RESPONSIVENESS SUMMARY
ENGINEERING EVALUATION/COST ANALYSIS

Carter Carburetor Site
St. Louis, MO

March 29, 2011

INTRODUCTION AND BACKGROUND

The U.S. Environmental Protection Agency (EPA) opened a public comment period on the Engineering Evaluation/Cost Analysis (EE/CA) for the Carter Carburetor Site commencing on September 27, 2010, and ending January 31, 2011. The EE/CA is an evaluation of cleanup alternatives based on the criteria of effectiveness, implementability and costs. In addition to the information and the analysis contained in the EE/CA, EPA must consider all significant written and oral public comments provided on the EE/CA during the public comment period prior to making a decision about the action which will be taken at the site. Based on the EE/CA and public comment, EPA may choose to implement the recommended alternatives identified in the EE/CA, other alternatives presented in the EE/CA, or entirely different alternative response actions.

On October 4, 2010, EPA held a public meeting to receive comments and answer questions about the EE/CA prepared for the Carter Carburetor Site. The EE/CA identified four separate areas of remediation with a preferred alternative for each area. These areas are the Carter Building, Inc. (CBI) building, the Willco Plastics building, the die cast area, and the trichloroethylene above-ground storage tank (TCE AST) area.

Public comments received by EPA were primarily focused on the CBI building. The majority of comments focused on the condition of the buildings and the need to do something to reduce or eliminate the negative impact the buildings and site conditions are having on the community. Some people wanted to see the buildings remain for posterity and to provide an opportunity for job creation, while others wanted the buildings completely demolished to enable redevelopment. Several people were concerned about the environmental risks posed by the site while others were concerned about environmental risks in a broader area throughout the city of St. Louis. Many of the citizens present at the public meeting indicated that the site documents were too technical and difficult to understand. Concerns were expressed regarding the slow progress and perceived delays in conducting the cleanup.

Public attention directed toward the site began to increase in 1984 when the Kennedy Study was released addressing revitalization of industrial properties in urban areas. As efforts to utilize the property progressed, elected officials and others became more aware of the presence of contamination remaining at the site. One official, interested in seeing the property redeveloped,

became active in efforts to clean up the site and ensure that potential contaminates at off-site properties did not pose a threat to public health.

The original Community Relations Plan (CRP), now referred to as a Community Involvement Plan (CIP), was developed in 1997 during implementation of a time-critical removal action that involved the demolition of the die cast buildings. During development of the initial CRP, area residents familiar with the Carter Carburetor property generally expressed more concern over the loss of jobs caused by the plant's closing than the presence of hazardous wastes or contaminants that might remain at the site. Generally, those interviewed had no knowledge of contamination at the plant, and no one alleged any adverse health effects or claimed to know anyone who had suffered harmful effects as a result of coming in contact with the site. Those who had moved into the neighborhood more recently were typically unaware of the presence of PCBs or other contaminants at the site. The primary concerns voiced by respondents during the interviews conducted during preparation of the initial CRP were frustration that the process had taken so long and that not enough information had been provided regarding the time-critical removal action.

During interviews conducted in 1997, residents, elected officials, and other community leaders expressed more concern about physical hazards and the deteriorated state of unoccupied portions of the plant than about environmental contamination. These concerns focused on the site's dilapidated appearance and the presence of a seemingly abandoned structure in the community that negatively impacted surrounding properties and depressed property values. Residents were concerned with the safety issues at the site, particularly with regard to the use of the building by the homeless. Demolition and removal of the die cast buildings was identified as a priority by nearby residents. Residents expressed the hope that someone might build a manufacturing plant that would provide jobs for the area or locate a supermarket on the property once the buildings were removed. Several community members supported expansion of the Herbert Hoover Boys and Girls Club of America onto the property.

Additional community interviews were conducted on August 12, 2009. The findings from these interviews were much different than the community interviews conducted in 1997. Almost all of the citizens interviewed expressed some concern with the possible adverse health effects associated with exposure to contamination at the site and several expressed concerns that the contamination may be spreading. There was general agreement that the remaining buildings should be torn down as they were an eyesore and a safety hazard to children and possibly to the homeless who use the buildings for shelter. There were concerns expressed about the level of government involvement at the site, and several citizens wanted the community's role to increase in planning for future use of the site.

During the EE/CA public comment period, held from September 27, 2010, through January 31, 2011, EPA received comments that indicated technical assistance was needed to better understand the EE/CA and other technical information. On January 24 and 25, 2011, EPA met with several local community groups that had formed to become active in the Carter Carburetor Site discussion. EPA conducted community interviews and answered questions about the EE/CA during these community meetings. Comments received during these community meetings are combined with other comments received during the public meeting and throughout

the extended public comment period with corresponding Agency responses in this responsiveness summary.

Summary of Comments Received During the Public Comment Period and Agency Responses

PART I -- LOCAL COMMUNITY CONCERNS

1. Several elected officials were present at the October 4, 2010, public meeting and provided statements. All were in support of cleaning up the site and were concerned about the deteriorated condition of this property and the negative impact it was having on the community. One official expressed concern over the potential migration of contamination under the street to areas where children play at Herbert Hoover Boys and Girls Club. This official also stated that material described as "green stuff" oozes out of the ground during rain events. All of the political representatives seemed to favor alternatives that removed the contamination and the buildings to enable beneficial reuse of the property.

***EPA Response**: EPA is also concerned for the health, safety and economic well being of the community. EPA has conducted investigations to characterize the direction of groundwater flow from the site and performed analyses of samples collected beneath the street and beneath the Boys and Girls Club. Based upon existing information, these investigations do not indicate contaminated material from the Carter Carburetor Site is traveling beneath the street toward the Herbert Hoover Boys and Girls Club or creating unacceptable levels of risk to children at this facility.*

With regard to concerns over "green stuff" oozing out of the ground, EPA believes that this may be related to a sealant that was used during the time-critical removal action that was conducted at the site in the late 1990s. This response action was performed by ACF, Inc., under an EPA administrative order, and included the demolition of two die cast buildings which were contaminated with PCBs and asbestos. The foundations of these buildings were left in place to provide a barrier to contaminated soils beneath the buildings. The foundations were cleaned and coated with a green epoxy coating, and then covered with limestone gravel. In the years since the response action was conducted by ACF, Inc., some of the gravel has eroded away from the foundations and exposed the green epoxy coating. Some of this coating may have separated from the foundation and represent the "green stuff" to which the representative was referring. The epoxy coating would tend to be more visible after a rainstorm as rock dust is eroded away from the foundation surface. The exposed surface of the foundation or coating material would not be expected to contain significant levels of PCBs, or represent a significant threat to human health. To address the community's concerns about off-site contamination, EPA plans to collect soil and vapor samples in off-site areas immediately surrounding the site, including the Herbert Hoover Boys and Girls Club.

2. Community members expressed frustration regarding the perceived lack of progress, stating that the cleanup is long overdue and should happen soon. Some attendees stated that the site is an eyesore that contributes to neighborhood blight.

***EPA Response**: EPA is aware of the negative impact site conditions are continuing to impose on the health and welfare of the community. EPA's efforts will focus on completing remaining cleanup activities as rapidly as possible to enable beneficial reuse of the property.*

3. Some community members feel that they are not being treated fairly and that delays in getting the property cleaned up has resulted in continued exposure to environmental contamination and has had negative economic and social impacts that would not be allowed to occur in other communities.

***EPA Response**: EPA is very much aware of concerns that the community's needs are not being addressed and recognizes the frustration over perceived delays and continued impacts from the site that the community believes would not be tolerated in other areas. EPA is working diligently to engage community members in the public participation and decision-making processes that will affect the future of the site and surrounding areas. EPA is very supportive of quickly moving forward with implementation of a cleanup which will eliminate the ongoing negative impacts and provide opportunity for beneficial reuse of the site by the community.*

4. Many comments expressed at the public meeting related to the potential reuse of the property. Specific examples of such comments are:

• EPA should demolish and remove site buildings to enable reuse of the property that benefits the local community, breathing new life into the neighborhood;

• Reuse of the site could provide jobs for local residents;

• The Herbert Hoover Boys and Girls Club should obtain the property for expansion of their facility;

• The site could be used as green space;

• Reuse could include multi-use redevelopment to include both youth activities and new businesses;

• Tax increment financing should be used to fund the site's redevelopment, thereby addressing the area's blight; and

• Positive reuse of the site could be achieved through public-private collaboration;

EPA also received a number of written comments from members of the nearby Lindell Park Neighborhood Association (LPNA) which were attached to technical and legal comments from the Washington University School of Law (see Part II, paragraph 21 below). The comments from the LPNA members largely reflected other comments received regarding reuse and public safety considerations. LPNA members expressed a preference for a wide variety of potential site reuse alternatives. Some members preferred to decontaminate the structure for renovation as a green building or as a job

training center for future green jobs. Others preferred demolition of the building to enable reuse possibilities which included a large retail store, worker or youth training center, high-tech education or technology center, recreational center, or a public park. One commenter expressed opposition to creation of strip malls and liquor stores. Many comments from LPNA members were focused on creation of jobs in the community. LPNA members expressed interest in performing the cleanup soon in a manner that protects the health of workers and neighboring residents. Some members specifically supported demolition and off-site disposal of contaminated materials.

***EPA Response**: EPA recognizes that there are differing opinions among community members about the fate of the Carter Carburetor Site. Some are supportive of building demolition and others would prefer decontamination and reuse of the building by a business that would provide jobs in the community. Both positions reflect the community's desire for the site to be cleaned up and made available for reuse. Overall, most community members indicate their desire to have the site cleaned up in a manner that protects public health during the cleanup process.*

EPA supports future use of the site that will provide positive opportunities for the community and improve overall conditions in the neighborhood. EPA's preferred alternatives will reduce contaminants to levels that would allow for any reasonable, non-residential reuse scenario. Since a portion of the site is privately owned, the specific future use of the site will be guided by private economic interests. Although EPA supports beneficial reuse of the property, EPA is limited in its ability to create or require specific uses of the property infrastructure, and will focus on restoring the site following cleanup activities in a manner that will allow beneficial reuse to occur.

5. The current owner expressed an interest in reusing the building shell for a charitable food warehouse and distribution operation employing 300 - 600 local residents, and stated that the property is under contract with a prospective developer for that purpose.

***EPA Response**: The EE/CA did evaluate an alternative which would remove the grossly contaminated material from the structure and rehabilitate it for potential commercial/light industrial future use (Partial Demolition and Replacement Alternative). However, this alternative was deemed unacceptable because it would leave residual PCB contamination in walls within the building which would require additional management. The partial demolition alternative would have a higher implementation cost than complete demolition due in part to costs associated with building rehabilitation that would be necessary to protect the response action following removal of grossly contaminated material and in part because of the additional cost of removing and disposing of PCB contamination in walls once the building reaches the end of its useful life or otherwise is abandoned. The partial demolition alternative is not the most cost-effective alternative.*

6. Individuals attending the October 4, 2010, public meeting expressed concerns about health-related issues associated with contaminated sites in the area, particularly for pregnant women and children, and stated that health costs to the community associated with the contamination should be weighed against the costs of cleanup.

***EPA Response**: EPA is required by the Superfund statute[1] to ensure the selected cleanup action is protective of human health as well as cost-effective. Protection of human health is a threshold criterion that must be met for all selected cleanup actions, but is not related to potential health care costs. However, EPA does recognize the significance of health care costs associated with exposure to contamination and physical hazards posed by the site in its current condition.*

Each of EPA's recommended alternatives will address health and safety concerns by reducing or eliminating the contaminants in both the soils and in the on-site buildings to acceptable levels. The primary removal action objective identified in the EE/CA is to make the site safe for any reasonable reuse scenario, except residential or day care. In the Aboveground Storage Tank TCE area, In-Situ Thermal Desorption will significantly reduce the TCE to levels that allow for recreational and/or commercial development. Total demolition of the CBI building will eliminate the threat posed by the PCB contamination as well as the physical safety issues such as falling bricks and broken glass. In-Situ Thermal Desorption in the Die Cast Area will reduce PCBs to below risk-based and regulatory levels.

7. An attendee at the public meeting commented that the site represents a public safety hazard, and that outdoor lighting could improve conditions around the building.

***EPA Response**: EPA recognizes that the site presents public safety concerns in its current condition. The CBI building owner has been notified of this issue.*

8. Participants at community meetings inquired about the depth of contamination and whether contamination has migrated beneath roadways or entered groundwater.

***EPA Response**: Subsurface soil investigations have determined that the PCBs remaining in the soils beneath the die cast buildings have migrated vertically to the limestone bedrock. These PCBs are mixed with various solvents such as TCE and petroleum hydrocarbons. However, lateral migration of the PCBs in the soil is limited to the general area beneath the die cast building foundations. Soil sampling has detected the presence of TCE at depths to bedrock in areas beneath the former storage tanks and buildings. Investigations have indicated that contaminants have entered groundwater from the site, but the extent of groundwater contamination has not been fully characterized and is unknown at this time.*

9. Concerns were expressed at the public meeting about management of the contaminants and demolition debris removed from the site.

***EPA Response**: Contaminated materials to be removed from the site will be properly characterized for hazardous constituents, and disposed of in accordance with the CERCLA Off-Site Policy as outlined in 40 C.F.R. Section 300.440 of the National Contingency Plan. Contaminants will be handled and transported in a manner that prevents further release of contamination into surrounding areas.*

[1] Superfund actions are conducted pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. Section 9601 et seq.

10. Concerns were expressed about the safety of nearby children and other community members during cleanup activities. Community members were concerned that possible airborne emissions that could occur during cleanup should be controlled and monitored, noting that asthma is a significant problem in the community. One commenter stated that testing should not be limited to just soil and air, but also include testing of individuals. Some citizens are concerned that health conditions of loved ones and other people they know may have been caused by exposure to contamination at the site. Community members indicated they have had difficulty getting their health concerns addressed by health officials.

***EPA Response**: The Superfund statute requires protection of human health during implementation of cleanup activities. Air monitoring will be performed as needed to ensure that airborne releases that threaten human health do not occur. The possibility of testing individuals to determine if exposure to site contaminants has occurred is best addressed by local or state public health officials. EPA will help facilitate discussions between appropriate health agencies and interested community members. Community members can also seek guidance on medical testing to assess personal exposure to environmental contaminants with their private health-care providers.*

11. During community interviews, attendees inquired how the contamination would be moved from the site, and if there would be disruption in the community during cleanup activities. A commenter asked how the contamination would be contained and prevented from being released into the environment.

***EPA Response**: Contaminated soil and building materials would be managed with conventional earthmoving and demolition equipment, utilizing water sprayed for dust suppression as necessary to control the generation of potentially contaminated dust. Erosion control will be employed to prevent migration of contamination by storm water runoff. Soil and debris to be removed from the site would be transported in covered trucks in accordance with local, state, and federal transportation requirements. Somewhat increased truck traffic associated with the cleanup would be expected along haul routes in the vicinity of the site. Cleanup activities will generally be limited to the building site and contaminated areas to the west of the building (TCE AST area) and should not result in significant disruption to the community during implementation.*

12. One commenter questioned whether the community would be better served and less impacted by in-situ thermal desorption or the more conventional excavation and hauling approach to the cleanup.

***EPA Response**: Both in-situ thermal desorption and conventional excavation offer distinct advantages that are discussed in the EE/CA prepared for the site. In consideration of human health protection, cost-effectiveness, and other factors described in the EE/CA, EPA has determined that thermal desorption is the preferred response action for the TCE AST area and the die cast area, and that that removal and off-site disposal is the preferred response action for the CBI building and portions of the Willco building. EPA has scheduled meetings with the community leaders to explain in-situ thermal desorption.*

13. One commenter asked if there would be additional off-site soil sampling to determine contamination levels.

***EPA Response**: The current action is limited to on-site contamination. Additional site characterization will be performed to evaluate potential off-site contamination. This future off-site sampling will not affect current activities.*

14. Some community members expressed a concern that the site is not secure and that homeless people may be entering the property. Residents were also concerned about potential exposure for children who attend the Herbert Hoover Boys and Girls Club located directly across the street. Community members also stated that the contaminated, abandoned, and deteriorated building has a negative impact on the youth who attend the Herbert Hoover Boys and Girls Club.

***EPA Response**: Although EPA does not currently control access to the building, EPA recognizes the physical and chemical hazards associated with the site and will work with the site owner and others to restrict the opportunity for the homeless and other members of the public to enter the building or otherwise be exposed to contamination. EPA recognizes the negative impact of site conditions on area youth. Testing performed by EPA to date does not indicate current exposure to contamination by children attending the Herbert Hoover Boys and Girls Club. It is anticipated that EPA's selected response action will address many of the community's stated concerns.*

15. Soon after the October 4, 2010, public meeting, EPA received comments from several prominent St. Louis civic organizations and political representatives announcing their support for the demolition alternative for the CBI building.

***EPA Response**: These comments will be considered by EPA and included in the Administrative Record for the response action to be conducted at the site.*

16. EPA also received several requests to extend the public comment period and allow more time to review the EE/CA and the supporting documents located in the information repository.

***EPA Response**: The National Contingency Plan requires EPA to extend the original comment period by no less than 15 days upon a request from the public. Pursuant to a public request, EPA extended the public comment period from October 27 to November 30, 2010. Prior to the expiration of the first extension, EPA received another request for an extension of the public comment period, and responded by extending the public comment period to January 31, 2011.*

17. Many individuals expressed concerns with the availability of the EE/CA document at the designated repositories, and difficulties in finding information needed to respond to the EE/CA alternatives. Community members also stated that they had difficulty finding information regarding EPA's preferred cleanup alternatives for the site. Many expressed

concern about the complexity of the documents including the EE/CA. The community would like EPA to present the technical information in laymen's terms.

***EPA Response**: With regard to the availability of information at the repositories, EPA has provided additional EE/CA-related information to the repositories and community leaders. EPA has also arranged for a Technical Assistance Support Contract (TASC) representative who will assist the community in understanding and providing input into technical issues during the cleanup process. EPA will confirm the availability of site-related documents at the designated document repositories. EPA is continuing to work with individuals and community groups to provide assistance in interpretation of technical information presented in the EE/CA and elsewhere regarding potential response actions at the site.*

PART II – EPA RESPONSES TO SPECIFIC TECHNICAL AND LEGAL ISSUES

During the public comment period, several legal and technical issues were raised by the public. The majority of technical and legal comments/questions came primarily from a few interested parties. The technical and legal issues are summarized with corresponding EPA responses as follows:

18. **Comments from Carter Building, Incorporated.** Carter Building, Inc. (CBI), is the current owner of the CBI and Willco buildings and is considered to be a Potentially Responsible Party (PRP). CBI hired an environmental consulting firm to review the EE/CA and provide technical input. CBI's consultant, SCI Engineering, Inc. (SCI), provided detailed comments on the EE/CA with attachments. The comments primarily focused on the sampling that was conducted in the CBI building, but also identified the need for groundwater sampling. SCI contends that the walls and columns of the CBI building and asbestos hazards have not been thoroughly characterized. SCI also suggested that the alternatives need to be compared to the owner's future use of the buildings. In addition, SCI presented results of indoor air samples collected to evaluate airborne asbestos levels inside the CBI building in an effort to show that asbestos fibers were not a problem for indoor workers.

    A. PCB Sampling in the CBI Building: SCI contends PCBs on or in the building walls were not sufficiently delineated, that the sampling grid should have been set at every 12 inches along the wall instead of the 36- to 42-inch-high sample grid adopted by MacTec. In addition, SCI questioned why the pipes and equipment were not wipe-sampled.

***EPA Response:** EPA believes the building has been sufficiently characterized for purposes of conducting an EE/CA and selecting appropriate response actions. Although collecting samples every 12 inches might better define the extent of contamination, it is unlikely it would change the outcome of the EE/CA evaluations, while unnecessarily increasing sampling costs. MacTec collected numerous samples from the walls, the analyses of which showed unacceptable PCB contamination on the first, second, and third floors. Collecting samples on a tighter grid closer to the floor would be expected to further confirm the presence of contamination on the walls.*

The wall contamination would have to be addressed in any of the CBI building's alternatives in the EE/CA and the CBI building would not be considered clean until the contamination was reduced to acceptable levels. Therefore, collecting more samples in the CBI building would add unnecessary significant costs to the non-demolition alternatives. Also, it is likely that PCBs in the porous masonry could not be effectively removed without structural damage to the walls, which could make the non-demolition alternatives not implementable. EPA believes the demolition alternative for the CBI building provides the best long-term protection for human health and the environment and is the most cost-effective alternative.

As for the lack of wipe samples on pipes and other equipment, all the CBI building alternatives would require sampling during implementation. For the demolition alternative, sampling would be required to determine the proper means of disposal. For the non-demolition alternatives, sampling of pipes and equipment would be required to determine the existence of contamination and, if necessary, subsequent cleanup methods.

B. Asbestos Sampling: SCI contends previous asbestos sampling conducted by MacTec was not representative of the ambient air or of exposure risks related to performing work that does not directly disturb asbestos-containing materials. SCI contends personal protective equipment or respiratory protection would not be required in conducting cleanup activities in the building.

EPA Response: *EPA disagrees that the ambient air sampling for asbestos method presented by SCI should be used to determine the required level of personal protective equipment. EPA prefers to determine health and safety requirements by conducting activity-based sampling while persons are working in the building (in level C personal protective equipment) which is more representative of actual exposure conditions. EPA has observed potentially friable asbestos in the building and it is likely that previously intact asbestos has become more friable due to the continued deterioration of the CBI building. Since all EE/CA CBI building alternatives will require an asbestos assessment prior to implementation of the selected response action, EPA does not believe such an assessment is necessary prior to selecting the response action for the CBI building. An asbestos assessment will be part of the response implementation work plan.*

C. Groundwater Sampling and Vapor Intrusion. SCI correctly points out that groundwater is a potential exposure pathway for indoor inhalation of vapors.

EPA Response: *Groundwater sampling and vapor intrusion issues are addressed in the Remaining Concerns Section (Part II, paragraph 22, below). The EE/CA settlement agreement with ACF Industries, Inc. (ACF), and the EE/CA are focused on removal of the sources of groundwater contamination. EPA agrees the vapor intrusion issues have not been fully evaluated and groundwater has not been fully characterized. However, EPA believes these issues can be addressed outside the scope of the current EE/CA.*

D. The EE/CA Does Not Consider Current Plans for Future Uses. SCI contends the EE/CA should consider the future use of the site, as presented by a prospective purchaser of the CBI building, in selecting the appropriate response action.

EPA Response: *Implementation of EPA's recommended response action for the CBI building (demolition) will not prevent the prospective purchaser from operating its proposed food distribution business on the CBI building property. However, replacement of the demolished building is not part of the demolition alternative. (also see EPA response in Part II, paragraph 20.B, below).*

19. **Comments from the Voyage of Formative Years.** The Voyage of Formative Years Foundation (Voyage) asserts itself as a prospective purchaser of the CBI and Willco buildings and property. Comments from Voyage have suggested an additional alternative that was not specifically evaluated or considered in the EE/CA. That proposal is to remove the second, third, and fourth floors of the building without replacement. Voyage claims this would allow them to conduct their proposed operations, creating 300 to 600 jobs and tax revenue for the local economy. In previous correspondence with this commenter, it appears the operations proposed in this building include the growing, packing, and distributing of all forms of food products to the poor and indigent. Voyage also contends that demolition option should include the cost of a replacement building.

EPA Response*: Voyage's proposal to remove the second, third, and fourth floors and not replace them was not accompanied with details sufficient enough to allow EPA to determine whether or not the proposal is a feasible alternative to demolition. Although all floors of this building show unacceptable contamination levels, the first floor is, by far, the most contaminated with PCBs. Any removal option short of demolition must address the PCB contamination on the first floor, including the walls, and possibly columns. The alternatives in the EE/CA that leave the CBI building in place (Partial Removal and Replacement Alternative and the Epoxy Coating Encapsulation Alternative) envisioned future commercial/industrial use of the site. The Streamlined Risk Assessment conducted by ACF as part of the EE/CA process did not consider the introduction of food or a food-distribution business as part of a reasonable, commercial/industrial future-use scenario. That potential future use was only identified by the owner a few weeks prior to the initiation of the EE/CA's public comment period.*

Consideration of the commenter's proposed alternative would require revisions to the EE/CA and accompanying Streamlined Risk Assessment, which would, in all likelihood, delay EPA's selection of the response action for a minimum of one year. It is uncertain whether the commenter's proposed alternative for the CBI building is feasible, and if PCB contamination could be removed or reduced to levels that would allow food-processing operations. EPA has not received sufficient details to adequately evaluate this new alternative in the current EE/CA process. Furthermore, EPA has no assurance that the proposed venture would provide the stated number of jobs and other opportunities for this community. With the information currently available, it is unknown whether this proposal would prove to be an acceptable alternative based upon the comparative criteria of protectiveness, implementability, and cost effectiveness. Because of the lack of adequate information concerning the commenter's proposal and the community's strong desire to proceed with a response action at the site as soon as possible, EPA does not believe the EE/CA should reopened.

20. **Comments from ACF.** ACF was the parent corporation to the former Carter Carburetor Corporation. ACF is considered to be PRP and conducted the EE/CA under an

administrative agreement and consent order. ACF comments can be summarized under four headings as follows:

A. Direct Involvement of Additional PRPs: ACF argues that EPA should include the buildings' owners and managers in future negotiations and subsequent cleanup agreements. ACF cites the condition of the building as a primary reason that EPA chose the demolition option as the recommended alternative for the CBI building.

***EPA Response**: The owner of the buildings is considered to be a responsible party by EPA. EPA anticipates the owner will be included in future negotiations to implement the selected response action and in any subsequent agreements.*

The poor condition of the CBI building was a consideration in EPA's recommendation of the demolition alternative, but it was not the primary reason. The epoxy encapsulation alternative that ACF originally preferred only represents an interim response action that would ultimately result in the doubling of costs when compared to the demolition alternative when one considers the eventual disposal cost of the PCB-contaminated building debris. Likewise, the partial removal and replacement alternative was not considered as cost effective as the demolition alternative for the CBI building.

The recommended demolition alternative for the CBI building has lowest overall costs of the alternatives considered in the EE/CA. In the case of the Carter Carburetor Site, EPA expects the responsible parties to implement the selected response action. With other factors such as protection of human health and the environment and implementability being equal, the less costly option represents the most cost-effective alternative.

B. CERCLA Does Not Allow the Cleanup Selection to be Based Upon a Desire to Rehabilitate the Area:

***EPA Response**: The requirements for community relations in removal actions are set forth in the National Contingency Plan (NCP) at 40 C.F.R. Section 300.415(n). Some community relations requirements include conducting interviews with local officials, community residents, public interest groups, and other interested parties, as appropriate, to solicit their concerns, information needs, and how or when citizens would like to be involved in the Superfund process. While consideration of the community's desire of "future use" of a site is not specified in the NCP, EPA guidance and policy does suggest that all reasonable future uses of the site should be considered in developing response action alternatives. In the case of the Carter Carburetor Site, the future uses that were considered reasonable were identified early in the process and were identified as commercial/industrial and recreational. Regardless of which alternative is selected by EPA, the selected alternative will be consistent with the reasonable future uses that were identified early in the EE/CA process. Selection of the demolition alternative for the CBI building does not establish the future use of the site. The buildings and the property upon which they sit are privately owned. It is up to the owner to decide what the future use of the site should be once the selected response action has been implemented. While community members have differing views regarding the future use of the site, it is the property owner who will ultimately decide what future use will occur.*

C. The Identified Preferred Remedy of Demolition of the Buildings is Not the Most Appropriate Remedy for the Site: ACF argues that epoxy coating is the most appropriate removal alternative for this site and that the EE/CA supports this conclusion.

***EPA Response**: Epoxy coating encapsulation is an interim response action, and not a permanent action, as the PCBs would remain in place and rely upon the continued integrity of the coating to ensure long-term protectiveness. EPA cannot predict future events that could potentially result in the release of residual PCBs (i.e., fire, tornado, structural failure, earthquake, etc.). In the event of a future release of PCBs from the building under catastrophic circumstances, additional response actions would be required to provide protection of human health. Future response actions to address the residual PCBs is a capital cost that must be accounted for in all alternatives that allow PCBs to remain in the building above regulatory or health-based levels.*

As an example of possible consequences of unforeseen events, EPA points out that the Carter Carburetor Engineering Laboratory on Spring Street caught fire and had to be demolished by the city of St. Louis using taxpayer funding. A large fire at the CBI building necessitating building demolition would add to the expense and risk of managing debris, and could also result in the release of PCBs into the sewer system or groundwater through the use of firefighting water needed to extinguish a large fire. In addition, the heat generated from such a fire could possibly generate polychlorinated dibenzodioxins and furans, thereby potentially increasing the toxicity of the contamination at the site.

Catastrophic events are a concern for the Carter Carburetor Site. The city of St. Louis recently experienced severe weather which damaged many homes and structures not far from the Carter Carburetor Site. On December 31, 2010, a tornado touched down near the corner of Delmar Boulevard and North Taylor Avenue causing damage to roofs of apartments, condominiums and townhomes, severely damaged several brick structures, destroyed numerous decks, chimneys and carports, and uprooted trees along its three-mile path before crossing the northwest corner of Fairgrounds Park and lifting near Lee Avenue in the O'Fallon neighborhood. Fairground Park is less than six blocks north of the Carter Carburetor Site. The St. Louis area is also subject to potential earthquake damage from the New Madrid Fault Zone that has been predicted to cause widespread damage throughout the Midwest and especially in St. Louis. Any such event may cause the CBI building to become unusable and require management of PCBs through total demolition or other PCB removal process. EPA would require that a fund be established to protect the taxpayers from the inevitable PCB management and disposal costs resulting from building demolition or other PCB treatment/disposal actions. This fund must be considered a future capital cost to be used when an additional response action to address the residual PCBs remaining in the buildings occurs.

Considering the location of this site, in the middle of a major city in a mixed residential and commercial area, EPA does not believe it would be appropriate to select an alternative for the buildings that would leave PCBs in place.

D. The PCBs Associated With Soil Beneath the Die Cast Buildings and With the Sewer Do Not Pose a Risk to Human Health or the Environment: ACF originally proposed that soil remaining beneath the former die cast area be left in place and capped. ACF contends the PCBs will not migrate in soil and are relatively stable, and that the PCBs currently on site beneath the former die cast buildings pose no threat to human health or the environment, and thus, there is no reason to remove them.

EPA Response: *EPA responded to and rejected ACF's claims that PCBs do not migrate at the site in a letter dated June 9, 2010, which is also an attachment to the EE/CA. In this letter, EPA cited numerous documents and a case study which supported migration of PCBs through soil, especially when mixed with solvents. The data from site samples clearly shows the presence of liquid PCBs and solvents intermixed with the PCBs. The transport of PCBs increases dramatically as a liquid and more so when mixed with solvents (i.e., TCE, gasoline, or petroleum-based solvents). This transport and migration of PCBs is further enhanced by the presence of Karst Geology which is characterized by solution channels that could potentially allow direct colloidal flow of PCBs and other contaminants to the Mississippi River. High concentrations of PCBs have been detected to bedrock at the site. Groundwater levels have been shown to be above the bedrock, which clearly shows PCBs have migrated to the groundwater through the overlying soil. This migration likely occurred when the die cast buildings were in place which would have acted like a cap. These facts directly conflict with the claim that PCBs do not migrate through soil at the site. This release of significant concentrations of PCBs to the groundwater may present a threat to human health or the environment. In addition, one of the removal objectives agreed to in the settlement agreement was to halt the further migration of hazardous substances from the site. If effective, the ISTD/VE alternative would accomplish this removal action objective. EPA believes it is unlikely that simply capping the PCB-contaminated soils would halt migration of the contaminants from the die cast area into the groundwater.*

21. Lindell Park Neighborhood Development Association. EPA received a comment letter from the Environmental Clinic at the Washington University School of Law representing the Lindell Park Neighborhood Development Association. Attached to the comment letter was a fact sheet which erroneously described the Carter Carburetor Site as a Brownfield site asking the residents of Lindell Park Neighborhood to provide comments to EPA. The Lindell Park residents' comments are summarized and responded to above in Part I. Comments provided by the clinic were technical and legal in nature and are grouped into headings and summarized for response as follows:

A. The Site Presents a Prime Opportunity for Brownfield Redevelopment:

EPA Response: *A Brownfield site is defined in Section 101(39)(A) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. Section 9601(39) (A), as real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of hazardous substances, pollutant or contaminant. A Brownfield site does not include, among other exceptions under Section 101(39)(B) of CERCLA: (i) a facility that is the subject of a planned or ongoing removal action …; and (iii) a facility that is subject of a unilateral administrative order, a court order, an*

administrative order on consent or judicial consent decree that has been entered into by the parties … .

Even though Section 101(39)(C) of CERCLA allows the President to provide financial assistance to an eligible party at certain sites excluded from the definition of a Brownfield site in Section 101(39)(B) of CERCLA, if he finds that financial assistance will protect human health and the environment, and either promote economic development or enable the creation of , preservation of, or addition to parks, greenways, undeveloped property, other recreational property, or other property used for nonprofit purposes, this section does not allow funding to sites that have been excluded from the definition of a Brownfield site by virtue of Section 101(39)(B)(iii). In the instant case, the Carter Carburetor Site is and will be subject to a unilateral administrative order, a court order, an administrative order on consent, or judicial consent decree in order to implement the selected response action at the site.

The Carter Carburetor Site is not a candidate for Brownfield funding. Historically, EPA has declined to designate a site as a Brownfield site where viable responsible parties exist who are capable of implementing the required response actions. For the Carter Carburetor Site, a potentially responsible party is participating in the Superfund process and has completed an EE/CA in accordance with an administrative order. EPA anticipates continuing participation by potentially responsible parties in implementing the selected response action. As described above, eligibility for Brownfield funding is subject to statutory limitations that exclude sites where Superfund response is proceeding under an enforcement agreement.

Brownfield funding is generally limited in scope, and made available only in cases where both the site and the applicant are found to be eligible recipients. Under favorable circumstances, Brownfield grants can be awarded for site assessment, job training, loans, and cleanup actions, but the magnitude of these grants is small in comparison to the funding requirements for the Carter Carburetor Site. For instance, Brownfield cleanup grants are limited to a maximum of $200,000 by statute, which is far short of the funding level needed for cleanup of the Carter Carburetor Site. Brownfield grants are typically utilized in combination with economic development grants, tax deferrals, and other public and private funding mechanisms to promote or assist with development of impacted properties.

The comments provided by Washington University School of Law on behalf of the Lindell Park Neighborhood Development Association identify several redevelopment projects where Brownfield funding contributed to a successful outcome. In each of the five projects cited in the comments, circumstances were substantially different than the situation at the Carter Carburetor Site, where a viable potentially responsible party is participating in the Superfund non-time-critical removal response process. In each of the five cases cited, there were no potentially responsible parties under Superfund that were capable of performing assessment or cleanup activities.

The Merchandise Mart Building, cited as an example of successful redevelopment, was vacant from 1984 through 2001 when a restoration plan was approved. Contaminants included asbestos, lead-based paint, solvents, and PCBs. Funding for the redevelopment originated from a Danforth Foundation loan and the sale of State and Federal Historic Tax Credits and Federal

Low Income Housing Credits. Brownfield State Remediation Tax Credits generated an additional $1.6 million toward total tax credit equity of $22.6 million. In addition, the city of St. Louis provided tax abatement and invested $17.5 million in streetscape renovation. The Merchandise Mart Building now contains 213 apartments and street-level retail. Retailers added more than $1 million in additional improvements to the building. No PRPs capable of performing the cleanup were identified or involved, and no direct funding through the Brownfield grant programs or Superfund was used to support this redevelopment.

The former City Hospital in St. Louis is another cited example of successful redevelopment. The abandoned, dilapidated structure was contaminated with asbestos, lead-based paint, PCBs, oils, and refrigerants. Underground storage tanks were also present at the site. A Brownfield assessment grant was issued in 1998, and assessment work was performed by the Army Corps of Engineers on behalf of the city of St. Louis Reutilization Authority in 1999. This assessment work spurred the development of the property by a private entity, Gilded Age Renovation. The development was aided by funding through the U.S. Department of Housing and Urban Development, and received Brownfield remediation tax credits and historic area tax credits. No viable PRP existed that was capable of implementing assessment or cleanup work. There was no Superfund response or responsible party participation in assessment, cleanup, or redevelopment efforts.

The city of Stamford, Connecticut, recognized as a Brownfield Showcase Community in 1998, received a number of Brownfield grants that aided the assessment and restoration of two properties on Pacific Street totaling 0.672 acres. This Brownfield project pre-dates the Brownfield statute during a period when Superfund resources were used to fund Brownfield activities. Brownfield assistance to the city of Stamford included $750,000 to capitalize a revolving loan fund. Two dilapidated buildings were located on the Pacific Street properties that were impacted by metals, petroleum hydrocarbons, and PCBs. A private entity, Blues Brothers, LLC, purchased the property and received a $160,000 loan in 1999 from the City Brownfield Cleanup Revolving Loan Fund that enabled redevelopment that has included a new Harley-Davidson motorcycle showroom. The city of Stamford served as the lead agency, receiving site management support funded through Brownfield program from the Army Corps of Engineers. There was no identified PRP under Superfund capable of performing the assessment, cleanup, or redevelopment of these properties.

The former Montgomery Ward east coast catalog distribution center in Baltimore, Maryland, was idled when Montgomery Ward eliminated its mail-order business in 1985. The deteriorating structure was contaminated with asbestos, lead-based paint, petroleum hydrocarbons, and PCBs. Underground storage tanks were also present on the property. A combination of public and private funding was used for the $100 million renovation that included an $8 million HUD Section 108 loan guarantee, HUD Brownfield Economic Development Initiative grant ($1 million), and grants from the Empower Baltimore Management Corporation ($4.5 million), the Lubert Adler Real Estate Fund ($1 million), and the Maryland Department of Business and Economic Development Brownfield's Revitalization Incentive Program ($2 million). Additional improvement was funded by tenants. The developers also received $13.9 million in state tax credits and $13.7 million in Federal tax credits. This project was awarded the prestigious

Phoenix Award national grand prize in 2003. There was no Superfund response activity or participation of a PRP in the assessment, cleanup, or redevelopment of the property.

The Bates of Maine Woolen Mill in Lewiston, Maine, is the final example of successful redevelopment cited by Washington University. This former industrial facility was largely vacant since 1992, and was acquired by the city of Lewiston through a tax delinquency action. In the absence of viable PRPs, EPA performed a removal action in 1998 to address contaminants that included polycyclic aromatic hydrocarbons (PAHs), metals, PCBs, volatile organic compounds (VOCs), lead, asbestos, and petroleum products. Following completion of Superfund removal response activities by EPA, the city of Lewiston was able to perform an assessment of the property through EPA Brownfield Assessment grants totaling $275,000. In 1999, a $500,000 Brownfield Revolving Loan Fund was set up to further assess and remediate the former mill. Through EPA funding, the City was able to leverage a total of $41 million from Federal, state, and local sources, including $15 million in private investments. Brownfield funding would not have been possible if PRPs existed under Superfund and were capable of performing site characterization and cleanup activities.

In summary, the commenter provides a number of examples of successful redevelopment that have occurred using a combination of public and private financing. Circumstances differ from these examples at the Carter Carburetor Site where a viable PRP capable of conducting assessment and cleanup activities is participating in the Superfund non-time critical removal response process. The EE/CA has been prepared by ACF as part of this process, and EPA anticipates further participation by ACF and other PRP(s) in the implementation of the response action. The existence of a viable PRPs renders the Carter Carburetor Site ineligible for Brownfield funding to support redevelopment.

B. The EE/CA Fails to Describe Why an Alternative was Selected: The commenter claims EPA fails to describe why the preferred alternative was recommended over the other alternatives and claims this is sufficient reason to require modification of the EE/CA and re-release of the EE/CA for additional public comment. The commenter claims the EE/CA analysis gives too much weight to costs and fails to take into account the community's interest in the future uses of the site. In making the argument for revising the EE/CA and reopening public comment, the commenter adds emphasis to excerpts from EPA guidance. For example, the commenter states:

> "EPA's 'Guidance on Conducting Non-Time-Critical Removal Actions under CERCLA' (Guidance) requires the EE/CA to include a section that identifies and justifies the recommended removal action alternative. This section shall include both a description of the evaluative process used to develop the recommended alternative among the various other alternatives that have been studied and shall clearly describe why the alternative was recommended." (emphasis provided)

***EPA Response**: EPA disagrees with the commenter and believes the commenter misinterpreted the meaning of excerpts from the guidance. The referenced guidance in Section 2.8 states:*

> *"The EE/CA should identify the action that best satisfies the evaluation criteria based on the comparative analysis in the previous section. This description should briefly describe the evaluation process used to develop the recommended action." (emphasis added).*

Clearly, the guidance does not mandate that EPA satisfy each and every suggestion in preparing the EE/CA Report. In fact, the guidance provides a Notice on page ii that states:

> *"The policies and procedures set forth herein are intended solely as guidance … U.S. Environmental Protection Agency officials may decide to follow this guidance or act at variance with it, based on an analysis of specific site circumstances."*

EPA believes the Recommended Alternatives Section of the Carter Carburetor EE/CA clearly identifies the actions that best satisfy the evaluation criteria. The EE/CA also describes the evaluation process used to develop the recommended actions as suggested by the guidance.

EPA has encouraged public participation in the review of the EE/CA and the Administrative Record and actively solicited public input regarding EPA's recommended alternative for the site.

> **C. Cost Difference Is Not a Determinative Factor in Choosing a Remedy:** The commenter claims that EPA unduly chooses cost as the driver for recommending its recommended alternatives. The commenter correctly points out that the final remedy should be the most cost-effective and not the least costly. The commenter then refers to the Aerovox Site in Bedford, Massachusetts, the Elizabeth Mine Site in Vermont, and the Nuclear Metals Site in Concord, Massachusetts, as examples where EPA chose a more expensive alternative as the final remedy.

***EPA Response**: EPA agrees that cost is not the single most important criteria to be considered at the exclusion of other factors. EPA's selection of a response action is based upon a determination of the alternatives that best satisfies the criteria of effectiveness, implementability and cost. The comments provided by Washington University School of Law on behalf of the Lindell Park Neighborhood Development Association provide several examples of sites where EPA has selected a response action that is not the least costly alternative. EPA acknowledges that the selected alternative is not always the least costly, and provides the following discussion of circumstances that pertain to the cited examples.*

The Aerovox Site in New Bedford, Massachusetts, is a former industrial facility that used PCBs in the manufacture of electrical capacitors and transformers. This site borders a large, densely populated, urban residential neighborhood, and is considered a major source of PCB contamination into the adjacent New Bedford Harbor. Soils and groundwater at the site and the building itself were contaminated with PCBs. During the EE/CA process for the Aerovox Site in 1998, performed by a PRP, two alternatives were considered that might have allowed continued use rather than demolition of the existing building. Alternative A involved removal of PCB wastes from building members, ($13.2 million) and Alternative B consisted of encapsulation of PCB wastes in building components ($4.5 million). Both alternatives were ultimately rejected in

favor of building demolition after a surface cleaning pilot study of non-porous surfaces indicated that one-time decontamination efforts (common to both alternatives) did not achieve required cleanup criteria. The final 1998 EE/CA carried three alternatives forward for final comparison, which included: (1) leaving the concrete foundation in place [$15 million]; (2) partial removal and disposal of the foundation [16.4 million]; and (3) complete removal and disposal of the foundation [$18.1 million]. Other elements involving asbestos abatement, building demolition, and capping were common to all alternatives. The EE/CA was released for public comment identifying Alternative A as EPA's preferred alternative, concluding that it was equally effective and implementable as the other two alternatives and significantly less costly. After completion of the 1998 EE/CA, the PRP filed for bankruptcy protection which caused a significant delay in executing the cleanup. Considerable deterioration of the building occurred following abandonment of the building in 2001, and potential air emissions and water runoff that could have resulted from a fire were a chief concern. A supplemental EE/CA was prepared by EPA in 2006 that updated the three previous alternatives and developed two new alternatives that would leave the building foundation in place: (1) building demolition with disposal of all demolition waste on-site [$7.9 million]; and (2) building demolition with off-site disposal of demolition waste [$14.5 million]. The supplemental EE/CA evaluating the five alternatives was released for public comment identifying New Alternative 1, demolition and on-site disposal as EPA's preferred alternative. In response to nearly unanimous opposition to the on-site disposal alternative, EPA selected New Alternative 2, demolition and off-site disposal that avoided disposal of contaminated demolition wastes on-site. The selected response action for the Aerovox Site was neither the least costly, nor the most costly of the alternatives evaluated in the EE/CA process, and reflected the best balance of the decision-making criteria of effectiveness, implementability, and cost. The PRP for the Aerovox Site entered into a settlement agreement with EPA in June 2010, that provides for implementation of the selected response action.

The Elizabeth Mine Site is an abandoned copper mine near the Village of South Strafford, Vermont. The comment by Washington University pertains to a non-time-critical removal action that was selected in 2002 as an interim response measure to stabilize the site while the final remedy was developed. The extensive site consists of two mine tailings piles, one area of waste rock and heap leach piles, two open-cut mines, several adits (horizontal mine entrances), underground shafts and tunnels, ventilation shafts, and several former ore-processing buildings. The mine operated from 1793 to 1958, and encompassed approximately 1,400 acres. Tailings Pile No. 1 covers approximately 30 acres and Tailings Pile No. 2 overlies approximately five acres of Tailings Pile No. 1. Tailings Pile No. 3 covered approximately six acres and includes multiple piles of course-textured material and slag. Many underground areas are flooded with water and discharge acid mine drainage to the ground surface and streams which, in turn, discharges into the Ompompanoosuc River. The three tailings pile areas had been identified as the major source of contamination and acid rock drainage at the site. An on-going non-time-critical removal action was initiated in 2002 concurrent with a remedial investigation/feasibility study (RI/FS). The non-time-critical removal is being performed in two phases. The first phase involves a shallow groundwater and surface water diversion system. Elements of the second phase, planned for completion in 2012, include relocation of waste rock at Tailings Pile No. 1, containment of Tailings Piles Nos. 1 and 2 with an impermeable cover, and removal of Tailings Pile No 3. Alternatives in the EE/CA were evaluated for effectiveness, implementability, and cost. Effectiveness included the ability of alternatives to comply with Federal and state

applicable or relevant and appropriate requirements (ARARs). Since only alternatives 2B, 2C, and 3B complied with state management regulations for a cover system, only these three alternatives were considered eligible for selection. The non-time-critical removal alternative selected by EPA was alternative 2C, which involved installation of a multi-layer infiltration barrier system (cap). The estimated capital costs of the selected alternative ranged from $13.8 million to $16 million. A number of alternative technologies were analyzed in the EE/CA which included elements common to the preferred alternative but differed in the type of cover system to be installed over the tailings piles and degree of consolidation of the two primary tailings piles. Alternatives 2B ($13.8 to $16.7 million) and 2C ($13.8 to $16 million) had the same multi-layer cover system but differed because alternative 2B would consolidate Tailings Pile No. 2 onto Tailings Pile No. 1 to reduce the size of the cover. Alternative 3B ($12.4 to $15.6 million) involved installation of a 42-inch vegetated soil cover. In addition to direct capital costs, the EE/CA also considered indirect capital costs and post-removal site control costs (operation and maintenance). All three eligible alternatives were considered effective and implementable. The only significant difference between alternatives was the proposed cover systems for the tailings piles. EPA selected Alternative 2C as the best balance of human health and environmental protection considering effectiveness, implementability, and cost of each eligible cleanup option. The estimated range of costs associated with the selected alternative is slightly less, but overlapped the cost range for Alternative 2B. The cost range of the third eligible alternative, Alternative 3B, are also very similar and overlapped the cost range of the selected alternative. Actual costs were anticipated to be controlled primarily by the cap design, degree of pile consolidation, and the extent of preservation land provided. Cost ranges associated with each alternative were very similar. The selected non-time-critical removal response action represented neither the most costly, nor least costly, of the non-time-critical response alternatives evaluated for the Elizabeth Mine Site.

The commenter refers to a non-time-critical removal action performed at the Nuclear Metals Inc. (NMI) Site as an example of the most costly response selected by EPA. The NMI Site is located on a 46-acre parcel in Concord, Massachusetts. The former facility included five interconnected buildings, a paved parking area, a sphagnum bog, a cooling water recharge pond, and a holding basin. The site is bordered by the Assabet River, and commercial and residential properties. NMI began producing depleted uranium products in 1958, and also handled thorium under license to the Nuclear Regulatory Commission. Wastes were discharged into an unlined holding basin. Investigations have indicated that groundwater beneath the property and surface features were contaminated with radionuclides and volatile organic compounds. Soils and sediments at the site were contaminated with PCBs, and the on-site buildings were severely contaminated with depleted uranium and other hazardous substances. A partial cleanup of contaminated soils was performed by NMI in 1998. EPA has since performed two time-critical removal actions to secure and stabilize the site and remove immediate threats. A fire at the facility in July 2007 prompted the Concord Fire Department to request further assistance from EPA to remove hazardous materials. In 2008, EPA performed an EE/CA to evaluate alternatives necessary to address the contaminated buildings. Four action alternatives were evaluated in the EE/CA, including monitoring and access controls; two limited demolition alternatives; and EPA's preferred alternative involving complete demolition of the building down to the floor slab. In September 2008, EPA signed an action memorandum for removal of building contents, demolition and disposal of buildings and debris, and capping of concrete slabs. The estimated

cost of the non-time-critical removal was $63.9 million, which was the most costly of the alternatives evaluated. However, removal of the building was considered necessary to address the underlying contamination, so this cost could not be avoided by deferring action. Complete building demolition would have been required during a subsequent response action, if any, of the less costly alternatives had been selected instead by EPA. The building demolition represents an interim removal response action consistent with the final remedial action. Although the more costly non-time-critical removal response action was selected, complete building demolition is a part of the overall response required to address all site contaminants at the NMI Site.

D. EPA Must Fully Investigate and Address Future Uses of the Site and Community Acceptance: The commenter claims that the community's interest in the future use of the site was ignored in the EE/CA and that it failed to consider what alternatives would most support future productive uses of the site. The commenter seems to suggest that EPA failed to follow its own guidance and did not conduct appropriate community involvement activities and that the EE/CA process appears to have neglected to engage the community and reflect its interest in the analysis of alternatives. The commenter states that many residents want the site used for jobs or job training for the community. Finally, the commenter provides examples of three sites in support of its comments regarding consideration of the needs of the community when EPA makes decisions about cleaning up contaminated sites. Those sites are the Little Squalicum Creek Area in Bellingham, Washington; the Aerovox Site in Massachusetts; and the Mohawk Tannery Site in New Hampshire.

***EPA Response**: The Exposure Evaluation Section of the Streamlined Risk Evaluation (Section 4.0) considered reasonably anticipated future uses in quantifying future risks and calculating the Preliminary Removal Goals. The reasonably anticipated future uses of the site included commercial/industrial and recreational (in the event the selected response action required demolition of the buildings). EPA specifically and purposefully stated in the Administrative Order and Settlement Agreement with ACF that the site should not be used for residential purposes, because, at that time, residential was not considered a reasonable future use of the site. None of the EE/CA's recommended alternatives, if implemented, would prevent the site from being reused in a way that creates jobs or job training for the community.*

EPA's primary consideration in selecting the appropriate response alternative for the site is long-term protection of human health and the environment. The community's interest in the future use of the site, either as an extension of the Herbert Hoover Boys and Girls Club or as a site that provides jobs or job training, has not been ignored by EPA. However, EPA does not own or control any of the properties at the site and thus cannot control the specific future use. Future use of the site will be decided by the owner(s) of the site property once the selected response actions have been implemented.

During the EE/CA process, EPA has solicited public input and evaluated public comment. All substantial comments that were received will be reviewed and considered by EPA. The community involvement requirements of the EE/CA process, as required by Section 300.415(n) of the NCP, are listed in section 1.6 of the Guidance on Conducting Non-Time Critical Removal Actions Under CERCLA and include the following activities:

- *Conduct community interviews*
- *Prepare the Community Involvement Plan*
- *Establish the information repository*
- *Provide public notice of availability of the EE/CA*
- *Establish the Administrative Record file*
- *Publish notice of the availability of the Administrative Record file*
- *Hold public comment period*
- *Develop written response to significant comments*

EPA has met or exceeded all of the community involvement requirements outlined in the guidance document.

The commenter cited three examples that were intended to show instances where the larger interest of the community was an important factor in decisions about cleanup of contaminated sites. Indeed, EPA does consider community interests and conducts public comment periods to solicit community input prior to selecting response actions for non-time-critical removal actions and remedial actions. The three examples cited by the commenter demonstrate how community concerns factor into the Superfund decision-making process.

The Little Squalicum Creek Area (LSCA) is a component of the Oeser Company Superfund Site located in Bellingham, Washington. The Oeser Company discharged wastewater from wood treatment operations and contaminated storm water into the creeks beginning in the late 1940s. Contaminants located in the 21-acre LSCA Area include creosote, pentachlorophenol, dioxins/furans (associated with PCP), and petroleum hydrocarbons. The primary impacted media were soils and sediments. The EPA-lead site is bordered by residences, businesses, and a technical college. The creek corridor was used recreationally and provides open space for wildlife habitat and storm water conveyance. Improvements are currently limited to two trails, but the City's master plan includes enhancement of recreational activities by realigning the creek and constructing additional facilities, and improving fish and wildlife habitat. A baseline human health risk assessment was prepared as part of the Oeser Site Remedial Investigation in 2002, which concluded that cleanup action at the LSCA was not warranted. Subsequent investigations by the City provided additional data which was evaluated by EPA in a streamlined risk evaluation performed to support an EE/CA for the LSCA. Based on the risk evaluation, EPA determined that risks exceeded a level of concern for recreational users and that removal response was warranted. EPA conducted a public comment from March 18 through April 19, 2010, for the EE/CA and a fact sheet identifying the preferred alternative involving excavation, capping, and stream re-routing (estimated cost of $1.15 million). Comments were received from the public which favored a combination of alternatives that would provide as much protectiveness as the preferred alternative, mitigate the loss of wetlands, and better enable future planned use consistent with the City's master plan. In addition, the primary PRP, the Oester Company, indicated a willingness to implement the more expensive response action ($1.5 million). In part because of public comments received, EPA selected a removal action differing from the preferred alternative that represented a combination of alternatives presented in the EE/CA reflecting public recommendations. The removal action is designed to address exposure to contaminated soil and sediment and enable the City to proceed with further development of

the area. The Superfund PRP entered into an administrative order on consent to implement EPA's selected response action. This example demonstrates EPA's consideration of public input.

The Mohawk Tannery Site is a former leather tanning facility located in Nashua, New Hampshire, that operated from 1924 to 1984. The site includes two 15-acre parcels and inactive facilities on the northern portion of the site which is the focus of the non-time-critical removal action referenced by the commenter. This site is bordered by residential areas, a former business and associated landfill, and the Nashua River. Hazardous substances including metals, pentachlorophenol, and other chlorinated compounds were discharged during operations into waste disposal areas and on-site lagoons which ultimately discharged into the adjacent river. Approximately 60,000 cubic yards of contaminated material remained at the site, primarily within the 100-year flood plain. Dioxin-contamination was also identified at the site. EPA conducted investigations during the 1980s and 90s and performed a time-critical removal action in 2000-2001 to remove asbestos and containerized wastes, and to secure the site. EPA released an EE/CA for public comment in 2002 and conducted a public information meeting and public hearing. The EE/CA evaluated three alternatives involving excavation and on-site disposal, excavation and off-site disposal, and excavation and off-site thermal treatment. These three alternatives were evaluated against criteria of effectiveness, implementability, and cost. In October 2002, EPA issued an action memorandum selecting excavation and off-site disposal. The selected response action was considered more implementable overall and more effective than the less expensive alternative (excavation and on-site disposal) primarily because: (1) the wastes would be permanently removed from the site; (2) it would eliminate the need for designing and constructing a landfill on-site and within the 100-year floodplain; (3) the state of New Hampshire indicated its support for the selected response action; and (4) it eliminates the potential for future exposure and provides greater flexibility for the site in the future. The action memorandum considered future operation and maintenance requirements and the need for future use restrictions. In accordance with Superfund decision-making requirements, EPA clearly considered effectiveness, implementability, and cost in selecting the non-time-critical response at the Mohawk Tannery Site. To date, implementation of the non-time-critical removal action has not been conducted, and EPA has not taken final action on placing the site on the Superfund National Priorities List, which was proposed in 2001.

The Aerovox Site located in Bedford, Massachusetts, has previously been discussed in response to comment D.3, above. As previously described, EPA released an updated supplemental EE/CA in 2006 for the Aerovox Site identifying a preferred alternative involving on-site disposal of contaminated demolition waste. Comments received from the community were largely opposed to on-site disposal of contaminated materials. In response to community concerns expressed during the comment period for the EE/CA, EPA selected an alternative that provided for off-site disposal of demolition wastes. This site again demonstrates that EPA carefully considers comments received from the public in the formulation and selection of Superfund non-time-critical removal response actions. The selected alternative reflects the best balance of effectiveness, implementability, and cost among the response alternatives evaluated.

E. A Structural Evaluation of the Existing Buildings Should Be Performed: The commenter claims that a structural evaluation of both the CBI and Willco Plastics

buildings should be conducted to assess whether they are structurally sound for reuse prior to the selection of the removal alternatives for the buildings. According to the commenter, without a structural evaluation, the costs for future use of the building cannot be determined because the cost for structural repairs is not included in the costs for the alternatives where the buildings remain.

***EPA Response**: The structural integrity of the building is at issue for future use due, in large part, to deteriorating building conditions that are exacerbated by the lack of ongoing maintenance. However, EPA does not believe a structural evaluation for either building is necessary at this point in time. The decision to recommend the demolition alternative for the CBI building and the partial replacement alternative for the Willco Plastics building was not dependent on the structural integrity of the buildings, but was based on a comparative analysis of the alternatives after each was assessed against the criteria of effectiveness, implementability, and cost. The issue identified by the commenter, that the structural soundness of the buildings needs to be determined for future reuse, is not relevant to EPA's selection of a response action to address the threats of releases of hazardous substances. Future use of the buildings and their structural integrity is a matter left to the owner of the building following implementation of the selected response action.*

F. Additional Technical Information is Necessary to Properly Evaluate the Partial Removal and Replacement Alternative for the CBI Building: The commenter contends that there is not enough information available to properly evaluate CBI Building Alternative 2 – Partial Removal and Replacement. According to the commenter, the EE/CA explains that PCBs in excess of removal action goals will be addressed through the removal and replacement of floor slabs, but it does not adequately explain how PCBs in excess of removal action goals will be removed from building columns and walls of the CBI building. Furthermore, because no masonry samples were collected on the fourth floor of the CBI building, it is unclear how the nature and extent of contamination on the fourth floor was determined. The commenter also points out that this alternative does not include a vapor extraction system to control or eliminate the intrusion of vapors into the building. Finally, the commenter suggests that after addressing these technical issues, EPA should reassess the cost estimates for the CBI building - Alternative 2, Partial Removal and Replacement.

***EPA Response**: Historically, the fourth floor of the CBI building was used as a cafeteria and as locker rooms and for other employee functions. With the exception of one small area that was contaminated with PCBs, the fourth floor was relatively clean. There is no reason to suspect that the fourth floor walls are saturated with significant concentrations of PCBs. However, there is a remote possibility that dust on the walls could contain PCBs. For this reason, all non-demolition alternatives included a thorough cleaning of the building prior to implementation. Sampling data shows high levels of PCB contamination on columns and walls, particularly on the first floor. If these levels cannot be reduced to below Removal Action Goals, then epoxy coating, demolition, or other PCB-removal process become the only options. Epoxy coating on the walls and columns is considered to be an interim action and the ultimate disposition of the PCBs must be accounted for as part of an operation and maintenance plan.–However, the operation and maintenance requirements for the walls and columns are expected to be much less*

than for floors, since the walls and columns would not receive the same degree of traffic in a building reuse scenario.

EPA recognizes that extraction of PCB contamination from building surfaces during cleaning to achieve health-based cleanup goals may not be feasible, nor would removal of the columns and walls to enable reuse of the building. Any residual PCBs left on the columns and walls exceeding health-based levels after cleaning would have to be epoxy coated or covered in some other manner, but EPA does not believe epoxy coating is an appropriate response for any of the alternatives for this site. Because such a coating is an interim action that does not eliminate the PCB contamination, the capital costs for the non-demolition reuse alternatives must include a "trust fund" or other similar financial arrangement that would fund the eventual demolition, or other potential PCB response to contaminated walls and columns in the future. This additional cost factor increases the cost of all non-demolition alternatives, and further supports EPA's recommended demolition alternative as the most cost-effective for the buildings.

Any reuse of the buildings would require a vapor intrusion study. To date, EPA has only collected sub-slab, vapor intrusion samples which is not a true assessment of indoor air quality. The costs of conducting an indoor air study would be high because the building is large, has no HVAC system, and is missing almost all windows. EPA agrees that the cost of a vapor recovery system could have been included in reuse alternatives along with the associated operation and maintenance costs and replacement costs for such a system. However, such a cost again increases the cost of the non-demolition alternatives, further supporting the recommended demolition alternative for the CBI building as the most cost effective.

G. The EE/CA Does Not Provide Adequate Detail Regarding the In Situ Thermal Desorption and Vapor Extraction Alternatives (ISTD/VE): The commenter contends the EE/CA does not provide enough information to properly evaluate the ISTD/VE technology, particularly in treating PCBs.

***EPA Response**: There is no guarantee that ISTD/VE will be effective at treating PCBs at this site. However, the technology holds great promise to effectively reduce the PCBs in the ground in the Die Cast Area to levels that will prevent further migration into the soils and groundwater. The technology is proven for TCE and other volatile organic compounds, and is the recommended alternative for the former TCE Aboveground Storage Tank Area. Therefore, the technology will already be mobilized to the site prior to conducting on-site pilot studies of its effectiveness on PCBs. A considerable cost savings results from having the expertise and equipment already on-site prior to conducting the pilot study.*

EPA Region 7 has consulted several scientists with EPA's Office of Research and Development (ORD) regarding the potential effectiveness of in-situ thermal desorption to treat PCBs. All of these scientists have indicated that the technology holds promise and is worthy of at least a pilot scale study to determine its effectiveness at this site under these conditions. More recently, Dr. Eva Davis of EPA's Ada, Oklahoma, research laboratory has been assigned to this project and has reviewed the EE/CA. Dr. Davis is a national thermal treatment expert and will be part of the Carter Carburetor Site Team. During the design phase of this project, Dr. Davis will work to ensure this technology is properly tested and safe for use at the Carter Carburetor Site.

If ISTD/VE proves to be ineffective or not cost effective in removing the PCBs in the Die Cast Area to meet Removal Action Goals, soil excavation and off-site disposal will be required in this area.

H. The EE/CA Does Not Provide Adequate Detail Regarding the Level of Contamination That Would Remain at the Site Under Certain Alternatives: The commenter contends the extent of residual contamination that would remain following implementation of some of the alternatives is not well discussed in the EE/CA. In addition, the commenter suggests the community is concerned about the long-term risk of leaving contamination in place and the uncertainties associated with the future use of the site by children.

***EPA Response**: The extent of contamination from the surface to bedrock at the Carter Carburetor Site has been adequately characterized and is presented in the EE/CA and in the various documents in the Administrative Record. The example referenced by the commenter, installation of an impermeable cap, is included in several of the alternatives for each of the areas of contamination with little or no removal of PCBs prior to cap installation. If any of the alternatives were chosen that allow for contamination to remain above Removal Action Goals, the long-term protectiveness would have to be ensured through Operation and Maintenance (O&M) and post-removal site controls, including institutional or engineering controls.*

Alternatives that leave contamination above Removal Action Goals at the site not only require extensive long-term maintenance, but also severely limit the potential for development of the site in the future. In order to ensure long-term protection of human health and to maximize future potential uses for the site, EPA will not select a response action that leaves contamination above Removal Action Goals or regulatory levels at the site unless it is clear that other measures are in place to ensure continued protection of human health and the environment. Any PCBs or hazardous substances at the site should be removed to a level below removal action goals or regulatory levels, to the extent practicable, to minimize or eliminate the need for institutional or engineering controls that would be necessary to ensure continued protection of human health and the environment. Thus, the EPA-recommended alternatives are the most appropriate for this site, since they are more permanent and require either minimal or no future site controls.

I. After Addressing Additional Technical Issues, EPA Should Reassess Cost Estimates for the Alternatives: The commenter contends the cost estimates in the EE/CA should be revised after technical adjustments are made in the EE/CA. In addition, the commenter suggests that transportation and disposal costs in the EE/CA should be revised to be consistent with current rates in the St. Louis area. The commenter then provides a statement from a local environmental contractor that claims disposal rates are less than the prices quoted in the EE/CA.

***EPA Response**: EPA believes no technical adjustments are necessary for the alternatives presented in the EE/CA as explained elsewhere in this Responsiveness Summary and no cost adjustments need to be made. EPA recognizes that transportation and disposal costs are dynamic and constantly changing with varying market conditions. In addition, these rates are*

negotiable and can be based on numerous factors such as volume, distance, business interests, and other economic factors that are impossible to estimate during the EE/CA phase. For purposes of estimating costs for comparative evaluations in the EE/CA, exact cost figures are not necessary, but are intended to provide an order of magnitude estimate of project costs.

Reducing transportation and disposal costs for PCBs would further increase the cost-effectiveness of the recommended demolition alternative for the CBI building and the removal and off-site disposal option for the die cast area.

> **J. EPA Should Perform a Prompt, Expeditious Land Reuse Assessment:** The commenter cites the "Reuse Assessments: A Tool To Implement The Superfund Land Use Directive" in contending the memorandum required EPA to consider the future land use of the Carter Carburetor Site when developing the EE/CA and that EPA failed to conduct such a land use assessment. The commenter refers to the memorandum in contending that EPA's process for addressing a contaminated site should take into account assumptions of future land use in the development, selection and implementation of response actions, and quotes the memorandum as stating, "EPA is responsible for ensuring that reasonable assumptions regarding future land use are considered in the selection of a response action." The commenter also states that the guidance directs EPA to consider how the community is involved in reuse planning for the site, contending that EPA should have been trying to determine the community's future reuse expectations at the same time the EE/CA was being developed. In contending that no such extra efforts were undertaken in connection with the Carter Carburetor Site community, the commenter also referred to EPA's directive on Land Use in the CERCLA Remedy Selection Process that states, "… if the site is located in a community that is likely to have environmental justice concerns, extra efforts should be made to reach out to and consult with segments of the community that are not necessarily reached by conventional vehicles or through local officials and planning commissions."

***EPA Response**: A land use reassessment was, in fact, conducted and is documented in the Streamlined Risk Evaluation (SRE) portion of the EE/CA as well as in the Administrative Record. EPA began working with the St. Louis Reutilization Authority, the Herbert Hoover Boys and Girls Club, Carter Building, Incorporated (the CBI and Willco buildings owner), and ACF industries in 2003. Through numerous meetings and discussions, EPA received a considerable amount of information regarding future site reuse possibilities. The reasonably anticipated reuse alternatives identified in the SRE were determined to be commercial/industrial and recreational. The only future uses that were not considered to be reasonable were residential and day-care.*

EPA's recommended response alternatives for each of the four areas at the site will allow for any number of potential future commercial/industrial or recreational uses with few restrictions, including all of the uses that have been identified by community members to date. Of key importance is that a major portion of the site is privately owned and will remain so after the selected response actions have been implemented. Under the Superfund statute, EPA does not have the authority at this particular site to require the owner to use his property for any particular purpose once the selected response actions have been implemented.

22. Comments from the Carter Carburetor Citizens' Advocacy Group (CCCAG). The CCCAG provided a letter to EPA requesting help to review the EE/CA and other technical documents. They specifically requested a technical representative from the TASC program. In addition, the CCCAG asked several technical questions which are summarized as follows:

A. The commenter requested that EPA clarify details of the sub-slab vapor samples collected beneath the Herbert Hoover Boys and Girls Club. Specifically, the commenter wanted clarification of an e-mail correspondence where an EPA vapor intrusion expert determined that the TCE located on the site was not affecting the Herbert Hoover Boys and Girls Club.

EPA Response: *The e-mail in question was an attempt to document a difference in scientific opinions about whether or not the TCE Plume from the Carter Carburetor Site was affecting the Herbert Hoover Boys and Girls Club. An EPA hydrologist had previously stated that the TCE plume should not be affecting this property. Based on recommendations from the EPA hydrologist, EPA directed ACF to halt vapor intrusion sampling and begin the Streamlined Risk Evaluation (SRE). During technical discussions about the SRE, the Missouri Department of Health and Senior Services (MDHSS) questioned EPA's decision to halt the vapor intrusion sampling.*

After a meeting involving the ACF, an EPA toxicologist, MDNR, MDHSS, and an EPA vapor intrusion expert, all parties concurred that three vapor sampling wells would be drilled along the southern edge of the Herbert Hoover Boys and Girls Club. As detailed in the report, the sampling results showed very low levels of PCE and TCE in sub-slab vapors in two of the three wells. EPA inaccurately stated that groundwater samples were collected between the building and the Herbert Hoover Boys and Girls Club property. Instead, it was a subsurface soil sample that was collected which detected no TCE. In addition, groundwater flow measurements have documented groundwater flowing to the southeast away from the Herbert Hoover Boys and Girls Club. The primary suspected source of TCE is south and west of the club's facility. The levels found in the sub-slab vapor samples are well below screening levels for residential areas. Therefore, it is considered unlikely that the TCE from the site is significantly affecting the Herbert Hoover Boys and Girls Club.

In collecting sub-slab vapor samples, ACF used the procedures and Quality Assurance Project Plan (QAPP) developed by the EPA hydrologist. EPA has no reason to question the validity of the results. Therefore, EPA concurs with its hydrologist's opinion documented in the e-mail referenced by the commenter.

B. The commenter posed questions about the extent of PCB contamination and how close PCBs were to the Herbert Hoover Boys and Girls Club. In addition, the commenter was concerned about surface contamination of PCBs and whether or not PCBs were being carried in the wind.

***EPA Response**: During the operation of the Carter Carburetor Plant, hydraulic fluid containing PCBs (Pydraul) was primarily stored and used in the die cast machines in the north and south die cast buildings. These two buildings were heavily contaminated and were subject to a time-critical removal action in 1997 and 1998. The die cast buildings were demolished and hauled off-site for proper disposal. The remaining concrete slabs and walls were left in place as an interim cover for suspected subsurface contamination. The foundations were cleaned, coated with epoxy, and covered with gravel, also as an interim measure. The PCBs remaining in the subsurface beneath the die cast buildings have migrated vertically to the limestone bedrock. These PCBs are also mixed with various solvents such as TCE and petroleum hydrocarbons. However, lateral migration of the PCBs in the soil is limited to the general area beneath the die cast building foundations. Surface contamination of PCBs was addressed during the time-critical removal action. To address the community's concerns about off-site contamination, EPA plans to collect soil and vapor samples in off-site areas immediately surrounding the site.*

C. The commenter posed questions about the Thermal Desorption and Vapor Extraction Alternative and asked for additional information. The commenter was specifically concerned about the formation of dioxins during the thermal treatment process as well as physical changes to the site soils and subsurface utilities. The commenter also was concerned about the emissions from the treatment process.

***EPA Response**: EPA will provide as much information as needed to inform and educate the community about in-situ thermal treatment. Technical information will be developed to support the safety and effectiveness of this technology. These issues will be addressed during the design phase of the project and during any pilot testing of the technology. If this technology fails the pilot test or proves ineffective, the response alternative of excavation and off-site disposal will be implemented.*

D. The commenter questioned previous sampling conducting in 1996 which showed off-site PCB contamination at low levels away from the Carter Carburetor Site and asked when EPA will propose an EE/CA to address this off-site contamination. The commenter also asked for exact addresses where these samples were collected.

***EPA Response**: After review of the 1996 Integrated Assessment Report, it appears several samples were collected at locations away from the Carter Carburetor Site. The results of these samples showed PCB concentrations between 1 and 5 parts per million. The purpose of the sampling appeared to be an effort by the EPA contractor to show an air release had occurred from the Carter Carburetor facility. This information was then used in the assessment of site for listing on the Superfund National Priority List. There was no further follow-up to this sampling effort to determine the extent of this contamination. Further investigation of off-site contamination was not addressed during this EE/CA and was not envisioned in the current agreement with the PRPs. However, EPA will address potential off-site contamination through additional assessment activities in the near future. However, this additional assessment activity should not affect the current activity which addresses the on-site contamination.*

E. The commenter questioned why there was no testing for dioxin at the Carter Carburetor Site.

***EPA Response**: Testing for dibenzodioxin and dibenzofuran compounds was conducted prior to the time-critical removal action from dust and debris samples in the die cast buildings and in the CBI building. The highest results were detected in the die cast buildings at 3.93 parts per billion (PPB), dioxin Toxic Equivalents (TEQ). A sample collected in the pump room detected TEQs at 1.06 ppb. All other results were less than 1 ppb. The results from the die cast buildings were submitted to the Agency for Toxic Substances and Disease Registry (ATSDR) for a health consultation. ATSDR advised that the concentration of 3.93 ppb was not a health concern in an industrial setting. Subsequent to the ATSDR health consultation, the dust and debris were removed from the die cast buildings during the time-critical removal action.*

F. The commenter asked about the source of funding for the cleanup.

***EPA Response:** EPA expects to implement the response action through funding from PRPs.*

23. Remaining Concerns

A. Off-Site Soil Contamination – Members of the community were concerned about off-site migration of contaminants into residential neighborhoods surrounding the site.

***EPA Response:** Samples collected in 1996 detected PCB contamination at levels between 1 and 5 parts per million at locations reported to be 100 yards from the site in all directions. To address the community's concerns about off-site contamination, EPA plans to collect soil and vapor samples in off-site areas immediately surrounding the site.*

B. Groundwater contamination – Members of the community also voiced concern about the contaminated groundwater. Some members suggested that EPA should conduct an off-site groundwater study at the site.

***EPA Response**: Because residents are connected to a municipal water supply, the groundwater does not pose a threat to drinking water. In addition, the City instituted an ordinance prohibiting the use of groundwater in the city of St. Louis as a potable water supply (St. Louis City Ordinance 66777). This ordinance has been recognized as an environmental institutional control by the state of Missouri, through the Missouri Department of Natural Resources (MDNR), in a Memorandum of Understanding entered into by MDNR and the city of St. Louis pursuant to state regulations (10 CSR 25-18.010). The selected on-site response actions will address the source material which may be contributing to groundwater contamination beneath the site. The only potential exposure pathway related to groundwater at this site is vapor intrusion. EPA is planning to conduct a vapor intrusion assessment to evaluate whether vapor intrusion may be occurring in buildings located down-gradient from the site.*

C. Off-Site Vapor Intrusion Concerns – Members of the community voiced concern about off-site vapor intrusion issues.

***EPA Response**: The EPA conducted an on-site study in 2008 which showed vapors collecting under concrete slabs on the site. However, no indoor air samples were collected to confirm vapor intrusion actually exists at the site. In addition, only limited shallow groundwater samples have been collected at the site and the deeper bedrock aquifers have not been characterized for contamination. Groundwater flow measurements show that the groundwater is moving to the southeast. Soil samples collected at the site suggest lateral movement of VOCs in the soil is not a significant issue. However, lateral movement of VOCs in the deeper groundwater is possible and has not been assessed. It is possible that the deeper groundwater could potentially present an off-site vapor intrusion source. However, the overlying soils are consistently clays and silty-clays, and vapor movement would be limited to cracks and fissures. In addition, contaminant concentrations would be diluted once they moved off-site. These factors limit the potential for significant risk of off-site vapor intrusion from deep groundwater. However, in light of the community's concerns about vapor intrusion, EPA is planning to conduct a vapor intrusion assessment to evaluate whether vapor intrusion may be occurring in buildings located down-gradient from the site.*