

**The Changing Role of Public Participation as a FUSRAP Site Moves from
Characterization to Remedial Action and Closure**

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ABSTRACT

This paper describes a comprehensive public participation program developed by the U.S. Army Corps of Engineers (USACE, or the Corps) and its contractor, Shaw Environmental, Inc. at the Formerly Utilized Sites Remedial Action Program (FUSRAP) Maywood Superfund Site (the Site) in New Jersey, USA. It focuses on the program's evolving nature as the Site has moved through the Comprehensive Environmental, Response, Compensation and Liability Act (CERCLA) process. CERCLA is commonly referred to as the Superfund program.

A principal objective of the FUSRAP Maywood Site's public involvement program is to minimize impacts to affected property owners, while keeping the broader public fully informed and involved as required under the CERCLA. The various properties comprising the Site have gone through site investigation (or characterization), remedial design, remedial action (ongoing) and, in some cases, property closeout reporting since the Corps assumed responsibility for the FUSRAP in 1997. At the outset, the Corps developed an integrated and forward-looking communication approach. As the CERCLA process drives changes in priorities, the approach has been tailored to accommodate the changing nature of the project. These changes were principally driven by the technical objectives of each project phase and, as important, by the anticipated and expressed needs of impacted property owners. This paper also notes public participation activities of the U.S. Department of Energy (DOE) during its management of the FUSRAP Maywood Site as needed, to provide context to the Corps' follow-on public participation efforts.

INTRODUCTION

The Maywood Site is located in a highly developed area of northeastern New Jersey, in the Boroughs of Maywood and Lodi and the Township of Rochelle Park, Bergen County. The Site is 13 kilometers west of New York City. The combined population of the three communities is 39,022, with a population density of 5,271 per square kilometer. This compares to New Jersey's statewide density of 705 per square kilometer (ranking the state first in the nation), and a national figure of 49.5 per square kilometer.[1]

A total of 88 properties have been identified as part of the Maywood Site, including 64 residential properties and a mix of commercial and a few government-owned properties. Contamination at these properties resulted from chemical extraction of thorium and other radioactive rare earth elements from monazite sand. The extracted thorium was then sold to makers of industrial products such as mantles for gas lanterns. The extraction was performed commercially at the Maywood Chemical Works (MCW) plant in the Borough of Maywood from the early 1900s to 1959. Figure 1 shows the former MCW property and vicinity. The property currently hosts an active chemical plant not associated with MCW.



Fig. 1. An aerial view shows the former Maywood Chemical Works site and vicinity in 1995.

Contaminants were dispersed from the MCW site in three ways: soil and sediment transport along the former Lodi Brook Channel that crossed the MCW property (a project that diverted the

brook to an underground culvert was completed in the 1960s); use at nearby properties of contaminated fill from the MCW site; and onsite direct disposal including drum burial and lagoon storage of liquid wastes. The primary contaminant of concern at the site is thorium-232.

Environmental surveys associated with nearby construction projects in the early 1980s revealed the presence of radioactive material at levels above state and federal guidelines. The Site was added to the Environmental Protection Agency's (EPA) National Priorities List in 1983, and subsequently assigned by Congress to the DOE in 1984. DOE placed the Maywood Site in its Formerly Utilized Sites Remedial Action Program, or FUSRAP. Congress transferred the FUSRAP to the U.S. Army Corps of Engineers in October 1997. EPA has regulatory authority over the Maywood Site. All activities are conducted in accordance with the CERCLA and coordinated with the State of New Jersey. Figure 2 depicts the CERCLA process.

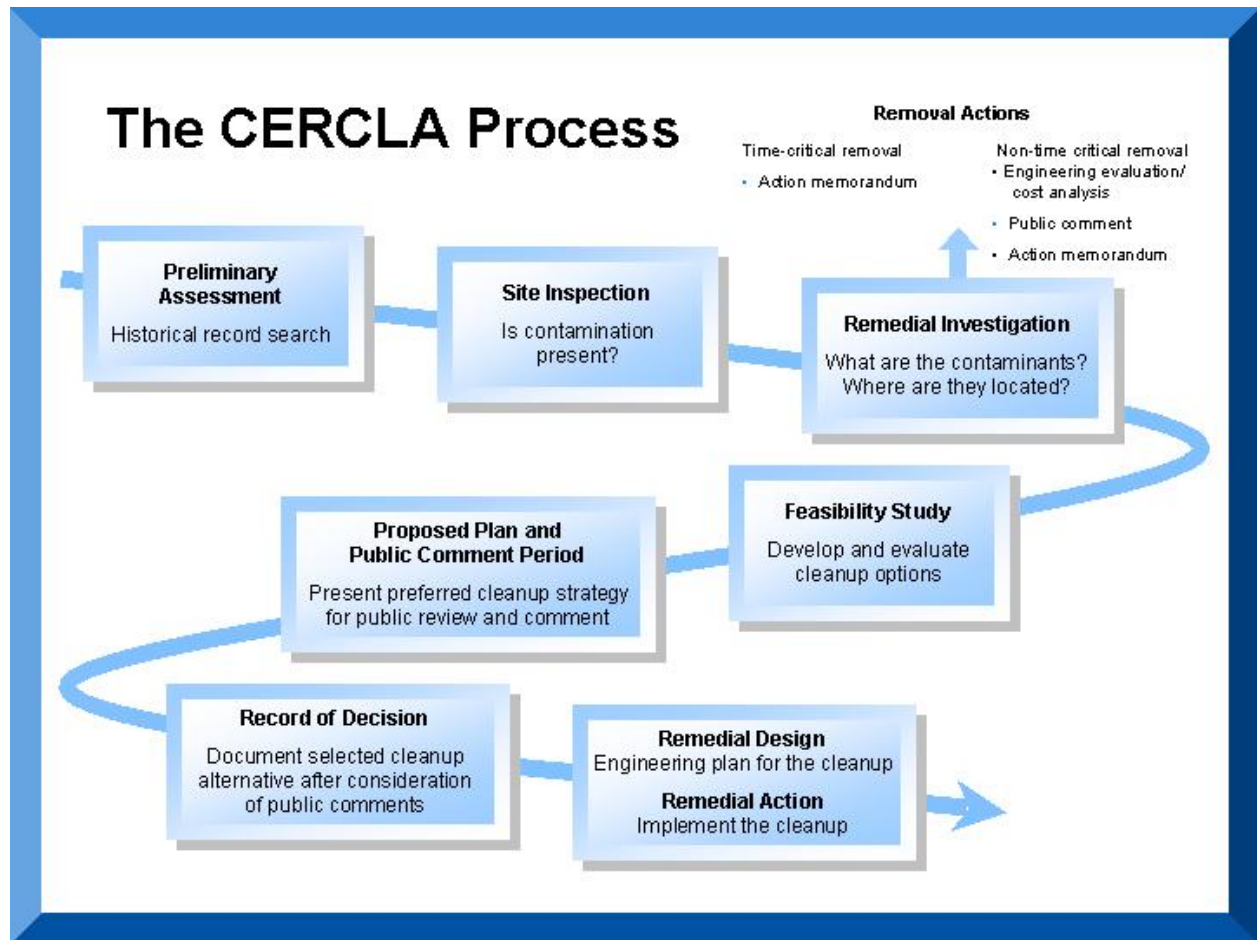


Fig. 2. The Comprehensive Environmental Compensation, Response and Liability Act requires a prescriptive process.

WM'06 Conference, February 26–March 2, 2006, Tucson, AZ

Remedial actions have been completed at all designated residential properties of the Site. The project is currently addressing the 24 remaining commercial and government-owned properties (known in FUSRAP as “vicinity properties”). Most of these house active businesses, ranging from a construction storage yard to light industrial facilities to Fortune 500 company back-office operations. While Figure 3 delineates whole parcels of vicinity properties, contamination is known or suspected to exist in discrete areas of individual properties.

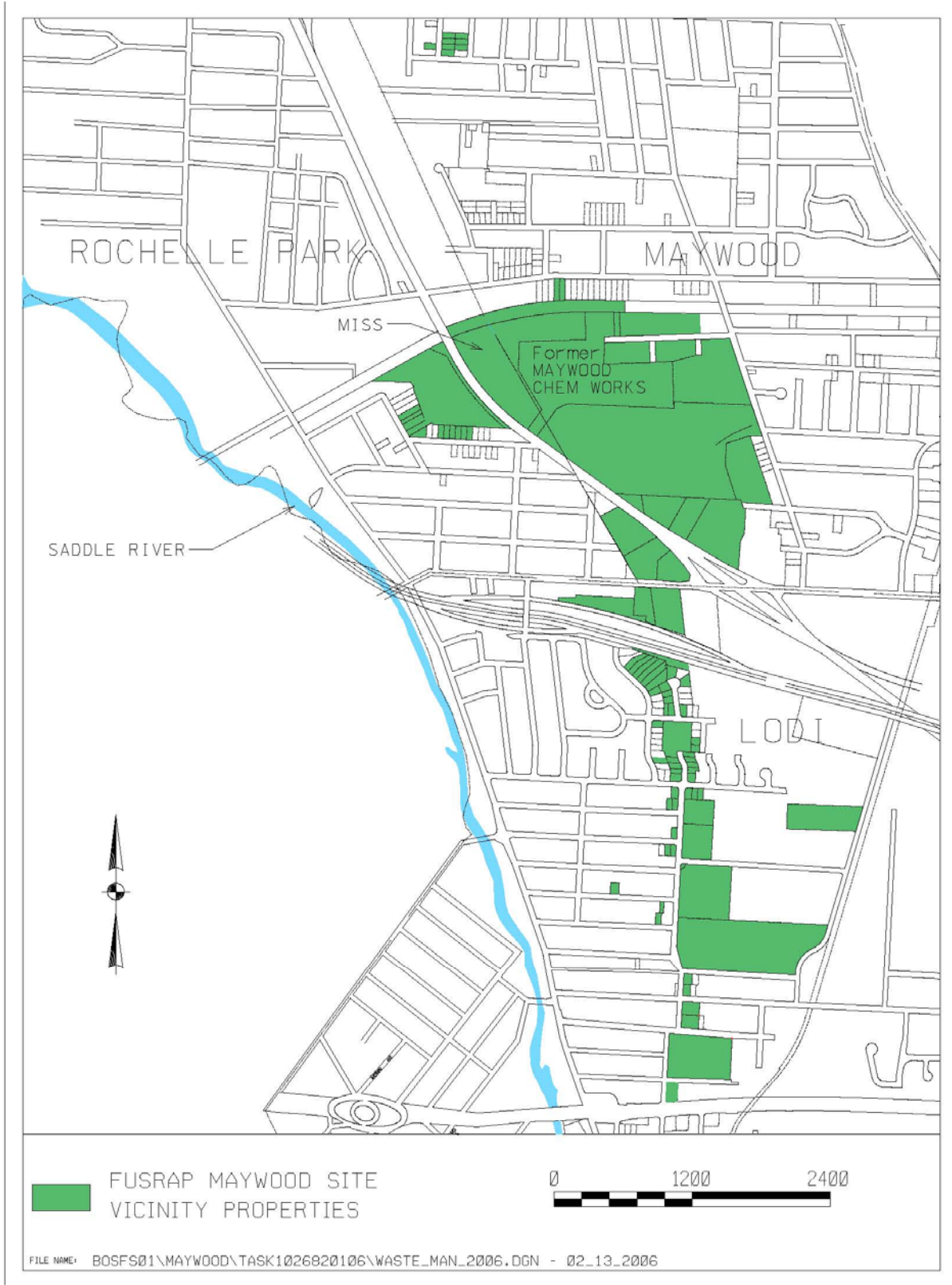


Fig. 3. FUSRAP Maywood Superfund Site vicinity properties

HISTORY OF PUBLIC PARTICIPATION AT THE FUSRAP MAYWOOD SITE

While this paper focuses on the evolution of a public participation program, it is important to note some key outreach techniques that have been part of the Corps' overall program at the FUSRAP Maywood Site. These techniques comply with CERCLA public participation requirements and guidance, and provide involvement opportunities for the general public. They are presented below in approximate chronologic order of their implementation. Some of these communication techniques were initiated by the DOE and continued by the Corps when it arrived at the Site.

- Established and maintain the Administrative Record document file
- Established a storefront Public Information Center
- Developed and maintain a community mailing list
- Established a citizens advisory groups (not currently active)
- Distributed and made available project newsletters on a regular basis to community mailing list, at the Public Information Center, and on request
- Provided periodic updates to local officials
- Conducted public information sessions and required public meetings at regulatory milestones
- Issued public notices as required; conducted media outreach as appropriate
- Prepared an update of the Site Community Involvement Plan
- Established a project website at www.fusrapmaywood.com.

Based on available records, community concerns regarding environmental conditions at the former MCW site can be documented as far back as late 1983. At that time, DOE representatives met with Maywood officials to discuss those concerns and obtain background information about historic MCW operations. Project representatives subsequently met with area property owners and the Maywood mayor and council to discuss a plan to remove contaminated soil associated with the MCW. A memorandum of understanding between DOE and the Borough of Maywood was signed in August 1984. The memo set forth agreements between the agency and the municipality on locations to be cleaned up, established a monitored interim storage site in Maywood, and documented efforts to find a permanent offsite disposal site in New Jersey.

When DOE was unable to identify a suitable in-state disposal site, New Jersey State authorities were asked to assist in siting a disposal facility. Shortly thereafter, the state indicated that no community willing to host such a facility had been found. As a result, all contaminated soil taken from the Maywood Site to date has gone to a permanent, permitted disposal location in Utah.

Community involvement has taken on many forms since these early interactions. For historical context, a summary of key events during DOE's management of the FUSRAP Maywood Site follows:

1984

- Initial cleanups of residential property begin.

1985

- Local residents form Concerned Citizens of Maywood (CCM) to monitor activities at the Site.

1988

- CCM gains official community advisory board status from the Borough of Maywood.

1990

- Environmental Legislative Action Committee (ELAC) established by Maywood mayor.

1991

- DOE notifies Maywood officials that contaminated soil will be temporarily stored at federally owned property in Maywood (known as the Maywood Interim Storage Site, or MISS). Some Maywood residents and public officials oppose the temporary storage plan; the material is ultimately placed in protective storage containers in an on-site building.
- DOE opens Public Information Center in Maywood; CCM members criticize its cost and demand a halt to further shipments of contaminated waste to MISS.
- Bergen County and local officials form the Tri-Borough and County Thorium Coalition, which obtains a \$50,000 technical assistance grant and hires a technical consultant to assist in interpreting project documents; coalition members also tour Maywood Site.

1993

- CCM receives a \$25,000 grant from EPA and hires a second consultant to help interpret technical site information.

1994

- CCM loses status as an official advisor to the Borough of Maywood after disagreements on the borough's working relationship with DOE.

1995

- ELAC becomes more active. The group has several meetings with DOE and contractors and serves to facilitate communication between DOE and Maywood officials.
- The timing for remaining residential property cleanups is established with input from Tri-Borough and County Thorium Coalition.
- DOE releases a decision document known as an Action Memorandum in September, authorizing residential property cleanups.

1997

- The Cooperative Guidance Group (CGG) is established by DOE. The advisory group's mission is to provide community input on cleanup decisions for commercial and government vicinity properties. The CGG meets 13 times during the year, in open public meetings.
- A public opinion survey on general awareness of the Maywood Site and preferred communication techniques is conducted on behalf of the CGG.

Congress transferred responsibility for FUSRAP (including the Maywood Site) from DOE to the Corps in October 1997. Significant community involvement developments and relevant technical milestones during the Corps' tenure are listed below. As best as can be reconstructed, items are listed chronologically within the year they occurred.

1997 (cont.)

- Community Open House held in October, with participation by the Corps, regulatory agencies, and state and local health officials.

1998

- The CGG meets nine times during the year, with Corps representatives on hand to address various issues. CGG agrees to adjourn until a Proposed Remedial Action Plan, detailing the Corps' preferred remedial alternative for the Site, is available for comment.
- Corps Project Manager provides a status briefing at an open meeting of the Maywood Council in March.
- The Communications Working Group (CWG), made up of vicinity property business owners and tenants, realtors, and local residents, is established; its mission is to develop recommendations on how the Corps can effectively communicate with directly impacted property users, as well as other stakeholders and parties interested in Maywood Site commercial property cleanups.
- Corps prepares a series of fact sheets specifically targeted to impacted residential property owners, covering topics such as property restoration and arrangements for returning home.

1999

- USACE completes cleanup at remaining residential and municipal properties ahead of schedule; more than 43,000 cubic yards of contaminated soil removed for out-of-state disposal.
- Corps Project Manager and staff update Maywood officials at an open meeting of the Maywood Council in May.
- FUSRAP Update newsletters released in April and June.
- The CWG meets monthly from April to August, reports its recommendations to USACE.

2000

- FUSRAP Update newsletters released in January, April and August.
- Additional investigations performed to delineate soil contamination boundaries on commercial properties, and to assess potential groundwater contamination.
- An interim cleanup known as a Time-Critical Removal Action is completed to remedy persistent flooding and address potential contaminant releases from an onsite drainage channel and Lodi Brook; public notices announcing the action published in local newspapers in late February.
- Public availability session on the interim cleanup action held in April 2000.
- Project website goes online at www.fusrapmaywood.com.
- FUSRAP Update newsletters continue.
- Final residential property cleanup, soil-processing demonstration completed in December.

2001

- Community Involvement Plan update released in March 2001, reflecting input from a cross-section of community stakeholders.
- FUSRAP Update newsletter released in April.
- August public availability session on an Engineering Evaluation/Cost Analysis (EE/CA) document proposing removal actions at specific commercial properties to be impacted by a pending state highway construction project. The document evaluated the need for the actions and various removal alternatives, in accordance with provisions of the National Oil and Hazardous Substances Pollution Contingency Plan.[2]
- USACE releases the Action Memorandum for the EE/CA in September.

2002

- Remedial actions under the EE/CA Action Memorandum begin in January.
- FUSRAP Update newsletter released in January.
- FUSRAP Maywood Proposed Remedial Action Plan for cleanup of soil and buildings is released for public comment in August; public notices appear in area newspapers and are sent to community mailing list; public meeting on the Proposed Plan held on August 12.

2003

- FUSRAP Update newsletters released in February and October.
- FUSRAP Maywood Record of Decision for soil and buildings is released in September.

2004

- FUSRAP Update newsletter released in June.
- Ongoing remediation at multiple commercial properties, requiring property-specific outreach and coordination with numerous owners, tenants and employee groups.

2005

- In response to local interest in potential redevelopment of Site properties, Corps Project Manager provides a status briefing at an open meeting of the Maywood Council in February.
- FUSRAP Update newsletters released in March and December.
- By December, contaminated soil shipped project to date nears 170,000 cubic yards.

PUBLIC PARTICIPATION DURING SPECIFIC PROJECT PHASES

Public Participation during Residential Cleanups

As noted, 64 properties were addressed during the residential remediation phase of the Maywood project. Affected residents were required to temporarily leave their homes during cleanup activities that typically lasted several months. The Corps recognized the difficulties posed by this disruption and employed techniques tailored to the needs of impacted homeowners and their families. By necessity, public involvement required a personal “hands on” approach during this time, with the objective of easing the transition into temporary housing and back again, to the extent practical. A key element of this approach was relocation assistance, where the Corps' Real Estate Division and Office of Counsel were instrumental. "Kitchen table" meetings were held well in advance of remedial construction to first arrange for access to the affected properties and then identify the specific temporary housing needs of each family. A series of fact sheets targeted to particular concerns such as property restoration, returning home and cleanup completion documentation was also developed. This approach was a key element in successfully completing all residential cleanups in 1999. Figure 4 shows a residential property cleanup underway.



Fig. 4. A remedial construction effort is underway at this residential property in 1998.

A closer examination of the "kitchen table" meetings illustrates the personal approach to community relations required during this period. The first such meetings were held in February 1998 (shortly after the Corps assumed responsibility for the Maywood Site) at the homes of affected residents. As noted, property access and temporary housing arrangements were the key topics on the agenda. For the former, a simple one-page agreement outlining the responsibilities of both homeowners and the Government proved acceptable to both parties. Temporary housing arrangements proved a more complicated challenge. For example, in one instance a middle-aged couple and the wife's elderly parents each owned homes on the same block. Both homes required remediation. Since the couple regularly provided caregiver and other assistance to the parents, they requested temporary housing to accommodate all of them. An appraisal by the Corps' Real Estate Division showed that the cost of such an arrangement complied with operative regulations establishing mandatory levels of relocation funds and assistance programs for persons displaced by a federally funded action [3]. A suitable home was subsequently located in nearby Hackensack. The Corps then assisted in securing moving services, arranging utility shutoffs, and handling other items typically associated with a house move.

In another case, several older residents who were longtime neighbors indicated they would be more comfortable meeting with Corps officials as a group instead of individually. The Corps eagerly arranged such a meeting, recognizing the need to help the residents feel at ease at a time

of some turmoil. In yet another example of personal considerations, one resident lost her husband just a week before a scheduled kitchen table meeting. The Corps was obviously sensitive to that loss, and offered to reschedule the meeting and any further contacts at the widow's convenience.

Public Participation during Commercial Cleanups

Impacts to affected businesses during site characterization and, especially, remediation are unavoidable, as illustrated by the Figure 5 photo of a commercial property cleanup in progress. The challenge is to safely and efficiently conduct these activities while minimizing their impacts. Inability to meet this challenge can result in schedule delays, impacting resource allocation and budget management. An integrated and forward-looking communication approach was therefore required to identify and then address the unique logistical, operational and human needs of each business affected by FUSRAP Maywood Site activities.

The first step to that end was a series of meetings between the Corps and commercial property owners and tenants in March 1999. These contacts were similar to the "kitchen table" meetings with affected homeowners discussed above, in that they initiated communication between affected property representatives and project sponsors, and included negotiations on arrangements for property access. However, specific agenda items differed by necessity, given the commercial nature of the sites being discussed. Instead of resident relocation, issues such as impacts to business operations, employee communications and availability of as-built engineering information came to the fore.

For the commercial properties, points of contact typically mirror an organizational structure and include building managers, engineering, security and safety staff, real estate professionals, and attorneys. Consequently, the Corps found that a businesslike approach to public involvement was the appropriate way to support ongoing remediation of commercial properties. Specific techniques included the following:

- Identification of roles, responsibilities and central points of contact for property owners and project personnel
- Early and ongoing coordination with property owners at both corporate and location-specific levels
- Early identification of and coordination on unanticipated impacts (i.e., additional areas of contamination detected during excavation)
- Procurement of alternate resources to mitigate impacts (i.e., parking space, security and lighting, temporary access to buildings for employees and vendors)
- Employee briefings prior to remedial construction
- Regular status meetings and reports to property owners and local officials.



Fig. 5. This photo shows remedial construction at a commercial property in 2003. The process of removing contaminated soil displaced most of the employee parking at the site, requiring provision of temporary parking by the project.

TRACKING THE EVOLUTION OF PUBLIC INVOLVEMENT

One way to understand the evolving role of public involvement over a long-term remediation project is to deconstruct changes in focus and scope over the life of that project. At the Maywood Site, those changes are best framed in terms of two parameters: changing technical priorities of the project as it advances under CERCLA, and differences in the nature of the properties being addressed. This section will examine those two parameters in detail, and also explore some adjustments in the project's interaction with local government over time.

Site Investigation vs. Remedial Action

Investigations to characterize environmental conditions at Maywood Site vicinity properties typically involved multi-media sampling (e.g., soil, groundwater, and air) and other data collection activities. These activities were fairly limited in their physical scope and duration. For example, a typical round of groundwater sample collection may have taken one week. In contrast, remedial actions at Site properties are consistent with large-scale construction projects in that they require soil excavation (and associated infiltration water management) over a period of months or years at a single property. Consequently, interactions with affected property owners and others during each phase differed significantly, as summarized in Table I:

Table I. A Comparison of Communications: Site Investigation vs. Remedial Action

Site Investigation Communications	Remedial Action Communications
Contact multiple property owners over a short time (for a typical sampling round)	Sustained contact with a single property owner for an extended period
Contact property owners and/or tenants only	Contacts with property owners, tenants, employees, neighbors and local officials as needed
Arrange for short-term entry	Arrange for long-term access
Coordinate limited disruptions, such as loss of several parking spaces at sample collection points	Coordinate longer-term disruptions to property operations, such as establishment of alternate traffic patterns to accommodate construction vehicle traffic
Provide short-term protective measures for public, such as limiting access to work areas by fencing, cones, etc.	Provide long-term protective measures for public, such as perimeter air monitoring, signage, construction equipment noise abatement, visual screening

Residential Property Remediation vs. Commercial Property Remediation

Considering the nature of the properties being addressed is another way to illustrate changes in public involvement at the Maywood Site over time. As noted earlier, the Maywood Site is a mix of residential, commercial and a few public properties. In the interest of clarity, this discussion will compare public interactions that support residential and commercial property cleanups only. Table II contrasts some of the communication tools and contacts required to support the residential and commercial property cleanups.

Table II. A Comparison of Communications: Residential vs. Commercial Property Remediation

Communications to Support Residential Property Remediation	Communications to Support Commercial Property Remediation
Arrangements to accommodate personal needs (such as moving arrangements and acquisition of temporary housing)	Arrangements to minimize potential economic impacts (such as impacts to shipping/receiving and employee parking)
Typically a single point of contact per property (i.e., the property owner)	Multiple points of contact per property (i.e., owners, tenants, employee representatives, owner contractors)
Numerous media reports featuring personal impacts of remediation required a proactive media relations strategy	Lower level of media attention due to commercial nature of properties impacted required less media contact

Table II. A Comparison of Communications: Residential vs. Commercial Property Remediation
(continued)

Limited external contacts (typically with local police on neighborhood traffic impacts and security during construction)	Extensive external contacts (for example, with county and state transportation authorities on impacts to primary roads, and utilities on relocations requiring long lead times)
Periodic status updates through telephone contacts and small group meetings	Regular and formal status updates tailored to the roles of property representatives (for example, tailored for engineering vs. human resources staff)

Interactions with Local Officials

Early contacts between the Corps and local government officials regarding the Maywood Site were generally information sharing in nature, and included periodic contacts regarding Site status. Typical of these was an appearance by the Corps Project Manager at a March 1998 meeting of the Maywood Borough Council. The meeting was open to the public and attended by a cross-section of the community, including impacted property owners and others simply interested in Site activities. The Project Manager provided an update on the Site's transition from DOE to the Corps, and presented a near-term plan to complete the residential property cleanup phase underway at that time.

Commercial property cleanups accelerated after the release of the Site Record of Decision for soil contamination in 2003; shortly thereafter, future use of Site properties emerged as a compelling interest of local officials. This prompted the Corps to adopt a more proactive approach to local government relations and outreach.

The Site area's land-use pressures and industrial legacy present many development opportunities under New Jersey's redevelopment laws. Consequently, the Borough of Maywood prepared a redevelopment plan and is currently evaluating several commercial parcels of the Maywood Site for their redevelopment potential. This process is moving forward in parallel with the Corps' remedial construction at these parcels.

Shaw's onsite community relations specialist learned of the redevelopment plans early on through community contacts and local media reports and related them to the Corps; the Corps soon recognized that redevelopment, and expectations for local economic benefit attached to it, would become a significant external influence on the FUSRAP Maywood project. A proactive outreach strategy was developed to engage community leaders and integrate the redevelopment and remediation processes. Corps and Shaw personnel participated in meetings between borough officials and potential developers as an interested party, attended public hearings on the redevelopment plan, and closely monitored redevelopment activities through local media.

The local redevelopment process is currently in the planning stage and will surely undergo considerable public scrutiny and debate. But in large part due to an early recognition of its importance, the Corps is sensitized to the potential influence of this process on its own mission and is well positioned to respond. The overlapping interests of the Corps and local authorities have served to improve overall communication between the two, and have established the Corps as an important player in a major public initiative.

CONCLUSION

For a public participation program to be effective, it must evolve with the changing needs of both the communities it serves and the program it supports. This paper has examined that process at the FUSRAP Maywood Site. The Site's public participation program has evolved over time to accommodate the transition from characterization to remediation and from residential to commercial properties. While each phase had some common attributes, different impacts (e.g., relocation of residents during remediation vs. remediation while businesses remained active) and affected publics (residents vs. commercial interests) dictated tailored outreach and communication techniques. Credibility was achieved by consistent, timely and responsive communications in both cases, but the means to that end differed significantly. In the case of affected homeowners, a more personal approach of one-on-one meetings to first identify and then address personal needs was employed. For commercial properties, a more structured communication approach featuring regular meetings and status reporting was found to be more consistent with the business-oriented cultures of the property users.

Both of the approaches discussed above have proved effective in supporting the compliance, budget and schedule requirements of the FUSRAP Maywood Site. This is evidenced by the fact that the Corps was able to complete the residential phase of the project within two years of its arrival at the Maywood Site and ahead of initial projections. Significant progress on the commercial property phase has also been made. As of this writing, six properties have been fully remediated, and eleven others have been partially cleaned up and are moving toward completion. Remedial designs have been completed for the remaining seven, and pre-remedial action coordination is well underway with owners as needed. On this phase, one important measure of the project's community relations effort is the fact that business operations on the commercial properties addressed to date have not been interrupted at all, despite the busy nature and significant logistical challenges at many of these locations.

REFERENCES

1. United States Department of Commerce, U.S. Census Bureau. *2000 Decennial Census, various data sets*. April 2000.

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3. United States Department of Transportation. 49CFR.24.201-24.209, *Subpart C, General Relocation Requirements*, and 49CFR.24.301-24.307, *Subpart D, Payments for Moving and Related Expenses*.