

CHAPTER TWO

PLANNING AND REGULATORY BACKGROUND

This chapter presents a summary of the regulatory process that has preceded development of this NPC, and the subsequent regulatory process that will ensue following submittal of the NPC. It also provides background on the MWRA's long term CSO control planning process. The public participation process preceding and following submittal of the NPC is presented after the review of the long-term planning process.

FEDERAL AND STATE CSO POLICIES AND REGULATIONS

The FEIR received state and federal approvals in late 1997 and early 1998, including MEPA approval from the Massachusetts Secretary of Environmental Affairs in October 1997. The elements of the overall recommended plan that involved sewer separation projects, including the Alewife Brook CSO plan, received a Phase I Waiver from further environmental review earlier in the process, in 1995. On December 31, 1997, DEP, in accordance with Massachusetts Water Quality Standards regulations, issued water quality standards determinations that allowed the plan to be implemented. A water quality standards determination by DEP was required for any receiving water where CSO discharges would remain under the recommended plan. The DEP determinations were approved by EPA on February 27, 1998, paving the way for implementation of the plan.

DEP's determinations included decisions to issue short-term, CSO-related variances to water quality standards for the Charles River and for Alewife Brook/Upper Mystic River. On March 5, 1999, DEP issued three-year CSO variances for Alewife Brook/Upper Mystic River to MWRA and the cities of Cambridge and Somerville, with conditions that required MWRA and the cities to conduct additional investigations relative to their CSO and stormwater discharges and MWRA to implement the CSO control plan presented in the FEIR. The conditions are summarized in Table 2-1. At the same time, the United States Environmental Protection Agency (EPA) issued Section 308 letters to all cities and towns discharging stormwater to Alewife Brook and Upper

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 TABLE 2-1. CSO VARIANCE CONDITIONS

Description of Condition	Responsible Party
A. Actions to Minimize CSO/Sanitary Discharges	
Implement Nine Minimum Controls	MWRA, Cambridge, Somerville
Provide estimates of AB/UMR CSO activation's and volumes over the Variance period	MWRA, Cambridge, Somerville
Reevaluate possibility of additional infiltration/inflow controls at key locations	MWRA
Identify opportunities for additional SOP measures in local combined systems and assess likely water quality benefits	Cambridge, Somerville (MWRA)
(For AB/UMR sewer member communities) Provide MWRA BMP plan, GIS sewer system mapping, technical assistance as requested, and review community stormwater management plan to identify opportunities for enhanced pollution prevention, if requested.	MWRA
B. Actions to Further Assess CSO/Stormwater Pollutant Loads	
Receiving water sampling for AB/UMR over the Variance period to assess impacts of CSO discharges; submit report annually with results	MWRA
Stormwater sampling at representative stormdrain locations to allow for determinations of stormwater loadings	MWRA, Cambridge, Somerville
C. Assessment of CSO Controls in the Alewife/Upper Mystic Basin	
Prepare and file final report summarizing and assessing information gathered during Variance process	MWRA
Identify "triggers" appropriate for basis to determine when additional CSO controls would yield greater benefits for respective costs	MWRA (with EPA and DEP)
D. Implement the Recommended CSO Control Plan	MWRA

Mystic River (above Amelia Earhart Dam). The 308 letters required each city and town to conduct investigations of their stormwater systems, perform stormwater sampling and analysis, identify illicit sanitary cross connections and take corrective measures. Updated information collected from the variance and Section 308 efforts, together with watershed information that was planned to be collected by other parties (EPA, DEP and others) would be used to reevaluate CSO control benefits and support a DEP determination of the potential for water quality standards attainment and a decision on long-term CSO requirements, at the end of the variance period in March 2002.

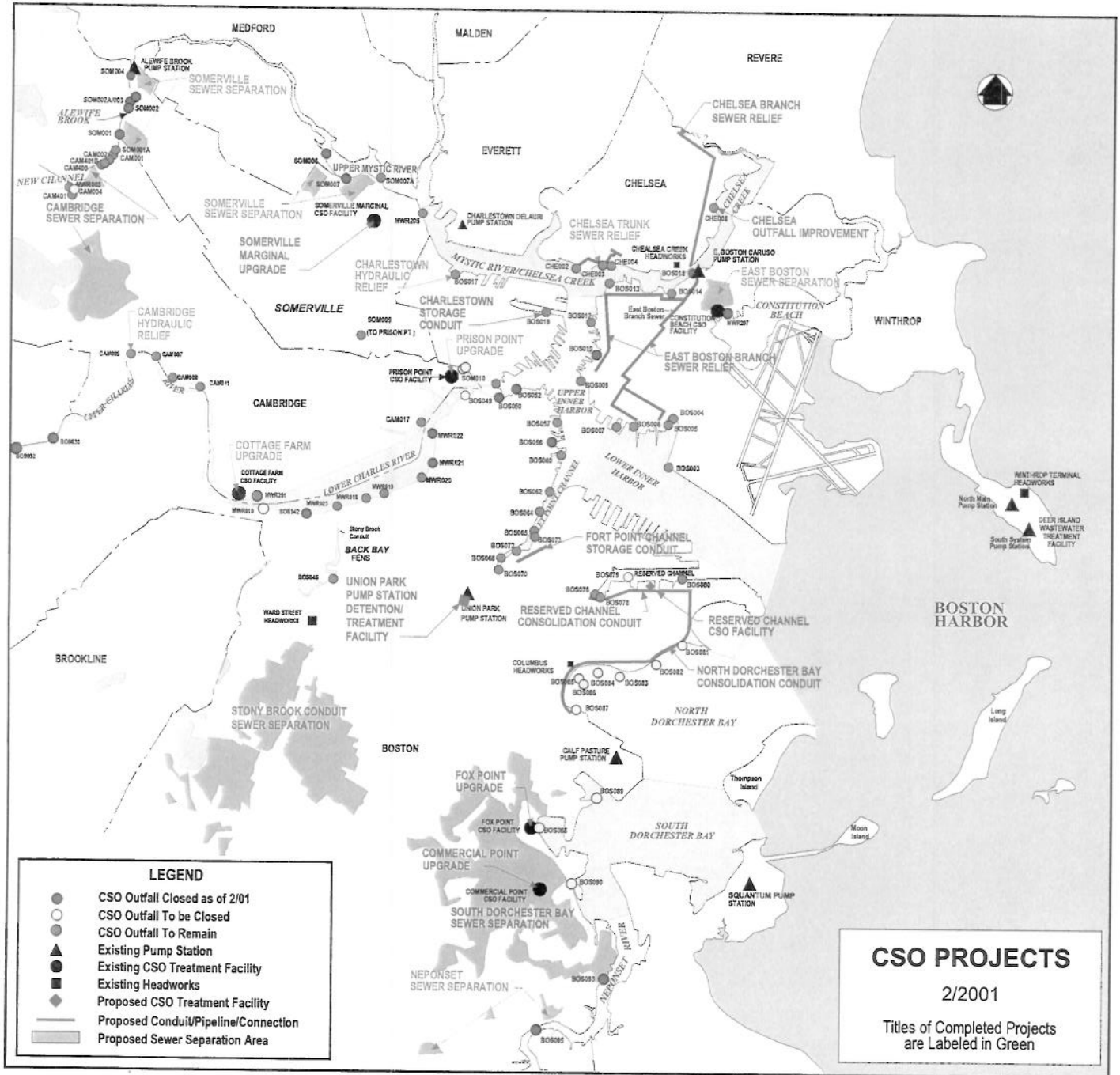
MWRA'S LONG-TERM CSO CONTROL PLAN - BACKGROUND

In August 1997, MWRA released the FEIR, which recommended a long-term plan for controlling CSOs in the metropolitan Boston area. The recommended plan was the outcome of several years of wastewater management planning, environmental review and public input, that MWRA began in 1992. Building on a previous MWRA document, entitled *Final CSO Conceptual Plan and System Master Plan* (December 1994), the 1997 plan proposed 25 distinct projects in the communities where CSOs exist - Boston, Cambridge, Chelsea, and Somerville (see Figure 2-1). Each of the recommended projects responded to:

- 1) the site-specific sewer system conditions that contribute to localized CSO discharges;
- 2) a demonstrated site-specific potential for water quality improvement; and
- 3) site-specific receiving water use goals.

In accordance with a new National CSO Policy, issued by EPA in April, 1994, MWRA had developed the long-term CSO control plan through a series of evaluations that included:

- characterization of the sewer system and system performance in wet weather;
- detailed, technology-based review of CSO control alternatives covering a full range of control levels and costs; and



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FIGURE 2-1. MWRA SYSTEM-WIDE RECOMMENDED CSO CONTROL PLAN

- water quality-based evaluations of the potential for water quality improvement, including attainment of use standards, that took into account both CSO and non-CSO sources of pollution.

The resulting plan proposed site-specific projects intended to reduce CSO discharges and impacts to the greatest extent feasible at reasonable cost. Reasonable cost was determined through affordability reviews, cost-benefit analyses and public input on the allocation of public funds, which prioritized receiving waters and uses. The 1997 recommended plan proposed spending a total of \$440 million (1997 dollars) to eliminate CSO discharges to sensitive use areas (i.e. beaches and shellfish beds), minimize or treat (but not eliminate) CSO discharges to less-sensitive receiving waters, and provide a means to control floatable materials in remaining CSO discharges. MWRA estimated that the plan would result in an 88 percent reduction in system-wide annual CSO volume from 1988 conditions, with 95 percent of the remaining overflow receiving fine screening and disinfection at five CSO treatment facilities. The reduction in CSO discharges would allow attainment of Class B (“fishable/swimmable”) water quality standards at least 95 percent of the time. Like all of the other MWRA wastewater system improvement programs, the CSO plan would be paid for by all ratepayers in the MWRA sewer district, which comprises 43 communities.

The plan received state and federal regulatory review and approvals in late 1997 and early 1998, and implementation of the plan is now well underway, even as certain CSO planning activities continue in response to conditions in the Charles River and Alewife Brook/Upper Mystic River Variances. In part through cooperation and financial assistance agreements with the four CSO communities, MWRA has moved most of the CSO projects into design and construction (Table 2-2). As of December 2000, eight of the 25 projects are complete, ten are under construction and five more are in design. All of the projects are subject to phased design and construction milestones in the federal court order in the Boston Harbor Case, with the last project to be completed by 2008. The cost of the plan has increased as design and construction have progressed. The updated capital cost estimate is \$530 million, and the outcome of a number of cost risks associated with several outstanding issues and regulatory decisions (e.g. siting of projects in South Boston, decisions resulting from Charles River and Alewife Brook/Upper

TABLE 2-2. SUMMARY OF STATUS OF CSO RECOMMENDATION PLAN IMPLEMENTATION

Project	Status
North Dorchester Bay and Reserved Channel	Design on hold pending project reassessment
Hydraulic Relief Projects at CAM005 and BOS017	Complete
East Boston Branch Sewer Relief	Preliminary design
Fort Pt. Channel and BOS019 Storage Conduits	Design start July 2002
Chelsea Trunk Sewer and Chelsea Branch Sewer Relief	Chelsea Trunk Sewer Relief complete; Chelsea Branch Sewer Relief in construction
Union Park Detention Treatment Facility	Preliminary design
Upgrades to Existing CSO Facilities and MWRA Floatables Control	In construction; Cottage Farm complete
S. Dorchester Bay Sewer Separation	Phased design and construction underway
Stony Brook Sewer Separation	Phased design and construction underway
Neponset River Sewer Separation	Complete
Constitution Beach Sewer Separation	Complete
Somerville Baffle Manhole Separation	Phased design and construction underway; project revisions under review
Region-wide Floatables Control	Phased design and construction underway
BOS032 Interceptor Connection Relief	Project deleted
Dorchester Brook Conduit In-Line Storage	*

*The Dorchester Brook Conduit In-Line Storage project was not recommended in the Facilities Plan/EIR. However, it remains in the federal court order pending additional information that will be reviewed by court parties regarding the need for this project.

Mystic River variances, and approval of technologies for floatables control) could increase costs further.

1997 ALEWIFE BROOK CSO CONTROL PLAN - STATUS

Three of the 25 projects contributed to MWRA's long-term CSO control plan for Alewife Brook, as shown in Figure 2-1. These projects included separation of interconnected storm drain and

sanitary sewer systems in Somerville (“Somerville Baffle Manhole Separation”), separation of combined or interconnected storm drain and sanitary sewer systems in portions of Cambridge (“CAM002 and CAM004 Sewer Separation”), and means to control floatable materials in remaining CSO discharges (“Regionwide Floatables Control”).

The Somerville Baffle Manhole Separation project, which was completed in 1996, eliminated CSO discharges to Alewife Brook at three Somerville outfalls: SOM001, SOM002 and SOM004. Somerville had previously eliminated CSO discharges at two other outfalls (SOM002A and SOM003), and only one now remains (SOM001A), otherwise known as the Tannery Brook Conduit.

Floatables control for CSO discharges along Alewife Brook will be managed by MWRA and the Cities of Cambridge and Somerville. The specific floatables measures that are recommended at each outfall and the related construction requirements, impacts and schedule are presented in Chapter Eight. All floatables control measures are scheduled to be in place by October 2002.

The originally recommended CAM002 and CAM004 Sewer Separation project, which is the subject of this NPC, was predicted to greatly reduce the amount of stormwater entering the wastewater transport system, thereby allocating more transport capacity to wet weather sanitary flows and reducing overflows of combined sewage to Alewife Brook. Under the plan, the separated stormwater flows would drain to Alewife Brook.

In the 1997 FEIR, MWRA and the City of Cambridge used available Cambridge infrastructure plans to estimate the scope and cost of the project, which were the basis for evaluating and selecting the project as an appropriate component of the long-term CSO plan. However, as Cambridge proceeded to design and construct the project, new information about the condition of the Cambridge sewer and stormwater systems and the requirements for separation became evident (see Chapter One). This new information led the City of Cambridge to report, initially in late 1998, that the scope and cost to complete the project to achieve its intended CSO benefit would increase substantially.

In compliance with the federal court schedule, the City of Cambridge, under a financial assistance agreement with MWRA, commenced design of the CAM002 and CAM004 sewer separation project in January 1997 and commenced construction of the initial phases of the work in July 1998. Through the end of 1999, construction contracts related to storm drain cleaning in the CAM004 area and neighborhood sewer separation in the Orchard Street area tributary to CAM002 have been completed. A construction contract for a portion of the separation work that calls for installing large sewers and storm drains along Fresh Pond Parkway, upstream of outfall CAM004, is underway and is scheduled to be complete in August 2001.

PUBLIC PARTICIPATION

This section briefly describes the public involvement aspects of this project from the early planning phases through this NPC. It also describes the ongoing efforts by the City of Cambridge for contracts in construction, which will continue throughout.

Early Planning Processes

MWRA completed its CSO Conceptual and System Master Plan (SMP) in December 1994, in compliance with the federal court schedule. The SMP identified targeted sewer separation in areas tributary to the Alewife Brook CSO outfalls. During this early planning process, public outreach activities included regular briefings with the MWRA's Wastewater Advisory Committee, project workshops, targeted community meetings, and publication of a CSO Bulletin. While not open to the general public, the project workshops included representatives from the regulatory agencies and a number of advocacy groups. The targeted community meetings were held in June 1994, at the completion of CSO control alternatives development, and in October 1994, upon completion of the draft SMP. A meeting on the CSO control plan for Alewife Brook was held on October 25, 1994, at the Powderhouse School in Somerville. A total of five issues of the CSO Bulletin were published from the spring of 1993 through the winter of 1994.

Following completion of the SMP, MWRA moved into the more detailed facilities planning process. During this phase, the agency conducted several project-specific public meetings, as well as a general hearing on the Draft Environmental Impact Report. In December 1996, MWRA sponsored a public meeting specifically regarding the Alewife Brook CSO project to present the proposed recommended plan and to gather stakeholder input. This planning and public involvement process resulted in the Final Environmental Impact Report / Facilities Plan in July 1997, which outlined the long-term CSO control plan for all affected receiving waters, including the Alewife Brook.

Design Phase and Notice of Project Change

After the Facilities Planning phase, each CSO control project moved to the design phase in a sequence determined by the federal court schedule. The City of Cambridge began design of the recommended sewer separation projects related to Alewife Brook in January 1997. As described previously, Cambridge's detailed field investigations during early design work led to the discovery of significant new information about the local sewer and drainage systems. Between late 1998 through the summer of 2000, the City made numerous informal presentations to interested parties to inform them of these system discoveries and the need to re-evaluate the proposed sewer separation plan. These parties included: the Cambridge City Council, the MDC, Mystic River Watershed Association, Friends of Alewife Reservation, Alewife Brook Citizens Advisory Committee, and property owners in the project area. In addition, Cambridge periodically kept the Town of Arlington apprised of developments.

It became clear to MWRA and Cambridge that considerable effort was needed to address the changed system conditions and achieve a comparable level of CSO control. Even though localized construction impacts from sewer separation would be largely unchanged and the level of CSO control would be comparable, the previously unforeseen need for a new stormwater outfall presented additional potential environmental impacts. The agencies, therefore, began preparing an NPC to identify and evaluate these potential impacts, for submission to MEPA.

By early fall of 2000, MWRA had completed its re-evaluation of CSO control alternatives for the Alewife Brook and Cambridge had made significant progress in its design and technical evaluations for the revised recommended plan. At that time, MWRA and Cambridge anticipated submitting the NPC in late December 2000. As described in detail in this NPC, the re-evaluation recommended targeted sewer separation in the CAM004 and CAM400 areas, along with four hydraulic relief projects, to yield a comparable level of CSO control as the original plan.

Though Cambridge had been reaching out to the public during the re-evaluation period, it was now appropriate to do so more formally prior to submitting the NPC. A goal of this public involvement program was to ensure that interested members of the public were thoroughly briefed on the impacts and benefits of the project so they could participate constructively in the MEPA review process. In November and December 2000, MWRA and Cambridge conducted three public meetings to review the planning and regulatory background of the project, present the CSO control alternatives re-evaluation, describe the benefits and impacts of the proposed revised recommended plan and identify associated issues and concerns of the public. Interested stakeholders included area residents, municipalities bordering the Alewife Brook, MDC, environmental groups and local and state elected officials. They raised concerns at these meetings mainly regarding three issues: CSO control/water quality, potential exacerbation of flooding along the Alewife Brook and environmental impacts to the Alewife Reservation. In order to afford sufficient time for thorough discussion with interested stakeholders on these issues and the related technical evaluations, MWRA and Cambridge decided to delay submission of the NPC.

In early 2001, Cambridge and MWRA held several additional workshops with interest groups and affected municipalities. In March, those agencies sponsored a fourth public meeting prior to filing the NPC. Table 2-3 presents a summary of the recent public meetings and workshops conducted on the NPC. It is noteworthy that, in response to issues raised during this process, certain additional evaluations have led to project modifications, whereas other evaluations have affirmed earlier conclusions and recommendations. Appendix E includes minutes and attendance lists for the public meetings.

TABLE 2-3. SUMMARY OF RECENT PUBLIC MEETINGS ON THE NPC

DATE	TYPE OF MEETING	LOCATION
November 15, 2000	Public Meeting	Best Western Hotel, Cambridge
November 30, 2000	Public Meeting	Best Western Hotel, Cambridge
December 13, 2000	Public Meeting	Arlington Senior Center
January 11, 2001	Regulatory Briefing	MWRA, Boston
February 12, 2001	Workshop, Mystic River Watershed Association and Board	20 Academy Street, Arlington
February 13, 2001	Town of Arlington	Arlington Town Hall
February 26, 2001	Workshop, Mystic River Watershed Association and Board	20 Academy Street, Arlington
March 1, 2001	Workshop, Coalition for Alewife	Arlington Town Hall
March 1, 2001	Arlington Conservation Commission	Arlington Town Hall
March 8, 2001	Town of Arlington and its Consultant, Town of Belmont	Arlington Town Hall
March 8, 2001	Public Meeting	Best Western Hotel, Cambridge
March 27, 2001 and April 4, 2001	Meeting with MDC	MDC Offices
March 27, 2001	Meeting with DEM Flood Hazard Mitigation Program	DEM Offices
Rescheduled; date pending	Belmont Board of Selectmen	Belmont Town Hall

In addition to public involvement efforts sponsored by Cambridge and MWRA, there have been a variety of other means for the public to learn about and provide input on the project. For example, on November 8, 2000, the MDC led a site walk along the Charles River greenway to illustrate the type of park that it envisions for the Alewife Reservation. Also, the Cambridge Conservation Commission held two public hearings in November and December 2000 regarding wetlands delineation and subsurface investigation issues related to the project, as well as a site walk on November 4, 2000.

As design proceeds, pending issuance of a Secretary's Certificate on this NPC, the City of Cambridge and MWRA will continue to sponsor public involvement efforts.

During Construction - Local Public Participation

The City of Cambridge has implemented an effective and interactive community relations program to help residents, property owners and businesses cope with the construction impacts of these projects. Frequent communication between the DPW, the consulting engineering team, the construction crews and the community is the foundation of the program. The program has two goals. The first is to make the community aware of the projects benefits in alleviating flooding in local neighborhoods and in reducing wet-weather discharges to area waterways. The second is to provide residents and businesses a system through which the City can hear and address their concerns and issues and respond, in a timely way, to construction-related problems.

The community relations program helps keep the community focused on the long-term benefits of these projects during the construction phase. The program utilizes a variety of activities for keeping the community informed. Chief among these are community and neighborhood meetings. Prior to the start of a particular construction project, the DPW holds a community meeting in the neighborhood where the construction is to take place. The City's engineer attends the meeting along with members of his staff, the project manager and resident engineer from the consulting firm, the community relations coordinator and the contractor's project supervisor. The presentation consists of a history and overview of the project, what to expect during construction, the construction schedule and communication procedures. It is important for the community to meet this staff because these are the people who will be working in their streets and neighborhood and who will respond to their concerns. The attendees are always given opportunity to voice their concerns or add their knowledge about the project area.

The general community meeting is followed by a street by street meeting as the construction progresses throughout the neighborhood. At this meeting, the residents or businesses are told what to expect and how long it will take to perform the construction and whom they can contact with their concerns. This information includes names, telephone and fax numbers and email

addresses, a DPW hotline number, where to park if construction is impacting normal parking routines, tips on how to cope with the construction and “Special Needs” forms to fill out if there are services that must reach their house or business during the construction.

Throughout the construction, the City keeps residents, property owners and business apprised of the construction activity and the impacts it may have to their homes and businesses through notices that are delivered door to door and posted in designated areas before the activity is to take place. The City has also used newsletters, progress reports, informational mailings, and postings on the DPW web site to keep the community informed.

