

Baseline Trash Load and Short-Term Trash Load Reduction Plan

Submitted by:

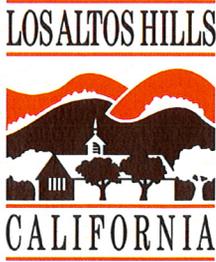


**Town of Los Altos Hills
26379 Fremont Road
Los Altos Hills, CA 94022**

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

February 1, 2012

Page Intentionally Left Blank

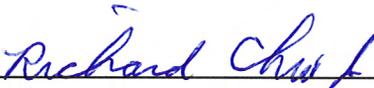


**TOWN OF LOS ALTOS HILLS
SHORT-TERM TRASH LOAD REDUCTION PLAN**

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:



Richard Chiu, P.E.
Public Works Director
Town of Los Altos Hills

February 1, 2012

TABLE OF CONTENTS

CERTIFICATION STATEMENT.....	II
TABLE OF CONTENTS.....	III
LIST OF TABLES	V
LIST OF FIGURES.....	V
ABBREVIATIONS.....	VI
PREFACE	VII
1.0 INTRODUCTION	1
BASELINE TRASH GENERATION RATES PROJECT.....	1
TRASH LOAD REDUCTION TRACKING METHOD SUMMARY.....	2
SHORT-TERM TRASH LOAD REDUCTION PLAN	2
2.0 BASELINE TRASH LOADING ESTIMATE	4
PERMITTEE CHARACTERISTICS.....	5
DEFAULT TRASH GENERATION RATES (REGIONAL APPROACH).....	5
JURISDICTIONAL AND EFFECTIVE LOADING AREAS	5
PERMITTEE-SPECIFIC BASELINE TRASH LOADING RATES	6
<i>Baseline Street Sweeping</i>	7
<i>Baseline Storm Drain Inlet Maintenance</i>	7
<i>Baseline Stormwater Pump Station Maintenance</i>	7
BASELINE TRASH LOADING ESTIMATE.....	7
3.0 TRASH 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 PLANNED ENHANCED TRASH CONTROL MEASURES.....	13
CR-2: POLYSTYRENE FOAM FOOD SERVICE WARE POLICY	14
<i>Baseline Level of Implementation</i>	14
<i>Enhanced Level of Implementation</i>	14
<i>Percent Reduction from Enhancements</i>	14
CR-3: PUBLIC EDUCATION AND OUTREACH PROGRAMS	15
<i>Baseline Level of Implementation</i>	15
<i>Enhanced Level of Implementation</i>	15
CR-4: REDUCTION OF TRASH FROM UNCOVERED LOADS	18
<i>Baseline Level of Implementation</i>	18
<i>Enhanced Level of Implementation</i>	18
<i>Percent Reduction from Enhancements</i>	18
CR-5: ANTI-LITTERING AND ILLEGAL DUMPING ENFORCEMENT ACTIVITIES	19
<i>Baseline Level of Implementation</i>	19
<i>Enhanced Level of Implementation</i>	19
<i>Percent Reduction from Enhancements</i>	19
QF-1: ENHANCED ON-LAND TRASH CLEANUPS (VOLUNTEERS AND/OR MUNICIPAL)	20

Baseline Level of Implementation 20
Enhanced Level of Implementation 20
Percent Reduction from Enhancements 20
QF-6: CREEK/CHANNEL/SHORELINE CLEANUPS 21
Baseline Level of Implementation 21
Enhanced Level of Implementation 21
Percent Reduction from Enhancements 21
5.0 SUMMARY OF TRASH CONTROL MEASURE ENHANCEMENTS..... 22
5.1 ANNUAL REPORTING AND PROGRESS TOWARDS TRASH LOAD REDUCTION GOAL(S) 24
5.2 CONSIDERATIONS OF UNCERTAINTIES 24
6.0 IMPLEMENTATION SCHEDULE..... 25
7.0 REFERENCES 27

LIST OF TABLES

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

Table 2-1. Regional Default Annual Trash Generation Rates by Land Use Category.

Table 2-2. Jurisdictional areas and effective loading areas in the Town of Los Altos Hills by land use categories identified by ABAG (2005).

Table 2-3. Preliminary Trash baseline load for the Town of Los Altos Hills

Table 4.1. Trash control measures that will be implemented by the Town of Los Altos Hills to reach the 40% trash load reduction.

Table 5-1. Planned enhanced trash control measure implementation within the jurisdictional boundaries of the Town of Los Altos Hills and associated trash load reduction.

Table 6-1. Preliminary implementation schedule for enhanced trash control measures in the Town of Los Altos Hills.

LIST OF FIGURES

Figure 2-1: Estimated trash baseline loading rates for geographical areas in the Town of Los Altos Hills.

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
PIP	Public Information and Participation (SMCWPPP Program)
PSA	Public Service Announcement
Q	Flow
SFRWQCB	San Francisco Bay Regional Water Quality Control Board
SMCWPPP	San Mateo Countywide Stormwater Pollution Prevention Program
SWRCB	State Water Resource Control Board
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
Water Board	San Francisco Bay 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 or quantification formulas), the Town of Los Altos Hills may choose 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 Town of Los Altos Hills's annual reporting process.

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 Town of Los Altos Hills in compliance with the portions of MRP provision C.10.a.i identified as 1(a) and 3 above. In compliance with 1(b), 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 toward 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 are based on factors that significantly affect trash generation (e.g., land use, population density, and economic profile). The method used to 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 on 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 toward 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) trash 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 toward load reduction goals will be demonstrated through comparisons to established baseline trash 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 a Permittee's 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 Permittees, stormwater programs, 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 reduction credits (CR) or a quantification formula (QF) as 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 (2012a). 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 or quantification

formulas), the Town of Los Altos Hills 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 Town of Los Altos Hills’s annual reporting process.

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

Load Reduction Credits
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
Quantification Formulas
QF-1: On-land Trash Cleanups (Volunteer and/or Municipal)
QF-2: Enhanced Street Sweeping
QF-3: Partial-Capture Treatment Devices
QF-4: Enhanced Storm Drain Inlet Maintenance
QF-5: Full-Capture Treatment Devices
QF-6: Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal)

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

- Section 1.0: Introduction;
- Section 2.0: Baseline Trash Loading Estimate;
- Section 3.0: Trash Load Reduction Calculation Process;
- Section 4.0: Planned Implementation of New or Enhanced Control Measures;
- Section 5.0: Summary of Trash Control Measure Enhancements;
- Section 6.0: Implementation Schedule; and
- Section 7.0: References.

2.0 BASELINE TRASH LOADING ESTIMATE

Note: In this section, a set of default trash generation rates and estimated trash baseline loads are presented. Generation rates were developed via a BASMAA regional collaborative project and should be considered preliminary. Although to-date BASMAA has attempted to develop rates that are applicable to all municipalities in the San Francisco Bay Area, preliminary rates and baseline loads presented within this section are not believed to be fully representative of trash discharged from the Town of Los Altos Hills' municipal separate storm sewer system (MS4). It is our understanding that BASMAA will continue to refine trash generation rates during the completion of its *Trash Baseline Generation Rates Project* in 2012 and attempt to develop refined generation rates that may be more applicable to the Town of Los Altos Hills. If the Town deems that these refined generation rates are applicable, these refined rates will be used to revise trash baseline loads presented in this section. If BASMAA is unable to develop refined generation rates that are applicable to the Town of Los Altos Hills, then the Town may individually or in collaboration with other similar cities, develop city-specific generation rates and revise baseline load estimates presented in this section accordingly.

This section provides the estimated annual trash baseline load from the Town of Los Altos Hills's Municipal Separate Storm Sewer System (MS4). In compliance with Provision C.10.a.ii of the MRP, the Town of Los Altos Hills 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 Town of Los Altos Hills. 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 Town of Los Altos Hills'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.

Permittee Characteristics

Incorporated in 1956, the Town of Los Altos Hills is located in Santa Clara County, and has a jurisdictional area of 4,776 acres. According to the 2010 Census, it has a population of 7,922, with a population density of 900 people per square mile, and average household size of 2.78. Of the 7,922 who call the Town of Los Altos Hills home, 22.9% are under the age of 18, 4.3% are between 18 and 24, 13.7% are between 25 and 44, 36.0% are between 45 and 64, and 23.2% are 65 or older.

The Town of Los Altos Hills is almost entirely residential and had a median household income of \$173,570 in 2000.¹ The Town of Los Altos Hills is entirely residential with no commercial zoning.

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

Jurisdictional and Effective Loading Areas

Default trash baseline generation rates presented in Table 2-1 were applied to effective loading areas with jurisdictional areas within the Town of Los Altos Hills. The Town of Los Altos Hills's jurisdictional areas include all urban land areas within the Town of Los Altos Hills boundaries that are subject to the

¹ From the 2000 Census. The median household income for the City of San Mateo from the 2010 Census is not currently available.

requirements in the MRP. Land use areas identified by a combination of the ABAG 2005 land use dataset and Permittee knowledge that were not included within the Town’s jurisdictional areas include:

- Federal and State of California Facilities and Roads (e.g., Interstates, State Highways, Military Bases, Prisons);
- Roads Owned and Maintained by Santa Clara County;
- Colleges and Universities (Private or Public);
- Non-urban Land Uses (e.g., agriculture, forest, rangeland, open space, wetlands, water);
- Communication or Power Facilities (e.g., PG & E Substations);
- Water and Wastewater Treatment Facilities; and
- Other Transportation Facilities (e.g., airports, railroads, and maritime shipping ports).

Once the Town of Los Altos Hills’s jurisdictional area was delineated, an effective trash loading area was developed by creating a 200-foot buffer on each side of the streets within the City’s jurisdictional area. The purpose of the effective loading area is to eliminate land areas not directly contributing trash to the City’s MS4 (e.g., large backyards and rooftops). Both the jurisdictional and the effective loading areas for the Town of Los Altos Hills are presented in Table 2-2.

Table 2-2: Jurisdictional areas and effective loading areas in the Town of Los Altos Hills by land use categories identified by ABAG (2005).

Land Use Category	Jurisdictional Area (Acres)	Effective Loading Area (Acres)	% of Effective Loading Area
High Density Residential	0	-	0
Low Density Residential	0	-	0
Rural Residential	4,701	3,108	99
Commercial and Services/ Heavy, Light and Other Industrial	43	23	1
Retail and Wholesale	0	-	0
K-12 Schools	18	10	0
Urban Parks	14	6	0
TOTAL	4,776	3,147	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 Town of Los Altos Hills 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 Town. 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 Town of Los Altos Hills are provided in Table 2-3 and areas associated with these rates are illustrated in Figure 2-1.

Baseline Street Sweeping

A "baseline" street sweeping program is defined as the sweeping frequency and parking enforcement implemented by the Town of Los Altos Hills 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 Town of Los Altos Hills's baseline street sweeping program includes sweeping residential areas twice per month during the wet season and every month and a half during the dry season. Parking enforcement signs are not posted in the Town, but cars generally do not park on Town street². The estimated trash load reduced via baseline street sweeping is presented in Table 2-3.

Baseline Storm Drain Inlet Maintenance

Within the Town of Los Altos Hills, 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 Town of Los Altos Hills has an annual effectiveness rating of 5%. The estimated trash load reduced via baseline street sweeping is presented in Table 2-3.

Baseline Stormwater Pump Station Maintenance

The Town of Los Altos Hills does not own any stormwater pump stations with trash racks.

BASELINE TRASH LOADING ESTIMATE

The estimated baseline trash load from the Town of Los Altos Hills was calculated as the sum of the loads from the Town'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 Town of Los Altos Hills 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.

² Considered equivalent to parking enforcement

Table 2-3: Preliminary annual trash baseline load for the Town of Los Altos Hills.

Category	Annual Load (gallons)
Preliminary Generation Trash Load	835
Load Removed via Baseline Street Sweeping	180
Load Removed via Baseline Storm Drain Inlet Maintenance	33
Load Removed via Baseline Stormwater Pump Station Maintenance	0
Preliminary Trash Baseline Load	623

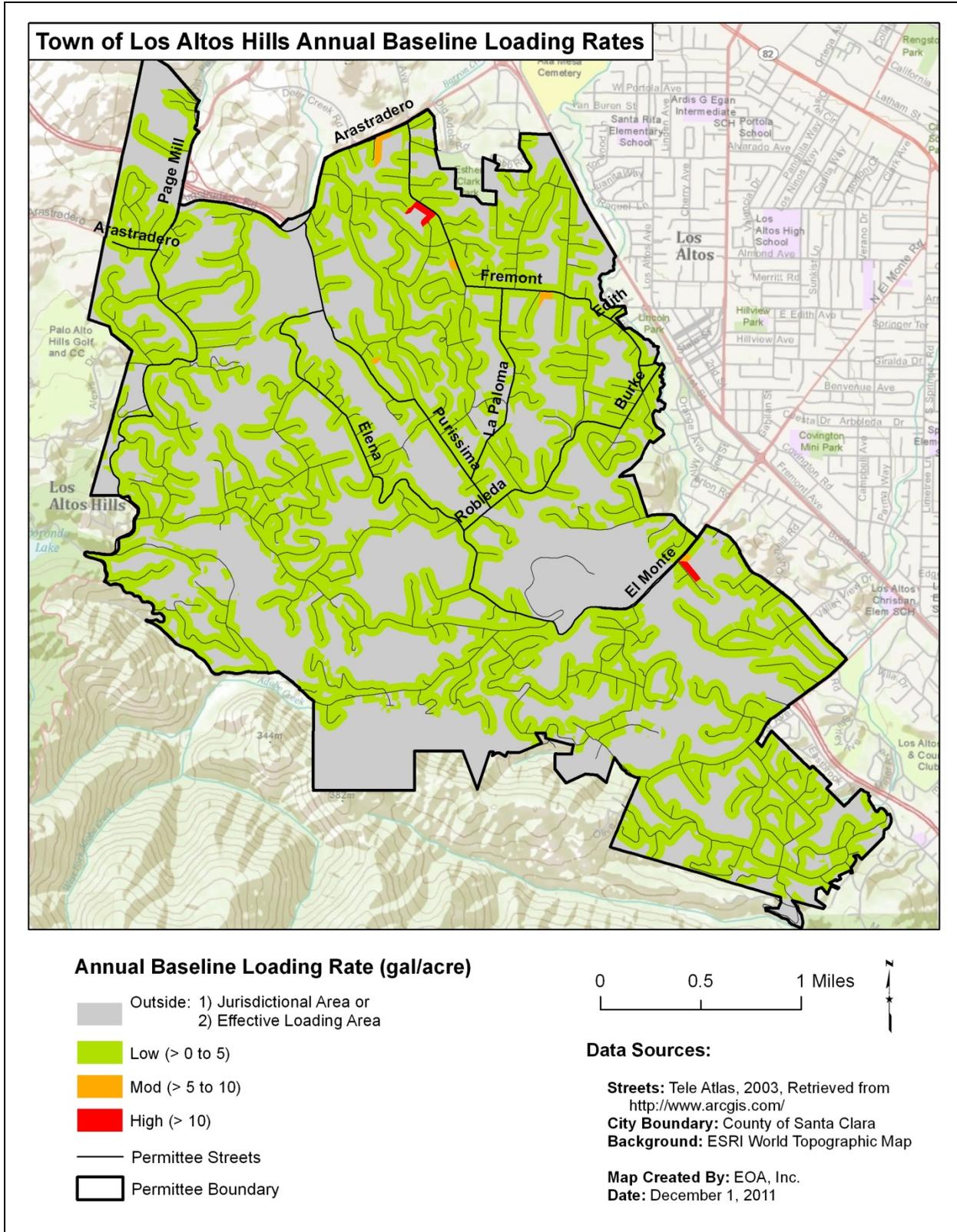


Figure 2-1: Estimated trash baseline loading rates for geographical areas in the Town of Los Altos Hills.

3.0 TRASH 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 the 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, this process 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 of steps as 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.³ 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 control 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).

³ 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 Devices: Curb Inlet Screens (Area-specific)
- QF-3b: Partial-capture Treatment Devices: Stormwater Pump Station Trash Rack 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 Devices: 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 toward MRP trash load reduction goals.

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

4.0 PLANNED ENHANCED TRASH CONTROL MEASURES

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

Table 4.1. Trash control measures that will be implemented by the Town of Los Altos Hills to reach the 40% trash load reduction.

Control Measures
Polystyrene Foam Food Service Ware Ordinances
Public Education and Outreach Programs
Reduction of Trash from Uncovered Loads
Anti-Littering and Illegal Dumping Enforcement
On-land Trash Cleanups (Volunteer and/or Municipal)
Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal)

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 Town of Los Altos Hills will adopt a resolution prohibiting the distribution of polystyrene foam food and beverage ware at Town-sponsored events or on Town-owned property and implement this policy by July 1, 2014. The percent trash reduction from the MS4 as a result of implementing a City-wide polystyrene foam food ware policy will be reported in the Annual Report submitted each September.

Percent Reduction from Enhancements

The Town of Los Altos Hills will receive a **2 percent** reduction credit for implementing the specific enhanced control measure described in the *Enhanced Level of Implementation* section above. The **2 percent** reduction credit will be applied to the Town of Los Altos Hills'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 is 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

The Town of Los Altos Hills will continue public education and outreach control measures that were implemented prior to the effective date of the MRP, including outreach via newsletters and website. These control measures are considered baseline because they were not related to trash reduction specifically, however, they will be enhanced to incorporate litter messaging as a priority pollutant topic. New action and actions started prior to the effective date of the MRP that the Town of Los Altos Hills plans to implement or continue into the future, with more emphasis on litter messaging, are described below:

Enhanced Level of Implementation

The Town of Los Altos Hills 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 Town of Los Altos Hills 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.

Watershed Watch Campaign (Countywide)

In addition to the BASMAA Campaign, the Town of Los Altos Hills will continue to implement the countywide **Watershed Watch Campaign** through active participation and funding of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). This Campaign conducts media advertising that includes anti-litter messages. Anti-litter advertisements for television, print, transit and radio have been developed and are used each year and will continue in the future. A telephone survey is conducted every five years to measure the effectiveness of outreach and increase in awareness about litter and stormwater related messaging.

Outreach to School-age Children or Youths

ZunZun (Countywide)

Through participation and funding of the SCVURPPP countywide ZunZun Program, the Town of Los Altos Hills plans to continue to implement litter reduction outreach to elementary school-age children. Up to 50 ZunZun assemblies at elementary schools are conducted in the Santa Clara Valley each year. These bilingual musical assemblies educate elementary school students and their teachers on watersheds and urban runoff pollution prevention, including litter. ZunZun performances use physical comedy, audience participation and musical instruments to educate teachers and children. Handouts, including teacher and student activity sheets, are distributed following the assembly.

The SCVURPPP Schools and Youth Education and Outreach Work Group provides a list of schools for ZunZun to contact. In addition to schools with high Hispanic populations, the list includes schools with high Asian/Pacific Islander populations.

ZunZun assemblies are evaluated using postage-paid evaluation cards that are distributed to all teachers present at the performances. Teachers mail the completed evaluation cards to SCVURPPP, and results are compiled by SCVURPPP staff. Based on the teacher feedback, changes are made to future assemblies and/or handouts.

Media Relations

BASMAA Regional Media Relations Project (Regional)

Through participation in and funding of the **BASMAA Regional Media Relations Project**, the Town of Los Altos Hills 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.).

Percent Reduction from Enhancements

The Town of Los Altos Hills will receive a total of 6 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%

These 6 percent reduction credits will be applied against the Town of Los Altos Hills'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 from which its contents escapes⁴, vehicles remain a significant 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 Town of Los Altos Hills had 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

The Town of Los Altos Hills will implement the following enhanced control measures to reduce trash from vehicles with uncovered loads prior to July 1, 2014:

Required Municipal Trash Haulers to Cover Loads – The Town of Los Altos Hills already requires its franchised waste hauler to cover loads when transporting trash and debris to the disposal site.

Implement an Enhanced Enforcement Program for Vehicles with Uncovered Loads –The Town does not have its own police department and has contracted with the County of Santa Clara for policing service. The County Sheriff enforces the CA Vehicle Code Sections 23114 and 23115, and monitors for vehicles with uncovered loads and would issue a monetary fine, as needed, to vehicles observed causing a litter issue in Los Altos Hills.

Percent Reduction from Enhancements

The Town of Los Altos Hills will receive a **5 percent** reduction credit for implementing specific enhanced control measures described in the *Enhanced Level of Implementation* section above. The **5 percent** reduction credit will be applied to the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by the Town of Los Altos Hills. 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.

⁴ 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.

CR-5: Anti-Littering and Illegal Dumping Enforcement Activities

Successful anti-littering and illegal dumping enforcement activities include laws or ordinances that make littering or dumping of trash illegal. Laws are enforced by various municipal agency staff (e.g., police, sheriff and Public Works Department staff) who issue citations in response to citizen complaints or other enforcement methods (e.g., surveillance cameras, signage and/or physical barriers installed at illegal dumping hot spots). In some California jurisdictions, the minimum fine for littering is \$500 and the maximum penalty for highway littering is \$1000 (City of San Francisco 2001). However, it is difficult to enforce small littering events unless they are witnessed or solid proof exists linking the offender to the litter. As a result, enforcement tends to focus on larger scale illegal dumping activities.

Baseline Level of Implementation

The baseline trash load described in Section 2.0 assumes that the Town of Los Altos Hills has adopted a basic anti-littering and illegal dumping enforcement program that entails receiving and responding to complaints from citizens as resources allow. Program elements are described in the *Enhanced Level of Implementation* section below.

Enhanced Level of Implementation

The Town of Los Altos Hills will implement the following enhanced anti-littering and illegal dumping enforcement control measures prior to July 1, 2014:

Anti-Littering and Illegal Dumping Enforcement Program – The Town of Los Altos Hills will specify in its Illicit Discharge Detection and Elimination (IDDE) Enforcement Response Program (ERP) that litter and illegal dumping are types of stormwater violations that can be met with a citation (as warranted). The IDDE reporting program will allow for the City's IDDE responder to investigate complaints received regarding litter and illegal dumping in order to identify violators in addition to ongoing surveillance by staff of illegal dump sites. The Town of Los Altos Hills's IDDE ERP will be reviewed and updated, as needed. By July 1, 2014, City staff will prepare a fact sheet or written standard operating procedure that documents the City's anti-littering and illegal dumping enforcement protocols.

Percent Reduction from Enhancements

The Town of Los Altos Hills will receive a **2 percent** reduction credit for implementing specific enhanced control measures described in the *Enhanced Level of Implementation* section above. The **2 percent** reduction credit will be applied to the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by the Town of Los Altos Hills. 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-1: Enhanced On-Land Trash Cleanups (Volunteers and/or Municipal)

On-land cleanups conducted by Permittees and volunteers have been successful in removing trash from identified trash hot spots and engaging local citizenry in improving their communities. Permittees have several programs in place to address on-land trash. Municipal efforts relate to ongoing beautification of impacted areas and coordination of cleanup events. Volunteer on-land cleanups involve the meeting of individuals, creek and watershed groups, civic organizations, businesses and others at designated or adopted on-land sites to remove trash. On-land trash cleanups are conducted as single-day or throughout the year.

Baseline Level of Implementation

The Town of Los Altos Hills implemented the following on-land cleanup activities prior to the effective date of the MRP. Town staff performs clean-up activities when reported by residents. These control measures are considered baseline because they were accounted for in the preliminary trash generation rates established through the BASMAA *Baseline Trash Loading Rates Project*. New or enhanced actions that began or are planned to begin after to the effective date of the MRP are described under the next section.

Enhanced Level of Implementation

Prior to July 1, 2014, the Town of Los Altos Hills will be conducting or coordinating the following new or enhanced on-land trash cleanup activities listed below. These on-land cleanups will be conducted or coordinated each year and the volume of trash removed will be tracked to demonstrate trash loads reduced. Town staff will document and pick up trash along Fremont Road, Page Mill Road, Moody Road, Purissima Road, Purissima Park and Edith Park at least six times a year.

Please note that **only trash that has the potential of entering the MS4 will be tracked**. As a result, large items (e.g., appliances, shopping carts, furniture, mattresses, televisions, tires, lumber, etc.) that will be removed during on-land trash cleanups are not part of the volume determination since they do not have the potential of entering the MS4.

Percent Reduction from Enhancements

The total estimated annual volume of trash that will be reduced beginning July 1, 2014 as a result of implementing on-land trash cleanups is **120 gallons**. This volume is equal to approximately a **19.3 percent** reduction in the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by the Town of Los Altos Hills. Both values provided within this section are included in Trash Load Reduction Summary Table included in Section 5.0.

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 citizens' 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 Town of Los Altos Hills'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 Town of Los Altos Hills will conduct MRP-required⁵ and conduct or coordinate the following non MRP-required creek/channel/shoreline cleanups⁶ 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. For events that involve volunteer participation, the City will provide reusable 5-gallon plastic buckets and gloves and will arrange for the disposal of collected trash.

Routine Cleanups by Municipal Staff

Town of Los Altos Hills staff will pick up in-creek/channel trash during Stormwater Collection System Screening and other routine activities. City staff is also performing regular cleanups at locations along sections of Barron Creek and Adobe Creek in Los Altos Hills. Cleanups will be performed six times a year at these locations and will be documented for tracking purposes.

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 **40 gallons**. This volume is equal to approximately a **6.4 percent** reduction in the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by the Town of Los Altos Hills. Both values provided within this section are included in Trash Load Reduction Summary Table included in Section 5.0.

⁵ Creek/channel/shoreline "Hot Spot" cleanups conducted in accordance with Permit Provision C.10.b.

⁶ 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 Town of Los Altos Hills 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.

New and enhanced control measures and best management practices that the City plans to implement by July 1, 2014 include activities for which credit will be given toward the 40% reduction requirement (e.g., public education and outreach, anti-littering and illegal dumping enforcement), and activities for which quantification methods currently exist (e.g., on-land and in-creek/channel cleanups, full-capture treatment devices). Specific control measures are listed in Table 5-1.

Table 5-1. Planned enhanced trash control measure implementation within the jurisdictional boundaries of the Town of Los Altos Hills and associated trash load reduction.

Trash Control Measure	Summary Description of Control Measure	% Reduction (Credits)	Trash Load Reduced (Gal/Year)	Cumulative % Reduction (Compared to Baseline)
CR-2: Polystyrene Foam Food Service Ware Policy	Policy banning the distribution of polystyrene foam food and beverage ware at Town-sponsored events or on Town-owned property.	2%	12	2.0
CR-3: Public Education and Outreach Programs	Outreach efforts beyond those required in the MRP	6%	37	8.0
CR-4: Activities to Reduce Trash from Uncovered Loads	Language in Town’s hauling service contracts that requiring covered loads, and City Sheriff enforcement of the CA Vehicle Code prohibiting uncovered loads.	5%	31	13.0
CR-5: Anti-Littering and Illegal Dumping Enforcement Activities	Thorough investigation of reports of illegal dumping, including collection of evidence to help identify offenders, and enforcement procedures including citations.	2%	12	15.0
QF-1: On-Land Clean-Up	Approximately 120 gallons collected per year throughout the City.	19.3%	120	34.3
QF-6: Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal)	Enhanced efforts throughout the year performed by City Staff. Documentation of routine cleanups performed by City staff.	6.4%	40	40.7

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

Consistent with MRP Provision C.10.d (i), the Town of Los Altos Hills intends to report on progress towards 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 Town of Los Altos Hills 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 Town of Los Altos Hills 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 Town of Los Altos Hills's MS4 by 40% by July 1, 2014.

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 Town of Los Altos Hills may choose 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 Town of Los Altos Hills's annual reporting process.

Table 6-1. Preliminary implementation schedule for enhanced trash control measures in the Town of Los Altos Hills.

Trash Control Measure	Beginning Date of Implementation
CR-2: Polystyrene Foam Food Service Ware Ban	Summer 2012
CR-3: Public Education and Outreach Programs	December 1, 2009
CR-4: Activities to Reduce Trash from Uncovered Loads	May 1, 2008
CR-5: Anti-Littering and Illegal Dumping Enforcement Activities	Prior to July 1, 2014
QF-1: On-Land Clean-Up	February 1, 2013
QF-6: Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal)	February 1, 2013

7.0 REFERENCES

- Allison R.A. and F.H.S. Chiew 1995. Monitoring stormwater pollution from various land uses in an urban catchment. Proceedings from the 2nd International Symposium on Urban Stormwater Management, Melbourne, 551-516.
- Allison, R.A., T.A. Walker, F.H.S. Chiew, I.C. O'Neill and T.A. McMahon 1998. From Roads to rivers: Gross pollutant removal from urban waterways. Report 98/6. Cooperative Research Centre for Catchment Hydrology. Victoria, Australia. May 1998.
- Armitage, N. 2001. The removal of Urban Litter from Stormwater Drainage Systems. Ch. 19 in Stormwater Collection Systems Design Handbook. L. W. Mays, Ed., McGraw-Hill Companies, Inc. ISBN 0-07-135471-9, New York, USA, 2001, 35 pp.
- Armitage, N. 2003. The removal of urban solid waste from stormwater drains. Prepared for the International Workshop on Global Developments in Urban Drainage Management, Indian Institute of Technology, Bombay, Mumbai India. 5-7 February 2003.
- Armitage, N. 2007. The reduction of urban litter in the stormwater drains of South Africa. Urban Water Journal Vol. 4, No. 3: 151-172. September 2007.
- Armitage N., A. Rooseboom, C. Nel, and P. Townshend 1998. "The removal of Urban Litter from Stormwater Conduits and Streams. *Water Research Commission* (South Africa) Report No. TT 95/98, Pretoria.
- Armitage, N. and A. Rooseboom 2000. The removal of urban litter from stormwater conduits and streams: Paper 1 – The quantities involved and catchment litter management options. Water S.A. Vol. 26. No. 2: 181-187.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2011a. Progress Report on Methods to Estimate Baseline Trash Loads from Bay Area Municipal Stormwater Systems and Track Loads Reduced. February 2011.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2011b. Method to Estimate Baseline Trash Loads from Bay Area Municipal Stormwater Systems: Technical Memorandum #1. Prepared by EOA, Inc. April 2011.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2011c. Sampling and Analysis Plan. Prepared by EOA, Inc. April 2011.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2011d. Trash Load Reduction Tracking Method: Technical Memorandum #1 – Literature Review. Prepared by EOA, Inc. May 2011.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2012a. Trash Load Reduction Tracking Method: Technical Report. Prepared by EOA, Inc. February 2012.
- BASMAA (Bay Area Stormwater Management Agencies Association). 2012b. Trash Baseline Generation Rates: Technical Report. Prepared by EOA, Inc. February 2012.
- County of Los Angeles. 2002. Los Angeles County Litter Monitoring Plan for the Los Angeles River and Ballona Creek Trash Total Maximum Daily Load. May 30, 2002.
- County of Los Angeles. 2004a. Trash Baseline Monitoring Results Los Angeles River and Ballona Creek Watershed. Los Angeles County Department of Public Works. February 17, 2004.

Town of Los Altos Hills

County of Los Angeles 2004b. Trash Baseline Monitoring for Los Angeles River and Ballona Creek Watersheds. Los Angeles County Department of Public Works. May 6, 2004.

County of Los Angeles, Department of Public Works, Environmental Programs Division. 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf. August 2007.

Kim, L.H, M. Kayhanian, M.K. Stenstrom 2004. Event mean concentration and loading of litter from highways during storms. *Science of the Total Environment* Vol 330: 101-113.