# Getting Started On Your Green Infrastructure (GI) Plan

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## Presentation Outline

- MRP 2.0 C.3.j (GI) requirements
- GI Framework elements
- GI Plan elements

## Strategy to Meet MRP 2.0 GI Requirements

- 1st Year:
  Develop and approve a GI Framework
- 2nd Year:
  Prioritize & map planned potential GI projects
- 3rd Year:
  Continue to develop GI Plan
- 4th Year:
  Finalize, approve & Submit GI Plan


## GI Framework Development

## GI Framework

- 1st Task in C.3.j – sets stage for GI Plan
- Desired outcomes:
  - Get "buy-in" from electeds and management on a GI approach/process with both short term and long term goals
  - Describe GI Plan and MRP requirements
  - Estimate and allocate resources required for preparation of GI Plan

## Contents of Framework

MRP requires that the following items be addressed in the Framework that are needed to complete the GI Plan:

1. Statement of Purpose
2. Tasks and Timeframes
3. Plans, Policies and Specifications to be updated.
4. GI Measures to be selected

## 1. Statement of Purpose

- Overall GI goal is to disconnect impervious areas (IA) throughout urban watersheds to reduce runoff and improve water quality
- Describe water quality problems including pollutants of concern in permit (TMDLs)
- Describe multiple benefits of GI Measures
- Time frames – short and long term
- Coordination with transportation projects: integrate complete streets and green streets

## 2. Tasks and Timeframes

- Tasks:
  - Describe tasks that will be undertaken in order to develop the GI Plan such as:
    - —Collecting data and maps
    - —Using/developing a prioritization mechanism such as the GreenPlan IT tool
    - —Assembling a interdepartmental team
    - —Process for educating staff, electeds and public
- Timeframes:
  - Break out tasks for each permit year

## 3. Plans, Policies and Specs

- General Plan & specific/area/precise plans
- Bicycle and pedestrian plans
- Storm drain master plan
- Long term trash plan
- Parks and open space plans
- Urban forestry plan
- Transportation & pavement maint. plan
- Complete streets policy
- Street design specifications

## 4. GI Measures

- Biotreatment Measures:

Green Streets:
- Green Bulb-out
- Sidewalk planter
- Traffic Circle
- Tree Trench
- Rain garden

Buildings and Parking lots:
- Flow-through planter
- Green roof
- Tree Trench
- Rain garden

- Other Measures
  - Pervious Paving
  - Infiltration trenches
  - Cisterns

## Biotreatment: Green Bulb-out

Palo Alto

Campbell

## Biotreatment: Sidewalk Planter

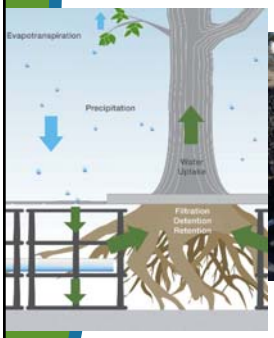
San Mateo

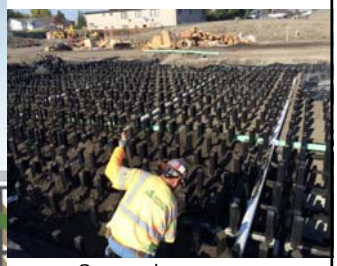
Alameda

## Biotreatment: Traffic Circle


Berkeley

## Biotreatment: Tree Trench



Sunnyvale

## Biotreatment: Rain Garden

San Jose

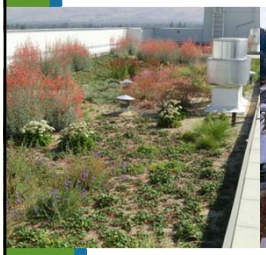
El Cerrito

## Biotreatment: Flow-Thru Planter

Emeryville

Alameda

## Biotreatment: Green Roofs



San Jose

San Bruno

## Pervious Paving

Berkeley

Berkeley

## Infiltration Trenches

San Jose

## Cisterns

Oakland Berkeley

## Framework: 1st Step Guidance

- The following slides give suggestions for initial steps that jurisdictions can take to begin the GI planning process.
- Your jurisdiction may already have completed some or all of these steps
- BASMAA and/or your Countywide Stormwater Program may be able to provide assistance in some of these areas.

## 1. Assemble Staff from Related Departments

- Engineering
- Planning
- Transportation
- Maintenance
- Urban Forestry
- Landscaping
- Community Development
- Parks

## 2. Identify Gaps in Engineering Data

- Engineering data:
  - Geometry: widths and lengths of streets (curb to curb), rights of way, curbs, gutters, sidewalks, planting strips, medians, travel and parking lanes
  - Topography and drainage: street cross slopes, longitudinal slopes, crown heights, curb cuts, curb ramp slopes, sidewalk slopes, underground utility maps, storm drain system maps and drainage areas

## Data continued…

- Planning and environmental data:
  - Street tree inventory, Priority Development Areas, projected areas of development, existing and proposed land uses, parcel and building footprint data, creek buffers and water bodies
  - Pollutants of concern - land use (proxy for PCBs), trash management areas, roadway vehicles per day volumes (proxy for vehicle-related pollutants)
  - Treatment system inventory

## 3. Educate Management, Electeds and the Public on Green Infrastructure Issues

- City of San Mateo Taste and Talk Series
  www.sustainablestreetssanmateo.com/tasteandtalk/
- Public Hearings
- Workshops
- Staff Training

## GI Plan Development

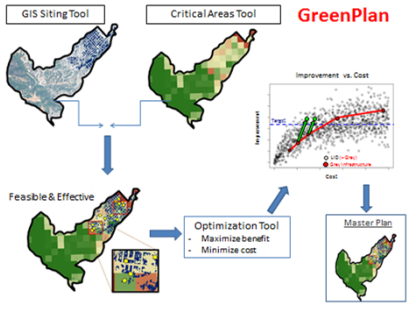
## Required GI Plan Elements

- Statement of Purpose and Tasks
- Timeframes and Targets for Retrofitting IA
- Plans and policies coordinated and updated
- GI Tools, prioritization mechanisms to be used and outputs (maps)
- Integration of GI into future projects
- Process for tracking and mapping progress
- Streetscape Design Guidelines and specs
- Alternative Compliance Coordination
- Funding options discussion

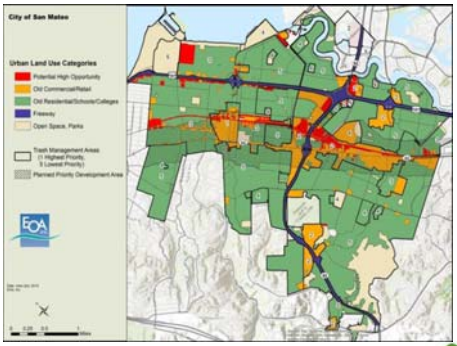
## Step 1: Prioritize Efforts

- Using the existing list of plans, GIS data, maps, and other resources, begin to prioritize short term and long term planning efforts.
- Consider using GreenPlan IT, Google Earth or similar tool to identify areas of prioritization.
- Another option is to overlay maps of Priority Development Areas, Trash Management Areas, and land uses.

## Example: Large/Medium City




## Example: Medium/Small City



## Step 2: Early Implementation

- Review Capital Improvement Projects to identify opportunities for GI:
  - Road diets (bicycle lane projects)
  - Pedestrian Safety projects (use bulb-outs)
  - Street Tree Planting (suspended pavement)
  - Roadside Landscaping (rain gardens)
  - Storm drain maintenance (curb extensions)
  - Utility work (curb extensions)
  - Roadway reconstruction (all options)
  - Diagonally angled street intersections (space)
- Checklists to assist in reviewing projects will be developed

## Road Diet Example: Colma

Before: two travel lanes in each direction, no parking and no cross-walks

After: new bike and parking lanes & green bulb-outs with cross walk.

## Roadside Landscaping Retrofit Example: Berkeley

Before: City park area - low use with high maintenance

After: re-graded area with new rain garden treating street run-off

## 3. Leverage Private Development

- Review Private Projects in the pipeline for opportunities to add GI elements
- Consider adding public roadway runoff treatment landscapes to conditions of approval on project frontages where curb, gutter, sidewalk and/or street tree improvements will be taking place.

## 4. Review Standard and Typical Details

- Consider adding new typical or standard green infrastructure construction details to jurisdictional toolbox.
- Discuss common construction errors and training needs for staff.
- Regional standards are being developed as part of the Urban Greening EPA grant
- SMCWPPP Green Streets Guide

## For More GI Information…

- SMCWPPP Green Streets Design Guide: www.flowstobay.org/gsdesignguide
- SFPUC GI Typical Details: www.sfwater.org/index.aspx?page=446
- Central Coast LIDI GI Typical Details: www.centralcoastlidi.org
- Bay-Friendly Landscaping Coalition: www.Bayfriendlycoalition.org

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