



Office of the City Manager

## **TO BE DELIVERED AGENDA MATERIAL**

**Meeting Date:** September 26, 2006

**Item Number:** #21

**Item Description:** Storm Preparation and Response Plan





Office of the City Manager

INFORMATION CALENDAR

September 26, 2006

To: Honorable Mayor and  
Members of the City Council

From: *PK* Phil Kamlarz, City Manager

Submitted by: Claudette Ford, Director, Public Works Department

Subject: Storm Preparation and Response Plan

INTRODUCTION

Berkeley has experienced serious flooding problems for the past three years. This past winter created more than the usual problems for the city's storm drain pipes, and in December 2005 a series of storm events surpassed their capacity. Certain areas of the city were hard hit, particularly various locations in West Berkeley. The community demanded to know what the City was doing to mitigate this situation and prevent future localized flooding. In a report to Council on April 25, 2006, staff provided a current assessment of the condition of the storm drain pipes, the improvements needed, and estimated costs for remediation.

The report noted that heavy rains combined with high tides, and leaf drops and debris in catch basins and cross culverts, place an extreme burden on the 80-year-old, deteriorated storm pipes. Obviously, the major capital improvements projects, with a cost estimate of over \$80 million in 2006 dollars, have to be considered in the long term. However, the City is taking preventive steps in the short term to help mitigate some of the problems experienced in prior years. To this end, Public Works has developed a storm drain cleaning and maintenance plan to prevent the types of localized flooding problems residents experienced last year.

SUMMARY

The Infrastructure Maintenance Division will manage the preventive plan, which covers mainly repair and maintenance activities, but also sets up emergency on-call contracts for small repairs to the storm pipes that staff cannot perform. The plan augments routine staff activities and refines the current emergency action plan. It uses one-time special funding (see fiscal information below) approved last year by Council for storm pipe cleaning, maintenance and repairs.

This report covers the following:

- Staffing and schedules to be expanded for preventive cleaning and maintenance;
- Contracts required to augment staff activities;
- Reporting and tracking of activities available internally and to the community; and
- Enhanced emergency action plan.

FISCAL INFORMATION

The total FY 2007 budget for storm drain maintenance and capital projects is \$4.37 million. This includes a one-time allocation from the Capital Improvement Fund of \$1.8 million, \$2.2 million from the Clean Stormwater Fund and \$371,000 unspent in FY 2006 and carried over to FY 2007 for short-term stormwater maintenance and capital improvements projects. The costs will include an estimated \$348,500 for the following contracts listed below and described on page 3.

\$ 24,500	East Bay Conservation Corps (clean gutters and catch basins and assist in leaf removal)
\$ 24,500	California Conservation Corps (clean gutters and catch basins and assist in leaf removal)
\$ 34,000	J. F. Pacific Liners, Inc. (on-call services)
\$ 66,000	Vendor to be determined (on-call services)
<u>\$199,500</u>	McNamara and Smallman (catch basin and cross culvert repairs)
\$348,500	

Funds for these contracts are available in the Capital Improvement Fund (610-5308-432-6550) allocated for Clean Storm Water projects. The remaining funds will be spent on construction projects. See Attachment 1 for a list of projects scheduled for FY 2007.

CURRENT SITUATION AND ITS EFFECTS

The City has approximately 7,000 catch basins and cross culverts. Of this total, 4,550 or 65% were cleaned and inspected between September 2005 and August 2006, while the remaining 2,450 or 35% will be cleaned and inspected by the end of October 2006. This will be accomplished by the efforts discussed below under Preventive Measures.

Many problematic catch basins and cross culverts were cleaned more than once during the past year, and some without known problems (or complaints) have not yet been cleaned. Those not yet cleaned are included in the 2,450 pipes referred to above. The City's Geographic Information System (GIS) database provides a map (Attachment 2) of all storm drains in the city that identifies which have been cleaned.

The City must repair broken catch basins and cross culverts as soon as practicable and before the next storm. As of August 31, 2006, we have identified 90 broken cross culverts throughout the city. Infrastructure Maintenance crews are working to repair 65 of the 90 locations. The remaining 25 broken cross culverts (listed in Attachment 3) have yet to be repaired. The \$199,500 construction contract will be used to expedite a number of these repairs.

**Routine Staffing and Scheduling**

Given current staffing levels, the Streets Unit has a three-person crew dedicated to inspect and clean storm drains throughout the year. The crew works on a vactor truck and makes scheduled rounds daily, Monday through Friday from 8:00 AM to 4:00 PM. Areas prone to flooding and with heavy leaf fall may receive more visits than others. It takes approximately ten to twelve months for the crew to cover the entire city.

Every year at the end of October, four additional employees are re-assigned from Clean City and sewer maintenance programs to ensure that all 7,000 catch basins and cross culverts are cleaned throughout the city and to assist in leaf removal and cleaning trash racks.

Sandbags. They will be available at the Corporation Yard as usual, and are also provided to selected fire stations for distribution to residents once the rainy season begins.

Leaf Fall Issues. Public Works will inform the public during the heavy leaf fall season of the availability of leaf bags. Staff will make this information available to residents as well as educate them about the problems caused by parked cars during street sweeping. Public Works intends to use the City's website, station 1610 and press releases to publicize this information.

The Adopt-A-Drain program, in place since late 2005, allows Berkeley residents to participate in storm drain cleaning. The program is based on volunteers cleaning their "adopted" catch basin or inlet by raking and bagging debris and leaves for collection by City crews. When cleaning is completed, residents call Corporation Yard Customer Service, who dispatches the "illegal dumping" crew to remove the bags and deliver fresh bags in their place. To date, 31 volunteers have signed up and more efforts will be made to publicize and expand the program.

#### **Additional Preventive Measures**

All Storm Day. In late September, storm drain maintenance crews will start a program called "All Storm Day." This program assigns crews on selected dates to clean storm drains in certain areas. This work is in addition to the routine services discussed above. September 22 was the first Storm Day; the second will be held in October.

Added Vactor Truck Activities. Cleaning major commercial area streets, given the high volume of debris they generate, will become an essential part of storm preparedness. In mid-September a vactor truck was assigned to clean commercial districts on a regular basis to pre-empt the start of the storm season. The truck makes the rounds Monday through Friday. The commercial districts covered are San Pablo, University, Ashby, Adeline, Shattuck, and Telegraph Avenues. This service is in addition to the routine vactor truck activity mentioned above.

Contract Services. Public Works is negotiating contracts with East Bay Conservation Corps (EBCC) and the California Conservation Corps (CCC) to clean gutters and catch basins and assist in leaf removal in selected areas. The EBCC and CCC contracts can be approved by the City Manager. A construction contract for less than \$200,000 for high priority repairs (Attachment 1) is now being processed. Two on-call engineering service contracts (total of \$100,000 for both) for emergency repair service will be submitted for Council for approval in October 2006.

Engineering is preparing bid documents for a construction contract for priority repairs listed in Attachment 1. The contract will be for an estimated \$1.8 million referred to under Fiscal Information.

The Role of Other Divisions and Departments. Public Works will encourage all field staff in all departments to report any storm drain-related problems to call Customer Service at 644-6620 or

e-mail PWWorks. Staff from both Parks, Recreation & Waterfront and the Solid Waste Division will be asked to assist with filling sand bags, cross culvert cleaning, and notifying Corporation Yard staff of problems on Berkeley streets during storms. Infrastructure Maintenance staff will be meeting with Parks and Solid Waste to request this assistance and define roles.

### **Storm Season Activities**

Although it is impossible to predict the start of the rainy season, staff typically expects the rainy season to begin in late November and run through April. During heavy storms, the Infrastructure Maintenance Division will activate the following action plan, most of which activities were set up last year during heavy storm events.

Daily Action Plan. Extended shifts already established for maintenance crews will be expanded to include supervisors and Customer Service staff. The Streets Unit will compile a list of employees assigned to work extra hours to include swing (3:00PM to 9:30 PM) and graveyard (11:00 PM to 7:30 AM) shifts. During heavy storms, office staff hours will be extended until midnight (only on days necessary, including Saturdays and Sundays) to ensure that calls are received and crews are immediately dispatched.

Crews assigned to patrol during heavy storms will, on a daily basis, do the following:

- Inspect the areas prone to flooding;
- Report the condition of these locations to Customer Service who will prepare daily reports; and
- Complete and turn in log sheets listing all storm drains inspected and cleared.

Supervisors will use this information to note and report broken catch basins and cross culverts and provide locations and descriptions to Customer Service to be entered into a database.

An on-site supervisor and two crews (four employees) will be assigned to work with the swing shift crew from 3:00 PM to 9:30 PM during heavy storms to handle emergency calls. Staff will inspect areas that are prone to flooding and install barricades and warning tape for mudslides or landslides to ensure public safety. The three graveyard shift employees will be assigned to monitor the major arterials (Shattuck, Telegraph, Ashby, San Pablo, University Avenues and Adeline Street). Public Works has identified the following locations as storm event “hotspots”: 2<sup>nd</sup> /Gilman, Virginia Outfall, Codornices Creek, Harrison, University Avenue Underpass, Malcolm X School, and Ashby Avenue Underpass. During heavy rains, these locations will be checked throughout the day.

The Infrastructure Maintenance Manager or his designee will provide the Engineering Division Storm Unit, Director of Public Works, and the City Manager’s Office daily updates with the following information: 1) general city conditions, 2) location and description of significant events such as mudslides, landslides or flooding, 3) number of sandbags issued the previous day, and 4) number of storm-related calls received.

Volunteer Time Off (VTO) day requests from the maintenance crews and customer service staff will be evaluated carefully during the storm season. In addition, vacation leave will be limited so that adequate personnel are available to handle public inquiries and emergency work request.

The Streets Unit and Engineering staff will debrief after each major storm, time permitting, to discuss any problematic areas and how to tackle them before the next event.

Union Issues (Inlet/Outlet Cleaning). Local 790 members have expressed concern that the proposed contracts for gutter and catch basin cleaning and repairs constitutes “outsourcing” their routine work. This is not the case. The plan calls for work that is long overdue, will help reduce a serious backlog of work, and allow City staff to maintain the storm pipes on schedule throughout the year. During the rainy season staff is expected to respond immediately to emergencies and citizen complaints. The existing level of resources cannot meet the backlog of cleaning and minor repairs the storm drain system requires. Once the systems are cleaned and repaired, staff will have a better chance of maintaining the systems efficiently both during the storm season and throughout the year.

#### POSSIBLE FUTURE ACTION

Infrastructure Maintenance and Engineering will evaluate the plan during and after the storm season. At the end of the season, the two divisions will jointly revisit and investigate the list of broken or damaged catch basins and cross culverts identified during the storm season. They will determine what the maintenance staff should repair and what repairs should be contracted out for completion prior to the next storm season.

#### CONTACT PERSON

Joseph Ayankoya, Infrastructure Maintenance Manager, 644-6622

Lorin Jensen, Supervising Civil Engineer, 981-6311

Claudette Ford, Public Works Director, 981-6300

#### Attachments:

- 1: List of priority repairs for \$1.8 million construction contract
- 2: Map – General Locations Inspected/Cleaned
- 3: Cross culverts to be repaired



**City of Berkeley**  
**STORM DRAIN MAINTENANCE**  
**GENERAL LOCATIONS**  
**INSPECTED/CLEANED**

September 2005 through July 2006

**Frequency of visits**

- 1 - 2
- 3 - 4
- 5 - 6
- 7 - 10
- 11 - 15
- Intersections w/no drains



Source: HTE work order data recorded

**ATTACHMENT 3****CROSS CULVERTS TO BE REPAIRED**

1. Dohr/Prince Cross Culvert/Wheel Chair Ramp
2. Acton/Russell Cross Culvert
3. 6<sup>th</sup>/Hearst N/E to N/W Cross Culvert
4. Stuart/California Cross Culvert
5. Mabel/Carrison Cross Culvert
6. College/Forest Cross Culvert
7. Oregon/Shattuck Cross Culvert
8. MLK/Ward Cross Culvert
9. Gilman/Stannage Cross Culvert
10. Gilman/Talbot Cross Culvert
11. Gilman/Peralta Cross Culvert
12. Gilman/Evelyn Cross Culvert
13. 9<sup>th</sup>/Hearst Cross Culvert
14. 8<sup>th</sup>/Hearst Cross Culvert
15. Peralta/Portland Cross Culvert
16. Mabel/Haskell Cross Culvert
17. Blake/Milvia Cross Culvert
18. Parker/Milvia Cross Culvert
19. 10<sup>th</sup>/Grayson Cross Culvert
20. 5<sup>th</sup>/Bancroft Way Cross Culvert
21. 6<sup>th</sup>/ChanningWay Cross Culvert
22. 6<sup>th</sup>/Bancroft Way Cross Culvert
23. 4<sup>th</sup>/Allston Way Cross Culvert
24. 10<sup>th</sup>/Camelia Cross Culvert
25. Catalina/Colusa Cross Culvert