protection or comply with ARARs; does not minimize the time to achieve acceptable levels in the groundwater. As a result, this Alternative does not provide adequate protection of human health and the environment. Alternative GW-1 could be easily implemented, since it would require no measures to be taken. There would be minimal costs associated with Alternative GW-1, related to the performance of five-year reviews.

- **Alternative GW-2: Institutional Controls/Groundwater Monitoring/Building Ventilation (Sub-slab Depressurization)/Vapor Barriers**

Alternative GW-2 is the selected alternative. Alternative GW-2 requires building ventilation (sub-slab depressurization) for existing buildings located in areas where the CT RSRs volatilization criteria are exceeded. This alternative also allows use of vapor barriers (or possibly sub-slab depressurization) to address vapor intrusion at new buildings.

Under Alternative GW-2, the following measures would be implemented:

- Institutional controls in the form of ELURs would be placed on properties or portions of properties where groundwater VOC concentrations exceed the CT RSR volatilization criteria, to remain in place as long as groundwater VOC concentrations exceed the criteria;

- Monitoring of groundwater, consistent with the requirements of the CT RSRs volatilization criteria and federal requirements to confirm that the remedy remains protective in the long term;

- Use of engineering controls to prevent migration of VOC vapors into any existing or new buildings, and/or to control the level of VOCs in vapor beneath or in any existing or new buildings; and

- Five-year site reviews to evaluate the effectiveness and adequacy of the remedial measure.

Under Selected Alternative GW-2, in new buildings exposure to VOCs in vapor resulting from volatilization from groundwater would be prevented through the use of ELURs on any parcel of land or portion thereof overlying areas where groundwater impacted by the Site exceeds the CT RSRs residential or commercial/industrial volatilization criteria. The use of ELURs is to prevent new construction of buildings unless adequate controls are first put in place. Alternative GW-2 also requires building ventilation for existing buildings where the CT RSRs commercial/industrial/residential volatilization criteria are exceeded, consistent with the CT RSRs. Alternative GW-2 would prevent exposure from VOCs in vapor beneath or in any existing buildings located in areas where the VOC concentrations in groundwater exceed the CT RSRs commercial/industrial/residential volatilization criteria, by using building ventilation controls to either prevent migration of VOC vapors into, or control the level of VOCs in vapors beneath and in, any existing buildings. Vapor barriers (or possibly subslab depressurization) would be used to prevent VOC migration into new buildings. As a result, this Alternative does not reduce toxicity, mobility or volume through treatment and does not actively address residual risks nor does it reduce the time to achieve acceptable levels in the groundwater. It does, however, afford long-term protection, comply with ARARs and has no unacceptable short-term impacts. As a result, the Selected Alternative provides overall protection of human health and the environment.

Assuming a 30-year operational period and seven (7) percent interest, order of magnitude costs for Alternative GW-2 could range from approximately $200,000 to $700,000. Detailed cost estimates and sensitivity analysis are provided in Section 4, Detailed Analysis of the 2006 FS.

- **Alternative GW-3: Permeable Reactive Barrier/Institutional Controls/Groundwater Monitoring/Building Ventilation/Vapor Barriers**

Alternative GW-3 includes installation of a permeable reactive barrier (PRB or Permeable Reactive Barrier) to treat VOC contaminated groundwater to levels below the CT RSRs

volatilization criteria. Alternative GW-3 also requires institutional controls, in the form of ELURs, be placed on properties or portions of properties where groundwater VOC concentrations exceed the CT RSR volatilization criteria, to remain in place as long as groundwater VOC concentrations exceed the criteria. In addition, Alternative GW-3 requires the same engineering controls for existing and new commercial/industrial buildings as Alternative GW-2.

Under Alternative GW-3, the following measures would be implemented:

1. Groundwater treatment would be provided through the construction of a Permeable Reactive Barrier to intercept and treat shallow aquifer VOC contaminated groundwater leaving the Site;
2. Institutional controls in the form of ELURs would be placed on properties or portions of properties where groundwater VOC concentrations exceed the CT RSR volatilization criteria, and will remain in place as long as groundwater VOC concentrations exceed the criteria;
3. Monitoring of groundwater, consistent with the requirements of the CT RSRs volatilization criteria and federal requirements and to confirm in the future that the remedy remains protective in the long-term;
4. Use of engineering controls to prevent migration of VOC vapors into any existing or new building, and/or to control the level of VOCs in vapor beneath or in any existing building; and
5. Five-year site reviews to evaluate the effectiveness and adequacy of the remedial measure.

Under Alternative GW-3, exposure to VOCs in vapor resulting from volatilization from groundwater would be prevented in the long term through the installation of a Permeable Reactive Barrier that would intercept and treat shallow VOC contaminated groundwater (within 30 ft of ground surface) leaving the Site. Although some uncertainty exists regarding the effectiveness of this alternative, groundwater VOC levels are expected to be reduced below respective CT RSR criteria for volatilization. Exposure to VOCs in vapor would also be prevented through the use of ELURs on any parcel of land or portion thereof overlying areas where groundwater impacted by the Site exceeds the CT RSR's volatilization criteria. Alternative GW-3 requires building ventilation or vapor barriers for new or existing buildings in areas where the CT RSR's volatilization criteria are exceeded. Alternative GW-3 would prevent exposure from VOCs in any residual vapor beneath or in any new or existing buildings located in areas where the VOC concentrations in groundwater exceed the CT RSRs volatilization criteria, by using building ventilation controls or vapor barriers to prevent migration of VOC vapors into, or control the level of VOCs in vapors beneath and in, any new and existing buildings. This alternative reduces toxicity, mobility or volume through treatment and minimizes residual risks until protective levels are reached in groundwater. It affords long-term protection and complies with ARARs. The alternative does have some significant short-term impacts on the community due to construction along Old Turnpike Road. This alternative provides overall protection of human health and the environment.

Permeable reactive barriers under Alternative GW-3 would be moderately difficult to construct at the Site because of the varied surface terrain and the extensive length and depth of trenching required. This alternative would also likely require placement of the PRB on private property immediately downgradient of the landfill. Securing access to this property could delay implementation of this alternative. In addition, excavation would result in significant disruption on Old Turnpike Road, a major road in the community. However, PRBs have been successfully installed at other similar sites and expected construction difficulties are not insurmountable. PRBs are expected to be easy to operate since there is no active operating equipment, no power requirements, no special techniques or facility relocation required and no water or air discharges.

Assuming a 30-year operational period and seven (7) percent interest, order of magnitude costs for Alternative GW-3 could range from approximately $10,000,000-$12,000,000. Detailed cost estimates and sensitivity analysis are provided in the Section 4 Detailed Analysis.

K. SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES

Section 121(b)(1) of CERCLA presents several factors that at a minimum EPA is required to consider in its assessment of alternatives. Building upon these specific statutory mandates, the NCP requires nine evaluation criteria to be used in assessing the individual remedial alternatives.

A detailed analysis was performed on the alternatives using the nine evaluation criteria in order to select a site remedy. The following is a summary of the comparison of each alternative's strength and weakness with respect to the nine evaluation criteria. These criteria are summarized as follows:

Threshold Criteria

The two threshold criteria described below must be met in order for the alternatives to be eligible for selection in accordance with the NCP:

1. **Overall protection of human health and the environment** addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced or controlled through treatment, engineering controls, or institutional controls.

2. **Compliance with applicable or relevant and appropriate requirements (ARARs)** addresses whether or not a remedy will meet all Federal environmental and more stringent State environmental and facility siting standards, requirements, criteria or limitations, unless a waiver is invoked.

Primary Balancing Criteria

The following five criteria are utilized to compare and evaluate the elements of one alternative to another that meet the threshold criteria:

3. **Long-term effectiveness and permanence** addresses the criteria that are utilized to assess alternatives for the long-term effectiveness and permanence they afford, along with the degree of certainty that they will prove successful.

4. **Reduction of toxicity, mobility, or volume through treatment** addresses the degree to which alternatives employ recycling or treatment that reduces toxicity, mobility, or volume, including how treatment is used to address the principal threats posed by the site.

5. **Short term effectiveness** addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until cleanup goals are achieved.

6. **Implementability** addresses the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

7. **Cost** includes estimated capital and Operation Maintenance (O&M) costs, as well as present-worth costs.

Modifying Criteria

The modifying criteria are used as the final evaluation of remedial alternatives, generally after EPA has received public comment on the RI/FS, in this case SGI, and Proposed Plan:

8. **State acceptance** addresses the State's position and key concerns related to the preferred alternative and other alternatives, and the State's comments on ARARs or the proposed use of waivers.

9. **Community acceptance** addresses the public's general response to the alternatives described in the Proposed Plan and RI/FS report.

Following the detailed analysis of each individual alternative, a comparative analysis, focusing on the relative performance of each alternative against the seven criteria, was conducted. This comparative analysis can be found in Appendix B, Table 4-1.
The section below presents the nine criteria and a brief narrative summary of the alternatives and the strengths and weaknesses according to the detailed and comparative analysis. Only those alternatives that satisfied the first two threshold criteria were balanced and modified using the remaining seven criteria.

Threshold Criteria

The two threshold criteria described below must be met in order for the alternatives to be eligible for selection in accordance with the NCP:

1.) Overall Protection of Human Health and the Environment

There are no adverse impacts to wetlands or surface waters under any of the alternatives. Likewise, there is no risk of ingestion or dermal contact with VOCs in groundwater under any of the alternatives.

Except for the No Action Alternative (GW-1), Alternatives GW-2 and GW-3 provide protection against exposure to VOCs volatilizing from shallow groundwater. Alternatives GW-2 and GW-3, through the use of ELURs, rely on institutional controls to protect against exposure to VOCs volatilizing from shallow groundwater on any parcel of land or portion thereof overlying areas where groundwater impacted by the landfill exceeds the CT RSR's residential or commercial/industrial volatilization criteria. Where there are existing buildings over areas where groundwater impacted by the landfill exceeds the CT RSR's volatilization criteria, building ventilation (sub-slab depressurization), consistent with the CT RSRs, provides protection by preventing migration of VOC vapors into, or controlling the level of VOCs in vapor beneath or in, any existing buildings. For new buildings, both Alternatives GW-2 and GW-3 require engineering controls such as vapor barriers to prevent exposure to VOC vapors.

In addition to the above components, overall protection under Alternative GW-3 is also provided by a shallow groundwater treatment through the use of PRBs. Unlike the other two alternatives, overall protection of human health and the environment under Alternative GW-3 is achieved through permanent reduction of contaminant concentrations in groundwater below CT RSR's criteria for vapor intrusion.

2.) Compliance with Applicable or Relevant and Appropriate Environmental Requirements (ARARs)

Alternatives GW-2 and GW-3 would meet Chemical-Specific ARARs for volatililzation of VOCs from shallow groundwater (CT RSRs), Action-Specific ARARs, and any identified Location-Specific ARARs. Alternative GW-1 would not meet Chemical-Specific ARARs for volatililzation of VOCs from shallow groundwater. See Appendix D for ARARs Tables.

Primary Balancing Criteria

The following five criteria are utilized to compare and evaluate the elements of one alternative to another that meet the threshold criteria:

3.) Long-Term Effectiveness and Permanence

The risk with respect to groundwater residual contamination under Alternatives GW-1 and GW-2 is high because the source of vapor intrusion (contaminated groundwater) is not addressed. The residual risk with respect to groundwater under Alternative GW-3 is low as levels of contamination in groundwater are reduced permanently in the long term under this Alternative. Unlike the other two alternatives, Alternative GW-3, through the use of PRBs, provides long-term effectiveness and permanence as it theoretically reduces contaminant concentrations in groundwater through treatment. If designed and constructed properly, this Alternative combines

the advantages of an effective groundwater treatment technology (PRB) with the institutional and engineering controls of Alternative GW-2. This assumes, however, that the PRB can effectively address the contamination in groundwater. While PRB treatments are considered a moderately reliable technology, there is some uncertainty regarding their effectiveness as well as the time it would take to achieve levels required under the CT RSRs. Site-specific pilot or design studies would be required in order to maximize effectiveness.

Alternatives GW-2 and GW-3 provide long-term effectiveness through institutional and engineering controls. Both alternatives rely on institutional and engineering controls to protect against exposure to VOCs volatilizing from shallow groundwater on any parcel of land or portion thereof overlying areas where groundwater exceeds the CT RSR's vapor intrusion criteria. These controls are reliable as long as they are properly implemented and maintained, and in the case of institutional controls, enforced.

4.) Reduction of Toxicity, Mobility, or Volume Through Treatment (TMV)

Neither Alternatives GW-1 nor GW-2 reduces toxicity, mobility or volume through treatment (although some minimal treatment may be used to address vapor intrusion). Alternative GW-3 reduces the toxicity, mobility, and volume of contaminants through treatment of contaminated groundwater. Under this Alternative, shallow contaminated groundwater passing through the PRB would be treated. This Alternative destroys and removes the contaminants in groundwater that have migrated from the landfill. It is estimated that the landfill will continue to discharge contamination into the groundwater for decades. Groundwater in the shallow plume east of the PRB would be treated as it passes through the wall. Groundwater that had already passed the location of the PRB at the time of construction would take a longer time to reach cleanup levels.

5.) Short-Term Effectiveness

Neither Alternative GW-1 nor Alternative GW-2 would significantly impact the community, workers, or the environment. Alternative GW-2 would meet the remedial response objective within six to twelve months. This time period would be required to obtain the necessary ELURs and implement building ventilation or other engineering controls, as necessary.

Alternative GW-3 has installed treatment components that may create relatively minor visual and auditory nuisances. The potential for remediation workers to have direct contact with contaminants in soil or groundwater may exist during installation, maintenance and monitoring operations. For example, environmental drilling to install monitoring wells and/or excavation may produce contaminated soil cuttings and liquids that present some risk to remediation workers at the Site. These risks would need to be addressed through the use of industry standard health and safety procedures. Excavation activities under Alternative GW-3 would result in significant disruption to the impacted surface soils along a major roadway and to the community that would have to be addressed. Groundwater monitoring will have minimal impact on workers responsible for periodic sampling. It is expected that the groundwater component of GW-3 would meet CT RSR volatilization criteria within 30 years.

6.) Implementability

Alternatives GW-1 and GW-2 could be easily implemented and would be consistent with any additional remedial actions, if required in the future.

Institutional controls would be readily implementable as ELURs are commonly used in Connecticut. Groundwater monitoring would be easily implementable and qualified personnel and equipment are readily available. Building ventilation and vapor barriers would be easily implemented as these rely on standard, reliable construction methods.

Unlike the other two Alternatives, permeable reactive barriers under Alternative GW-3 would be moderately difficult to construct at the Site because of the varied surface terrain and the extensive length and depth of trenching required. This alternative would also likely require placement of the PRB on private property immediately downgradient of the landfill. Securing access to this property could delay implementation of this alternative. In addition, excavation would result in significant disruption on Old Turnpike Road, a major road in the community. However, PRBs have been successfully installed at other similar sites and expected construction difficulties are not insurmountable. PRBs are expected to be easy to operate since there is no active operating equipment, no power requirements, no special techniques or facility relocation required and no water or air discharges.

7.) Cost

There would be relatively minor costs associated with Alternative GW-1, as no remedial measures would be implemented. Alternative GW-1 would, however, require the performance of five-year reviews estimated at $5,000 (or more) every five years over 30 years. The present worth cost range for Alternative GW-2 is approximately $226,219 to $695,240. The present worth cost range for Alternative GW-3 is approximately $10,700,000 to $12,500,000.

Modifying Criteria

The modifying criteria are used as the final evaluation of remedial alternatives, generally after EPA has received public comment on the 2006 RI/FS and Proposed Plan:

8.) State Acceptance

The CT Department of Environmental Protection has reviewed the various alternatives and has indicated its support for the selected remedy. Although the State concurred in the selection of this remedy, in its concurrence letter, it noted continuing concerns regarding surface water and sediment quality at the Site.

9.) Community Acceptance

All community comments received during the 60-day comment period have been in support of this final remedy. See Part 3, Responsive Summary, for more detail.

L. THE SELECTED REMEDY (GW-2)

1. Summary of the Rationale for the Selected Remedy

The selected remedy is a comprehensive approach for this final decision that addresses all remaining current and potential future risks caused by vapor intrusion from groundwater contamination at this Site. The 1994 ROD has successfully addressed all of the other exposure pathways of concern (See 1994 ROD for more detail.)1. Specifically, this final remedial action addresses the implementation of engineering controls, institutional controls, and long-term monitoring at parcels above groundwater contamination that exceeds the CT RSRs.

At this time, the focus of the selected remedy is on three parcels: Chuck & Eddy Salvage Yard property, the Radio Station property, and potentially the former Lori Corp property. However, if during the long term monitoring program or if any other information becomes available that shows a potential unacceptable vapor intrusion pathway in any existing or new building affected by the Site groundwater plume, the components of the selected remedy will also apply to such affected properties as part of the selected remedy. In addition, operation and maintenance as well as five-year reviews will be conducted to assure that the final remedy provides overall protection to human health and to the environment in the long-term.

A. The 1994 ROD

The 1994 ROD addressed all affected media (i.e. soil, soil gas, surface water, and sediment) at the landfill, at the adjacent Black Pond, and at the Unnamed Stream across Old Turnpike Road west of the landfill. The 1994 ROD required the following major actions:

- permanent relocation of all on-site homes and businesses;
- covering the entire landfill with an impermeable cap (the northern portion of the cap provides passive recreation to the public, the southern portion of the cap has restricted access to the public.);
- excavation and placement of a highly contaminated "hotspot" area in a lined cell which was placed under the cap and above the watertable;
- installation and monitoring of the landfill gas collection system under the landfill cap;
- long-term monitoring of groundwater, landfill gas, sediment and surface water to determine cap effectiveness;
- implementation of institutional controls to prevent damage to the cap and exposure to contaminated soils and groundwater at the landfill;
- five-year reviews and operation and maintenance to insure that all remedy components remain protective of human health and the environment.

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1 Although EPA has determined that all components selected in the 1994 ROD are the appropriate components to meet statutory cleanup requirements, specific components under the 1994 ROD will be periodically adjusted to reflect Site conditions. This means, for example, that long term monitoring and operation and maintenance requirements may need to be periodically revised. In addition, although the landfill gas collection system is operating as intended, it may not be collecting all of the site-related methane. As a result, the system may, for example, need to be expanded. In addition, the groundwater monitoring program, for example, will be expanded to include impacts of the landfill on the CT DEP classified GA areas.

All of the above remedial components have been finalized and are functioning as intended [1].

As discussed previously, the major components of the 1994 ROD were based upon *Presumptive Remedy for CERCLA Municipal Landfill Sites* (EPA, 1993), EPA Document No. 540-F-93-035. (Presumptive Remedy Guidance). The 1994 ROD evaluated the interim remedy against four criteria: (1) provide long-term protection of human health and the environment; (2) comply with ARARs; (3) fully address principal threats posed by the site; and (4) address the statutory preference for treatment that reduces the toxicity, mobility, or volume of wastes. All of these criteria were adequately addressed by the 1994 ROD. A review of the work conducted under the 1994 ROD confirms that all the components of the interim remedy are working as intended and, as a result, this is the final remedy for this portion of the Site. As such, the 1994 ROD is effective in the long term, protective of human health and the environment, meets applicable and relevant and appropriate requirements (ARARs), fully addresses the principal threats posed by this portion of the Site, and addresses the statutory preference for treatment that reduces the toxicity, mobility and volume consistent with the EPA's Presumptive Remedy Guidance. The remaining work required under the 1994 ROD (operation and maintenance, long-term monitoring, etc.) will continue as required by the 1994 ROD.

B. The 2006 ROD

This 2006 ROD sets forth the final selected remedy by addressing groundwater impacts via the vapor intrusion pathway for the Site. The components of this final remedy supplement those selected in the 1994 ROD and confirm that the actions selected in the 1994 ROD are the final actions for that portion of the Site.

The selected response action addresses low-level threat wastes at the Site by:

- restricting inappropriate land use through the use of Institutional Controls in the form of Environmental Land Use Restrictions (ELURs);
- implementing engineering controls to prevent highly contaminated vapors from migrating in either existing buildings or new buildings;
- conducting long term groundwater monitoring;
- conducting five-year reviews and operation and maintenance to assure the remedy remains protective and effective in the long-term.

Groundwater studies to date show that the shallow groundwater plume migrating from the landfill in a westerly direction contains Volatile Organic Compound (VOC) concentrations that exceed the CT RSRs for volatilization criteria. To date, EPA has identified three commercial properties currently impacted by this shallow groundwater plume via vapor intrusion. These properties are the Chuck & Eddy Salvage Yard, located at 450 Old Turnpike Road, the Radio Station parcel, located at 440 Old Turnpike Road, and potentially the former Lori Corp. property, located at 384 Old Turnpike Road.

1. Description of Remedial Components

The major components of this remedy are:

1.) Institutional controls, in the form of Environmental Land Use Restrictions (ELURs) as defined in Connecticut's Remediation Standard Regulations (CT RSRs) or other necessary measures will be placed on properties or portions of properties where groundwater Volatile Organic Compound (VOC) concentrations exceed the CT RSR volatilization criteria for residential or commercial/industrial use (also denoted as volatilization or vapor intrusion criteria) as appropriate [Appendix B, Table L-1, Groundwater Action Levels for Vapor Intrusion]. Periodic inspections or other procedures and requirements would be performed to ensure compliance with the institutional controls and to ensure notification to EPA and the State and the appropriate local governmental agencies if the institutional control is breached.

2.) Building ventilation (sub-slab depressurization systems or similar technology) will be used in existing buildings located over portions of properties where VOCs in groundwater exceed the CT RSRs volatilization criteria to either prevent migration of VOC vapors into buildings or to control the level of VOCs in vapors beneath existing buildings. Similarly, vapor barriers (or similar technology) or sub-slab depressurization (or similar technology) will be used to control vapors in new buildings. In addition, under this remedy, minor amounts of treatment residuals (such as from carbon filters) might be generated depending on the concentrations of VOC in the vapor removed during sub-slab ventilation and whether the emissions require treatment.

3.) Groundwater monitoring will be conducted in areas where the potential for vapor intrusion is a concern. Such areas include, but are not limited to, the three parcels that are the initial focus of this remedial action (Chuck & Eddy's, Radio Station, former Lori Corp.), the properties adjacent and south of Chuck & Eddy's, and the new residential neighborhood west of Chuck & Eddy's. Compliance wells will be installed at appropriate locations to collect groundwater to evaluate long-term fluctuations in accordance with the monitoring requirements of the CT RSRs and in accordance with the most stringent of either the proposed or promulgated action levels for vapor intrusion (see Appendix B, Table L-1), and other federal requirements to ensure the protectiveness of the remedy in the future. If there is an exceedance of the CT RSR volalitization criteria or other information indicates there may be an unacceptable risk, an action plan with proposed actions and respective schedule for implementation will be prepared. All additional response actions will be subject to EPA approval.

4.) Conduct operation, maintenance, and monitoring of engineering and institutional controls to ensure remedial measures are performing as intended and that the remedy remains protective in the future. Periodic inspections or other procedures and requirements would be performed to ensure compliance with the institutional

controls and to ensure notification to EPA, the State and the appropriate local governmental agencies if the institutional control is not effective.

5.) Pre-Design Studies will be conducted at the former Lori Corp. Property to determine if groundwater contamination from the landfill is adversely impacting this property with respect to vapor intrusion. If results indicate that it is, then this property will be addressed consistent with the other two properties.

2. Summary of the Estimated Remedy Costs

The present worth cost range for the selected remedy (GW-2), is $226,219 to $695,240. Table A-1, Table A-2, and Table A-3 in Appendix B, show a cost breakdown for capital costs and operation & maintenance costs for low, medium, and high ranges respectively. Below is a summary of such costs.

Cost Case Scenario	Capital Cost	Present Worth O&M Cost	Total Present Worth Cost
GW-2 – Low	$77,456	$148,763	$226,219
GW-2- Medium	$192,814	$235,950	$428,764
GW-2-High	$345,803	$349,438	$695,240

The cost sensitivity analysis for the selected remedy considered the potential range of costs associated with any necessary ELURs and engineering control costs, as appropriate. The cost calculation assumed that one or two buildings will require building ventilation at the onset of the remedial activities. The low cost assumed the ventilation of one existing building (1200 sq. ft.; 12,000 cu. ft.) using an exhaust fan to remove air from within the building. The medium and high costs assumed a sub-slab ventilation system (as is preferred by CT DEP) is installed in one existing building of 1200 sq. ft. (medium cost) and two existing buildings of 1200 sq. ft. and 4000 sq. ft. (high cost). Costs also assumed a level of groundwater monitoring for VOCs that would be required by the CT RSRs volatilization criteria and other federal requirements to demonstrate that the ELUR boundaries estimated to date are correct and then for additional monitoring in the future to ensure that the remedy remains protective in the long term. Low and medium costs assumed a capital cost for installation of 10 small diameter wells for compliance monitoring. The high cost, as discussed above, assumed that an additional five small diameter wells are required in year four, following the first three years of monitoring.

The information in these cost estimate summary tables is based on the best available information regarding the anticipated scope of the selected remedy. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design of the selected remedy. Major changes may be documented in the form of a memorandum in the Administrative Record file, an ESD, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50 to -30 percent of the actual project cost.

3. Expected Outcomes of the Selected Remedy

The expected outcome of this remedy is that exposure to unsafe levels of VOCs migrating into buildings will be prevented under the selected remedy. Further, the selected remedy will insure that vapor intrusion will not present a future unacceptable risk to human health from direct exposure (inhalation) to indoor air. The selected remedy will rely upon a combination of land use restrictions, institutional controls, and engineering solutions to comply with Connecticut law and the cleanup standards established in the ROD in accordance with the most stringent of either the proposed or promulgated action levels for vapor intrusion (see Appendix B, Table L-1), and other federal requirements to ensure the protectiveness of the remedy in the future. Compliance wells will be installed at appropriate locations to collect groundwater to evaluate long-term fluctuations.

EPA's new Cancer Guidelines and Supplemental Guidance (March 2005) will be used as the basis for EPA's analysis of all new carcinogenicity risk assessments. If updated carcinogenicity risk assessments become available, EPA will determine whether an evaluation should be conducted as part of the remedial design and 5 Year Review to assess whether adjustments to the target cleanup levels for this remedial action are needed in order for this remedy to remain protective of human health.

M. STATUTORY DETERMINATIONS

The remedial action selected for implementation at the Site is consistent with CERCLA and, to the extent practicable, the NCP. The selected remedy is protective of human health and the environment, will comply with ARARs, and is cost effective. In addition, the remedial action utilizes permanent solutions and alternate treatment technologies or resource recovery technologies to the maximum extent practicable, but does not satisfy the statutory preference for treatment that permanently and significantly reduces the mobility, toxicity or volume of hazardous substances as a principal element.

1. The Selected Remedy is Protective of Human Health and the Environment

The remedy at this Site will adequately protect human health and the environment by eliminating, reducing, or controlling exposures to human receptors by preventing exposure to VOCs in vapors resulting from volatilization of VOCs in groundwater through the use of ELURs and, where appropriate, building ventilation (or vapor barriers), in areas where groundwater VOC concentrations exceed the CT RSR's residential or commercial/industrial volatilization criteria. This remedy would include development and implementation of operation and maintenance and monitoring plans to insure these controls remain protective of human health and the environment. Appendix B, Table L-1 includes a list of groundwater action levels for vapor intrusion.

2. The Selected Remedy Complies With ARARs

Alternative GW-2 will comply with all federal and any more stringent state ARARs that pertain to the Site. A thorough discussion of these requirements as well as all other ARARs for this Site is included in Appendix D, Table 1-1. Appendix B, Table L-1 includes a list of groundwater action

levels for vapor intrusion.

3. The Selected Remedy is Cost-Effective

In EPA's judgment, the selected remedy is cost-effective because the remedy's costs are proportional to its overall effectiveness (see 40 CFR 300.430(f)(1)(ii)(D)). This determination was made by evaluating the overall effectiveness of those alternatives that satisfied the threshold criteria (i.e., that are protective of human health and the environment and comply with the CT RSRs and other ARARs). Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination – long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness. The overall effectiveness of each alternative then was compared to the alternative's costs to determine cost-effectiveness. In this case, while Alternative GW-3 provides greater long term protectiveness and permanence and also reduces toxicity, mobility, and volume through treatment, it does so at a cost approximately 55 times higher than the selected remedy (Alternative GW-2- $226,219 to $695,240 vs. Alternative GW-3 - $10,700,000 to $12,500,000). Given the magnitude of the risk and the fact that the selected remedy is also protective in the long term, the relationship of the overall effectiveness of this remedial alternative was determined to be proportional to its costs and hence represents a reasonable value for the money to be spent.

4. The Selected Remedy Utilizes Permanent Solutions and Alternative Treatment or Resource Recovery Technologies to the Maximum Extent Practicable

The remedy selected in this ROD utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable. These determinations were made by deciding which identified alternatives provided the best balance of trade-offs among alternatives in terms of: 1) long-term effectiveness and permanence; 2) reduction of toxicity, mobility or volume through treatment; 3) short-term effectiveness; 4) implementability; and 5) cost. The balancing test emphasized long-term effectiveness and permanence and the reduction of toxicity, mobility and volume through treatment; and considered the preference for treatment as a principal element, the bias against off-site land disposal of untreated waste, and community and state acceptance.

The nature of the remaining risk at the Site, vapor intrusion, is potentially limited in scope to a small number of commercial/industrial parcels. Taking into account the implementability and short-term effectiveness issues raised by Alternative GW-3, and the fact that both the community and the State support the selected remedy, Alternative GW-2 provides the best balance given the trade-offs that would occur if permanent treatment via PRB were selected. This is also supported by the fact that there is some uncertainty regarding the effectiveness of Alternative GW-3 in treating groundwater contamination and the fact that EPA has classified the vapor intrusion pathway as a low-level threat.

5. The Selected Remedy Does Not Satisfy the Preference for Treatment Which Permanently and Significantly Reduces the Toxicity, Mobility or Volume of the Hazardous Substances as a Principal Element

The selected alternative does not satisfy the preference for treatment that permanently and significantly reduces the toxicity, mobility or volume of the hazardous substances as a principal element. This remedy does not use any treatment or recycling processes (except to the extent that air emissions generated during building venting might require treatment) and does not reduce the amount of hazardous substances. There is no reduction in toxicity, mobility or volume of the waste due to treatment. However, this remedy does reduce the mobility of the waste through use of building ventilation or vapor barriers. Under this remedy, minor amounts of treatment residuals (such as from carbon filters) might be generated depending on the concentrations of VOC in the vapor removed during sub-slab ventilations and whether the emissions require treatment.

Because of the limited scope of the problem being addressed at the Site, combined with long-term effectiveness, short-term effectiveness and implementability issues raised by the one alternative that did satisfy this preference (Alternative GW-3), there are good reasons to not satisfy this preference for treatment. This determination is also supported by the significant difference in cost between the selected remedy and Alternative GW-3 and the fact that EPA has classified the vapor intrusion pathway as a low-level threat.

6. Five-Year Reviews of the Selected Remedy Are Required

Because this remedy will result in hazardous substances remaining on-site above levels that would otherwise allow for unlimited use and unrestricted exposure, a review will be conducted within five years after initiation of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

N. DOCUMENTATION OF NO SIGNIFICANT CHANGES

In compliance with statutory requirements for ensuring the public has the opportunity to comment on major remedy selection decisions, a Proposed Plan was prepared presenting Alternative GW-2 as the preferred alternative. The plan was made available to the public on June 21, 2006. All comments received during the comment period were in support of the selected remedy.

Based upon supporting comments from the community and the State, there are no significant changes to the remedy presented in the Proposed Plan. However, Connecticut raised some concern regarding state water quality issues and, as a result, additional requirements for long term monitoring will be included in the long term monitoring plan for the 1994 ROD.

O. STATE ROLE

The Connecticut Department of Environmental Protection has reviewed the 2006 Remedial Investigation/ Feasibility Study and Proposed Plan and has indicated its support for the selected remedy. See Appendix E, CT DEP Letter of Concurrence.

PART 3

RESPONSIVENESS SUMMARY
FOR THE OLD SOUTHINGTON LANDFILL
SUPERFUND SITE FINAL REMEDY

OLD SOUTHINGTON LANDFILL SUPERFUND SITE
PREFACE

The U. S. Environmental Protection Agency (EPA) held a 60-day public comment period from June 22, 2006 through August 24, 2006 to provide an opportunity for public comment on the Proposed Plan for the final groundwater remedy at the Old Southington Landfill Superfund Site (Site) in Southington, Connecticut. EPA prepared the Proposed Plan based on the results of the Supplemental Groundwater Investigation (2006 RI) and the Amended Feasibility Study (2006 FS) which are the Remedial Investigation (RI) and Feasibility Study (FS) respectively for the final groundwater remedy. The 2006 RI was conducted to determine the nature and extent of the groundwater plume emanating from the landfill and to determine if it was adversely impacting any human or ecological receptors. The 2006 FS examined and evaluated various options, or alternatives to address the contamination. The Proposed Plan presented EPA's preferred alternative for the Site, before the start of the comment period. All documents which were used in EPA's selection of the preferred alternative were placed in the Site Administrative Record, which is available for public review at the EPA Records Center, located at One Congress St, Boston, Massachusetts, and at the Southington Public Library, located at 255 Main Street, Southington, Connecticut.

The purpose of this Responsiveness Summary is to document EPA's responses to the questions and comments raised during the public comment period. EPA considered all of the comments summarized in this document before selecting the final remedial alternative to address contamination at the Site.

The Responsiveness Summary is organized into the following sections:

A. **Overview of the Remedial Alternatives Considered in the 2006 FS and the Proposed Plan, including the Preferred Alternative** — This section briefly outlines the remedial alternatives evaluated in the 2006 FS and the Proposed Plan, including EPA's preferred alternative.

B. **Site History and Background on Community Involvement and Concerns** --- This section provides a brief history of the Site and an overview of community interests and concerns regarding the Site.

C. **Summary of Comments Received During the Public Comment Period** —This section summarizes and provides EPA's responses to the oral and written comments received from the public during the comment period.

A. OVERVIEW OF REMEDIAL ALTERNATIVES CONSIDERED IN THE 2006 FEASIBILTY STUDY AND THE PROPOSED PLAN, INCLUDING THE SELECTED ALTERNATIVE

- **Alternative GW-1:** **No Action**
- **Alternative GW-2:** **Institutional Controls/Monitoring/Building Ventilation/Vapor Barriers/Operation & Maintenance/Five-Year Reviews**
- **Alternative GW-3:** **Permeable Reactive Barrier/Institutional Controls/ Monitoring/Building Ventilation/Vapor Barriers/Operation & Maintenance/Five-Year Reviews**

Using information gathered during the 2006 RI and the Human Health Risk Assessment, EPA identified the remedial action objective for the Old Southington Landfill Site (Site). The remedial action objective for the selected final remedy is to prevent the potential exposure of inhalation of volatile organic compounds (VOCs) by occupants of residential, commercial, and/or industrial buildings resulting from volatilization of VOCs from groundwater, in excess of 10^{-4} to 10^{-6} excess cancer risk, hazard index > 1, and/or applicable, relevant and appropriate volatilization criteria.

After identifying the remedial action objective, EPA developed and evaluated potential remedial alternatives to address Site contamination. The 2006 FS describes the remedial alternatives and the criteria EPA used to narrow the potential alternatives to control sources of contamination and address migration of contaminants.

EPA's Selected Remedy includes the following features:

- Institutional controls in the form of Environmental Land Use Restrictions (ELURs) on properties or portions of properties where groundwater VOC concentrations exceed the CT RSR volatilization criteria, to remain in place as long as groundwater VOC concentrations exceed the criteria;
- Monitoring of groundwater, consistent with the requirements of the CT RSRs volatilization criteria and other federal requirements to confirm in the future that the remedy remains protective;
- Installation of building ventilation (sub-slab depressurization or similar technology) to prevent migration of VOC vapors into any existing building, and/or control of level of VOCs in vapor beneath or in any existing building; also vapor barriers (or possibly sub-slab depressurization or similar technology) for new buildings;
- Long term operation and maintenance;
- Five-year reviews.

In the 2006 FS the estimated net present worth of the selected remedy ranged from $226,219 to $695,240.

This Alternative was selected because it achieved the best balance among the criteria that EPA is required by law to evaluate for remedial options. The selected remedy significantly reduces risk to human health to a safe level. The remedy will attain State and Federal ARARs. All of the remedial alternatives considered for implementation at the Site are described in the Final Record of Decision and are discussed in detail in the 2006 FS.

B. SITE HISTORY AND BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS

1. Site History

The Old Southington Landfill Superfund Site (Site) operated between 1920 and 1967 as a mixed municipal and industrial landfill. It was operated by the Town of Southington and consists of approximately 13 acres. The landfill is located on the east side of Old Turnpike Road, in Southington, Connecticut (see figure 1-1.) Rejean Road abuts the Site to the north. Black Pond abuts the Site to the east. An unnamed stream is located across Old Turnpike Road and directly west of the Site. The Site is located in a mixed residential, industrial, and commercial area. A small road traverses the southern portion of the Site from Old Turnpike Road to a construction company that abuts the Site to the east. The Quinnapiac River is approximately 3,100 feet west of the Site.

Under the1994 ROD issued by the EPA, four homes, five commercial businesses, and one town facility were permanently relocated from the Site. The Site has been capped and fenced. A soil gas collection system has been installed throughout the entire landfill and is operating as a passive venting system. The northern portion of the landfill, as well as Black Pond, is used for passive recreation. Public access is not allowed on the southern portion of the landfill.

The northern area was used primarily for disposal and burning of municipal waste consisting primarily of wood and construction debris. The southern area received some municipal but mostly industrial and commercial wastes. Two areas in the southern portion of the landfill were used for disposal of aqueous, semi-solid, and semi-liquid wastes.

In 1967, the Town of Southington (Town) closed the landfill. From the early 1970's to the 1980's, the landfill property was subdivided and developed into residential, industrial, and commercial properties.

In 1979, contamination was discovered in a nearby municipal drinking water well (Well No. 5). As a result, EPA initiated hydrogeologic investigations around the landfill area to define the nature and extent of groundwater contamination surrounding Well No. 5. Based on this contamination and hazard ranking performed, the Site was placed on the National Priority List (NPL) in September 1984. In 1987, EPA entered into an agreement with a group of potentially responsible parties to complete a Remedial Investigation (RI), a Human Health Risk Assessment (HHRA), an Ecological Risk Assessment (ERA), and a Feasibility Study (FS). These reports

were completed in 1993.

In September 1994, EPA issued the1994 ROD. This ROD required construction of a cap over the landfill and permanent relocation of residential and commercial properties. In 1998, a Consent Decree was entered between EPA and a group of potentially responsible parties to complete the work required by the 1994 ROD. This work was mostly completed by 2001.

In 1999, a group of potentially responsible parties began work on the 2006 RI/FS. The results in these investigations formed the basis of this final ROD. A more complete description of the Site can be found in Section I of the *Supplemental Remedial Investigation Report*, Kleinfelder, June 2006.

2. History of Community Involvement

Following permanent relocation of residential and commercial properties and construction of the cap in 2001, community participation and concern can be characterized as low. EPA has kept the community and other interested parties apprised of Site activities through informational meetings, fact sheets, and press releases (see section C of Final ROD Decision Summary for more detail.)

C. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES

This Responsiveness Summary addresses comments pertaining to the Proposed Plan that were received by EPA during the 60-day public comment period (June 22 to August 24, 2006). The Proposed Plan was mailed to approximately 650 members of the general public, elected officials, and local media. Three comments were received from members of the community. One written comment was received from CT DEP. Written comments were also received from a contractor, on behalf of a group of potentially responsible parties.

What follows are EPA's responses to these comments that pertain to the remedial action. A copy of the transcript of the public hearing and copies of all written comments received during the 60-day comment period can be found in the Administrative Record.

1. Request for Extension to the Comment Period

One written request was made to extend the comment period by 30 days.

EPA Response to Comment 1

On July 25, 2006, EPA issued a press release to announce that the comment period had been extended by 30 days. The 60-day comment period ran from June 22 thru August 24, 2006.

2. State Support for EPA's Preferred Remedy

Christine Lacas, Supervising Environmental Analyst, Bureau of Water Protection & Land Reuse, on behalf of the Connecticut Department of Environmental Protection (CT DEP),

submitted a letter in support of EPA's proposed remedy. However, CT DEP expressed concern that EPA did not identify Connecticut's Water Quality Standards and Criteria as applicable or relevant and appropriate requirements (ARARs).

EPA Response to Comment 2

EPA's risk assessments as well as follow up data collected over the past year, indicate that contamination in sediment and surface water do not present an unacceptable risk at the Site. Because a risk to human health and the environment was not identified in sediment and surface water, EPA is not taking any action in these areas of the Site under the selected remedy. As a result, CT's Water Quality Standards and Criteria would not be ARARs for the selected remedy. However, to address concerns raised by Connecticut, EPA plans to modify the long-term monitoring plan for the Site to require additional sampling to provide information in the future which EPA can use to reassess the risk posed in these areas.

3. Verbal Comments by Mr. John Weichsel, Town Manager

The town strongly supports EPA's choice of a proposed groundwater remedy at the Old Southington Landfill Site, which includes the use of institutional controls such as environmental land use restrictions, building ventilation and long-term monitoring to address potential issues with groundwater contamination.

The town agrees that the proposed remedy will adequately protect the health and safety of residents and the environment, and will meet all applicable standards and regulations including the remediation standard regulations developed by the Connecticut Department of Environmental Protection. The town further agrees that the proposed alternative (GW-2) provides a cost effective means of achieving a high level of protection.

EPA Response to Comment 3

EPA agrees with this comment and has selected the proposed alternative as the selected remedy.

4. Verbal Comments from Mr. Sev Vovino, town resident

This commenter also expressed support for the proposed alternative.

EPA Response to Comment 4

EPA agrees with this comment and has selected the proposed alternative as the selected remedy.

5. Comments on Behalf of a Group of Potentially Responsible Parties

The commenter acknowledged that the remedy described in the Proposed Plan is fully protective of human health and the environment. Notwithstanding support of the overall

remedy recommended in the Proposed Plan, the commenter raised concerns regarding specific components of EPA's cleanup plan.

5.a.) Further groundwater studies at the former Lori Corp. property

The commenter objects to additional investigations on the former Lori Corp. property being included as part of the selected remedy. This is based upon the commenter's belief that all contamination on this property is unrelated to the Site.

EPA Response to Comment 5.a.)

Based upon its review of the available groundwater investigation data, EPA does not believe that the exact source of VOC contamination on the Lori Corp. property has been definitely identified. The available data is somewhat ambiguous. While it is true that drive point sampling studies in 2005 did not detected VOCs at the landfill boundary immediately east of monitoring well cluster G314 on the Lori Corp. property, considerable VOC contamination was detected in shallow groundwater immediately south of the unnamed stream. This contamination is likely to have originated from the northern portion of the Old Southington Landfill. VOC results from several locations immediately south and one location immediately north of the unnamed stream exceeded CT DEP RSR standards for residential and/or commercial/industrial vapor intrusion.

EPA is also concerned that VOC contaminated groundwater originating from the northern portion of the landfill is migrating to the west and/or northwest to locations immediately south of the stream. It appears possible that this groundwater contamination could then flow under the stream and migrate underneath portions of the Lori Corp. property. The detection of shallow groundwater VOC contamination at sampling point M63 in 2005 also increases EPA's concern that the landfill may be a source of this contamination. This location is immediately north of the unnamed stream and may reflect groundwater VOC contamination originating at the Landfill. Given these uncertainties, EPA believes that it is appropriate to conduct additional investigations of the groundwater VOC contaminant plume (and associated vapor intrusion implications) with respect to the Lori Corp. property.

5.b.) Additional fish studies in Black Pond

The commenter objects to additional fish studies in Black Pond in light of previous investigations and concern that further fish sampling at Black Pond would place undue stress on the ecology of the Pond.

EPA Response to Comment 5.b.)

Requirements related to monitoring of surface water and sediment are part of the long-term monitoring plan required in the 1994 ROD, and as such, this is not a comment on the selected remedy.

That being said, fish in Black Pond are an important potential environmental receptor. As a result, EPA believes that it is appropriate to monitor this environmental exposure pathway in

the future. Consumption of fish from Black Pond also represents a possible indirect future human exposure pathway. As a result, EPA will require the long-term monitoring plan be revised consistent with these concerns.

It should also be noted that EPA is required by law to review the protectiveness of the remedy for the Site every five years. To conduct this evaluation, data regarding this potential exposure pathway is required. EPA believes that sampling of fish in Black Pond is necessary as part of this evaluation for this Site. EPA also believes that sampling of fish is a more direct means of monitoring environmental exposures, than attempting to assess the indirect (and potentially complex) hydrogeologic relationships between contaminated groundwater beneath the landfill and the Pond.

5.c.) Impacts to adjacent GA areas

The commenter believes that the groundwater plume emanating from the landfill has been clearly delineated and that further studies related to the plume are unnecessary and should not be part of the Final ROD.

EPA Response to Comment 5.c.)

Requirements related to monitoring of groundwater are part of the long-term monitoring plan required in the 1994 ROD and as such, this is not a comment on the selected remedy.

That being said, EPA agrees that the overall configuration of the groundwater plume emanating from the landfill has been generally characterized. However, EPA does not agree that the exact plume boundaries have been precisely defined in all areas of the plume, which stretches over half a mile from the landfill to the Quinnipiac River. In particular, EPA is concerned that the southern boundary of the plume has not been completely defined in certain areas immediately downgradient of the Landfill. EPA notes that elevated VOC contamination has been consistently detected at moderate depths at well cluster GZ14 to the southwest of the Landfill. This well lies only a few hundred feet from the Connecticut Class GA (potable water) aquifer lying to the west and southwest of this location. It is currently uncertain how far to the southwest and west beyond well cluster GZ14, the plume boundary lies. As such, EPA believes that in order to verify the overall protectiveness of the remedy for the Site, it is essential to confirm that the groundwater VOC plume does not and will not adversely impact the Class GA aquifer.

5.d.) Combustible gases north of the Landfill

The commenter expresses concern with EPA's intent to require additional studies to determine the source of methane at and north of the landfill and to determine whether mitigation measures are warranted. This is based upon the commenter's belief that the landfill gas collection system is effectively collecting any gases that are generated, and preventing migration of any such gases in any manner or direction. In addition, any detection of combustible gases north of the Landfill, near the Landfill, and in areas remote from the Landfill is the result of naturally occurring pockets of methane gases that have nothing to do

with the Landfill.

EPA Response to Comment 5.d.)

Methane evaluation and monitoring are required by the 1994 ROD, and as such, this is not a comment on the selected remedy.

That being said, EPA feels that some uncertainty remains regarding the exact source, location and migration pathways of methane detected in portions of the landfill and immediately adjacent areas. EPA acknowledges that naturally occurring organic degradation processes related to historic wetland and peat deposits may be responsible for a fraction of the methane that has been detected. However, EPA also notes that significantly elevated levels of methane have been and continue to be detected at certain gas probes along the perimeters of the landfill. It should be noted that the landfill gas collection system is passive in nature and does not actively collect landfill gas. Therefore, the exact extent to which the gas collection system is controlling methane migration along the landfill perimeter is not completely confirmed.

Given the repeatedly elevated and often high levels of methane at certain gas probe locations along the perimeter of the landfill, EPA believes that additional monitoring and further evaluation of this issue is warranted.

5.e.) Landfill Gas Vents

The commenter believes the landfill gas collection system, as currently operating, does not present a risk to human health. Accordingly, further data collection is not necessary and should not be part of the final ROD.

EPA Response to Comment 5.e.

Requirements related to monitoring of gas vents are part of the monitoring and operation and maintenance plans required in the 1994 ROD, and as such, this is not a comment on the selected remedy.

That being said, EPA agrees that landfill risk assessment evaluations based upon chlorinated VOC gas vent data collected to date, demonstrate no unacceptable risk to neighboring residences or on-site workers on the Landfill. However, EPA is required by law to perform five-year reviews at the Site to confirm the continuing protectiveness of the remedy over time. To support the risk evaluations required during the five-year review, it is necessary to collect appropriate supporting data (including gas vent data). This data must be collected within the time frame encompassed by the review. Therefore, some additional gas vent monitoring data may be required at the Site and will be included in the long term monitoring plan.

5.f. Comments on Alternative GW3

The PSDs agree that Alternative GW-3 is inappropriate and unnecessary because Alternative

GW-2 already fully meets applicable, relevant and appropriate requirements (ARARs). The further actions listed under Alternative GW-3 are redundant, only partially effective, and would result in significant disruptions to the community. The PSDs have a few comments on the assessment of Alternative GW-3 in the Amended Feasibility Study (AFS), as follows.

EPA Response to Comment 5f

EPA agrees with the commenter that the selected remedy is the best alternative for this Site in light of the nine criteria EPA is required to evaluate under CERCLA although EPA does not necessarily agree with the commenter's own evaluation of these criteria. Because EPA has selected the alternative endorsed by this commenter, no additional response is required in response to this comment.

APPENDIX A
FIGURES

LIST OF FIGURES:

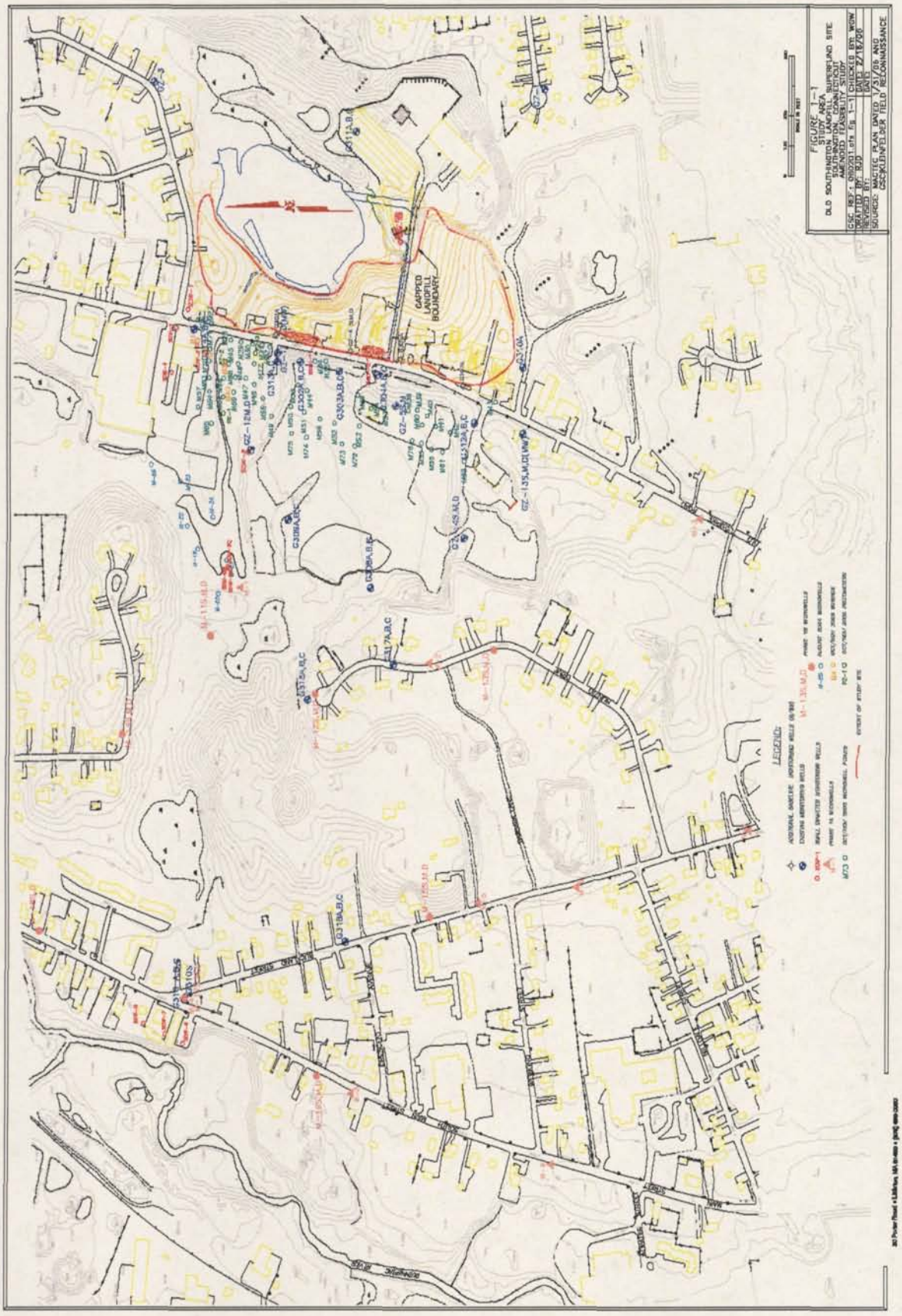


FIGURE 1-1
STUDY AREA
OLD SOUTHINGTON LANDFILL SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
AMENDED FEASIBILITY STUDY
CSC REF: 092701.sfa fig 1-1 CHECKED BY: WDW
DRAWN BY: RJD DATE: 2/18/08
SCALE: AS NOTED
SOURCE: MASTER PLAN DATED 1/31/05 AND
CSC/KLUNFELDER FIELD RECONNAISSANCE
CAPPED LANDFILL BOUNDARY
LEGEND:
EXTENT OF STUDY SITE
1-1

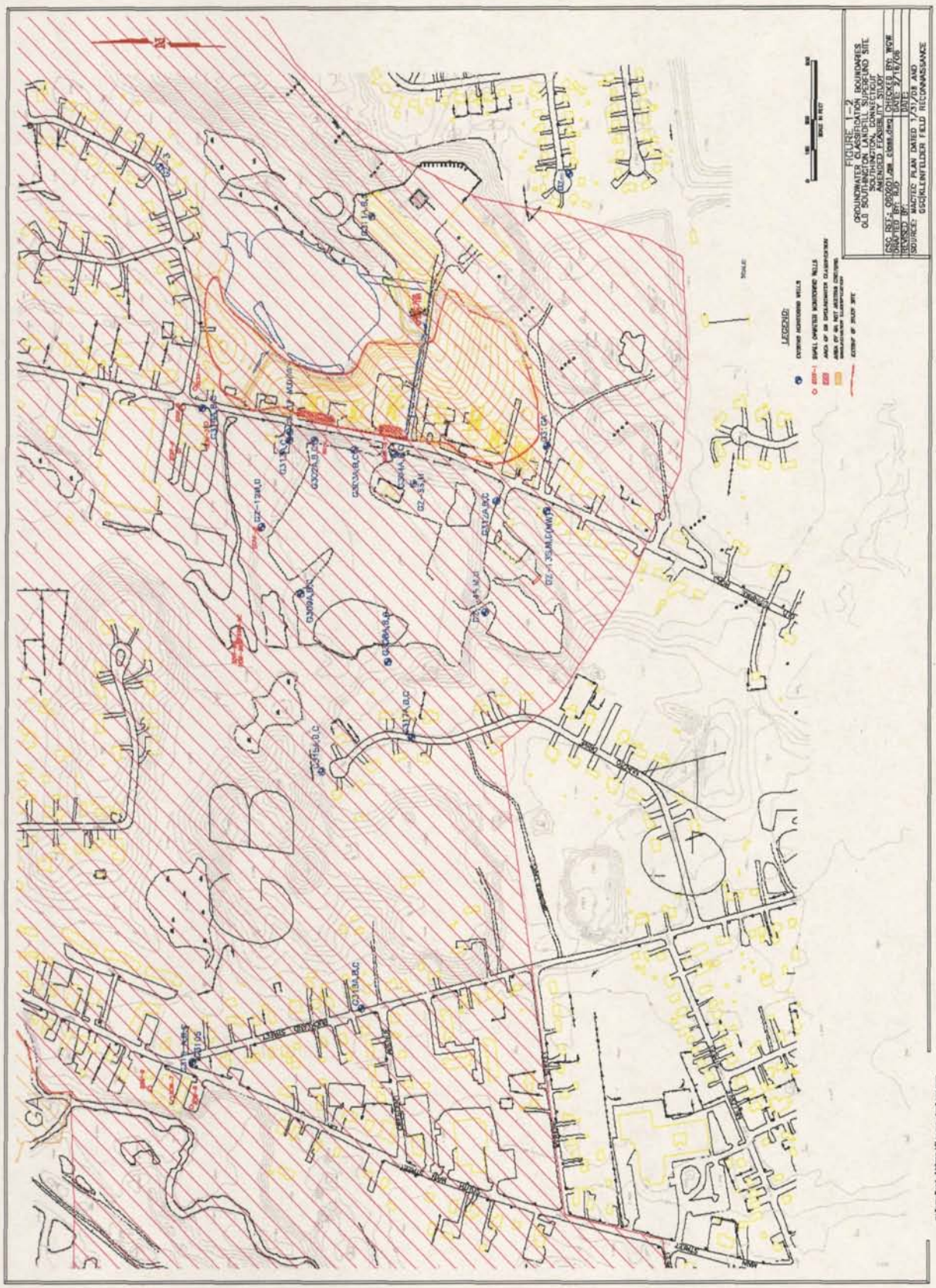
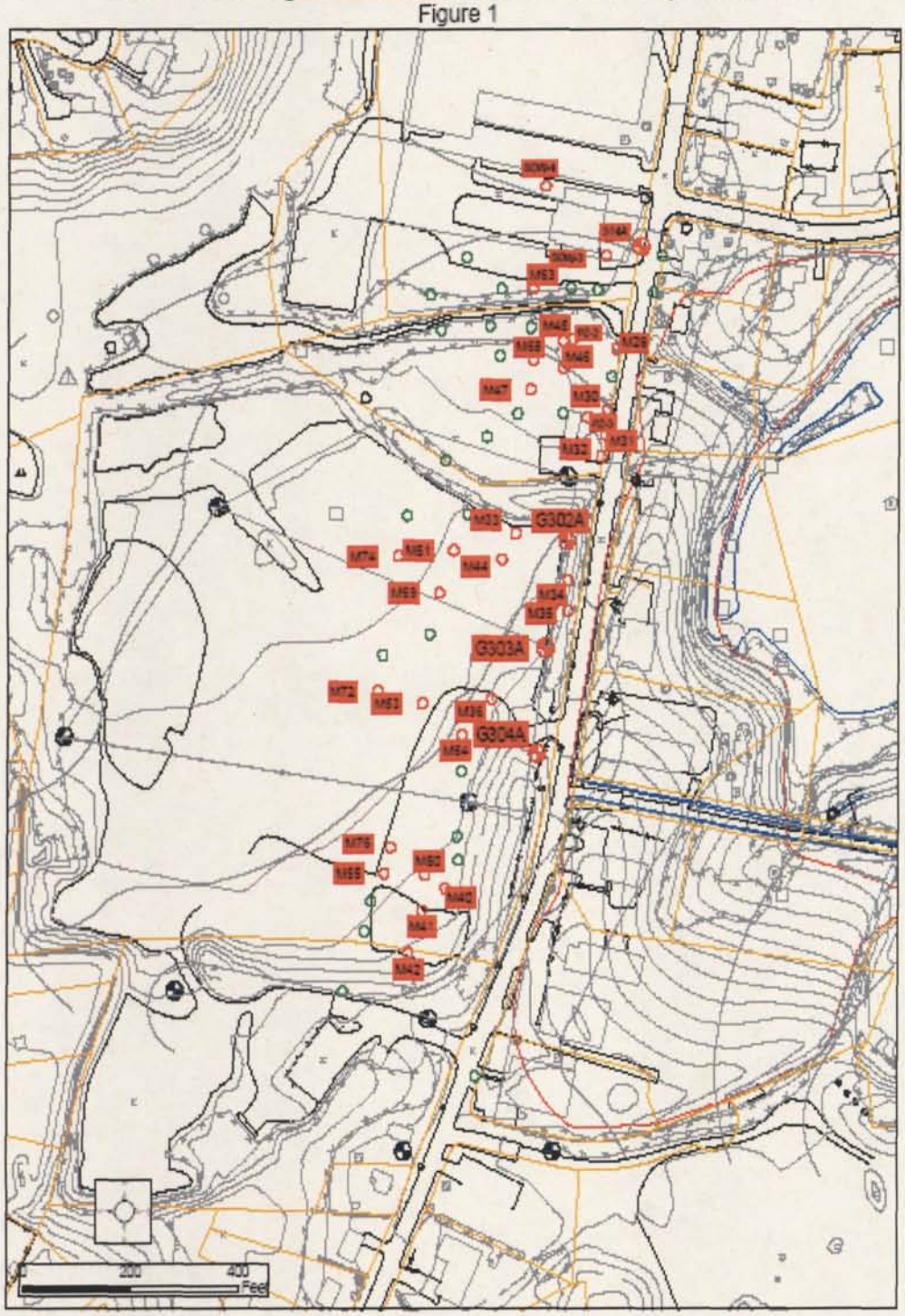


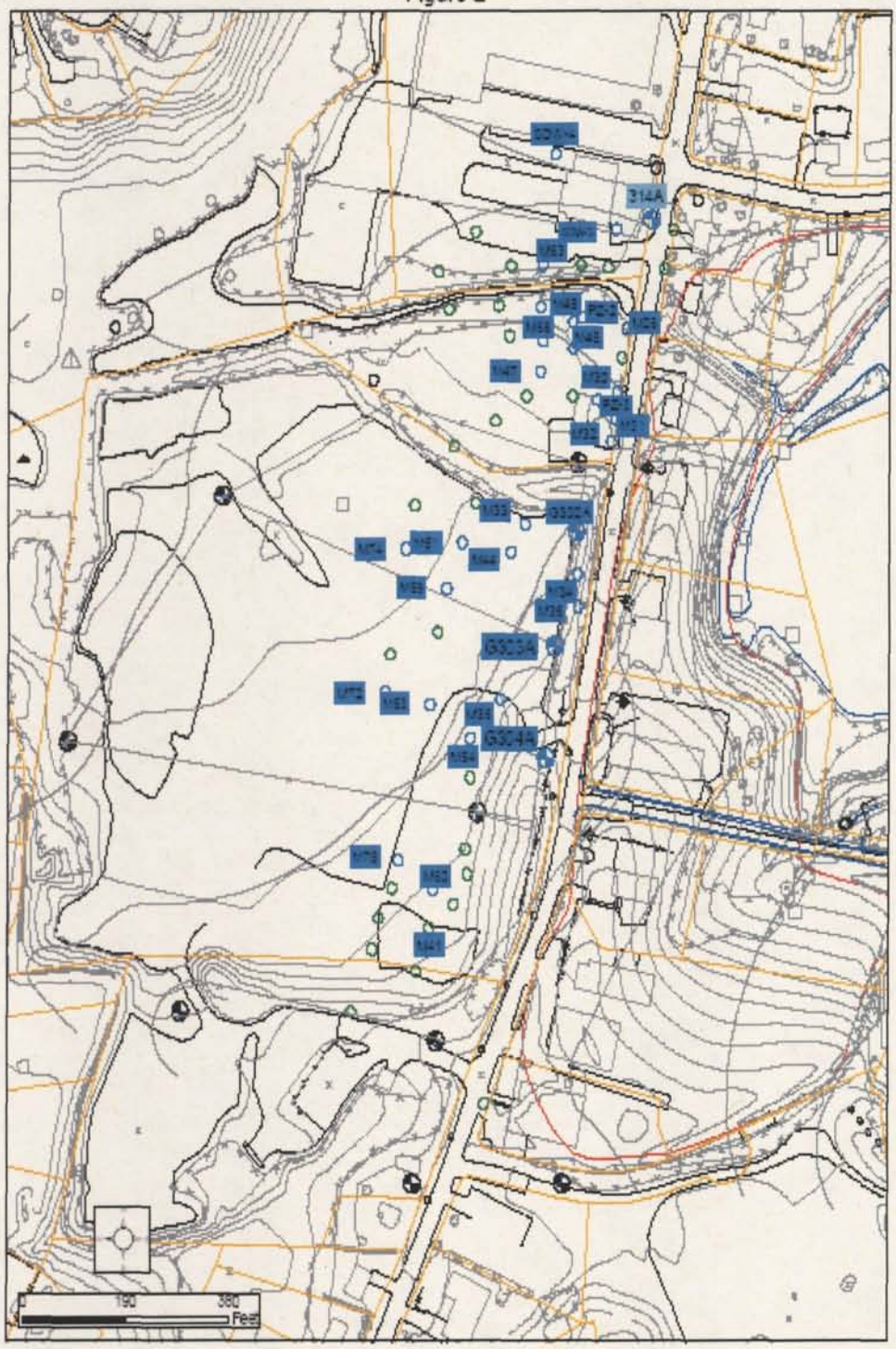
FIGURE 1-2
GROUNDWATER CLASSIFICATION BOUNDARIES
OLD SOUTHINGTON LANDFILL SUPERFUND SITE
SOUTHINGTON, CONNECTICUT
AMENDED FEASIBILITY STUDY
LEGEND:
SOURCE: MAGTEC PLAN DATED 1/31/08 AND
GSG/KLEINFELDER FIELD RECONNAISSANCE

Old Southington Landfill Superfund Site:
Wells Exceeding Residential Action Levels for Vapor Intrusion
Figure 1



Based on Kleinfelder Figure ref number 060201.02RSRS

Old Southington Landfill Superfund Site:
Wells Exceeding Commercial/Industrial Action Levels for Vapor Intrusion
Figure 2



Based on Kleinfelder Figure ref number 060201.03RSRS

APPENDIX B
TABLES

LIST OF TABLES:

TABLE G-1
FORMER LORI CORPORATION: SUMMARY OF SHALLOW WELL DATA EXCEEDING VOLATILIZATION CRITERIA

Results in ug/l (ppb)			SDW3								SDW4								G 314A								M63-1	M63-2
			Sampling Date								Sampling Date								Sampling Date								Date	Date
Analyte	Residential Volatilization Criteria	Commercial / Industrial Volatilization Criteria	12/03	3/04	8/04	9/04	12/04	3/05	6/05	9/05	12/03	3/04	8/04	9/04	12/04	3/05	6/05	9/05	12/03	3/04	6/04	9/04	12/04	3/05	6/05	9/05	11/05	11/05
Vinyl chloride	1.6[a]		N.S.	N.S.						5	N.S.	N.S.	3.8	2					7	3			2			2	3.3	3.8
Vinyl chloride		2[b]	N.S.	N.S.						5	N.S.	N.S.	3.8	2					7	3			2			2	3.3	3.8

[a] Proposed CT RSR volatilization criteria. 2003

[b] Promulgated CT RSR volatilization criteria. 1996.

N.S. indicates sample not collected.

Blanks indicate no value reported in excess of volatilization criteria.

Source: Tables 1 and 7, Supplemental RI 2006. Comprising sampling period 12/03-11/05.

TABLE G-2
RADIO STATION: SUMMARY OF SHALLOW WELL DATA EXCEEDING VOLATILIZATION CRITERIA

Results in ug/l (ppb)			M28-2	M30-1	M30-2	M31-1	M31-2	M32-1	M32-2	M45-1	M45-2	M46-1	M46-2	M47-2	M68-1	M68-2	PZ-2	PZ-3
			Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
Analyte	Residential Volatilization Criteria	Commercial / Industrial Volatilization Criteria	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	11/05	11/05	11/05	11/05
1,1-Dichloroethylene	1[b]					1.1	2.2											
1,1- Dichloroethylene		6[b]																
cis-1, 2 Dichloroethylene	830[a]					950	1500											
cis-1, 2 Dichloroethylene		11,000[a]																
Vinyl chloride	1.6[a]		5.9	46	100	290	790	4.5	25	160	210	3.9	21	12	3	5.8	12	4.2
Vinyl chloride		2[b]	5.9	46	100	290	790	4.5	25	160	210	3.9	21	12	3	5.8	12	4.2

[a] Proposed CT RSR volatilization criteria. 2003

[b] Promulgated CT RSR volatilization criteria. 1996.

Blanks indicate no value reported in excess of volatilization criteria.

Source: Tables 1 and 7, Supplemental RI 2006. Comprising sampling period 12/03-11/05.

TABLE G-3
CHUCK AND EDDY'S: SUMMARY OF SHALLOW WELL DATA EXCEEDING VOLATILIZATION CRITERIA

Results in ug/l (ppb)			G 302A								G 303A								G 304A								M33-1	M33-2	M34-1	M34-2
			Sampling Date								Sampling Date								Sampling Date								Date	Date	Date	Date
Analyte	Residential Volatilization Criteria	Commercial / Industrial Volatilization Criteria	12/03	3/04	6/04	9/04	12/04	3/05	6/05	9/05	12/03	3/04	6/04	9/04	12/04	3/05	6/05	9/05	12/03	3/04	6/04	9/04	12/04	3/05	6/05	9/05	10/05	10/05	10/05	10/05
Benzene	130[a]																													
Benzene		310[a]																												
Carbon Tetrachloride	5.3[a]																						25	18						
Carbon Tetrachloride		14[a]																					25	18						
1,1-Dichloroethylene	1[b]																				3	20	16	6						
1,1- Dichloroethylene		6[b]																				20	16							
1,2- Dichloroethane	6.5[a]																			17	15	18	14							
1,2- Dichloroethane		68[a]																												
cis-1,2-Dichloroethylene	830[a]																													
cis-1,2-Dichloroethylene		11,000[a]																												
Ethylbenzene	2,700[a]																		8000	5300	7200		3500	7500	6500	8400				
Ethylbenzene		36,000[a]																												
Tetrachloroethylene (PCE)	340[a]																													
Tetrachloroethylene (PCE)		810[a]																												
Toluene	7,100[a]																									10000				
Toluene		41,000[a]																												
Trichloroethylene (TCE)	27[a]																													
Trichloroethylene (TCE)		67[a]																												
Vinyl chloride	1.6[a]		3	7	3	18	46	37	8	30					12				230	180	540	3900	800	810	560	1600	5.6	12	78	18
Vinyl chloride		2[b]	3	7	3	18	46	37	8	30					12				230	180	540	3900	800	810	560	1600	5.6	12	78	18
Xylenes	8,700[a]																		10000					11000		10000				
Xylenes		48,000[a]																												

TABLE G-3
CHUCK AND EDDY'S: SUMMARY OF SHALLOW WELL DATA EXCEEDING VOLATILIZATION CRITERIA

Results in ug/l (ppb)			M35-1	M35-2	M36-1	M36-2	M40-2	M41-1	M41-2	M42-2	M44-1	M44-2	M51-2	M53-2	M54-1	M54-2	M55-1	M59-1	M59-2	M60-1	M60-2	M72-1	M74-2	M76-1
			Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
Analyte	Residential Volatilization Criteria	Commercial / Industrial Volatilization Criteria	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	10/05	11/05	11/05	11/05
Benzene	130[a]																250							150
Benzene		310[a]																						
Carbon Tetrachloride	5.3[a]																							
Carbon Tetrachloride		14[a]																						
1,1-Dichloroethylene	1[b]					15			1.7							3.2								
1,1- Dichloroethylene		6[b]				15																		
1,2- Dichloroethane	6.5[a]				6 9	19																		
1,2- Dichloroethane		68[a]																						
cis-1,2-Dichloroethylene	830[a]					1100																		
cis-1,2-Dichloroethylene		11,000[a]																						
Ethylbenzene	2,700[a]																							
Ethylbenzene		36,000[a]																						
Tetrachloroethylene (PCE)	340[a]					490																		
Tetrachloroethylene (PCE)		810[a]																						
Toluene	7,100[a]																							
Toluene		41,000[a]																						
Trichloroethylene (TCE)	27[a]						64	42	210	42										31	68			
Trichloroethylene (TCE)		67[a]							210												68			
Vinyl chloride	1.6[a]		2.1	1.8	650	1000					2.1	18	3	4.5	2.4	6.7		4.1	12			2.1	5.7	5.7
Vinyl chlonde		2[b]	2.1		650	1000					2.1	18	3	4.5	2.4	6.7		4 1	12			2.1	5.7	5.7
Xylenes	8,700[a]																							
Xylenes		48,000[a]																						

TABLE G-3

CHUCK AND EDDY'S: SUMMARY OF SHALLOW WELL DATA EXCEEDING VOLATILIZATION CRITERIA

Footnotes

[a] Proposed CT RSR volatilization criteria. 2003

[b] Promulgated CT RSR volatilization criteria. 1996.

Blanks indicate no value reported in excess of volatilization criteria.

Source: Tables 1 and 7, Supplemental RI, 2006. Comprises Sampling Period 12/03 - 11/05.

Table L-1
Groundwater Action Levels for Vapor Intrusion

Compound	Residential (ug/L)	Industrial/ Commercial (ug/L)	Basis
Acetone	50000	50000	CT RSR (1)
Benzene	130	310	p CT RSR (2)
Bromoform	75	2300	p CT RSR
2-Butanone (MEK)	50000	50000	CT RSR
Carbon tetrachloride	5.3	14	p CT RSR
Chlorobenzene	1800	6150	CT RSR
Chloroform	26	62	p CT RSR
1,2-Dichlorobenzene	5100	50000	p CT RSR
1,3-Dichlorobenzene	4300	50000	p CT RSR
1,4-Dichlorobenzene	1400	3400	p CT RSR
1,1-Dichloroethane	3000	41000	p CT RSR
1,2-Dichloroethane	6.5	68	p CT RSR
1,1-Dichloroethylene	1	6	CT RSR
cis-1,2-Dichloroethylene	830	11000	p CT RSR
trans-1,2-Dichloroethylene	1000	13000	p CT RSR
1,2-Dichloropropane	7.4	58	p CT RSR
1,3-dichloropropane	6	25	CT RSR
Ethylbenzene	2700	36000	p CT RSR
Ethylene dibromide (EDB)	0.3	11	p CT RSR
Methyl-tert-butyl-ether	21000	50000	p CT RSR
Methyl isobutyl ketone	13000	50000	p CT RSR
Methylene chloride	160	2200	p CT RSR
Styrene	580	2065	CT RSR
1,1,1,2-Tetrachloroethane	2 (2)	50 (1)	p RSR (2)/ RSR (1)
1,1,2,2-Tetrachloroethane	1.8	54	p CT RSR
Tetrachloroethylene	340	810	p CT RSR
Toluene	7100	41000	p CT RSR
1,1,1-Trichloroethane	6500	16000	p CT RSR
1,1,2-Trichloroethane	220	2900	p CT RSR
Trichloroethylene	27	67	p CT RSR
Vinyl chloride	1.6 (2)	2 (1)	p RSR (2)/ RSR (1)
Xylenes	8700	48000	p CT RSR
Trichlorofluoromethane	1300	4200	p CT RSR
Chloroethane	12000	29000	p CT RSR
Chloromethane	390	5500	p CT RSR
Dichlorodifluoromethane	93	1200	p CT RSR
Isopropyl benzene (Cumene)	2800	6800	p CT RSR
Bromodichloromethane	2.3	73	p CT RSR
N-butylbenzene	1500	21000	p CT RSR
Sec-butylbenzene	1500	20000	p CT RSR
1,2,4-trimethylbenzene	360	4800	p CT RSR
1,3,5-trimethylbenzene	280	3900	p CT RSR
4-isopropyltoluene (4-cymene)	1600	22000	p CT RSR

(1) Connecticut Remediation Standard Regulations Volatilization Criteria for Groundwater. 1996.

(2) Proposed Revisions to Connecticut Remediation Standard Regulations Volatilization Criteria for Groundwater. 2003.

Table 4-1
Summary of Detailed Analysis of Remedial Alternatives

Assessment Factor	GW1: No Action	GW2: Institutional Controls/Groundwater Monitoring/Engineering Controls	GW3: Permeable Reactive Barrier Installed Downgradient of Site
Major Components	No remedial actions would be taken. Five –year site reviews.	Institutional controls, including CT ELURs to address exceedances of residential and commercial/industrial volatilization (vapor intrusion) criteria. *Monitoring of VOCs in groundwater, consistent with the requirements of the CT RSRs volatilization criteria* Building ventilation, acceptable to CT DEP, to either prevent migration of VOC vapors into, or control the level of VOCs in vapor beneath or in, any existing buildings located in areas where VOC concentrations in groundwater exceed the CT RSRs vapor intrusion criteria. Installation of vapor barriers to prevent migration of VOC vapors into new buildings. Five-year site reviews.	Installation of a permeable reactive barrier (PRB) to treat VOC contaminated groundwater to meet CT RSRs for vapor intrusion. *Institutional controls, including CT ELURs to address exceedances of vapor intrusion criteria.* Monitoring of VOCs in groundwater, consistent with the requirements of the CT RSRs vapor intrusion criteria and federal requirements. Building ventilation, acceptable to CT DEP, to either prevent migration of VOC vapors into, or control the level of VOCs in vapor beneath or in, any existing buildings located in areas where VOC concentrations in groundwater exceed the CT RSRs vapor intrusion criteria. Installation of vapor barriers to prevent migration of VOC vapors into new buildings. Five-year site reviews.
Overall Protection of Human Health and the Environment	No protection against VOCs volatilizing from shallow groundwater into existing or future buildings. No adverse impacts to wetlands or surface waters. Study Area groundwater CT classification GB and groundwater use for drinking water is precluded. There is no exposure pathway for ingestion of groundwater used as drinking water.	ELURs address exceedances of vapor intrusion criteria, thereby preventing exposure to VOCs in vapors. Existing buildings would be protected by the use of building ventilation, consistent with CT RSRs. New buildings would be protected by vapor barriers. No adverse impacts to wetlands or surface waters. Study Area groundwater CT classification GB and groundwater use for drinking water is precluded. There is no exposure pathway for ingestion of groundwater used as drinking water.	Overall reduction in downgradient groundwater VOCs, due to treatment by PRB, to meet CT RSRs for vapor intrusion. ELURs also address exceedances of vapor intrusion criteria, thereby preventing exposure to VOCs in vapors. Existing buildings would be protected by the use of building ventilation, consistent with CT RSRs. New buildings would be protected by vapor barriers. No adverse impacts to wetlands or surface waters. Study Area groundwater CT classification GB and groundwater use for drinking water is precluded. There is no exposure pathway for ingestion of groundwater used as drinking water.
Compliance with ARARs	Would not meet Chemical-Specific ARARs for volatilization of VOCs from groundwater. Would meet Chemical-Specific ARARs for water quality. Would meet Action-Specific ARARs. No Location-Specific ARARs identified.	Would meet Chemical-Specific ARARs for volatilization of VOCs from groundwater, with building ventilation for existing buildings, and vapor barriers for new buildings. Would meet Chemical-Specific ARARs for water quality. Would meet Action-Specific ARARs. Would meet Location-Specific ARARs.	Would meet Chemical-Specific ARARs for volatilization of VOCs from groundwater, with building ventilation for existing buildings. Would meet Chemical-Specific ARARs for water quality. Would meet Action-Specific ARARs. Would meet Location-Specific ARARs.
Long-Term Effectiveness and Permanence	No protection against VOCs volatilizing from *groundwater into existing or future buildings.* No adverse impacts to wetlands or surface waters. Study Area groundwater CT classification GB and groundwater use for drinking water is precluded. There is no exposure pathway for ingestion of groundwater used as drinking water.	ELURs address exceedances of vapor intrusion criteria, thereby preventing exposure to VOC *in vapors.* Existing buildings would be protected by the use of building ventilation. New buildings would be protected by vapor barriers. No adverse impacts to wetlands or surface waters. Study Area groundwater CT classification GB and groundwater use for drinking water is precluded. There is no exposure pathway for ingestion of groundwater used as drinking water.	Residual risk in the long term is low as contaminated groundwater is permanently addressed through the use of PRBs. *In the short term, residual risk is addressed through the use of institutional controls and engineering* controls as described for Alternative GW2. These controls are adequate and reliable to the extent that they are monitored, maintained, and/or enforced.
Reduction of Toxicity, Mobility, or Volume	No reduction in TMV. No treatment residuals.	No reduction in TMV. Minor quantities of treatment residuals might be generated during building ventilation.	Overall reduction in toxicity, mobility and volume in downgradient groundwater VOCs, due to treatment by PRB to meet CT RSRs for vapor intrusion. Minor quantities of treatment residuals might be generated during building ventilation.
Short-Term Effectiveness	Would not impact the community or workers. The remedial response objectives would not be met.	Would not impact the community or workers. The remedial response objectives would be met within 6-12 months.	Impact to surrounding community and local environment during PRB installation. Minimal impact to workers. The remedial response objectives would be met within 6-12 months. No impact to environments.
Implementability	Could be easily implemented and would not obstruct any additional remedial actions, if necessary.	Institutional controls would be readily implemented and readily enforceable. Building ventilation and vapor barriers would be readily implemented using standard, reliable techniques. Periodic monitoring of groundwater would be easily implemented. Would not obstruct any additional remedial actions, if necessary.	Technically and administratively implementable with projected PRB installation of moderate difficulty. The presence of utility lines and an elevated soil berm would generate certain challenges during design and construction. Building ventilation and vapor barriers would be readily implemented using standard, reliable techniques. Periodic monitoring of groundwater would be easily implemented. Would not obstruct any additional remedial actions, if necessary.
Cost (present worth)	$5,000 or more for each Five-Year Review.	$236,219 TO $695,240	$10.7M TO $12.5M

TABLE A-2
ALTERNATIVE GW2: INSTITUTIONAL CONTROLS/MONITORING/ENGINEERING CONTROLS
ESTIMATE OF COSTS - MEDIUM COST
AMENDED FEASIBILITY STUDY
OLD SOUTHINGTON LANDFILL

CAPITAL COST

Item No.	Component Description	Quantity	Units	Unit Cost $/unit	Item Cost	Ref.
1	Institutional controls/ELURS	1	ls	$50,000	$50,000	P
2	Installation of SDW compliance wells	10	ls	$18,000	$18,000	P
	Ventilation System Components					
3	SNS05 Fantech Blower (2HP, single-phase)	1	ea	$1,450	$1,450	V
4	Moisture Separator (MS280PS)	1	ea	$760	$760	V
5	Associated System Instrumentation	1	ea	$500	$500	V
6	Miscellaneous Manifold and Equipment Supplies	1	ea	$250	$250	V
7	Ventilation System Installation Service	1	ea	$4,000	$4,000	V
8	Shed Building	1	ea	$5,000	$5,000	V
9	Control Panel	1	ea	$3,500	$3,500	V
10	Vapor Phase Carbon (2-100 lb vessels)	1	ea	$2,000	$2,000	V
11	Electrical Service Installation and Start-up	1	ea	$10,000	$10,000	V
12	System Start-up	1	ea	$5,000	$5,000	P
	Sub-Slab Ventilation Components					
13	1/2" Crushed Stone	1,200	ft^3	$2.15	$2,580	V
14	4", Sch. 40, 0.010" slot PVC Screen	1,200	ft^2	$0.25	$300	V
15	4" Sch. 40 PVC Casing	1,200	ft^2	$0.15	$180	V
16	Installation including Geotextile Fabric	1,200	ft^2	$0.95	$1,140	V
17	Directional Drilling	80	LF	$120.00	$9,600	V
	SUBTOTAL CONSTRUCTION:				$134,260	
	CONSTRUCTION CONTINGENCIES AND ADMIN.:	25%			$28,565	
	HEALTH AND SAFETY CONTROLS @:	10%			$11,426	
	TOTAL CONSTRUCTION:				$154,251	
	ENGIN. DESIGN AND CONSTR. SUPERV.:	25%			$38,563	
	TOTAL CAPITAL COST:				$192,814	

Capital Costs Notes:
3. - 17.) Assumes ventilation system on 1 existing building
12.) Assumes 3-field days.

OPERATION AND MAINTENANCE COST

Item No.	Component Description	Quantity	Units	Unit Cost $/unit	Item Cost	Ref.
1	Quarterly Compliance Monitoring - 1st year	4	Yr1	$7,800	$36,170	V,P
2	Post-Compliance Monitoring (quarterly)	4	Yr 2,3,4,5	$7,000	$28,640	P
3	Five-year site review	6	5/yr	$5,000	$10,790	P
	Existing Building Ventilation System					
4	Utilities	1	yr	$3,000	$37,230	P,V
5	Ventilation System O&M Labor (2 hrs per month)	24	yr	$45	$13,400	P
6	Ventilation System Equipment Repair	1	yr	$500	$6,200	P
7	Ventilation System System Replacement	1	yr15	$17,460	$6,330	P
	SUBTOTAL OPERATION AND MAINTENANCE COST:				$188,760	
	O&M CONTINGENCIES (as a percent of the total present value)	15%			$28,314	
	HEALTH AND SAFETY CONTROL	10%			$18,876	
	TOTAL O&M COST :				$235,950	
	TOTAL ALT COST:				$428,764	

O&M Notes:
4. - 7.) Assumes ventilation system on 1 existing building
General Notes:
1.) Contingency percentages for capital costs were estimated from the Society of Cost Engineers model and site specific information
2.) O&M item costs are Present Worth values based on a 7% interest rate
3.) The total project cost is rounded off to the nearest $100.
4.) M= Means 1996, V= Vendor quote, P= previous project experience, E= Estimated value

TABLE A-1
ALTERNATIVE GW2: INSTITUTIONAL CONTROLS/MONITORING/ENGINEERING CONTROLS
ESTIMATE OF COSTS - LOW COST
AMENDED FEASIBILITY STUDY
OLD SOUTHINGTON LANDFILL

CAPITAL COST

Item No.	Component Description	Quantity	Units	Unit Cost $/unit	Item Cost	Ref.
1	Institutional controls/ELURS	1	ls	$25,000	$25,000	P
2	Installation of SDW compliance well	10	ls	$12,000	$120,000	P
	Ventilation System Components:					
3	HV400 Retrofit Blower (1HP, single-phase)	1	ea	$1,150	$1,150	V
4	Miscellaneous Supplies	1	ea	$250	$250	V
5	Ventilation System Installation & Ducts	1	ea	$1,500	$1,500	V
	SUBTOTAL CONSTRUCTION:				$45,900	
	CONSTRUCTION CONTINGENCIES AND ADMIN.:	25%			$11,475	
	HEALTH AND SAFETY CONTROLS 6%:	10%			$4,590	
	TOTAL CONSTRUCTION:				$61,965	
	ENGIN. DESIGN AND CONSTR. SUPERV.:	25%			$15,491	
	TOTAL CAPITAL COST:				$77,456	

Capital Costs Notes:

3. - 5.) Assumes ventilation system on 1 existing building.

11.) Assumes 3-field days.

OPERATION AND MAINTENANCE COST

Item No.	Component Description	Quantity	Units	Unit Cost $/unit	Item Cost	Ref.
1	Quarterly Compliance Monitoring - 1st year	4	Yr1	$7,000	$26,170	V,P
2	Post-Compliance Monitoring (semi-annual)	2	Yr 2,3	$7,000	$23,660	P
3	Five-year site review	6	5yrs	$5,000	$10,790	P
	Existing Building Ventilation System					
4	Utilities	1	yr	$2,500	$36,020	P,V
5	Ventilation System O&M Labor (0.5 hrs per month)	6	yr	$45	$3,350	P
6	Ventilation System Equipment Repair	1	yr	$100	$1,240	P
7	Ventilation System System Replacement	1	yr15	$1,500	$690	P
8	Semi-annual Indoor Air Monitoring	2	yr1,2,3,4,5	$2,000	$17,090	P
	SUBTOTAL OPERATION AND MAINTENANCE COST:				$119,010	
	O&M CONTINGENCIES (as a percent of the total present value)	15%			$17,852	
	HEALTH AND SAFETY CONTROL	10%			$11,901	
	TOTAL O&M COST :				$148,763	
	TOTAL ALT COST:				$226,219	

O&M Notes:

4. - 8.) Assumes ventilation system on 1 existing building.

General Notes:

1.) Contingency percentages for capital costs were estimated from the Society of Cost Engineers models and site specific information.

2.) O&M item costs are Present Worth values based on a 7% interest rate.

3.) The total project cost is rounded off to the nearest $100.

4.) M= Means 1996, V= Vendor quote, P= previous project experience, E= Estimated value.

TABLE A-3
ALTERNATIVE GW2: INSTITUTIONAL CONTROLS/MONITORING/ENGINEERING CONTROLS
ESTIMATE OF COSTS - HIGH COST
AMENDED FEASIBILITY STUDY
OLD SOUTHINGTON LANDFILL

CAPITAL COST

Item No.	Component Description	Quantity	Units	Unit Cost $/unit	Item Cost	Ref.
1	Institutional controls/ELUR'S	1	ls	$75,000	$75,000	P
2	Installation of SDW compliance wells	10	ls	$18,000	$18,000	P
	Ventilation System Components					
3	EN705 Retron Blower (2HP, single-phase)	2	ea	$1,450	$2,900	V
4	Moisture Separator (MS200FS)	2	ea	$760	$1,520	V
5	Associated System Instrumentation	2	ea	$500	$1,000	V
6	Miscellaneous Manifold and Equipment Supplies	2	ea	$250	$500	V
7	Ventilation System Installation Service	2	ea	$4,000	$8,000	V
8	Shed Building	2	ea	$5,000	$10,000	V
9	Control Panel	2	ea	$3,500	$7,000	V
10	Vapor Phase Carbon (2-180 lb vessels)	2	ea	$2,000	$4,000	V
11	Electrical Service Installation and Start-up	2	ea	$10,000	$20,000	V
12	System Start-up	2	ea	$5,000	$10,000	P
	Sub-Slab Ventilation Components					
13	1/2" Crushed Stone	5,200	ft^3	$2.15	$11,180	V
14	4", Sch. 40, 0.010" slot PVC Screen	5,200	ft^3	$0.25	$1,300	V
15	4" Sch. 40 PVC Casing	5,200	ft^3	$0.15	$780	V
16	Installation Including Geotextile Fabric	5,200	ft^3	$0.95	$4,940	V
17	Directional Drilling	240	LF	$120.00	$28,800	V
	SUBTOTAL CONSTRUCTION:				$204,920	
	CONSTRUCTION CONTINGENCIES AND ADMIN.:	25%			$51,330	
	HEALTH AND SAFETY CONTROLS 9%:	10%			$20,492	
	TOTAL CONSTRUCTION:				$276,842	
	ENGIN. DESIGN AND CONSTR. SUPERV.:	25%			$69,161	
	TOTAL CAPITAL COST:				$345,865	

Capital Costs Notes:

3. - 17.) Assumes ventilation system on 2 existing buildings

12.) Assumes 3-field days

OPERATION AND MAINTENANCE COST

Item No.	Component Description	Quantity	Units	Unit Cost $/unit	Item Cost	Ref.
1	Quarterly Compliance Monitoring - 1st year	4	Yr1	$7,000	$26,170	V,P
2	Post-Compliance Monitoring (quarterly)	4	Yr 2,3,4,5,6	$7,000	$107,290	P
3	Five-year site review	6	Site	$5,800	$30,790	P
4	Installation of 5 SDW	5	Yr4	$11,000	$58,980	P
	Existing Building Ventilation System					
5	Utilities	2	yr	$3,000	$74,450	P,V
6	Ventilation System O&M Labor (2 hrs per month)	48	yr	$45	$26,900	P
7	Ventilation System Equipment Repair	2	yr	$500	$12,410	P
8	Ventilation System System Replacement	2	yr15	$17,400	$12,660	P
	SUBTOTAL OPERATION AND MAINTENANCE COST:				$279,550	
	O&M CONTINGENCIES (as a percent of the total present value)	15%			$41,933	
	HEALTH AND SAFETY CONTROL	10%			$27,955	
	TOTAL O&M COST :				$349,438	
	TOTAL ALT COST:				$695,240	

O&M Notes:

5. - 8.) Assumes ventilation system on 2 existing buildings

General Notes:

1.) Contingency percentages for capital costs were estimated from the Society of Cost Engineers model and site specific information

2.) O&M item costs are Present Worth values based on a 7% interest rate

3.) The total project cost is rounded off to the nearest $100.

4.) M= Means 1996, V= Vendor quote, P= previous project experience, E= Estimated value

APPENDIX C
GLOSSARY OF ACRONYMS

Acronyms:

1,1-DCE	1,1-Dichloroethene
1,2-DCE	1,2-Dichloroethene
1,1,1-TCA	1,1,1-trichloroethane
AFS	Amended Feasibility Study
AOC	Administrative Order by Consent
ARAR	Applicable or Relevant and Appropriate Requirements
bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
cis-1,2-DCE	Cis-1,2-Dichloroethene
CCl_4	Carbon Tetrachloride
COC	Chemicals of Concern
COPC	Contaminant of Potential Concern
CSM	Conceptual Site Model
CT DEP	Connecticut Department of Environmental Protection
CT RSR	Connecticut Remediation Standard Regulations
DEC	Direct Exposure Criteria
1,1-DCE	1,1-Dichloroethene
1,2-DCE	1,2-Dichloroethene
ELUR	Environmental Land Use Restriction
EPA	United States Environmental Protection Agency
ERA	Ecological Risk Assessment
ESD	Estimate of Significant Differences
FS	Feasibility Study
GW-1	Groundwater Alternative – 1
GW-2	Groundwater Alternative – 2
GW-3	Groundwater Alternative -3
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotient
IC	Institutional Control
LTMP	Long Term Monitoring Plan
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
O&M	Operation and Maintenance
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethene (or tetrachloroethylene or perchloroethylene)
PMC	Pollutant Mobility Criteria
ppb	Parts per billion
PRB	Permeable Reactive Barrier
PRP	Potentially Responsible Party
PSDs	Performing Settling Defendants
RAO	Remedial Action Objective

MCL	Maximum Contaminant Levels
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priority List for Superfund Sites
O&M	Operation and Maintenance
OSRR	Office of Site Remediation and Restoration
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act of 1986
SGI	Supplemental Groundwater Investigation
SSDA	Semi Solid Disposal Area
SVOC	Semivolatile Organic Compound
TCA	1,1,1,-trichloroethane
TCE	trichloroethene
VC	vinyl chloride
VOC	Volatile Organic Compound

APPENDIX D
ARARs TABLES

Table 1-1
Chemical Specific ARARs: Criteria, Advisories and Guidance
Old Southington Landfill Superfund Site
Southington, Connecticut

Medium	Requirements	Status	Synopsis of Requirement	Applicable Alternatives
Groundwater/ Vapor Intrusion	Federal EPA Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway From Groundwater and Soils	To Be Considered	Non-enforceable guidelines establishing pollutant concentrations which are considered to be adequate to protect indoor air quality.	GW1 GW2 GW3
Groundwater/ Vapor Intrusion	Connecticut Draft Characterization Guidance Document, dated June 12, 2000. Connecticut Draft 3/18/03 Proposed Revisions to Connecticut's Remediation Standard Regulations Volatilization Criteria, dated March 2003.	To Be Considered	Proposed standards for volatilization criteria	GW1 GW2 GW3
Groundwater/ Vapor Intrusion	Connecticut Remediation Standard Regulations (RCSA 22a-133k -3 (c))	Applicable	Establishes remediation standards for contaminated groundwater including standards for volatilization. Volatilization criteria address levels in groundwater that present a possible unacceptable risk where residential/commercial/industrial buildings are located above groundwater that exceeds these levels. Alternative GW1 does not meet this requirement. Alternatives GW2 and GW3 meet this requirement.	GW1 GW2 GW3

Table 1-1 (Continued)
Action Specific ARARs: Criteria, Advisories and Guidance
Old Southington Landfill Superfund Site
Southington, Connecticut

Medium	Requirements	Status	Synopsis of Requirement	Applicable Alternatives
Groundwater/ Vapor Intusion	CT Hazardous Waste Management: Generator & Handler Requirements – General Standards, Listing & Identification (RCSA 22a-449(c) 100-101)	Applicable	Establish standards for listing and identification of hazardous waste. The standards of 40 CFR 260-261 are incorporated by reference. Any waste material generated under this option that is determined to be hazardous shall be treated, stored and disposed of in accordance with these requirements.	GW2 GW3
Groundwater/ Vapor Intrusion	Environmental Land Use Restrictions (RCSA 22a-133q-1)	Applicable	Establishes requirements for placement of environmental land use restrictions.	GW2 GW3
Groundwater/ Vapor Intrusion	Connecticut Remediation Standard Regulations (RCSA 22a-133k -3 (c))	Applicable	Establishes remediation standards for contaminated groundwater including standards for volatilization. These regulations include options for addressing vapor intrusion. Alternative GW1 does not meet this requirement. Alternatives GW2 and GW3 meet this requirement.	GW1 GW2 GW3
Groundwater	Groundwater Monitoring 40 CFR 264 Subpart F	Relevant and Applicable	Standards for groundwater monitoring	GW2 GW3
Air	Connecticut Air Pollution Regulations – Fugitive Dust - RSCA 22a-174-18(b)	Applicable	Requires that reasonable precautions be taken to prevent particulate matter from become airborne during construction and material handling operations.	GW3
Groundwater	Connecticut Well Drilling Industry Regulations - RSCA 25-128-33 through 64	Applicable	Apply mainly to any new water supply or withdrawal wells. The rules specify that non-water supply wells must be constructed so that they are not a source or cause of groundwater contamination.	GW3
N/A	Federal – RCRA standards for hazardous waste generators – 40 CFR 262	Applicable	Generators of hazardous waste must obtain an EPA identification number, characterize waste streams, label and date containers, use a manifest and use an approved transporter.	GW2 GW3
N/A	Connecticut Guidelines for Soil Erosion and Sediment Control (May 2002)	To Be Considered	Provides technical and administrative guidance for the development, adoption and implementation of an erosion and sediment control program. May 2002 document also identified as DEP Bulletin 34.	GW3

APPENDIX E
CT DEP LETTER OF CONCURRENCE

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

August 24, 2006

Almerinda Silva
Remedial Project Manager
US EPA
1 Congress Street
Suite 1100 (HBT)
Boston Ma 02114-2023

Subject: Old Southington Landfill Proposed Plan

Dear Ms. Silva,

Staff of the Connecticut Department of Environmental Protection have reviewed the Proposed Plan dated June 2006 for the Old Southington Landfill Superfund Site. Technical comments have been provided by DEP staff on a variety of documents and topics throughout the long history of this site in the Superfund program. Although there may be some technical issues in which we are not in complete agreement, DEP concurs with EPA's approach to addressing the groundwater plume emanating from the Old Southington Landfill and the risks the plume poses to human health and the environment.

One specific concern DEP has with the Proposed Plan and the supporting documents is EPA's failure to identify and acknowledge Connecticut's Water Quality Standards and Criteria as ARARs, as has been done for all other NPL sites in CT for which remedies requiring action have been selected.

Sincerely,

Christine Lacas

Christine Lacas
Supervising Environmental Analyst
Remediation Division
Bureau of Water Protection & Land Reuse
CT DEP

APPENDIX F
REFERENCES

References:

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APPENDIX G
ADMININSTRATIVE RECORD INDEX

Old Southington Landfill
NPL Site Administrative Record
Final Record of Decision (ROD)

Index

ROD Signed
September 29, 2006

Administrative Record Released
October 16, 2006

Prepared by
EPA New England
Office of Site Remediation & Restoration

Introduction to the Collection

This is the Administrative Record for the Old Southington Landfill Superfund site, Southington, CT, Final Record of Decision (ROD) was released on October 16, 2006. The file contains site-specific documents and a list of guidance documents used by EPA staff in selecting a response action at the site.

This file updates and replaces the Administrative Record for the Final Record of Decision Proposed Plan, June 2006.

This file includes, by reference, the administrative record file for the Old Southington Landfill Interim Record of Decision (ROD), September, 1994.

The administrative record file is available for review at:

Southington Library & Museum
225 Main Street
Southington, CT 06489
860-628-0947 (phone)
860-628-0488 (fax)
http://www.southingtonlibrary.org/

EPA New England Superfund Records & Information Center
1 Congress Street, Suite 1100 (HSC)
Boston, MA 02114 (by appointment)
617-918-1440 (phone)
617-918-0440 (fax)
http://www.epa.gov/region01/superfund/resource/records.htm

Questions about this administrative record file should be directed to the EPA New England site manager.

An administrative record file is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

03: REMEDIAL INVESTIGATION (RI)

252933 **HYDROGEOLOGIC REVIEW OF REPORT ENTITLED "SUPPLEMENTAL REMEDIAL INVESTIGATION (RI) REPORT"**

Author: MARY JANE DAPKUS CT DEPT OF ENVIRONMENTAL PROTECTION
Addressee:
Doc Type: MEMO
Doc Date: 04/15/2005 **# of Pages:** 6
File Break: 03.06

258004 **HEALTH CONSULTATION, PUBLIC HEALTH EVALUATION OF GAS VENT SAMPLING DATA REPORTS**

Author: US DEPT OF HEALTH AND HUMAN SERVICES
Addressee:
Doc Type: REPORT
Doc Date: 10/04/2005 **# of Pages:** 12
File Break: 03.09

252931 **SUPPLEMENTAL REMEDIAL INVESTIGATION (RI) REPORT, REVISED (WITH TRANSMITTAL DATED 05/17/2006)**

Author: KLEINFELDER, INC.
Addressee: US EPA REGION 1
Doc Type: REPORT
Doc Date: 05/05/2006 **# of Pages:** 283
File Break: 03.06

252929 **RISK ASSESSMENT FOR GAS VENT VOC DATA, REVISION 1.1**

Author: W GARY WILSON KLEINFELDER, INC.
Addressee: ALMERINDA SILVA US EPA REGION 1
Doc Type: REPORT
Doc Date: 06/14/2006 **# of Pages:** 20
File Break: 03.10

03: REMEDIAL INVESTIGATION (RI)

252930 **APPROVAL OF RISK ASSESSMENT FOR GAS VENT VOC DATA, REVISION 1.1**

Author: ALMERINDA SILVA US EPA REGION 1
Addressee: DAVID E MONTANY PRATT & WHITNEY
Doc Type: LETTER
Doc Date: 06/19/2006 **# of Pages:** 1
File Break: 03.10

252934 **APPROVAL OF THE SUPPLEMENTAL REMEDIAL INVESTIGATION (RI) REPORT**

Author: ALMERINDA SILVA US EPA REGION 1
Addressee: DAVID E MONTANY PRATT & WHITNEY
Doc Type: LETTER
Doc Date: 06/19/2006 **# of Pages:** 8
File Break: 03.06

04: FEASIBILITY STUDY (FS)

252921 **COMBUSTIBLE GAS COMPREHENSIVE SUMMARY REPORT**

Author: W GARY WILSON MACTEC ENGINEERING AND CONSULTING INC
Addressee: ALMERINDA SILVA US EPA REGION 1
Doc Type: REPORT
Doc Date: 05/06/2006 **# of Pages:** 45
File Break: 04.02

04: FEASIBILITY STUDY (FS)

252920 **AMENDED FEASIBILITY STUDY (FS)**

Author: US EPA REGION 1
Addressee:
Doc Type: REPORT
Doc Date: 06/01/2006 **# of Pages:** 105
File Break: 04.06

253202 **PROPOSED PLAN FOR OLD SOUTHINGTON LANDFILL SUPERFUND SITE**

Author: US EPA REGION 1
Addressee:
Doc Type: FACT SHEET
Doc Date: 06/07/2006 **# of Pages:** 16
File Break: 04.09

258006 **REQUEST FOR PUBLIC COMMENT EXTENSION**

Author: TERRY DELAHUNTY SOUTHINGTON(CT)RESIDENT
Addressee: ALMERINDA SILVA US EPA REGION 1
Doc Type: MEMO
Doc Date: 07/21/2006 **# of Pages:** 1
File Break: 04.09

258007 **COMMENTS ON PROPOSED PLAN**

Author: CHRIS LACAS CT DEPT OF ENVIRONMENTAL PROTECTION
Addressee: ALMERINDA SILVA US EPA REGION 1
Doc Type: LETTER
Doc Date: 08/24/2006 **# of Pages:** 1
File Break: 04.09

05: RECORD OF DECISION (ROD)

256971 **FINAL RECORD OF DECISION (ROD) SUMMARY**

Author: RICHARD CAVAGNERO US EPA REGION 1
Addressee:
Doc Type: DECISION DOCUMENT
Doc Type: RECORD OF DECISION
Doc Date: 09/29/2006 **# of Pages:** 94
File Break: 05.04

256974 **CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION (CT DEP) LETTER OF CONCURRENCE WITH PROPOSED REMEDY FOR OLD SOUTHINGTON**

Author: GINA MCCARTHY CT DEPT OF ENVIRONMENTAL PROTECTION
Addressee: SUSAN STUDLIEN US EPA REGION 1 - OFFICE OF SITE REMEDIATION & RESTORATION
Doc Type: LETTER
Doc Date: 09/29/2006 **# of Pages:** 1
File Break: 05.01

06: REMEDIAL DESIGN (RD)

252351 **100% REMEDIAL DESIGN (RD) REPORT, LANDFILL CAPPING (WITH TRANSMITTAL DATED 02/29/2000)**

Author: CONESTOGA-ROVERS & ASSOCIATES
Addressee:
Doc Type: REPORT
Doc Date: 02/01/2000 **# of Pages:** 727
File Break: 06.04

06: REMEDIAL DESIGN (RD)

252352 **APPROVAL OF THE 100% REMEDIAL DESIGN (RD) AND REMEDIAL ACTION (RA) WORK PLAN**

Author: ALMERINDA SILVA US EPA REGION 1
Addressee: DAVID E MONTANY PRATT & WHITNEY
Doc Type: LETTER
Doc Date: 04/12/2000 **# of Pages:** 1
File Break: 06.06

07: REMEDIAL ACTION (RA)

252345 **FINAL INTERIM REMEDY REMEDIAL ACTION (RA) REPORT (WITH TRANSMITTAL DATED 09/24/2001)**

Author: CONESTOGA-ROVERS & ASSOCIATES
Addressee:
Doc Type: REPORT
Doc Date: 09/01/2001 **# of Pages:** 1199
File Break: 07.05

252346 **AS-RECORDED DRAWINGS, LANDFILL CAPPING**

Author: CONESTOGA-ROVERS & ASSOCIATES
Addressee:
Doc Type: DRAWING
Doc Date: 09/21/2001 **# of Pages:** 17
File Break: 07.05

07: REMEDIAL ACTION (RA)

252348 **APPROVAL OF THE FINAL INTERIM REMEDY REMEDIAL ACTION (RA) REPORT AND AS-RECORDED DRAWINGS LANDFILL CAPPING**

Author: DONALD F BERGER US EPA REGION 1
Addressee:
Doc Type: MEMO
Doc Date: 09/28/2001 **# of Pages:** 1
File Break: 07.05

252349 **RECOMMENDATION FOR APPROVAL OF THE FINAL INTERIM REMEDY REMEDIAL ACTION (RA) REPORT AND AS-RECORDED DRAWINGS LANDFILL CAPPING**

Author: ALMERINDA SILVA US EPA REGION 1
Addressee: DONALD F BERGER US EPA REGION 1
Doc Type: MEMO
Doc Date: 09/28/2001 **# of Pages:** 1
File Break: 07.05

252350 **APPROVAL OF THE FINAL INTERIM REMEDY REMEDIAL ACTION (RA) REPORT AND AS-RECORDED DRAWINGS LANDFILL CAPPING**

Author: DONALD F BERGER US EPA REGION 1
Addressee: DAVID E MONTANY PRATT & WHITNEY
Doc Type: LETTER
Doc Date: 09/28/2001 **# of Pages:** 3
File Break: 07.05

252347 **APPROVAL OF THE FINAL INTERIM REMEDY REMEDIAL ACTION (RA) REPORT AND DRAWINGS**

Author: DONALD F BERGER US EPA REGION 1
Addressee: DAVID E MONTANY PRATT & WHITNEY
Doc Type: LETTER
Doc Date: 04/02/2002 **# of Pages:** 1
File Break: 07.05

08: POST REMEDIAL ACTION

258013 **OPERATION AND MAINTENANCE (O&M) PLAN**

Author: CONESTOGA-ROVERS & ASSOCIATES
Addressee:
Doc Type: REPORT
Doc Date: 09/06/2001 **# of Pages:** 142
File Break: 08.03

258014 **OPERATION AND MAINTENANCE (O&M) PLAN, APPENDIX B: QUALITY ASSURANCE PROJECT PLAN (QAPP) ADDENDUM FOR VENT SAPLING PROGRAM AND APPENDIX E: VENT SAMPLING PROGRAM WORK PLAN**

Author: HARDING ESE
Addressee: US EPA REGION 1
Doc Type: REPORT
Doc Date: 10/05/2001 **# of Pages:** 308
File Break: 08.03

237343 **FIVE-YEAR REVIEW REPORT**

Author: US EPA REGION 1
Addressee:
Doc Type: FIVE-YEAR REVIEW REPORT
Doc Type: REPORT
Doc Date: 09/13/2005 **# of Pages:** 85
File Break: 08.03

256973 **GROUNDWATER USE AND VALUE DETERMINATION [9/29/06 CONCLUSIONS AND RECOMMENDATIONS LETTER IS ATTACHED]**

Author: CT DEP WATER COMPLIANCE UNIT
Addressee:
Doc Type: REPORT
Doc Date: 09/29/2006 **# of Pages:** 16
File Break: 08.04

10: ENFORCEMENT/NEGOTIATION

252356 **CONSENT DECREE, UNITED STATES DISTRICT COURT DISTRICT OF CONNECTICUT, CIVIL ACTION NOS. 3:99CV8 (GLG) AND 3:98CV236 (AHN)**

Author: US DEPT OF JUSTICE
Addressee: US EPA REGION 1
Doc Type: LITIGATION
Doc Date: 06/12/1998 **# of Pages:** 202
File Break: 10.08

252353 **UNOPPOSED MOTION TO ENTER CONSENT DECREE, UNITED STATES DISTRICT COURT DISTRICT OF CONNECTICUT, CIVIL ACTION NO 3:99-CV-0470 (JCH) AND 3:99-CV-0472 (JCH)**

Author: US DEPT OF JUSTICE
Addressee: US EPA REGION 1
Doc Type: LITIGATION
Doc Date: 05/14/1999 **# of Pages:** 8
File Break: 10.08

252354 **UNOPPOSED MOTION TO ENTER CONSENT DECREE, UNITED STATES DISTRICT COURT DISTRICT OF CONNECTICUT, CIVIL ACTION NO 3:99-CV-0470 (JCH) AND 3:99-CV-0472 (JCH)**

Author: US DEPT OF JUSTICE
Addressee: US EPA REGION 1
Doc Type: LITIGATION
Doc Date: 06/01/1999 **# of Pages:** 35
File Break: 10.08

252355 **UNOPPOSED MOTION TO ENTER CONSENT DECREE, UNITED STATES DISTRICT COURT DISTRICT OF CONNECTICUT, CIVIL ACTION NO 3:99-CV-0470 (JCH) AND 3:99-CV-0472 (JCH)**

Author: US DEPT OF JUSTICE
Addressee: US EPA REGION 1
Doc Type: LITIGATION
Doc Date: 06/01/1999 **# of Pages:** 36
File Break: 10.08

13: COMMUNITY RELATIONS

258005 **PUBLIC HEARING: RE: OLD SOUTHINGTON LANDFILL SUPERFUND SITE**

Author: US EPA REGION 1
Addressee:
Doc Type: PUBLIC MEETING RECORD

Doc Date: 07/06/2006 **# of Pages:** 6
File Break: 13.04

Number of Documents in Collection: 30

EPA Region 1 AR Compendium GUIDANCE DOCUMENTS

EPA guidance documents may be reviewed at the EPA Region I Superfund Records Center in Boston, Massachusetts.

TITLE
INTERIM FINAL GUIDANCE FOR CONDUCTING REMEDIAL INVESTIGATIONS AND FEASIBILITY STUDIES UNDER CERCLA.

DOCDATE	OSWER/EPA ID	DOCNUMBER
10/1/1988	OSWER #9355.3-01	2002

TITLE
RI/FS IMPROVEMENTS

DOCDATE	OSWER/EPA ID	DOCNUMBER
7/23/1987	OSWER #9355.0-20	2008

TITLE
RI/FS IMPROVEMENTS FOLLOW-UP

DOCDATE	OSWER/EPA ID	DOCNUMBER
4/25/1988	OSWER #9355.3-05	2009

TITLE
FEASIBILITY STUDY - DEVELOPMENT AND SCREENING OF REMEDIAL ACTION ALTERNATIVES [QUICK REFERENCE FACT SHEET]

DOCDATE	OSWER/EPA ID	DOCNUMBER
11/1/1989	OSWER #9355.3-01FS3	2018

TITLE
FEASIBILITY STUDY: DETAILED ANALYSIS OF REMEDIAL ACTION ALTERNATIVES [QUICK REFERENCE FACT SHEET]

DOCDATE	OSWER/EPA ID	DOCNUMBER
3/1/1990	OSWER #9355.3-01FS4	2019

TITLE
CONSIDERATIONS IN GROUND WATER REMEDIATION AT SUPERFUND SITES

DOCDATE	OSWER/EPA ID	DOCNUMBER
10/18/1989	OSWER #9355.4-03	2410

TITLE
INTERIM GUIDANCE ON SUPERFUND SELECTION OF REMEDY

DOCDATE	OSWER/EPA ID	DOCNUMBER
12/24/1986	OSWER #9355.0-19	9000

TITLE
GUIDE TO SELECTING SUPERFUND REMEDIAL ACTIONS

DOCDATE	OSWER/EPA ID	DOCNUMBER
4/1/1990	OSWER #9355.0-27FS	9002

TITLE
GUIDANCE ON PREPARING SUPERFUND DECISION DOCUMENTS: THE PROPOSED PLAN, THE RECORD OF DECISION, E.S.D.'S, R.O.D. AMENDMENT. INTERIM FINAL.

DOCDATE	OSWER/EPA ID	DOCNUMBER
7/1/1989	OSWER 9355.3-02	C179

TITLE
GUIDE TO PREPARING SUPERFUND PROPOSED PLANS RECORDS OF DECISION AND OTHER REMEDY SELECTION DECISION DOCUMENTS

DOCDATE	OSWER/EPA ID	DOCNUMBER
7/1/1999	OSWER 9200.1-23P	C525

TITLE
DRAFT GUIDANCE FOR EVALUATING THE VAPOR INTRUSION TO INDOOR AIR PATHWAY FROM GROUNDWATER AND SOILS (SUBSURFACE VAPOR INTRUSION GUIDANCE)

DOCDATE	OSWER/EPA ID	DOCNUMBER
10/20/2002		C574