# Baseline Trash Load and Short-Term Trash Load Reduction Plan

Submitted by

**City of Daly City**

**333 90th Street,**

**Daly City, California**

**94015**

*In compliance with Provisions C.10.a(i) and C.10.a(ii) of Order R2-2009-0074*

**January 26, 2012**

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# CITY OF DALY CITY
# SHORT-TERM TRASH LOAD REDUCTION PLAN

## CERTIFICATION STATEMENT

"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 ensure that qualified personnel properly gather and evaluate the information submitted. Based on 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."

**Signature by Duly Authorized Representative:**

1/25/12

Cynthia Royer — January 25, 2012
Manager of Technical Services

# TABLE OF CONTENTS

CERTIFICATION STATEMENT ..... III
TABLE OF CONTENTS ..... IV
LIST OF TABLES ..... V
LIST FIGURES ..... V
ABBREVIATIONS ..... VI
PREFACE ..... 7
1.0 INTRODUCTION ..... 2
Baseline Trash Generation Rates Project ..... 2
Trash Load Reduction Tracking Method Summary ..... 3
Short-Term Trash Load Reduction Plan ..... 3
2.0 BASELINE TRASH LOADING ESTIMATE ..... 5
Default Trash Generation Rates (Regional Approach) ..... 5
Permittee Characteristics ..... 6
*Land Use* ..... 6
Permittee-Specific Baseline Trash Loading Rates ..... 7
*Accounting for Baseline Street Sweeping* ..... 7
*Accounting for Baseline Storm Drain Inlet Maintenance* ..... 8
*Accounting for Baseline Pump Station Maintenance* ..... 8
Baseline Trash Loading Estimates ..... 8
3.0 LOAD REDUCTION CALCULATION PROCESS ..... 10
Step #1: Existing Enhanced Street Sweeping ..... 10
Step #2: Trash Generation Reduction Control Measures ..... 11
Step #3: On-land Interception Control Measures ..... 11
Step #4: Control Measures that Intercept Trash in the MS4 ..... 12
Step #5: Control Measures that Intercept Trash in Waterways ..... 12
Step #6: Comparison to Baseline Trash Load ..... 12
4.0 ENHANCED TRASH CONTROL MEASURES ..... 13
CR-1: Single-use Carryout Plastic Bag Policy ..... 13
*Baseline Level of Implementation* ..... 13
*Enhanced Level of Implementation* ..... 13
*Reduction from Implementing Control Measure* ..... 14
CR-2: Polystyrene Foam Food Service Ware Policy ..... 14
*Baseline Level of Implementation* ..... 14
*Enhanced Level of Implementation* ..... 14
*Percent Reduction from Enhancements* ..... 15
CR-3: Public Education and Outreach Programs ..... 15
CR-4: Reduction of Trash from Uncovered Loads ..... 18
*Baseline Level of Implementation* ..... 18
*Enhanced Level of Implementation* ..... 18
*Percent Reduction from Enhancements* ..... 19
QF-2: Enhanced Street Sweeping ..... 19
*Baseline Level of Implementation* ..... 19
*Enhanced Level of Implementation* ..... 19
*Percent Reduction from Enhancements* ..... 21

QF-6: Creek/Channel/Shoreline Cleanups ..... 24
*Baseline Level of Implementation* ..... 24
*Enhanced Level of Implementation* ..... 24
*Percent Reduction from Enhancements* ..... 24
**5.0 SUMMARY OF TRASH CONTROL MEASURE ENHANCEMENTS ..... 25**
QF-6: Creek/Channel/Shoreline Cleanups ..... 26
5.1 Annual Reporting and Progress Toward Trash Load Reduction Goal(s) ..... 28
5.2 Considerations of Uncertainties ..... 28
**6.0 IMPLEMENTATION SCHEDULE ..... 29**
**7.0 REFERENCES ..... 31**

# LIST OF TABLES

**Table 1.1:** Trash control measures for which load reduction quantification credits or formulas were developed to track progress towards trash load reduction goals.
**Table 2.1:** Regional Default Trash Generation Rates.
**Table 2.2:** Jurisdictional areas and effective loading areas in the City of Daly City by land use classes identified by ABAG (2005).
**Table 2.3:** Preliminary trash baseline load for the *City of Daly City*
**Table 4.1:** Trash control measures that will be implemented by City of Daly City to reach the 40% trash load reduction.
**Table 5.1:** Planned/existing enhanced trash control measure implementation within the jurisdictional boundaries of the City of Daly City and associated trash loads reduced.
**Table 6.1:** Preliminary implementation schedule for enhanced trash control measures in the City of Daly City.

# LIST FIGURES

**Figure 2.1:** Estimated trash baseline loading rates for geographical areas in the *City of Daly City*.
**Figure QF-2.1:** Current enhanced street sweeping program in the City of Daly City.
**Figure QF-2.2:** Current enhanced parking enforcement program in the City of Daly City.

# ABBREVIATIONS

| | |
|---|---|
| BASMAA | Bay Area Stormwater Management Agencies Association |
| BID | Business Improvement District |
| CalRecycle | California Department of Resources Recycling and Recovery |
| Caltrans | California Department of Transportation |
| CASQA | California Stormwater Quality Association |
| CDS | Continuous Deflection Separator |
| CEQA | California Environmental Quality Act |
| CY | Cubic Yards |
| EIR | Environmental Impact Report |
| EPA | Environmental Protection Agency |
| GIS | Geographic Information System |
| MRP | Municipal Regional Stormwater NPDES Permit |
| MS4 | Municipal Separate Storm Sewer System |
| NGO | Non-Governmental Organization |
| NPDES | National Pollutant Discharge Elimination System |
| Q | Flow |
| SFRWQCB | San Francisco Regional Water Quality Control Board |
| SWRCB | State Water Resource Control Board |
| TMDL | Total Maximum Daily Load |
| USEPA | United States Environmental Protection Agency |
| Water Board | San Francisco Regional Water Quality Control Board |
| WDR | Waste Discharge Requirements |

# PREFACE

This Baseline Trash Load and Short-Term Trash Load Reduction Plan (Plan) is submitted in compliance with provision C.10.a(i) and C.10.a(ii)of the Municipal Regional Stormwater NPDES Permit (MRP) for Phase I communities in the San Francisco Bay (Order R2-2009-0074). This Plan was developed using a regionally consistent format developed by the Bay Area Stormwater Management Agencies Association (BASMAA). Based on new information that becomes available during the implementation of this Short-Term Plan (e.g., revisions to baseline loading estimates or load reduction credits of quantification formulas), the City of Daly City may chose to amend or revise this Plan. If revisions or amendments are necessary, a revised Short-Term Plan will be submitted to the Water Board via the City of Daly City's annual reporting process.

**Please Note:** This Baseline Trash Load and Short-Term Trash Load Reduction Plan template and guidance was prepared to assist cities and counties (i.e., Permittees) subject to requirements in provision C.10.a.i of the Municipal Regional Stormwater NPDES Permit (MRP) for Phase I communities in the San Francisco Bay (Order R2-2009-0074). The template and guidance are intended to provide Permittee's with a format for developing their Short-Term Plans and submitting to the San Francisco Bay Regional Water Quality Control Board by February 1, 2012 in compliance with MRP provision C.10.a.i. The template provides a mechanism to link the results of the *Trash Baseline Generation Rates Project* and the *Trash Load Reduction Tracking Method*, each coordinated by Bay Area Stormwater Management Agencies Association (BASMAA). The use of this document and associated guidance are done so under the discretion of each Permittee.

# 1.0 INTRODUCTION

The Municipal Regional Stormwater NPDES Permit for Phase I communities in the San Francisco Bay (Order R2-2009-0074), also known as the Municipal Regional Permit (MRP), became effective on December 1, 2009. The MRP applies to 76 large, medium and small municipalities (cities, towns and counties) and flood control agencies in the San Francisco Bay Region, collectively referred to as Permittees. Provision C.10 of the MRP (Trash Load Reduction) requires Permittees to reduce trash from their Municipal Separate Storm Sewer Systems (MS4s) by 40 percent before July 1, 2014.

Required submittals to the San Francisco Bay Regional Water Quality Control Board (Water Board) by February 1, 2012 under MRP provision C.10.a (Short-Term Trash Loading Reduction Plan) include:

1. (a) Baseline trash load estimate, and (b) description of the methodology used to determine the load level.
2. A description of the Trash Load Reduction Tracking Method that will be used to account for trash load reduction actions and to demonstrate progress and attainment of trash load reduction levels.
3. A **Short-Term Trash Loading Reduction Plan** that describes control measures and best management practices that will be implemented to attain a 40 percent trash load reduction from its MS4 by July 1, 2014;

This Short-Term Trash Load Reduction Plan (Short-Term Plan) is submitted by the City of Daly City in compliance with the portions of MRP provision C.10.a.i listed as 1a and 3 above. In compliance with 1b, BASMAA submitted a progress report on behalf of Permittees that briefly describes the methodologies used to develop trash baseline loads (BASMAA 2011a). These methods are more fully described in BASMAA (2011b, 2011c). Lastly, the *Trash Load Reduction Tracking Method Technical Report* (BASMAA 2011d) was submitted by BASMAA on behalf of Permittees in compliance with submittal 2 described above. The Baseline Loading Rates and Tracking Method projects are briefly described below.

## Baseline Trash Generation Rates Project

Through approval of a BASMAA regional project, Permittees agreed to work collaboratively to develop a regionally consistent method to establish baseline trash loads from their MS4s. The project, also known as the *BASMAA Baseline Trash Generation Rates Project* assists Permittees in establishing a baseline to demonstrate progress towards MRP trash load reduction goals (i.e., 40 percent). The intent of the project was to provide a scientifically-sound method for developing (default) baseline trash generation rates that can be adjusted, based on Permittee/site specific conditions; and used to develop baseline loading rates and loads. Baseline loads form the reference point for comparing trash load reductions achieved through control measure implementation.

Baseline trash loading rates are quantified on a volume per unit area basis and based on factors that significantly affect trash generation (e.g., land use, population density, and economic profile). The method used to the establish baseline trash loads for each Permittee builds off "lessons learned" from previous trash loading studies conducted in urban areas (Allison and Chiew 1995; Allison et al. 1998; Armitage et al. 1998; Armitage and Rooseboom 2000; Lippner et al. 2001; Armitage 2003; Kim et al. 2004; County of Los Angeles 2002, 2004a, 2004b; Armitage 2007). The method is based off a conceptual model developed as an outgrowth of these studies (BASMAA 2011b). Baseline trash loading rates were developed through the quantification and characterization of trash captured in Water Board recognized

full-capture treatment devices installed in the San Francisco Bay area. Methods used to develop trash baseline loading rates are more fully described in BASMAA (2011b, 2011c, and 2012b).

## Trash Load Reduction Tracking Method Summary

The trash load reduction tracking method, described in the *Trash Load Reduction Tracking Method Technical Report,* assists Permittees in demonstrating progress towards reaching trash load reduction goals defined in the MRP (e.g., 40 percent). The tracking method is based on information gained through an extensive literature review and Permittee experiences in implementing stormwater control measures in the San Francisco Bay Area. The literature review was conducted to evaluate quantification methods used by other agencies to assess control measure effectiveness or progress towards quantitative goals. Results are documented in the *Trash Load Reduction Tracking Method: Technical Memorandum # 1 – Literature Review* (BASMAA 2011d).

Methods attributable to specific trash control measures fall into two categories: 1) trash load reduction quantification formulas; and 2) load reduction credits (BASMAA 2012a). Quantification formulas were developed for those trash control measures that were deemed feasible and practical to quantify load reductions at this time. Load reduction credits were developed for all other control measures included in the methodology development. Both categories of methods assume that as new or enhanced trash control measures are implemented by Permittees, a commensurate trash load reduction will occur. Progress towards load reduction goals will be demonstrated through comparisons to established trash baseline load estimates developed through the BASMAA *Baseline Generation Rates Project*.

## Short-Term Trash Load Reduction Plan

The purpose of this Short-Term Plan is to describe the current level of implementation of control measures and best management practices, and identify the type and extent to which new or enhanced control measures and best management practices will be implemented to attain a 40 percent trash load reduction from their MS4 by July 1, 2014. The Short-Term Plan was developed using a template created by BASMAA through a regional project. New and enhanced trash control measures (i.e., Best Management Practices) that Permittees may implement to demonstrate trash load reduction goals are included in Table 1.1. This list was developed collaboratively through the BASMAA Trash Committee, which included participation from Permittee, stormwater program, Water Board and non-governmental organization (NGO) staff. The list of control measures is based on: 1) the potential for Permittees to implement; 2) the availability of information required to populate formulas and develop credits; and 3) the expected benefit of implementation. Load reductions associated with each control measure are demonstrated either through a quantification formula (QF) or credits (CR) described in the *Trash Load Reduction Tracking Method Technical Report* (BASMAA 2012a).

In efforts to reduce trash discharged from MS4s, Permittees may choose to implement control measures that are not included in Table 1.1 or described more fully in BASMAA (2011e). If a Permittee chooses to do so, methods specific to calculating trash load reductions for that control measure would need to be developed. Additionally, at that point, consideration should be given to updating this Short-Term Plan.

Additionally, based on new information that becomes available during the implementation of this Short-Term Plan (e.g., revisions to baseline loading estimates or load reduction credits of quantification formulas), the City of Daly City may amend or revise this Plan. If revisions or amendments are necessary,

a revised Short-Term Plan will be submitted to the Water Board via the City of Daly City's annual reporting process.

**Table 1.1: Trash control measures for which load reduction quantification credits or formulas were developed to track progress towards trash load reduction goals.**

| **Load Reduction Credits** |
|---|
| Single-use Carryout Plastic Bag Ordinances |
| Polystyrene Foam Food Service Ware Ordinances |
| Public Education and Outreach Programs |
| Activities to Reduce Trash from Uncovered Loads |
| Anti-Littering and Illegal Dumping Enforcement Activities |
| Improved Trash Bin/Container Management Activities |
| Single-Use Food and Beverage Ware Ordinances |
| **Quantification Formulas** |
| On-land Trash Pickup (Volunteer and/or Municipal) |
| Enhanced Street Sweeping |
| Partial-Capture Treatment Devices |
| Enhanced Storm Drain Inlet Maintenance |
| Full-Capture Treatment Devices |
| Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal) |

This Short-Term Plan is organized into the following sections:

- Introduction;
- Trash Baseline Load Estimate;
- Load Reduction Calculation Process
- Planned Implementation of New or Enhanced Control Measures;
- Implementation Schedule; and
- References

# 2.0 BASELINE TRASH LOADING ESTIMATE

***Note:*** *Tables and information presented in this section are subject to change based on the results of a third monitoring event of the BASMAA Baseline Trash Generation Rates Project. Therefore, this section of the Short-Term Plan may be updated with revised trash generation rates, baseline loading rates, and baseline loads.*

This section provides the estimated annual trash baseline load from the City of Daly City's Municipal Separate Storm Sewer System (MS4). In compliance with Provision C.10.a.ii of the MRP, the City of Daly City worked collaboratively with other MRP Permittees through BASMAA to develop data and the process necessary to establish baseline trash loading estimate from our MS4. The collaborative project was managed through the BASMAA Trash Committee and included a series of steps described in BASMAA (2012b) and listed below. The approach was intended to be cost-effective and consistent, but still provide an adequate level of confidence in trash loads from MS4s, while acknowledging that uncertainty in trash loads still exists. The approach entailed the following steps:

1. Conduct literature review;
2. Develop conceptual model;
3. Develop and implement sampling and analysis plan;
4. Test conceptual model;
5. Develop and apply default trash **generation rates** to Permittee effective loading areas;
6. Adjust default trash generation rates based on baseline levels of control measure implementation by the Permittee to develop trash **baseline loading rates**; and,
7. Calculate Permittee-specific annual trash **baseline load**.

Through the collaborative BASMAA project, default baseline trash generation rates (volume per area) were developed for a finite set of categories, based on factors that significantly affect trash loads (e.g., land use). These trash generation rates were then applied to effective loading areas in applicable jurisdictional areas within the City of Daly City. Trash generation rates were then adjusted based on baseline street sweeping, storm drain inlet maintenance, and stormwater pump station maintenance conducted in each applicable area. The sum of the trash loads (i.e., rate multiplied by area) from each effective loading area represents the City of Daly City's baseline trash load from its MS4. A full description of the methods by which trash baseline loads were developed is included in BASMAA (2012a) and is summarized below.

## Default Trash Generation Rates (Regional Approach)

A set of default trash generation rates was developed via the BASMAA regional collaborative project (BASMAA 2012a). Default generation rates were developed based on a comparison between trash characterization monitoring results, land uses, economic profiles, and other factors that were believed to possibly affect trash generation. Three trash characterization monitoring events were scheduled via the *Trash Generation Rates Project*. Due to the compliance timeline in the MRP, only two of three trash characterization monitoring events were used to develop trash generation rates described in BASMAA (2012a) and presented in this section. Following the completion of the third characterization event (Winter 2011/12), this section of the Short-Term Plan may be updated to reflect the most up-to-date

trash generation and loading rates available. Trash generation rates based on the results of two of the three characterization events are shown in Table 2-1 for each trash loading category.

**Table 2.1: Regional Default Annual Trash Generation Rates by Land Use Category.**

| Land Use Category | Generation Rates (Gallons/Acre) |
|---|---|
| Retail and Wholesale | 29.99 |
| High Density Residential | 17.04 |
| K-12 Schools | 13.14 |
| Commercial and Services/ Heavy, Light and Other Industrial | 7.08 |
| Urban Parks | 2.14 |
| Low Density Residential | 1.25 |
| Rural Residential | 0.17 |

## Permittee Characteristics

Incorporated in 1911, the City of Daly City covers 4,874 acres in San Mateo County, and has a jurisdictional area of 3,651 acres. According to the 2010 Census, it has a population of 101,123, with a population density of 13,194.5 people per square mile, and average household size of 3.23. Of the 101,123 who call the City of Daly City home, 19.4% are under the age of 18, 10.4% are between 18 and 24, 29.3% are between 25 and 44, 27.4% are between 45 and 65, and 13.5% are 65 or older.

Top employers in the City of Daly City include Seton Medical Center, City of Daly City, Jefferson Union High School District, United States Postal Service, the Cow Palace, and Genesys Telecommunications Laboratory. The median household income was $68,365 in 2000[1].

### *Land Use*

Land uses within the City of Daly City depicted in ABAG (2005) are provided in Table 2-2. The City of Daly City is primarily comprised of seven land uses. These include high, low and rural density residential; commercial and services, Retail and wholesale, K-12 schools, and urban parks.

[1] From the 2000 Census. The median household income for the City of Daly City from the 2010 Census is not currently available.

**Table 2.2: Jurisdictional areas and effective loading areas in the City of Daly City by land use classes identified by ABAG (2005).**

| Land Use Category | Jurisdictional Area (Acres) | Effective Loading Area (Acres) | % of Effective Loading Area |
|---|---|---|---|
| High Density Residential | 2,332 | 2,291 | 71 |
| Low Density Residential | 231 | 181 | 6 |
| Rural Residential | 112 | 96 | 3 |
| Commercial and Services/ Heavy, Light and Other Industrial | 300 | 208 | 6 |
| Retail and Wholesale | 312 | 232 | 7 |
| K-12 Schools | 314 | 200 | 6 |
| Urban Parks | 49 | 30 | 1 |
| **TOTAL** | 3,651 | 3,238 | **100%** |

## Permittee-Specific Baseline Trash Loading Rates

Regional default trash generation rates developed through the BASMAA regional collaborative project were applied to effective loading areas within the City of Daly City based on identified land uses. These generation rates were then adjusted based on the calculated effectiveness of baseline street sweeping, storm drain inlet maintenance and pump station maintenance implemented by the City. These adjustments were conducted in GIS due to the site specificity of baseline generation rates and baseline control measure implementation. The following sections describe the baseline level of implementation for these three control measures. A summary of trash baseline generation and loading rates for the City of Daly City are provided in Table 2-3 and areas associated with these rates are illustrated in Figure 2-1.

### *Accounting for Baseline Street Sweeping*

A "baseline" street sweeping program is defined as the sweeping frequency and parking enforcement implemented by the City of Daly City prior to effective date of the MRP. Baseline street sweeping differs from "enhanced" street sweeping, which includes increased parking enforcement and/or sweeping conducted at a frequency greater than baseline ceiling (i.e., once per week for retail land uses and twice per month for all other land uses). The baseline ceiling was created to not penalize implementers of enhanced street sweeping programs prior to the effective date of the MRP. For those Permittees that sweep less frequent than the baseline ceiling, their current sweeping frequency serves as their baseline.

The City of Daly City's baseline street sweeping program includes sweeping most streets in residential areas twice per month, most streets in the downtown areas once per week, and sweeping most arterials roads twice per month.

The City of Daly City's current street sweeping program includes sweeping most streets in residential and retail areas once per week, and sweeping most of the major arterial road (e.g., Mission Street) five

times per week. The northern segment of Mission Street and a few other streets are swept three times per week.

The estimated trash load reduced via baseline street sweeping is presented in Table 2-3.

### *Accounting for Baseline Storm Drain Inlet Maintenance*

Within the City of Daly City, storm drain inlets were cleaned at a baseline level of one time per year prior to the effective date of the MRP. Based on this baseline frequency and the effectiveness rating developed in BASMAA (2012b), the baseline storm drain maintenance program in the City of Daly City has an annual effectiveness rating of 5%. The estimated trash load reduced via baseline storm drain inlet maintenance is presented in Table 2-3.

### *Accounting for Baseline Pump Station Maintenance*

The City of Daly City does not own any stormwater pump stations with trash racks. However, the City of Daly City has an area of 410 acres in the northern part of its jurisdictional area which drains to a combined system. This combined system within the City and County of San Francisco represents 8% of the City's total storm water conveyance system.

## Baseline Trash Loading Estimates

The estimated baseline trash load from the City of Daly City was calculated as the sum of the loads from the City's effective loading area, adjusted for baseline implementation of street sweeping, storm drain inlet maintenance, and pump station maintenance. The preliminary annual trash baseline load for the City of Daly City is presented in Table 2-3. Preliminary baseline trash loading rates are presented in Figure 2-1 to provide a geographical illustration of areas with estimated low, moderate, high and very high trash loading rates.

**Table 2.3: Preliminary trash baseline load for the *City of Daly City***

| Category | Load (gallons) |
|---|---|
| Preliminary Baseline Trash Generation Load | 50,399 |
| Load Removed via Baseline Street Sweeping | 28,763 |
| Load Removed via Baseline Storm Drain Inlet Maintenance | 1,082 |
| Load Removed via Baseline Stormwater Pump Station Cleaning | 1,969 |
| **Preliminary Baseline Trash Load** | **18,585** |

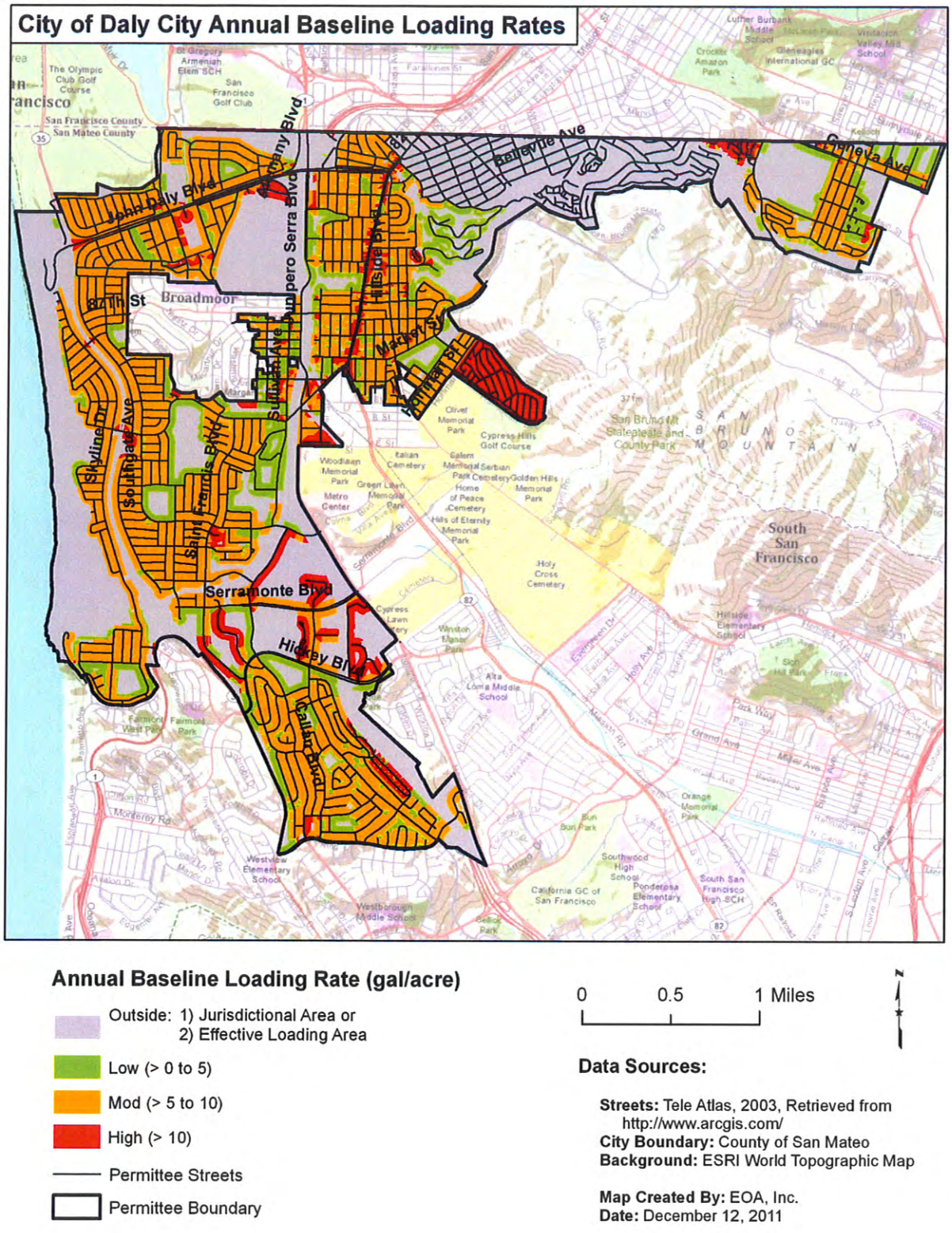



**Figure 2.1: Estimated trash baseline loading rates for geographical areas in the City of Daly City.**

# 3.0 LOAD REDUCTION CALCULATION PROCESS

Using the guiding principles and assumptions described BASMAA (2012a), a stepwise process for calculating trash load reductions was developed collaboratively through BASMAA. This process is fully described in Trash Load Reduction Tracking Method Technical Report (BASMAA 2012a) and is briefly summarized in this section. The process takes into account at what point in the trash generation and transport process a trash control measure: 1) prevents trash generation, 2) intercepts trash in the environment prior to reaching a water body, or 3) removes trash that has reached a water body. In doing so, it avoids double-counting of trash load reductions associated with specific control measures.

To demonstrate trash load reductions, baseline trash loading rates will be adjusted using the following process:

**Step #1:** Existing Enhanced Street Sweeping

**Step#2:** Trash Generation Reduction

**Step #3:** On-land Interception

**Step #4:** Trash Interception in the Stormwater Conveyance System

**Step #5:** Trash Interception in Waterways

**Step #6:** Comparison to Baseline Trash Load

Reductions calculated in Steps 2 and 5 are assumed to be implemented at a constant rate on an "area-wide" basis. For example, if a new region-wide public education strategy is implemented within the San Francisco Bay area, all Permittees can apply load reduction credits associated with this control measure. In contrast, Steps 1, 3 and 4 are "area-specific" reductions that only apply to specific areas within a Permittee's jurisdiction. Area-specific control measures include full-capture treatment devices and enhanced street sweeping. Area-specific reductions may require the use of a Geographic Information System (GIS) to calculate.

Reductions are generally applied in the sequence described below, although some reductions may be applied "in-parallel" and calculated during the same sub-step in the process.

## Step #1: Existing Enhanced Street Sweeping

Trash load reductions due to existing enhanced street sweeping implemented prior to the effective date of the MRP and conducted at levels above baseline levels are not incorporated into each Permittee's trash baseline load. Therefore, load reductions associated with existing enhanced street sweeping are accounted for first in the trash load reduction calculation process. Existing enhanced street sweeping includes street sweeping conducted at a frequency greater than **1x/week** for streets within retail land use areas or greater than **2x/month** for streets in all other land use areas. The result of adjustments made to trash baseline loads due to the implementation of existing enhanced street sweeping is a set of **current baseline loading rates** and a **current baseline load**.

## Step #2: Trash Generation Reduction Control Measures

Trash generation reduction control measures prevent or greatly reduce the likelihood of trash from being deposited onto the urban landscape. They include the following area-wide control measures:

CR-1: Single-Use Carryout Plastic Bag Ordinances

CR-2: Polystyrene Foam Food Service Ware Ordinances

CR-3: Public Education and Outreach Programs

CR-4: Reduction of Trash from Uncovered Loads

CR-5: Anti-Littering and Illegal Dumping Enforcement

CR-6: Improved Trash Bin/Container Management

CR-7: Single-Use Food and Beverage Ware Ordinances

Load reductions associated with trash generation reduction control measures are applied on an area-wide basis.[2] Therefore, reductions in current baseline loading rates are adjusted uniformly based on the implementation of the control measure and the associated credit claimed.

Baseline loading rate adjustments for all generation reduction controls measures implemented may be applied in-parallel, but should be applied prior to calculating on-land interception measures discussed in Step #3. The result of adjustments to trash baseline loading rates due to the implementation of these enhanced control measures will be a set of **street loading rates**. The **street load** is the volume of trash estimated to enter the environment and available for transport to the MS4 if not intercepted via on-land control measures described in Step #3.

## Step #3: On-land Interception Control Measures

Once trash enters the environment, it may be intercepted and removed through the following control measures prior to reaching the stormwater conveyance system:

QF-1: On-land Trash Cleanups (Volunteer and/or Municipal) (Area-wide)

QF-2: Enhanced Street Sweeping (Area-specific)

Since on-land trash cleanups can affect the amount of trash available to street sweepers, load reductions associated with their implementation will be quantified first, followed by street sweeping enhancements. On-land trash cleanups will be applied as an area-wide reduction and all effective loading rates will be adjusted equally. Enhanced street sweeping, however, is an area-specific control measure and only those effective loading rates associated with areas receiving enhancements will be adjusted. Due to the spatial nature of enhanced street sweeping, GIS may be needed to conduct this step.

The result of adjustments to effective loading rates due to the implementation of these enhanced control measures will be a set of **conveyance system loading rates**. The **conveyance load** is the volume of trash estimated to enter the stormwater conveyance system (e.g., storm drains).

[2] The only exception to this statement are load reductions associated with the establishment of Business Improvement Districts (BIDs) or equivalent, which are specific to geographic areas and considered "area-specific".

## Step #4: Control Measures that Intercept Trash in the MS4

Control measures that intercept trash in the stormwater conveyance system are area-specific. Therefore, they only apply to land areas and associated trash loads reduced. Conveyance system loading rates developed as a result of Step #3 should be adjusted in-parallel for the following control measures:

- QF-3a: Partial-capture Treatment Device: Curb Inlet Screens (Area-specific)
- QF-3b: Partial-capture Treatment Device: Stormwater Pump Station Trash Racks Enhancements (Area-specific)
- QF-4: Enhanced Storm Drain Inlet Maintenance (Area-specific)
- QF-5: Full-Capture Treatment Devices (Area-specific)

Load reductions for these control measures are calculated in-parallel because they are applied to independent geographical areas. Reductions from all control measures described in this step are area-specific and may require the use of GIS to calculate a set of **waterway loading rates**. Once waterway loading rates have been determined, a **waterway load** will be developed and used as a starting point for calculating load reductions associated with trash interception in waterways discussed in Step #5.

## Step #5: Control Measures that Intercept Trash in Waterways

The load of trash that passes through the stormwater conveyance system without being intercepted may still be removed through interception in waterways. There are two control measures associated with interception in waterways:

- QF-3c: Partial-capture Treatment Device: Litter Booms/Curtains (Area-wide)
- QF-7: Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal) (Area-wide)

As these control measures are implemented, load reduction estimates can be calculated in-parallel for these two measures.

## Step #6: Comparison to Baseline Trash Load

Applying the five steps described in the processes above will provide an estimated trash load (volume) remaining after trash control measures are implemented. As depicted in the following equation, the relative percent difference between the baseline load and the load remaining after control measures are implemented is the percent reduction that will be used to assess progress towards MRP trash load reduction goals.

$$\frac{\text{Baseline Load} - \text{Remaining Load}}{\text{Baseline Load}} \cdot 100 = \% \text{ Reduction}$$

# 4.0 ENHANCED TRASH CONTROL MEASURES

This section describes the new or enhanced trash control measures planned for implementation by the City of Daly City. The enhanced control measures described are designed to reach a 40% reduction by July 1, 2014. New and enhanced control measures that will be implemented by the City of Daly City include those listed in Table 4.1.

**Table 4.1: Trash control measures that will be implemented by City of Daly City to reach the 40% trash load reduction.**

| Control Measure |
|---|
| Single-use Carryout Plastic Bag Ordinances |
| Polystyrene Foam Food Service Ware Ordinances |
| Public Education and Outreach Programs |
| Activities to Reduce Trash from Uncovered Loads |
| Enhanced Street Sweeping |
| Creek/Channel/Shoreline Clean-ups (Volunteer and/or Municipal) |

# CR-1: Single-use Carryout Plastic Bag Policy

Single-use plastic carryout bags have been found to contribute substantially to the litter stream and to have adverse effects on marine wildlife (United Nations 2009, CIWMB 2007, County of Los Angeles 2007). The prevalence of litter from plastic bags in the urban environment also compromises the efficiency of systems designed to channel storm water runoff. Furthermore, plastic bag litter leads to increased clean-up costs for the Permittees and other public agencies.

Based on recent experiences of municipalities throughout the State, the process Permittees must go through to enact a single-use carryout plastic bag policy/ordinance is difficult due to intense scrutiny and opposition from not only public interest groups and lobbyists, but also merchants and community members. In most cases, most opposition groups are pressing for the development of Environmental Impact Reports (EIRs) in accordance with the California Environmental Quality Act (CEQA).

## Baseline Level of Implementation

Prior to adoption of the MRP, Permittees within the Bay area have enacted policies or ordinances on Single-use Carryout Plastic Bags. To avoid penalizing these early implementers, an applicable control measure implemented by a Permittee prior to the effective date of the MRP will be credited equally to a control measure implemented after the effective date. Therefore, the baseline level of implementation is not applicable for this control measure.

## Enhanced Level of Implementation

The City of Daly City recognizes the importance of implementing policies that disallow trash and debris to enter the environment in the first place. Policies and ordinances that govern the

sources of trash and debris are perhaps the most effective measures an agency can take to eventually realize the goal of zero trash entering storm water conveyance systems.

The City of Daly City plans to adopt an ordinance prohibiting the distribution of single-use carryout plastic bags and is currently having discussions in order to formulate the best possible approach to do so. The City plans to adopt a local policy or ordinance, or adhere to an implementation of a statewide or countywide action, that prohibits large supermarkets and retailers from distributing single-use carryout plastic bags and that prohibits retail establishments that sell packaged foods from distributing single-use carryout plastic bags within jurisdictional boundaries. The ordinance will also include banning the distribution of, or charging a fee for, single use paper bags in retail establishments. The ordinance is scheduled to become effective prior to July 1, 2014. The total percent trash reduced from MS4s as a result of implementing a single-use carryout plastic bag ordinance will be reported in the Annual Report submitted each September to the Water Board.

### Reduction from Implementing Control Measure

The City of Daly City will receive an **8 percent** reduction credit for implementing specific enhanced control measure described in the Enhanced Level of Implementation section above. The **8 percent** reduction credit will be applied to the City of Daly City's baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2012a). A summary of all load reductions anticipated through the implementation of this plan are included in Section 5.0.

## CR-2: Polystyrene Foam Food Service Ware Policy

Polystyrene foam is used as food ware in the food service industry. According to the USEPA, floatable debris in waterways, such as products made of polystyrene, is persistent in the environment and has physical properties that can have serious impacts on human health, wildlife, the aquatic environment and the economy (USEPA 2002). Due to its properties, polystyrene foam used as food ware is typically not recycled. Since 1990, over 100 government agencies within the United States, including over twenty within the Bay area have enacted full or partial bans on polystyrene foam food service ware.

### Baseline Level of Implementation

Prior to adoption of the MRP, over twenty agencies within the Bay area enacted full or partial bans on polystyrene foam food service ware. To avoid penalizing these early implementers, an applicable control measure implemented by a Permittee prior to the effective date of the MRP will be credited equally to a control measure implemented after the effective date. Therefore, the baseline level of implementation is not applicable for this control measure.

### Enhanced Level of Implementation

The City of Daly City recognizes the negative effects polystyrene food ware has on the environment and local water ways. The City is aware of the unlikelihood that polystyrene will breakdown once it enters the environment or local water ways. The City plans on taking enhanced action that will decrease and help to eventually eliminate the possibility of polystyrene food service ware entering stormwater conveyance systems.

The City of Daly City established a policy, by way of a City Manager directive, banning polystyrene foam food service ware at City-owned facilities and City-sponsored events. The City plans adoption of a local ordinance or implementation of a statewide, countywide, or regional action that prohibits all food vendors from distributing polystyrene foam food and beverage ware prior to July 1, 2014. The percent trash reduction from MS4s as a result of implementing a polystyrene foam food service ware ban by the City of Daly City will be reported in the Annual Report submitted each September.

### Percent Reduction from Enhancements

The City of Daly City will receive an **8 percent** reduction credit for implementing specific enhanced control measures described in *Enhanced Level of Implementation* section above. The **8 Percent** reduction credit will be applied to the City of Daly City's baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2012a). A summary of all load reductions anticipated through the implementation of this plan are included in Section 5.0.

## CR-3: Public Education and Outreach Programs

Permittees in the San Francisco Bay Area have implemented public education and outreach programs to inform residents about stormwater issues relating to pollutants of concern, watershed awareness and pollution prevention. Public education and outreach efforts include developing and distributing brochures and other print media; posting messages on websites and social networking media (Facebook, Twitter etc.), attending community outreach events, and conducting media advertising. In recent years, some municipal agencies have implemented anti-litter campaigns to increase public awareness about the impacts of litter on their communities and water quality; and to encourage the public to stop littering.

### Baseline Level of Implementation

Public education and outreach control measures implemented prior to the effective date of the MRP are considered baseline because they were either not related to trash reduction specifically, or they are not planned to be continued during the term of the MRP. New actions or actions started prior to the effective date of the MRP and continued into the future are described in the next section.

### Enhanced Level of Implementation

The City of Daly City has implemented and/or will implement the following public education and outreach control measures prior to July 1, 2014.

**Litter Reduction Advertising Campaign(s)**

***BASMAA Youth Outreach Campaign (Regional)***

Through participation and funding of the regional BASMAA Youth Outreach Campaign the City of Daly City will implement an outreach campaign designed to reduce littering from the target audience in the Bay Area. The Youth Outreach Campaign was launched in September 2011 (post-MRP effective date) and aims to increase the awareness of Bay Area Youth (ages 16-24) on

litter and stormwater pollution issues, and eventually change their littering behaviors. Combining the ideas of Community Based Social Marketing with traditional advertising, the Youth Campaign aims to engage youth to enable the peer-to-peer distribution of Campaign messages. The Campaign will at least run from FY 11-12 through FY 13-14. A brief description of the Campaign activities is provided below:

- Raising Awareness: The Campaign will begin by raising awareness of the target audience on litter and stormwater pollution issues. Partnerships with youth commissions, high schools, and other youth focused organizations will be developed to reach the target audience. Messages targeted to youth will be created and distributed via paid advertising, email marketing, Campaign website and social networking sites (e.g,, Facebook and twitter).
- Engage the Youth - The advertisements will encourage the audience to participate in the Youth Campaign by joining a Facebook page, entering a contest, taking an online quiz, etc., and providing their contact information. At the beginning of FY 12-13, a video contest will be launched to get Bay Area youth further involved in the Campaign. An online voting system will be used to select the winning entry. Media advertising will be conducted to promote the winning entry.
- Change Behaviors: To move the audience along the behavior change continuum, the Campaign will use electronic platforms such as email marketing and social networking sites to encourage participants to engage in increasingly more difficult behavior changes, such as participating in a clean-up, organizing a clean-up, etc.
- Maintain Engagement: The Campaign will continue to interact with the target audience through email marketing and social media websites.

The Youth Campaign will include a pre and post campaign survey to evaluate the effectiveness of outreach. The pre-campaign survey will be conducted in FY 11-12 and the post campaign survey in FY 13-14. Other evaluation mechanisms, such as website hits, number of youth engaged in the Campaign's social networking website, etc. will also be used to evaluate its effectiveness in increasing awareness and changing behavior.

## Outreach to School-age Children or Youth

### *Countywide Programs*

Through participation and funding of the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), the City of Daly City plans to continue to implement litter reduction outreach to school-age children and youth. SMCWPPP currently oversees two contracts to provide direct outreach to grades K-12 in a school setting on behalf of all permittees. The contract for grades K-5 is currently held by the Banana Slug String Band, which performs a presentation called "We All Live Downstream." Through songs and interactive exercises, the message of not putting anything in the stormdrains (including trash) is delivered, along with basic concepts of the water cycle and the impact of pollution on aquatic life. The second contract is held by Rock Steady Science, which presents "Water Pollution Prevention and Your Car" to high school students. A portion of this presentation is dedicated to watershed and stormdrain education, and the impact of litter on local creeks and waterways. Both contracts are managed to ensure that schools in each community in the County are reached. For communities without High Schools, the feeder schools in neighboring communities are

specifically targeted for presentations. In addition to outreach at the school sites, a number of student activity guides and coloring books related to watershed health and littering are provided to children who attend outreach events. Schools are also directly targeted in promotion of Coastal Cleanup Day.

In addition to the programs described above, *Recycleworks*, a branch of San Mateo County Public Works dedicated to promotion of recycling solid waste, plans to continue to conduct litter reduction activities. These include participating in the green schools program in which a school gets certified by achieving goals set from a menu of categories, one of which is litter reduction. In addition, *Recycleworks* conducts school assemblies and field trips focusing on litter reduction and recycling. They also conduct waste audits at schools to encourage waste reduction, and staff outreach events at schools. PIP is exploring the possibility of teaming up with *Recycleworks* to continue outreach to junior high and high school students after June 2012, when the current contract with Rock Steady Science expires.

## Media Relations

### *BASMAA Regional Media Relations Project (Regional)*

Through participation and funding of the BASMAA Regional Media Relations Project, the City of Daly City plans to continue to implement a media relations project partially designed to reduce littering from target audiences in the Bay Area. The goal of the BASMAA Media Relations Project is to generate media coverage that encourages individuals to adopt behavior changes to prevent water pollution, including littering. At least two press releases or PSAs focus on litter issues each year (e.g., creek clean-up activities, preventing litter by using reusable containers, etc.).

### *Coastal Cleanup Day Promotion (Countywide)*

On the countywide level, SMCWPPP also conducts annual press releases for Coastal Cleanup Day, and uses Twitter to promote cleanup events. These releases are intended to gain support and assistance for cleanup events conducted each September in local water bodies.

## Community Outreach Events

SMCWPPP, through its Public Information and Participation (PIP) program, plans to continue to conduct community outreach events on behalf of Permittees who request support. Outreach materials related to litter that are distributed include, in addition to the children's materials listed above under Outreach to School-age Children or Youth, a promotional sign for cigarette smokers to discourage cigarette litter, and pocket ashtrays are given out. A general stormwater pollution prevention flyer in English and Spanish that includes litter reduction in its messaging is distributed. In addition to table outreach events conducted for specific Permittees, PIP also conducts a Countywide Event aimed to reach residents from throughout the county. PIP manages an online calendar which promotes cleanup events by non-profit organizations throughout the county. In FY 2011, PIP completed its 6$^{th}$ year acting as the county coordinator for Coastal Cleanup Day, increasing volunteer participation by 400% in that time, and trash removal increased by 300%.

During the term of the MRP, new outreach materials are also being considered for dissemination to the public, including reusable shopping bags to encourage reduction in use of plastic carryout bags. In addition, spring cleanups taking place in individual jurisdictions are

planned to be promoted under one theme by PIP, who will assist directing volunteers to cleanup events in their communities. SMCWPPP is planning to conduct a total of 10-12 outreach events on behalf of various jurisdictions within the county in the 2011-12 fiscal year. SMCWPPP will also continue maintaining an online calendar of cleanups on a monthly basis.

### Percent Reduction from Enhancements

The City of Daly City will receive a total of **8 percent** reduction credit for implementing specific enhanced control measures described in *Enhanced Level of Implementation* section above. This percent reduction is comprised of the following credits, consistent with the *Load Reduction Tracking Method*:

- Litter Reduction Advertising Campaigns – 3%
- Outreach to School-age Children or Youth – 2%
- Media Relations – 1%
- Community Outreach Events - 2%

These **8 percent** reduction credits will be applied against the City of Daly City's baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2012a). A summary of all load reductions anticipated through the implementation of this plan are included in Section 5.0.

## CR-4: Reduction of Trash from Uncovered Loads

Although it is currently illegal to operate a vehicle that is improperly covered and which its' contents escapes[3], vehicles remain an important trash source to MS4s and local waterways. Specifically, vehicles that do not secure or cover their loads when transporting trash and debris have a high risk of contributing trash to MS4s. Land areas that generate trash from vehicles include roads, highways (on/off ramps, shoulders or median strips) and parking lots. To help address the dispersion of trash from unsecured or uncovered vehicles destined for landfills and transfer stations, Permittees may require municipally-contracted trash haulers to cover or secure loads or work with municipal or private landfill and transfer station operators to educate waste haulers on securing loads and/or to enhance enforcement of existing regulations.

### Baseline Level of Implementation

The baseline trash load described in Section 2.0, assumes that prior to adoption of the MRP the City of Daly City has not adopted control measures to reduce trash from vehicles with uncovered loads. Therefore, implementation of any of the control measures described in this section is considered to be enhanced implementation.

### Enhanced Level of Implementation

[3] In accordance with the California Vehicle Code Sections 23114 and 23115, it is against the law to operate a vehicle on the highway which is improperly covered, constructed, or loaded so that any part of its contents or loads spills, drops, leaks, blows, or otherwise escapes from the vehicle. Exempted materials include hay and straw, clear water and feathers from live birds. Additionally, any vehicle transporting garbage, trash, or rubbish, used cans or bottles, waste papers, waste cardboard, etc. must have the load covered to prevent any part of the load from spilling on the highway (CVC 2011). Significant fines are possible for non-compliance.

The City of Daly City has implemented the following enhanced control measures to reduce trash from vehicles with uncovered loads prior to July 1, 2014. The City has included language in its hauling service contract which requires its contracted municipal trash hauler to cover loads when transporting trash and debris to landfills or transfer stations. Moreover, the City has an exclusive trash hauling agreement and no commercial haulers or independent debris box companies can obtain a business license or operate within Daly City; therefore compliance with, and the effectiveness of our covered load ordinance is anticipated to be very high.

### Percent Reduction from Enhancements

The City of Daly City will receive a **1percent** reduction credit for implementing specific enhanced control measure described in *Description of Enhanced Level of Implementation* section above. The **1 percent** reduction credit will be applied to the baseline trash load to the ocean and bay from the municipal separate storm sewer system (MS4) owned and operated by the City of Daly City. This percent reduction credit was obtained from the *Trash Load Reduction Tracking Method Report* (BASMAA 2012a) and is presented in the Trash Load Reduction Summary Table included in Section 5.0.

## QF-2: Enhanced Street Sweeping

Street sweeping is conducted by most, if not all, Bay Area municipalities to remove trash and debris that collect in the gutters at the edge of streets. Parked cars and large storms that produce significant runoff can impact the effectiveness of street sweepers. However, increasing parking enforcement or more frequent street sweeping (as compared to the frequency of storm events) may increase the trash load reduced to MS4s. Permittees who choose to enhance street sweeping may do so to demonstrate trash load reductions to their MS4s and progress towards trash load reduction goals required by the MRP.

### Baseline Level of Implementation

The baseline trash load described in Section 2.0 incorporates the trash load reductions due to baseline street sweeping. The City of Daly City's baseline street sweeping program adheres to the baseline established for San Mateo County permitees.

### Enhanced Level of Implementation

Enhancements to street sweeping frequencies and parking enforcement (or equivalent measures) control measures will be used to calculate loads reduced from enhanced street sweeping, consistent with the trash load reduction tracking method (BASMAA 2012a). Current level of street sweeping enhancement is illustrated in Figure QF-2-1 and parking enforcement is illustrated in Figure QF-2-2.

The City of Daly City, recognizing the effectiveness of street sweeping in reducing the amount pollutants that enter the storm drainage system and ultimately receiving bodies of water, made a conscious effort on July 9, 2007 to implement a street sweeping program that would maximize trash and pollutant reduction. The City's long running street sweeping program was designed to maintain high standards in water quality through effective debris, trash and pollutant removal from City streets.

Prior to the adoption of the Municipal Regional Permit (MRP) the City undertook a conscious effort to fully understand how effective its current street sweeping program was. In doing so, the City realized that its current sweeping program as a best management practice was effective; however, a newly designed more robust program would most likely result in optimal effectiveness. The enhanced program would consist of two main elements: increasing the frequency of sweeping and adopting a universal parking enforcement ordinance.

In a dense, built-out urban environment like Daly City parking is a premium. Prior to adopting a universal no-parking ordinance designed to accommodate street sweeping schedules, the City often experienced a lower level of street sweeping effectiveness due to the fact that street sweepers had to navigate around parked cars. It has been referenced in many places that arguably the most effective step a City can take to increase street sweeping effectiveness is to ensure that vehicles are removed from streets on the days that they are to be swept. Allowing cars to remain parked on streets during sweeping days makes it extremely difficult for sweepers to sweep directly adjacent to the curb where they are most effective. It has been estimated that a single parked car will result in the inability to sweep an area equivalent to three parking spaces because the sweeper operator must exit the curb early to swing out around the car and return to the curb late to allow the sweeper significant room to pass the parked car. Therefore, the City began to undertake efforts to institute a policy that would ensure that cars would not be present on specific sections of streets on the days that they were to be swept.

In order to do so, the City began to communicate to residents the importance of street sweeping and the positive effects that it has on water quality and the aesthetic condition of their city. The benefits of street sweeping were communicated to residents during public hearings and city council meetings. The desire for the City to implement a robust parking enforcement program designed to compliment the street sweeping schedule generated both positive and negative feedback from the community. Many residents recognized the importance of street sweepers being able to sweep adjacent to the curb and were happy that their property frontage was going to exist in a cleaner state. However, some residents expressed their displeasure with a proposed, enhanced parking enforcement program citing concerns that it was already extremely difficult to find street parking when needed.

Prior to adopting a universal parking ordinance designed to compliment street sweeping schedules approximately 60% of the streets in the City were posted with "No Parking" signs. The current enhanced program, implemented in July 2007, resulted in the installation of "No Parking" signs throughout the entire City greatly improving the effectiveness and efficiency of the City's street sweeping efforts.

The City of Daly City's current, enhanced street sweeping program includes sweeping over 20,000 curb miles annually, sweeping most streets in residential areas once per week, retail areas once per week, and sweeping most of the major arterial road (e.g., Mission Street) five times per week. The northern segment of Mission Street and a few other streets within the City are swept three times per week; see QF-2.1 below for current sweeping frequencies. Interested parties are encouraged to visit the City's website at *www.dalycity.org* for a comprehensive listing of all streets swept including the day, time and section of street to be swept. The City also will notify residents via the website if there are any changes to the sweeping schedule due to mechanical failures or holiday closures. Similarly, the City also makes efforts to communicate to its residents the importance of not deliberately sweeping leaves, vegetation and other materials

from front-yards into the street, and doing so, would violate the City's Municipal Code [8.32.060]. The reason being is to not only educate residents about the sweepers inability to sweep up large piles of debris, but also to educate residents about how they can play a big role in helping to keep pollutants out of storm drain systems.

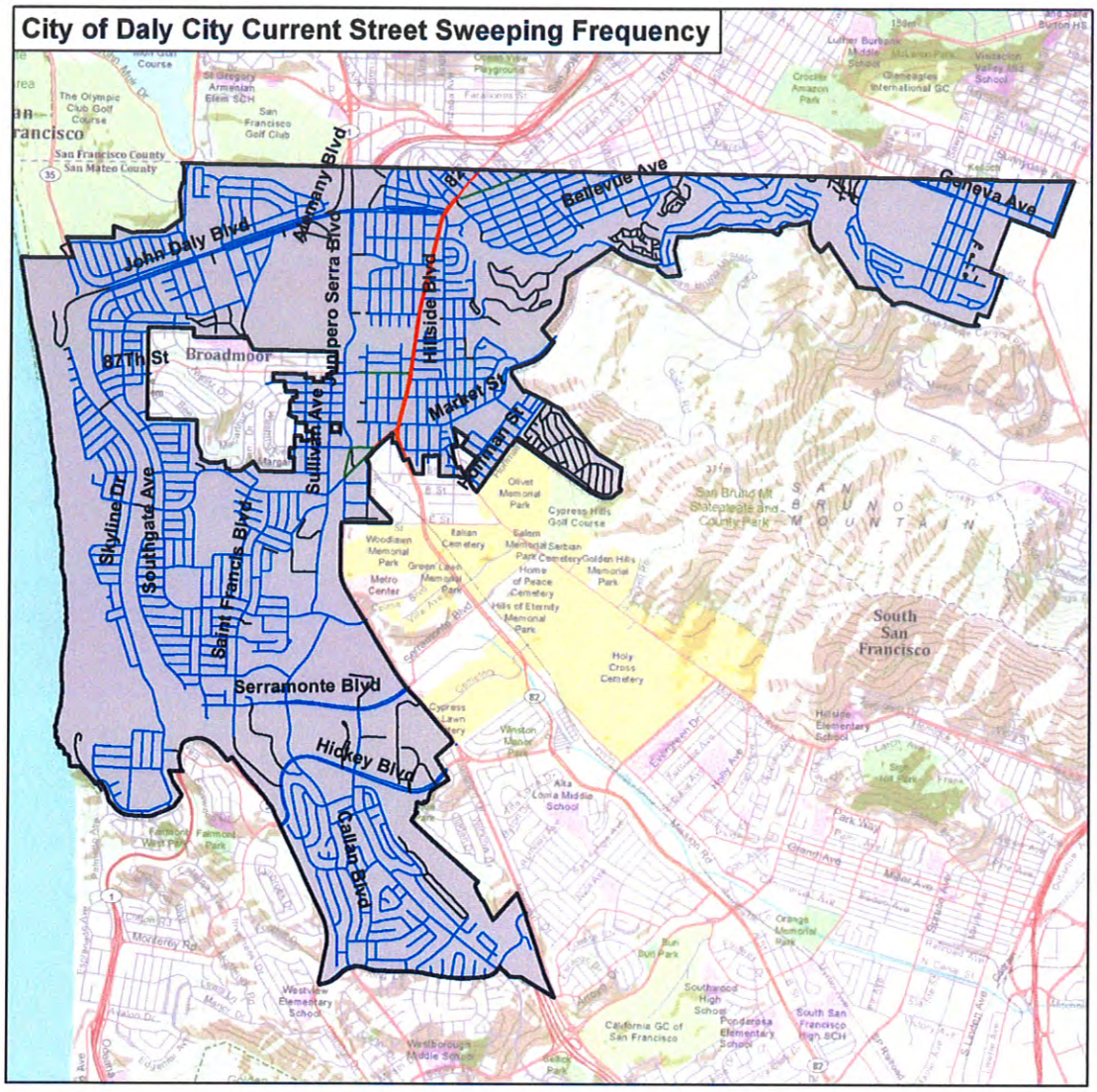
Parking enforcement exists for all streets within the City. This includes signage on streets indicating sweeping schedules and no-parking is allowed, and enforcement (citations). Please see QF-2.2 below depicting current parking enforcement efforts.

The City of Daly City takes great pride in the effectiveness of its current street sweeping program to reduce large amounts of debris, litter and pollution allowed into its storm drain system. The City expends large amounts of resources annually to ensure that the sweeping program continues to operate efficiently and effectively on a daily basis.

## Percent Reduction from Enhancements

The total estimated annual volume of trash that will be reduced by July 1, 2014 as a result of enhanced street sweeping is **7,157 gallons.** As described in Trash Load Reduction Summary Table included in Section 5, this volume is equal to approximately a **38.5 percent** reduction in the baseline trash load to the ocean and bay from the municipal separate storm sewer system (MS4) owned and operated by the City of Daly City.

**Figure QF-2.1: Current enhanced street sweeping program in the City of Daly City.**

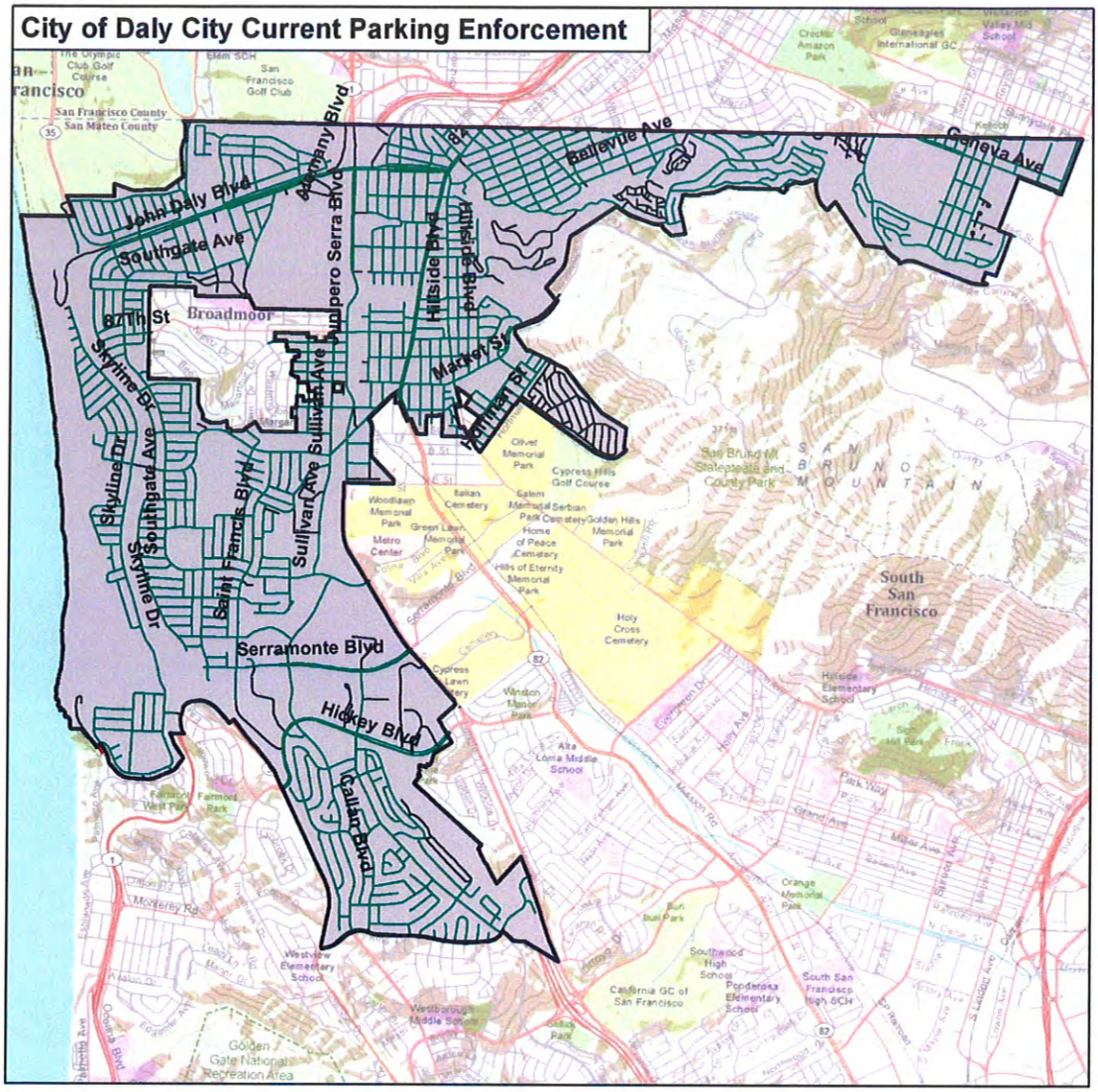



**Data Sources:**

**Streets:** Tele Atlas, 2003, Retrieved from http://www.arcgis.com/
**City Boundary:** County of San Mateo
**Background:** ESRI World Topographic Map

**Map Created By:** EOA, Inc.
**Date:** December 12, 2011

**Figure QF-2.2: Current enhanced parking enforcement program in the City of Daly City.**



# QF-6: Creek/Channel/Shoreline Cleanups

Creek/channel/shoreline cleanups have been successful in removing large amounts of trash from San Francisco Bay area creeks and waterways; and increasing citizen's awareness of trash issues within their communities. Creek/channel/shoreline cleanups are conducted as single-day events or throughout the year by volunteers and municipal agencies. Since volunteers and municipal agencies have the common goal of clean creeks and waterways, their efforts sometimes overlap. This is apparent with some municipal agencies using volunteers to help assess and clean designated trash hot spots during single-day volunteer events.

## Baseline Level of Implementation

Trash reduced via creek/channel/shoreline cleanups was not accounted for in the City of Daly City's baseline trash load described in Section 2.0. Therefore, implementation of any of the control measures described in this section is considered to be an enhancement and can be used to demonstrate progress towards load reduction goals.

## Enhanced Level of Implementation

Prior to July 1, 2014, the City of Daly City will conduct MRP-required[4] and the following non MRP-required creek/channel/shoreline cleanups[5] listed below. Both types of cleanups will be conducted each year and the volume of trash removed will be tracked to demonstrate trash loads reduced.

Non MRP-required creek/channel/shoreline cleanups may include the following:

**Permittee & Volunteer Collaborative Activities**

- *Coastal Cleanup Day (third Saturday in September)*
- *Make a Difference Day (third Saturday in October)*
- *Thornton Beach Clean-up (usually takes place in September)*

## Percent Reduction from Enhancements

The total estimated annual volume of trash that will be reduced by July 1, 2014 as a result of implementing creek/channel/shoreline cleanups is **200 gallons**. This volume is equal to approximately a **1.1 percent** reduction in the baseline trash load to the ocean and bay from the municipal separate storm sewer system (MS4) owned and operated by the City of Daly City. Both values provided within this section are included in Trash Load Reduction Summary Table included in Section 5.

[4] Creek/channel/shoreline cleanups conducted in accordance with Permit Provision C.10.b.
[5] All "other" creek/channel/shoreline cleanups conducted by a municipality that are not required by Provision C.10.b.

# 5.0 SUMMARY OF TRASH CONTROL MEASURE ENHANCEMENTS

The City of Daly City is committed to reducing the potential for trash impacts in local water bodies in the San Francisco Bay Area. The planned enhanced trash control measures described in Section 4.0 are also listed in Table 5-1. The enhancements are intended to comply with the 40% trash load reduction goal in MRP provision C.10.

The City of Daly City will continue with the development of an ordinance that prohibits the distribution and use of single-use carryout bags within its jurisdiction to a level as defined in the *Load Reduction Tracking Method Technical Report*. And in order to encourage the use of reusable bags Daly City will explore the feasibility of imposing a nominal fee for consumers wishing to obtain paper bags from businesses within its jurisdiction. Alternatively, the City of Daly City will continue to explore implementation of a statewide or countywide action, that prohibits large supermarkets and retailers from distributing single-use carryout plastic bags and that prohibits retail establishments that sell packaged foods from distributing single-use carryout plastic bags within jurisdictional boundaries. Daly City will also explore the option of expanding the ordinance to include all retail establishments with the exception of restaurants.

The City of Daly City will continue to explore opportunities to expand the scope of its polystyrene ban to include the adoption of a local ordinance or implementation of a statewide, countywide, or regional action that prohibits all food vendors from distributing polystyrene foam food and beverage ware prior to July 1, 2014.

The City of Daly City will continue to conduct and participate in public education and outreach events and workshops specifically designed to decrease littering habits. Additionally, the City will continue to explore options to expand public education and outreach programs whenever possible.

The City of Daly City will continue to include language in contracts requiring municipal trash haulers to cover loads when transporting trash and debris to transfer stations.

The City of Daly City will continue to implement its enhanced street sweeping program by maintaining at a minimum the current enhanced street sweeping schedule.

The City of Daly City will continue to conduct and coordinate MRP-required and non-MRP required creek, channel and shoreline clean-up events. Over 300 volunteers and staff members participated in these events in 2010 removing an estimated 500 pounds of trash and recyclables from the landscape. The City will make greater efforts to classify and quantify the trash removed from the landscape from future clean-up events to be able to accurately report actual loads reduced.

This schedule of implementation efforts is likely to reduce the City of Daly City's trash load to MS4 municipal separate storm sewer system by **10,214 gallons or 55 percent by July 1, 2014.**

**Table 5.1: Planned/existing enhanced trash control measure implementation within the jurisdictional boundaries of the City of Daly City and associated trash loads reduced.**

| Trash Control Measure | Summary Description of Control Measure | % Reduction (Credits) | Trash Load Reduced (Gallons) | Cumulative % Reduction (Compared to Baseline) |
|---|---|---|---|---|
| Enhanced Street Sweeping (QF-2) – (Existing and Future Enhanced) | Sweeping most streets in residential and retail areas once per week, and sweeping most of the major arterial road (e.g., Mission Street) five times per week. The northern segment of Mission Street and a few other streets are swept three times per week. Parking enforcement or parking enforcement equivalent exists for all streets within the City. | NA | 7,157 | 38.5 |
| Single-use Carryout Plastic Bag Ordinance (CR-1) | Large retailers and supermarkets and retailers that sell packaged food. | 8 | 914 | 43.4 |
| Polystyrene Foam Food Service Ware Ban (CR-2) | City Manager directive banning polystyrene at all City-owned facilities and City-sponsored events. | 8 | 914 | 48.3 |
| Public Education and Outreach Programs (CR-3) | Implementation of public education and outreach programs to inform residents about stormwater issues relating to pollutants of concern, watershed awareness and pollution prevention. | 8 | 914 | 53.3 |
| Activities to Reduce Trash from Uncovered Loads (CR-4) | Inclusion of language in contracts requiring municipal trash haulers to cover loads when transporting trash and debris to transfer stations. | 1 | 114 | 53.9 |

| | | | | |
|---|---|---|---|---|
| Creek/Channel/Shoreline Cleanups (QF-6) | Conduct MRP-required and non MRP-required creek/channel/shoreline cleanups. Both types of cleanups will be conducted each year and the volume of trash removed will be tracked to demonstrate trash loads reduced. | NA | 200 | 55 |

## 5.1 Annual Reporting and Progress Toward Trash Load Reduction Goal(s)

Consistent with MRP Provision C.10.d (i), the City of Daly City intends to report on progress toward MRP trash load reduction goals on an annual basis beginning with the Fiscal Year 2011-2012 Annual Report. Annual reports will include:

1. A brief summary of all enhanced trash load reduction control measures implemented to-date;
2. The dominant types of trash likely removed via these control measures;
3. Total trash loads removed (credits and quantifications) via each control measure implementation; and
4. A summary and quantification of progress towards trash load reduction goals.

Similar to other MRP provision, annual reporting formats will be consistent region-wide. Annual reports are intended to provide a summary of control measure implementation and demonstrate progress toward MRP trash reduction goals. For more detailed information on specific control measures, the City of Daly City will retain supporting documentation on trash load reduction control measure implementation. These records should have a level of specificity consistent with the trash load reduction tracking methods described in the *BASMAA Trash Load Reduction Tracking Method Technical Report* (BASMAA 2012a).

## 5.2 Considerations of Uncertainties

Baseline trash loading and load reduction estimates are based on the best available information at the time this Short-Term Plan was developed. As with any stormwater loading and reduction estimate, a number of assumptions were used during calculations and therefore uncertainty is inherent in the baseline trash load estimate presented in Section 2.0 and the load reduction estimate presented in this section. For these reasons, the baseline loading estimates presented in this plan should be considered first-order estimates. During the implementation of this Short-Term Plan and subsequent plans, additional information may become available to allow the calculation of a more robust baseline load.

# 6.0 IMPLEMENTATION SCHEDULE

Implementation of enhanced trash control measures by the City of Daly City is currently planned to occur in a timeframe consistent with MRP requirements. A preliminary implementation schedule for all planned enhancements is described in Table 6.1. This schedule provides a timeframe for reducing trash discharged from the City of Daly City's MS4 by 40%.

Based on new information that becomes available during the implementation of this Short-Term Plan (e.g., revisions to baseline loading estimates or load reduction credits of quantification formulas), the City of Daly City may chose to amend or revise this Plan and/or the associated implementation schedule. If revisions or amendments occur, a revised Short-Term Plan and implementation schedule will be submitted to the Water Board via the City of Daly City's annual reporting process.

Table 6.1: Preliminary implementation schedule for enhanced trash control measures in the City of Daly City.

| Trash Control Measure | Beginning Date of Implementation |
|---|---|
| Single-use Carryout Plastic Bag Ordinance (CR-1) | Prior to July 1, 2014 |
| Polystyrene Foam Food Service Ware Ban (CR-2) | Prior to July 1, 2014 |
| Public Education and Outreach Programs (CR-3) | Currently Implemented |
| Activities to Reduce Trash from Uncovered Loads (CR-4) | Currently Implemented |
| Enhanced Street Sweeping (QF-2) | Currently Implemented |
| Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal) (QF-6) | Currently Implemented |

# 7.0 REFERENCES

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