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SEMI-ANNUAL REPORT: ADDRESSING FLOATING MATERIAL IN CHOLLAS AND PALETA CREEKS

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SAN DIEGO, CITY OF
STORM WATER CONVEYANCE SYSTEM
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I. BACKGROUND

Excessive trash is a societal environmental issue that is broader than the storm water pollution prevention programs that are solely charged with improving water quality. Littering is a behavior reflecting society's general perspective that trash and litter is everyone else's problem to manage. The general population does not understand the incremental effects that littering has on San Diego's ecosystem, and their role in litter prevention. Residents and businesses have an even harder time understanding the cause and effect relationship between littering and water quality problems in the region and their role in creating and preventing this problem. And, in the Mid-City region of the City of San Diego, where Chollas and Paleta Creeks are located, efforts to reduce and eliminate trash and littering are further compounded by the economic and cultural make-up of the area. This region is home to numerous first generation and immigrant populations unfamiliar with American environmental ideals and laws. Persuading citizens to accept a sense of environmental responsibility and effectively change practices is a long-term prospect requiring resources beyond those available to local storm water programs.

Trash accumulates within the storm water conveyance system during periods of dry weather and then washes downstream during rain events. Although municipalities recognize this process, reducing littering and achieving behavioral change is a challenge that is beyond the scope, resources and authority of municipal storm water programs. Litter is an issue that must be tackled and sustained at the state level through integration of solid waste program expertise with other environmental issues and programs impacted by litter pollution. Lacking more effective methods and resources to tackle litter as a water quality pollutant, the City of San Diego addresses litter consistently throughout the City without consideration of location.

Pursuant to Section C.2 of the Municipal Storm Water Permit (California Regional Water Quality Control Board – San Diego Region, Order No. 2001-01), the City of San Diego is required to report twice a year on existing and planned Best Management Practices (BMPs) to prevent or reduce trash, debris, and other floating materials in Chollas and Paleta Creeks. This report represents the third semi-annual report submitted to the California Regional Water Quality Control Board – San Diego Region (henceforth referred to as the Regional Board) in 2003 and reports activities conducted during the first half of fiscal year 2004 (July 1, 2003 through December 31, 2003).

Chollas and Paleta Creeks discharge into San Diego Bay. The Chollas Creek watershed is approximately 17,604 acres and the Paleta Creek watershed is approximately 2,089 acres. The majority of the Chollas Creek watershed is within the City of San Diego city limits. The Chollas and Paleta Creek watersheds are within the 2nd, 3rd, 4th, 7th and 8th City Council District boundaries. Portions of Lemon Grove and La Mesa are also within the watershed.

The majority of the Paleta Creek watershed is within the City of San Diego limits; however, a portion of the City of National City is within the watershed as well. The mouths of both Chollas and Paleta Creeks discharge on federal (U.S. Navy) land. GIS maps showing the storm water conveyance system and land use within the Chollas and Paleta Creeks watersheds were previously submitted in our report dated October 19, 2001.

The City of San Diego has many ongoing programs intended to keep San Diego beautiful and encourage proper disposal of trash and debris. The following activities remove or discourage the introduction of trash that would otherwise end up in receiving waters:

- Education and outreach, "Think Blue"
- Weekly residential trash pick up
- Trash pick up from public areas
- Recycling
- Household Hazardous Waste collection
- Volunteer cleanups
- Volunteer storm drain stenciling
- Drain and inlet cleaning
- Channel cleaning
- Street Sweeping
- Enforcement of the San Diego Municipal Code (SDMC)
- Enforcement of applicable state codes through court actions

The Environmental Services Department addresses reports of illegal dumping and littering, enforcing San Diego Municipal Code (SDMC) Sections 54.0208, 54.0209 and 54.0210. The Environmental Services Department has Solid Waste Code Enforcement Officers who are responsible for anti-waste education and enforcement of the City of San Diego Municipal Codes dealing with solid waste issues. The Environmental Services Department also works with community groups and/or volunteers in organizing community cleanup/recycling events to properly dispose of those items not collected by regular curbside collection services. Additionally, the Storm Water Pollution Prevention Program in the General Services Department enforces the City's *Storm Water Management and Discharge Control* ordinance, SDMC Section 43.03.

The Environmental Services Department also funds Community Cleanup events through out the year. At these events, community residents take hands-on responsibility for keeping their neighborhoods clean. These beautification events work to cleanup local areas including parks, canyons and urban alleys. Each year, the Community Cleanup Program helps approximately 30 communities coordinate cleanups in neighborhoods throughout the City of San Diego.

The City Attorney's Consumer and Environmental Protection Unit prosecutes violations of the San Diego Municipal Codes and applicable state codes through court actions.

II. LIMITATIONS

Due to the ongoing fiscal crisis at the local and state level, spending restrictions are still occurring for the City of San Diego. During the second half of Fiscal Year 2003 (January through June 2003), City departments were forced to restrict spending to vital operating expenditures. This action limited the Storm Water Pollution Prevention Program and equated to an approximate 10% reduction in their approved Fiscal Year 2003 budget (\$2.96 million). For the Fiscal Year 2004 budget, City departments experienced a 10% reduction in spending levels. For our Program, this action resulted in the elimination of three positions and associated non-personnel expenses for laboratory costs. During Fiscal Year 2004, additional spending restrictions occurred and the department experienced an approximately 5% reduction in their approved Fiscal Year 2004 budget (\$2.78 million). In preparation for the Fiscal Year 2005 Budget, City departments were again requested to reduce spending by another 10%. It is anticipated that the fiscal limitations and uncertainty will continue and additional reductions/spending restrictions will continue to occur in future fiscal years.

III. REPORT ORGANIZATION

This report is organized according to the outline provided below, as requested in the letter from Mr. John H. Robertus (Executive Office for the Regional Board) dated December 18th, 2002. Subsequent reports will conform to this format.

1. Public Education and Outreach Efforts
 - 1.1 Volunteer Cleanups
2. Enforcement
3. Storm Drain System and Creek Maintenance and Cleaning Efforts
4. Best Management Practices (BMPs)
 - 4.1 Structural Best Management Practices (BMPs)
 - 4.2 Non - Structural Best Management Practices (BMPs)
 - 4.3 BMP Action Plan
5. Creek Refuse Assessment Program
6. Collaborative Efforts
7. Trash Measures Effectiveness Assessment

IV. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Karen Henry
Deputy Director

Storm Water Pollution Prevention Program

1. PUBLIC EDUCATION AND OUTREACH EFFORTS

During this reporting period the City continued to identify behavior modification as the primary means to deal with trash as non-point source of pollution in our waterways. Because "midnight dumping" activities are relatively easy to conduct without consequences, educating citizens to prevent this from occurring in the first place is our best line of defense. As such, the focus of our education efforts is to raise public awareness and to foster behavior changes to ultimately reduce non-point source pollution, including trash and litter.

The third year of "Think Blue," the city's public education and outreach campaign, included airing of two English and one Spanish PSA for television, and one English and one Spanish PSA for radio. The City aired the PSAs on eight radio and eleven television stations. For fiscal year 2004, the City and our Think Blue contributors have purchased more than \$273,000 in air time and we anticipate an in-kind promotional match by the local broadcast entities of approximately 45 percent.

We began airing the new PSAs on December 6, 2004³⁷. One PSA specifically addresses trash as a pollutant of concern. This PSA is digitally animated and titled, "Don't Trash Our Future." The "Photo Mosaic" PSA focuses on several pollutants of concern in our watersheds (including trash). These commercials air across local television and radio stations. Information associated with the "Don't Trash Our Future" PSA radio and television airings is provided in the tables below. These commercials are provided on VHS as an attachment to this report (Attachment 1).

Table 1. "Don't Trash Our Future" radio airings.

Station	Number of Airings*
Planet 103.7 FM	83
Star 100.7 KFMB	95
KPRI 102.1 FM	67
KOGO 600 AM	21
94.9 FM	41
KGB 101.5 FM	44
JAZZ 98.1 FM	17
933 FM	40

* included airings in January 2004.

Table 2. "Don't Trash Our Future" TV airings.

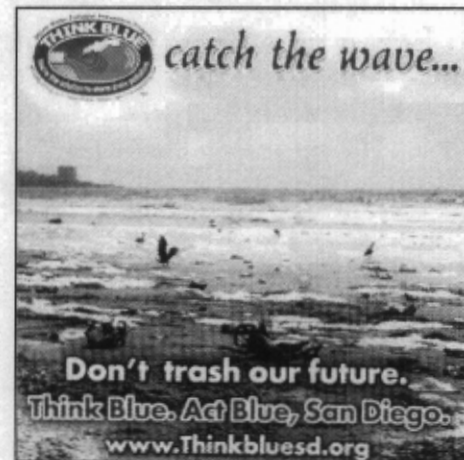
Station	Number of Airings*
FOX 6	42
UPN 13	10
KPBS	11
XEWT 12 (Spanish)	48
KFMB TV8	21
KUSITV 9/51	55
KNSD 7/39	20
KGTU 10	17
KSWB 5	23
Cox Cable (ESPN2, FOOD, SciFi, TRAVEL, Lifetime Movie Network and USA)	238
Time Warner Cable (BET, FOOD, TNT, TRAVEL, and COMEDY)	14

* included airings in January 2004.

The City has expended a substantial amount of time and energy seeking funds to cover the costs of PSA development and airing, and would be prohibitive from a fiscal perspective without the financial support of Caltrans (District 11) and the Port of San Diego.

In addition to the airtime, two radio stations, KGB FM and 933 FM have published an anti-litter ad that repeats the final scene from the "Don't Trash Our Future" PSA. The KGB ad is placed in their 2003 holiday CD, distributed in November and December of 2003 (See Figure 1). Ten thousand CDs with these ads were sold. FM 933 also published the ad on 5 of 12 months in their 2004 calendar. The calendar was distributed to approximately 10,000 San Diegans and is provided as an attachment to this report (Attachment 2).

Figure 1 Anti-Litter Ad.



The results of our annual resident's survey entitled "City of San Diego Storm Water Pollution Program 2003 Follow-up Survey of City Residents". The 2003 Residents Survey indicates the city has increased awareness of the program by another two percentage points to a two-year cumulative increase of 16 percent and awareness of what happens to things that go into the storm drains remained essentially static between the 2002 and 2003 surveys, meeting but not exceeding expectations. With new PSAs airing in FY 2004, we anticipate making additional progress in meeting our awareness and behavior modification goals in the upcoming year.

The City of San Diego and its project partners for the *Chollas Creek Water Quality Protection & Habitat Enhancement Project* (the Port of San Diego, Environmental Health Coalition, and San Diego BayKeeper, the Cities of La Mesa and Lemon Grove, San Diego Unified School District, and Southwester College), have been selected to receive a State Costa- Machado Act of 2000 (Proposition 13) grant in the amount of \$2,244,000 to implement portions of the *Chollas Creek Enhancement Program*, adopted by the San Diego City Council on May 14, 2002. Planned improvements as part of the grant project include:

- Removal of concrete sections of the channel (up to 25,000 square feet);
- Widening of the floodplain (300 to 800 linear feet); and,
- Creation and restoration of wetland and transitional upland habitats (2 to 4 acres of habitat creation and restoration). Improvements will be designed to re-establish the natural structure, dynamics and hydrologic functions within applicable creek segments and restore affected beneficial uses.

During this reporting period (July to December 2003), the City of San Diego and its project partners coordinated to prepare a scope of work and draft contract to be signed with the State

Water Resources Control Board. The City submitted an initial draft of the scope of work and draft contract for review by the Regional and State Water Resources Control Boards in July 2003. In October 2003, the City received comments from the Regional and State Boards, and submitted a revised contract on February 20, 2004. The project is scheduled to begin work in mid-2004, and complete work by June 2007.

The scope of work details two related education and outreach campaigns developed during this reporting period that will be implemented in concert with the planned improvements to Chollas Creek.

First, the grant project will develop and implement of a broad education outreach campaign within the Chollas Creek watershed administered jointly between the City of San Diego Storm Water Pollution Prevention Program and the Environmental Health Coalition with support from San Diego BayKeeper, the Port of San Diego and the cities of Lemon Grove and La Mesa. The purpose of the education program will be to increase awareness about non-point sources of pollution while encouraging residents of the watershed to adopt appropriate behaviors in every-day activities around the home and business.

Second, the grant project will further the development of the watershed protection and urban runoff principles elements in the Gompers Secondary School curriculum and associated improvements within school site including: (1) enhancement and expansion of onsite wetland habitat; (2) establishment of a native plant propagation center; and, (3) associated improvements conducive to improving outdoor lab learning environment (such as security gate and fencing) to support hands-on monitoring activities for students. Trained students will also share their knowledge within the watershed as part of a community service project.

The second Proposition 13 project proposal titled "*Water Quality Leaders*," mentioned in the February 14, 2003, Technical Report did not receive funding. This grant would have consisted of a pilot study for existing developed areas and would focus on the commercial corridors in three different watersheds, including the Chollas Creek watershed. This project would involve working with area businesses to install catch basin inserts that would be maintained and monitored through a partnership with San Diego BayKeeper, participating businesses, and the City. Both structural and educational BMPs would be implemented and monitored to determine the appropriateness and effectiveness of each application. The City believes this proposal has substantial merit because project implementation would cost-effectively help protect San Diego water bodies and beneficial uses. As such, the Storm Water Pollution Prevention Program will continue to pursue grant funding for this pilot project.

The City's already significant storm water educational challenges are compounded by the socio-economic make-up of the neighborhoods along Chollas and Paleta Creeks. The Mid-City community located in the Chollas Creek watershed is home to a large and diverse first

generation immigrant population where environmental awareness as a community value is a new concept. It is estimated that there are approximately 75 dialects spoken within the area, representing a significant challenge in first, gaining access to these communities and secondly, achieving integration of environmental/storm water compliance behaviors.

A long term strategy for addressing water pollution and abatement of pollutants of concern in our recreational waters, including trash is to educate school-age children about San Diego's unique marine environment. An exciting development this past year is the joining together of the City of San Diego and the San Diego City School District to create K-12th grade science curricula to focus on San Diego watershed issues and characteristics, impact student behavior toward pollution prevention, link to and modify existing curricula, and serve as a model for schools county-wide. The curricula is entitled "Stewardship: Water Education for Lifelong Leadership," or Project SWELL. Project SWELL was launched in the Fall of 2003 and included in the curriculum of about half of all fifth grade classes. It is anticipated that Project SWELL will be incorporated into all 5th grade classes by next year. Our biggest obstacle is addressing the long-term funding requirements to sustain Project SWELL. We anticipate the annual budgetary needs for the entire program to approach \$500,000 annually. Given the severe financial realities the City, State, and San Diego City Schools are facing, the City and San Diego Bay Keeper are actively seeking grant funding from various state grant programs, including Proposition 13.

did this happen?

Educational efforts planned for the remainder of Fiscal Year 2004 include continued airings of the PSAs described above and continuing the Storm Water Pollution Prevention Program's Think Blue education efforts. In October 2003, the Storm Water Program will begin a number of Business Outreach workshops. In addition to informing business owners how to properly clean impervious surfaces we will include other site best management practices including an anti-litter element as part of the workshop content. Additionally, the Storm Water Program will work collaboratively with the Metropolitan Wastewater, Park and Recreation and Environmental Services departments and Caltrans District 11 in the Chollas Creek and surrounding areas to leverage multi-media buys and outreach efforts we are each pursuing.

1.1 VOLUNTEER CLEANUPS

The California Coastal Cleanup Day is considered the premier volunteer event focused on the marine environment in the country. It is estimated that since the program started in 1985, over 552,000 Californians have removed almost 8.5 million pounds of debris from our state's shorelines and coast. Beginning in 2002, the annual event was expanded to include inland sites, thus linking inland sites to the ocean.

not com activity

The City participated in cleanup events at two different locations for this year's California Coastal Cleanup Day (Saturday, September 20, 2003). NASSCO, a prominent company in San Diego with facilities adjacent to Chollas Creek, led the 2nd Annual NASSCO Chollas

Creek Clean Up near Harbor Drive (the same location as the previous cleanup event). Forty-four volunteers assisted with the clean up effort and collected nearly 700 pounds of trash and debris from Chollas Creek.

Tecolote
Demonstrating the City's commitment to address trash City-wide, the Consumer and Environmental Protection Unit of the City Attorney's Office's, with the help of the Storm Water Program, led an event to clean up a section of Tecolote Creek on September 20, 2003 from 9-12 AM. Volunteers concentrated on the portion of the channel from the Recreation Center to Mission Bay. About half of that section is concrete channel while the remainder has been "engineered" to accommodate Morena Boulevard, West Morena Boulevard, railroad tracks, I-5, and East Mission Bay Drive. It is also a major "transportation corridor" for the local transient population.

not City activities
Additionally, I Love A Clean San Diego sponsored and led an event on for California Coastal Cleanup Day in the San Diego/Barrio Logan Area at Chollas Creek. Forty-eight volunteers participated in the event and cleaned approximately 1.6 miles along Chollas Creek and San Diego Bay. Volunteers collected 698 pounds of total debris, including 643.5 pounds of trash and 54.5 pounds of recyclables.

NASSCO is also sponsoring and conducting another Chollas Creek Clean up on Saturday April 3, 2004 in conjunction with I Love A Clean San Diego's Earth Day - Creek to Bay Clean up.

2. ENFORCEMENT

Illegal dumping is a difficult problem to control. Studies show that approximately 60-70 % of trash that ends up in waterways is due to leaves and vegetation. Additionally, wind transports light debris (usually floatables) into low-lying areas such as channels. Littering and illegal dumping can thus make source identification a moving target. Due to the difficulty in actually catching someone in the act of illegally dumping or proving the source of the trash, enforcement by means of imposing penalties or issuing Notices of Violation is rare. Therefore, most "enforcement" actions for gross pollutants consist of either requesting an owner to clean up his/her property or having the appropriate City department properly remove and dispose of trash from the public right-of-way.

As previously noted, the Environmental Services Department (Environmental Services) has had the primary responsibility for responding to waste/litter issues and operates under different sections of the San Diego Municipal Code (SDMC, Sections 54.0208, 54.0209 and 54.0210) than does the Storm Water Pollution Prevention Program (SDMC, Section 43.03). Both programs have hotlines to which they respond. Environmental Services typically receives calls regarding litter or gross pollutants whereas Storm Water receives reports of liquid discharges into the storm drain system and/or receiving waters.

Environmental Services has a Code Compliance section that responds to reports and phone calls. Their process for enforcement includes a letter to the property owner notifying them of the time period in which the trash must be removed followed by a site visit to confirm compliance. Environmental Services also responds to calls from other City departments for illegal dumping on City property (which is the case for Chollas and Paleta Creeks). Therefore, based on historical records, each department within the City may have a budget for having Environmental Services pick up trash within another department's area of responsibility. Although Street Division is responsible for inspecting channels, it is from a flood control perspective; their crews would have to submit a request to Environmental Services to pick up smaller amounts of trash that are not causing a flooding hazard within the watercourse.

The Storm Water Pollution Prevention Program also has a Code Compliance section that responds to reports of illegal discharges. As previously mentioned, their focus is on liquid discharges that are generally much more easily traced to the source than illegal dumping activities. Thus, illegal liquid discharge violations are often more easily enforceable. However, as a result of the September 27, 2001 letter distributed to the Copermittees by the Regional Board in regards to litter, the Storm Water Code Compliance staff now considers trash in their enforcement actions. If they are unable to take enforcement action for trash, the issue is referred to Environmental Services. To date, there have been 38 Notices of Violation (NOV) issued Citywide by the Storm Water code compliance officers specifically for trash. Within the Chollas and Paleta Creek watersheds, the Storm Water Program's code compliance officers have issued five NOVs since December 2001 (see Attachment 3).¹

↳ 2 during this spring period

An updated map depicting the locations of Environmental Services Department's tracking system of incidents of illegal dumping and litter problems between July 1, 2003 and December 31, 2003 is provided as an attachment to this report (Attachment 4). During this time, Environmental Services responded to twelve work requests from other departments, 463 calls for service involving minor litter, and 4,077 calls for service involving illegal dumps. *How many in Chollas/Paleta watersheds?*

Staff from the Office of the City Attorney has also researched and identified state and local statutes that could be used to pursue further legal actions (beyond imposing penalties and/or issuing Notices of Violation), if necessary, against property owners or those responsible for illegal dumping activities. Further, staff from the Office of the City Attorney has also conducted additional outreach efforts within City departments (reaching park rangers, lifeguards and police) to spread the word and encourage City personnel to be especially diligent in regard to illegal dumping activities. As part of this outreach, City staff has also been reminded about how to report violations and how pertinent San Diego Municipal Code sections are enforced.

¹ The number of NOVs issued in the Chollas and Paleta Creek watershed areas was estimated using zip codes.

The City of San Diego will continue to implement the enforcement programs described above.

3. STORM DRAIN SYSTEM AND CREEK MAINTENANCE AND CLEANING EFFORTS

The Transportation Department's Street Division cleaned 544 drainage structures, 2,498 lineal feet of drainage pipes and 8,177 square feet of channel, removing 65 tons of trash and debris from the Chollas Creek watershed and 146 tons of trash and debris from Paleta Creek watershed from July 1, 2003 to December 31, 2003. Street Division staff also removed 876 tons of debris from the Chollas Creek watershed and 211 tons of debris from Paleta Creek watershed through the Street Sweeping Program.²

*why more
trash from
smaller
watershed?*

Chollas and Paleta Creeks are scheduled for two annual inspections in September and March of each year. Should the inspections reveal the need for cleaning, the creeks are scheduled and cleaned as soon as possible. During the reporting period, inspections were conducted in September as planned. Additionally, during inclement weather the Street Division performs critical drain inspections. These inspections include known problem areas in the Chollas and Paleta Creek watersheds. The Urban Runoff Management Plan's *Storm Water Conveyance System* Component (component 2.1.11) identifies the known problem areas and the objective of the cleaning. During the reporting period, "known problem areas" were inspected during each rain event on November 12, 2003 and December 26, 2003. Additional cleaning efforts are based on identified problem areas.

The City will continue to carry out its standard two annual inspections within the Creeks as described above as well as continue to perform critical drain system inspections during inclement weather. As previously noted, the City's ability to remove trash above and beyond what is currently done will depend on identification of a funding source.

The Transportation Department's Streets Division has recently extended the previous agreement with the U.S. Navy to provide additional funding (\$35,000) to clean trash and debris from Chollas Creek at the area where the Navy has installed a containment boom for the 2003-2004 wet season.

Between July 1, 2003 and December 31, 2003, Environmental Services removed approximately 1,871.2 tons of vegetation, trash and debris from Chollas and Paleta Creek watersheds from thirty-three community clean up events, twelve work requests from other departments, 1,307 calls for service involving minor litter, and 4,077 calls for service involving illegal trash dumping.

² Note: Street Division estimates the tons of waste removed from street sweeping based on estimates of what percentage of sweeping routes occur within the Chollas and Paleta Creek watershed areas.

As previously reported, studies have shown that trash re-accumulates approximately 7-10 days after cleaning efforts, which would negate channel cleaning as an effective permanent solution. Large-scale (mechanical) trash removal is an inefficient, expensive and reactive strategy that does nothing to eliminate the source of the trash problem (unless trash removal is combined with education and outreach). To tackle the source of trash issues proactively, and in the most effective manner, the City continues to focus its efforts on continuing anti-litter education to facilitate the cultural shift needed to reduce the sources of trash pollution.

A summary of the estimated trash removed from the Chollas and Paleta Creek watersheds is provided in Table 2, below.

Table 3. Estimate (in tons) of trash removed from the Chollas and Paleta Creek watersheds between July 1, 2003, and December 31, 2003.

Watershed:	Source of Trash Removal:				
	Environmental Services	Streets Division		Navy/City Trash Boom	September 2003 NASSCO Cleanup
		Street Sweeping	Storm Drain Cleaning		
Chollas Creek	1,871.2 (both watersheds)	876 tons	65 tons	0	0.35 tons (699 lbs)
Paleta Creek		211 tons	146 tons	0	0
7/1/03 to 12/31/03 Reporting Period Total (in tons):					3,169.55

4. BEST MANAGEMENT PRACTICES (BMPs)

4.1 STRUCTURAL BEST MANAGEMENT PRACTICES

To date, the City has not been able to allocate funds to study the feasibility of the use of structural BMPs within this watershed, although the City's Urban Runoff Management Plan identifies the need for a drainage master plan (Component 1.6, *Watershed Planning*). The master drainage plan and watershed studies would identify deficiencies in the storm drain system, identify appropriate areas for storm water BMPs, and recommend improvements. Our *Water Quality Leaders* Proposition 13 grant proposal was not successful. Implementation of the *Water Quality Leaders* project would have provided the City with funding to implement structural BMPs and evaluate their effectiveness. The Storm Water Program will continue to pursue water quality grants, in partnership with other jurisdictions, agencies and organizations in the region, as a means of funding trash-abatement efforts.

In order for structural BMPs to be effective, they typically need to be installed in strategic locations in tributaries that have been identified as chronic sources of trash. Additionally, trash collecting BMPs located within main conveyance channels/creeks often fail because of

their maintenance intensive nature and because they cannot sustain structural integrity due to the forces exerted by flows experienced during high intensity rain events. For example, the Navy's trash boom is susceptible to failure when large objects (e.g., shopping carts, couches, and tires) are carried downstream into the boom during high flows.

As a measure to prevent trash and debris from entering Chollas Creek, NASSCO continues to maintain fencing in the parking lot along the sides of the Creek.

4.2 NON - STRUCTURAL BEST MANAGEMENT PRACTICES (BMPs)

As previously reported, trash is removed from or discouraged from entering the storm drain system and receiving waters in the Chollas and Paleta Creek watersheds due to the following non-structural activities:

- Education & Outreach, "Think Blue"
- Weekly residential trash pick up
- Trash pick up from public areas
- Recycling
- Household Hazardous Waste collection
- Volunteer cleanups
- Drain and inlet cleaning
- Channel cleaning
- Street Sweeping
- Enforcement of the San Diego Municipal Code (SDMC)
- Enforcement of applicable state codes through court actions

Through these services, the City of San Diego is effectively preventing tons of trash from entering into our waterways.

However, physical cleaning of the entire reaches of Chollas and Paleta Creeks by City crews is not an environmentally optimal option because it is an "end of pipe" solution that fails to eliminate the source of the problem (people's behaviors), and is therefore, inherently less effective than source controls (education). Studies have shown that trash re-accumulates approximately 7-10 days after cleaning efforts, which would negate channel cleaning as an effective permanent solution. Large-scale (mechanical) trash removal is an inefficient, expensive and reactive strategy that does nothing to eliminate the cause of the litter problem (unless trash removal is combined with education and outreach). In addition, property and environmental constraints may make regular creek cleaning difficult. Research into property boundaries in Chollas Creek reveal that private ownership extends into the creek bed in many locations. In those locations, the City would have to request permission to access the property. The same is true for volunteer clean up events. Coordinating a cleanup event and securing all of the necessary approvals is very time consuming and potentially prohibitive.

Additionally, restrictions on impacting native habitat may also reduce access to portions of the creeks.

Therefore, to tackle the source of trash issues proactively, and in the most cost-effective manner, the City continues to focus its efforts on continuing anti-litter education to facilitate the cultural shift needed to reduce the sources of trash pollution through the Think Blue program. As reported previously in this report, the third year of the Think Blue campaign included airing both English and Spanish PSAs for television and radio. One PSA, "Don't Trash Our Future," specifically addresses trash as a pollutant of concern.

In addition to the airtime, two radio stations have published an anti-litter ad that repeats the final scene from the "Don't Trash Our Future" PSA. The ad was placed in CD inserts and calendars and cumulatively distributed to more than 50,000 San Diegans.

The Storm Water Pollution Prevention Program also joined together with the San Diego City School District to create and implement Project SWELL (Stewardship: Water Education for Lifelong Leadership) K-12th grade science curricula focusing on San Diego watershed issues and characteristics, impacting student behavior toward pollution prevention, and serving as a model for schools county-wide.

Also during this reporting period, the Storm Water Program began using the newly created Think Blue anti-litter storm drain stencil (see Figure 2). The stencil was used in City municipal yards and facilities, including the Chollas Yard located within the Chollas Creek watershed.

Stencils were also distributed to I Love A Clean San Diego so that volunteers may stencil storm drains throughout San Diego, including the Chollas and Paleta Creek watershed areas. The stencil specifications have been posted on the City's Think Blue website (thinkbluesd.org) so that contractors and environmental organizations can make their own stencils using the City standard.

Figure 2. City of San Diego THINK BLUE Storm Drain Stencil.



The Transportation Department's Street Division cleaned 544 drainage structures, 2,498 lineal feet of drainage pipes and 8,177 square feet of channel, removing 65 tons of trash and debris from the Chollas Creek watershed and 146 tons of trash and debris from Paleta Creek watershed from July 1, 2003 to December 31, 2003. Street Division staff also removed 876 tons of debris from the Chollas Creek watershed and 211 tons of debris from Paleta Creek watershed through the Street Sweeping Program.

In addition, between July 1, 2003 and December 31, 2003, Environmental Services removed approximately 1,871.2 tons of vegetation, trash and debris from Chollas and Paleta Creek

watersheds from thirty-three community clean up events, twelve work requests from other departments, 1,307 calls for service involving minor litter, and 4,077 calls for service involving illegal trash dumping.

During the reporting period, the Environmental Services Department also held three automotive hazardous waste collection events, one of which was held at Balboa Park within the Chollas Creek watershed. This was a successful event with a 50% increase in participation than at prior events at this site. The Department collected more than 17,000 pounds of recyclable hazardous waste including 930 gallons of used motor oil, more than 7,400 pounds of automotive batteries, 190 pounds of oil filters, and 150 gallons of antifreeze. These events provide residents with an opportunity to properly dispose of automotive waste and reduce the likelihood of waste ending up in creeks and drainages including those within the Chollas and Paleta Creek watersheds.

As detailed in Section 1.1, the City coordinated with other agencies and participated in clean up events during the reporting period.

In order to prevent trash and debris from entering the creek bed from parking lots due to wind or storm water, NASSCO contracts with St. Madeleine's Sophie Center to conduct trash pick-ups twice a week.

The Storm Water Pollution Prevention Program plans to continue an aggressive education and outreach campaign targeted at litter abatement, begin implementation of the *Chollas Creek Water Quality Protection and Habitat Enhancement Project*; consider implementation of a criminal prosecution process for the Storm Water Pollution Prevention Program; and continue maintenance activities and participation in volunteer cleanup efforts. The Streets Division may implement additional trash awareness outreach and cleaning (pending additional funding). In addition, Caltrans has recently initiated a statewide, multi-lingual anti-litter campaign that includes materials for students, flyers, and other handouts, which the City will distribute in the Chollas and Paleta Creeks Areas.

4.3 BMP ACTION PLAN

Table 4 below provides an update on the potential BMPs reported previously in the February 13, 2003 letter. Please note that to maintain consistency, we've kept all of the activities reported previously, even if they have been completed, delayed or postponed.

Table 4. Potential & actual BMPs implemented to address trash in the Chollas and Paleta Creek watersheds.

BMP	ESTIMATED IMPLEMENTATION DATE	COMMENTS
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Semi-Annual Report: Addressing Floating Material in Chollas and Paleta Creeks
March 9, 2004

BMP	ESTIMATED IMPLEMENTATION DATE	COMMENTS
NON-STRUCTURAL BMPs:		
<i>EDUCATION</i>		
Public Service Announcements	Fall 2003 and ongoing	PSAs are in partnership with Caltrans – District 11 and the Port of San Diego.
Materials with Trash Focus	As-Needed	During the reporting period, anti-litter messages were advertised in calendars and CD inserts. Other Think Blue materials will be created and updated as appropriate.
Tailored brochures	FY 2005	Originally slated for FY2004, rescheduled for FY2005 (pending council approval or identification of grant funding). Caltrans has provided “Don’t Trash California” anti-litter campaign materials which will be used in Chollas Creek watershed.
District 4 Storm Water Outreach module	FY2004	Funding unidentified.
Trash & Litter Impact Module for Watershed Display Boards	FY2005	Delayed to FY 2005 pending Copermittee agreement on WURMP education elements. Intend to add litter education module and materials to watershed display boards shared by Copermittees.
Project SWELL (Stewardship: Water Education for Lifelong Leadership)	Fall 2003	New K-12 th grade education program. Began implementation in Fall 2003 school year in San Diego City Schools
Letters to Property Owners	Ongoing	Outreach to property owners done as part of September 2002 Clean-Up event – Proposed to expand to all property owners in FY 2004, but budget for this activity was not approved. Activity to be postponed and carried out in conjunction with outreach to be implemented as part of the <i>Chollas Creek Water Quality Protection and Habitat Enhancement Project</i> beginning in calendar year 2004.
Letters with brochures to residents in Council District 4	Completed	Councilmember Charles Lewis’ office distributed 200.
Letters to Copermittees	Completed	Reached all copermittees within Chollas and Paleta creeks watersheds via e-mail correspondence on August 7, 2002.
Inter- and Intra-Agency Coordination	Ongoing	Outreach to other City departments has been done by the Office of the City Attorney as described in Section 3 “Enforcement” above. The City will continue discussions with Caltrans staff in order to identify opportunities for partnership between our agencies in order to abate trash concerns. As already noted, Caltrans is a valuable partner to the City providing financial support to the Think Blue PSAs currently under development.

Semi-Annual Report: Addressing Floating Material in Chollas and Paleta Creeks

March 9, 2004

BMP	ESTIMATED IMPLEMENTATION DATE	COMMENTS
<i>Chollas Creek Water Quality Protection and Habitat Enhancement Project – Proposition 13 Grant</i>	Calendar Year 2004	Approved for funding by the State Water Resources Control Board on October 17, 2002 under Resolution 2002-0152. In contract negotiations with the state.
<i>Water Quality Leaders</i>	N/A	Proposition 13 grant application denied. Pursuing partnership with Abtech and federal funding.
ENFORCEMENT		
Criminal Prosecution	Calendar Year 2005	Currently under consideration.
Illegal Dumping Enforcement	Ongoing	
MAINTENANCE		
<u>Street Division</u> – Cleaning efforts	Ongoing	The Transportation Department's Street Division cleaned 544 drainage structures, 2498 lineal feet of drainage pipes and 8177 square feet of channel, removing 65 tons of trash and debris from the Chollas Creek watershed and 146 tons of trash and debris from Paleta Creek watershed from July 1, 2003 to December 31, 2003. Street Division staff also removed 876 tons of debris from the Chollas Creek watershed and 211 tons of debris from Paleta Creek watershed through the Street Sweeping Program.
<u>Street Division</u> – Additional trash awareness and cleaning efforts	Unknown	Pending identification of funding.
<u>Environmental Services:</u> Abatement of Illegal Dumping and Clean-Up & Recycling Events	Ongoing.	Between July 1, 2003 and December 31, 2003, Environmental Services removed approximately 1,871.2 tons of vegetation, trash and debris from Chollas and Paleta Creek watersheds from thirty-three completed community clean up events, twelve work requests from other departments, 1,307 calls for service involving minor litter, and 4,077 calls for service involving illegal trash dumping.
Volunteer Clean-ups	Ongoing, prior to next rainy season	City to participate in two cleanup locations during California Coastal Cleanup day on September 20, 2003. Additional events to be implemented with consideration of staffing and budget constraints.
Parking Lot Clean Up at Chollas mouth	Ongoing	Coordination with Port District, NASSCO. NASSCO parking lots were cleaned during the September 2003 Cleanup Event and implemented permanent good housekeeping practices to periodically clean the parking lot in combination with fencing and new trash cans.
Boom Cleaning	Ongoing	Collaborative agreement with the Navy. 18.06 tons of trash removed in the 2002/03 rainy season. No trash removed during this reporting period (July 1 to December 31, 2003).
OTHER		

BMP	ESTIMATED IMPLEMENTATION DATE	COMMENTS
Pursue Grant Funding	Ongoing	The City will continue to research grant opportunities that may support implementation of structural and non-structural BMPs to address trash in intensely urbanized watersheds within the City of San Diego, including the Paleta and Chollas Creek watersheds. Constrained by staffing and budget limitations.
STRUCTURAL BMPs:		
Master Drainage Plan	Unknown	To date, the City has not been able to allocate funds to study the feasibility of the use of structural BMPs within this watershed. The master drainage plan and watershed studies would identify deficiencies in the storm drain system, identify appropriate areas for storm water BMPs, and recommend improvements. The City will explore the possibility of obtaining grant funding for this activity.
Fencing at NASSCO Parking Lot	Ongoing	Fencing at NASSCO parking lot completed in September of 2002. Other opportunities for fencing as a trash BMP are currently being considered. It should be noted that no funding to install fencing has been identified to date.

5. CREEK REFUSE ASSESSMENT PROGRAM

The Storm Water Pollution Prevention Program is implementing the Creek Refuse Assessment Program as part of our Dry Weather Monitoring activities in the Chollas and Paleta Creek watershed areas. A description of the assessment strategy follows.

The Dry Weather Monitoring component of the updated Municipal Storm Water Permit (Order No. 2001-01) expanded the physiochemical monitoring conducted under the previous

Figure 3. Dry Weather Storm Drain Field Monitoring Data Sheet.

City of San Diego Storm Water Pollution Prevention Program

City Weather Bureau Ocean Field Monitoring Data Sheet

REGISTRATION NUMBER _____

SITE DESCRIPTION

Observed Soil Use	Residential	Commercial	Industrial	Other	Waterbody	<input type="checkbox"/>
Category Type	Mobile	Control	Open Channel	Shower	Site ID	
Construction	Concrete	Concrete	Paved	Other	Site Description	
					Site Type	
					Event #	
					Event Date	

OBSERVATIONS (**** denote below)

Channel		1	2	3	4	5	Light	Flow	Current	Water Quality
Color	Haze	Strong	Cloudy	Orange	Orange	Orange	Light	Flow	Flow	Flow
Color	Haze	Strong	Cloudy	Orange	Orange	Orange	Light	Flow	Flow	Flow
Color	Haze	Strong	Cloudy	Orange	Orange	Orange	Light	Flow	Flow	Flow
Color	Haze	Strong	Cloudy	Orange	Orange	Orange	Light	Flow	Flow	Flow
Color	Haze	Strong	Cloudy	Orange	Orange	Orange	Light	Flow	Flow	Flow

Channel		1	2	3	4	5	Light	Flow	Current	Water Quality
Color	Haze	Strong	Cloudy	Orange	Orange	Orange	Light	Flow	Flow	Flow
Color	Haze	Strong	Cloudy	Orange	Orange	Orange	Light	Flow	Flow	Flow
Color	Haze	Strong	Cloudy	Orange	Orange	Orange	Light	Flow	Flow	Flow
Color	Haze	Strong	Cloudy	Orange	Orange	Orange	Light	Flow	Flow	Flow

DISCHARGE ESTIMATION

Flowing Creek or Run Channel		Flowing Creek or Run Channel		Flowing Creek or Run Channel	
Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel
Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel
Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel
Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel	Flowing Creek or Run Channel

WATER SAMPLING

Water Sampling Sample Collected		Water Sampling Sample Collected		Water Sampling Sample Collected	
Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected
Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected
Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected
Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected	Water Sampling Sample Collected

COMMENTS / NOTES

Comments / Notes: _____

Quality Check _____ Date _____

Municipal Storm Water Permit. The City's standard procedure for evaluating and recording observations now includes trash observations, as shown on the Dry Weather Storm Drain Field Monitoring Data Sheet (see Figure 3).

Monitoring staff identify trash characteristics in the storm drain's discharge "plume area" at storm drain outlets where they discharge into a large open conveyance channels or the natural drainages and creeks. We have defined the "plume area" as approximately 10-20 yards (30-60 feet) upstream and downstream of the storm drain outlet. Trash monitoring within open conveyance channels and manholes/catch basins uses similar criteria; staff notes conditions within a 20-yard diameter of the monitoring point and in the visible areas within manholes/catch basins.

To complete this assessment, our standard procedure for evaluating and recording

observations has been expanded to include a photo documentation of the trash in these two creek watersheds.

The first year of the Creek Refuse Assessment Program was completed in the fall of 2003 and the results of the assessment were provided to the Regional Board in November 2003. In summary, analysis of data and photographs showed that trash was not necessarily visible from a typical vantage point such as a sidewalk or dirt path, though trash was found at every site upon closer inspection. Trash primarily consisted of paper and plastics. When analyzed in combined with observations, the data showed that most paper and plastics consisted of recyclable drink containers, cups, and snack packaging. The least common types of trash were vegetative waste, automotive parts, and construction debris. The total quantity of trash found at all 35 sites was 20.0 cubic feet. The geometric mean sample area was 87 square yards and the geometric mean trash volume was 0.22 cubic feet of trash. Based upon the types of trash and disposal characteristics, commercial and illegal dumping contributed minimally to trash documented at the monitoring sites. The majority of trash appeared to be from typical household items and drink and snack packaging.

Future assessments will assist in identifying sources and “hot spots” of trash from the tributary land uses and neighborhoods. In addition to trash, monitoring staff will continue to document unique deposition characteristics near outlets and monitoring sites looking for particulates that might identify sources of waste and trash.

The Creek Refuse Assessment Program will provide the City and the Regional Board with quantifiable trash data that can be used as a baseline and to evaluate the effectiveness of BMPs. We will review the Creek Refuse Assessment Program on an annual basis to determine if enhancements are needed and if there is funding available to make the enhancements.

6. COLLABORATIVE EFFORTS

During the reporting period, the Storm Water Pollution Prevention Program participated in monthly implementation meetings for the San Diego Bay Watershed Urban Runoff Management Plan, completed in January 2004. This Plan created a framework for collaboration between Chollas Creek watershed copermittees, businesses, interested public, and other stakeholders. The City of San Diego will collaborate with the Port of San Diego, as lead copermittee in the San Diego Bay watershed, to ensure that trash issues are addressed in the San Diego Bay Watershed Urban Runoff Management Program’s implementation.

In addition, as detailed in this report, the Storm Water Pollution Prevention Program coordinated with the Port of San Diego, City of La Mesa, City of Lemon Grove, Environmental Health Coalition, San Diego BayKeeper, Gompers School, San Diego Unified School District, and Southwestern College to develop the scope of work for the Chollas Creek Water Quality Protection and Habitat Enhancement Project grant; continued to coordinate with Caltrans and the Port of San Diego to create PSAs focused on trash issues; participated in clean up events; coordinated with San Diego BayKeeper, the San Diego City Schools, and member of the education subcommittee to Mayor Dick Murphy’s Clean Water Task Force to develop and launch the Project SWELL school curricula; coordinated with I Love A Clean San Diego to use their volunteers to stencil storm drain inlets, and coordinated with the U.S. Navy and Port of San Diego to continue to maintain trash booms in Chollas Creek.

The Storm Water Program and other City departments will continue to work collaboratively with other agencies, businesses and organizations to leverage additional energies towards cleaning our beaches and bays.

7. TRASH MEASURES EFFECTIVENESS ASSESSMENT

LAMPOL While there is no baseline data that would allow the City to assess effectiveness of measures taken to date to address trash issues within the Chollas and Paleta Creeks watersheds, and while there is no legal or functional standard for determining whether trash is impacting beneficial uses, the City believes that positive steps have been taken as measured by the amount of trash removed reported in this and previous reports. Additionally, we believe the groundwork has been established for the City to make a significant contribution towards the long-term health of these watersheds through the City's collaborative participation in annual California Coastal Clean-Up events. Seeds have been planted to allow the City to continue to participate in similar events in subsequent years as funding and staffing resources permit, as evidenced by the City's participation in this year's California Coastal Clean Up event.

The City has implemented extensive measures to prevent trash from entering into our storm drain system and will continue to explore cost-effective and meaningful ways of reducing illegal dumping of gross pollutants. We recognize that littering and illegal dumping are the major causes of trash and debris in receiving waters and related exceedances of water quality standards. We also recognize that trash in the urban environment is not limited to Chollas and Paleta Creeks: it is an issue for every urban creek, river, and canyon in San Diego. As such, the City has chosen to spend their scarce resources to address trash by incorporating litter prevention in our public education and outreach program, Think Blue. Our emphasis will continue to be on education via our Think Blue program and its mission, "to raise public awareness and to foster behavior changes to reduce non-point source pollution." Simply stated we want, and need, to reach as many people as possible of the City's 1.2 million residents and not limit our efforts to one geographic area.

Toward that end, this year we began implementing the water quality-based school curricula called Project SWELL (Stewardship: Water Education for Lifelong Leadership) in San Diego City Schools in partnership with San Diego BayKeeper, the school district and others, and began airing a new Think Blue anti-litter public service announcement "Don't Trash Our Future." Our Think Blue program is highly acclaimed and has been selected as EPA's outreach model for large urban watersheds. Think Blue is making a difference by changing behaviors of people who live in the region.

Because the Chollas and Paleta Creeks watersheds are not entirely within the City of San Diego, we also recognize the importance of coordinating our efforts with those of other jurisdictions within these watersheds. The City has already ventured into a watershed approach to address trash by working with the United States Navy, Caltrans, the City of Lemon Grove, the Port District, and NASSCO, and we will engage willing stakeholders in developing and implementing solutions to address excessive trash in our watersheds that may impact beneficial uses. The City will continue to address trash concerns through a

comprehensive and cost-effective approach that focuses on pollution prevention and participatory decision-making.

In summary, the City will continue to work diligently within its constraints to ameliorate the trash issues in this and other watersheds. The City of San Diego's elected officials remain steadfast in their support for protecting our beaches, bays and receiving waters, as evidenced by their continued leadership in the Clean Water Task Force. The City's Environmental Services Department, Street Division, and Storm Water Pollution Prevention Program continue to work to remove trash from Chollas and Paleta creeks, among other waterbodies throughout the City. Clearly, support from our leadership, and professional skill and technical knowledge in water quality and urban runoff issues and solutions from City staff is not lacking. Rather, the City's ability to undertake additional trash removal and abatement efforts will be largely regulated by the availability of additional funding. The City would have liked to have additional City employees pick up trash by hand within the creeks as other jurisdictions have done. However, investing our dollars in Think Blue or pollution prevention is currently the best use of our limited funds and staffing to reduce pollution at our beaches and bays. We offer that best management practices are not all created equal, nor is dividing up one's resources between numerous best management practices always the best approach. However, by investing our limited resources in Think Blue, or pollution prevention, we believe that we are realizing the greatest water quality benefit.

We believe that it is premature to state that the City's existing BMPs are ineffective. Rather, we need to explore additional alternatives for reducing illegal dumping of gross pollutants beyond what storm water programs can provide. It is evident that the City's current practices, are effective in ensuring proper disposal of trash, and thus preventing tons of trash from entering into our storm drain system and receiving waters.

Attachments:

1. VHS tape of "Don't Trash Our Future" and "Photo Mosaic" PSAs.
2. FM 933 calendar with "Don't Trash Our Future" ads.
3. Storm Water Pollution Prevention Program's List of NOV's for trash/debris.
4. City of San Diego Environmental Services Department's map of calls for service.