

M E M O R A N D U M

DATE: 4/23/2008
TO: Phil Sydnor
CC: file
FROM: Matt Johnson
RE: St Andrews Condos - LU 08-106691 AD **PROJECT NO.:**308040

On-Site

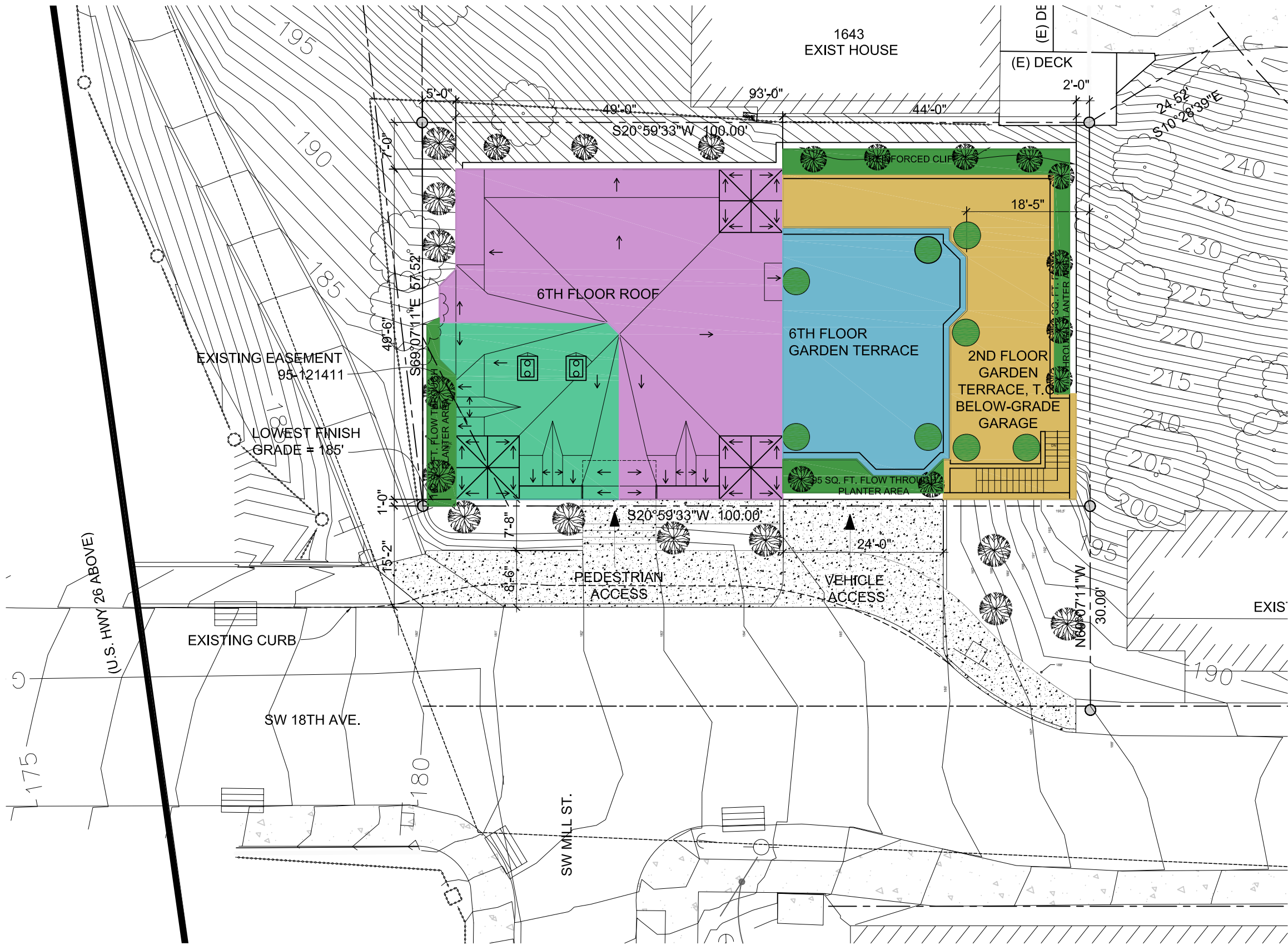
The stormwater management design approach for this project meets the requirements of the Stormwater Management Manual for pollution reduction and flow control. The area of the proposed flow through planters exceeds the minimum required to treat the redeveloped area. In addition to the planter areas, on-site tree credits further enhance the treatment goals. As stated in the Flow Through Planters section of the SWMM, flow control is achieved as part of the design and storage within the topsoil.

On-site infiltration would not be possible for this project and it is not recommended by BES. There are also some hillside stability concerns that would make on-site infiltration undesirable.

Off-Site

The volume and drainage course of the street will not be altered as part of this project. The stormwater runoff volume from the site will be reduced by the additional of 7 trees within the ROW.

(see attached Site Plan)



1 SITE PLAN
1/16" = 1'-0"



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ST. ANDREWS CONDOMINIUMS
SW 18TH AVE. & MILL ST. TERRACE
GOOSE HOLLOW, PORTLAND, OREGON

Job Number: _____
Date: 03.31.08
NOT FOR CONSTRUCTION

SITE PLAN
Sheet Number
A1.2

Form SIM: Simplified Approach for Stormwater Management

The city has produced this form to assist with a quick and simple approach to manage stormwater on-site. Facilities sized with this form are presumed to comply with pollution reduction and flow control requirements. Stormwater disposal requirements per Section 1.4 must still be met.

New or Redeveloped Impervious Site Area

4385 **Box 1**

(do not include roof areas that will be infiltrated on-site with drywells or soakage trenches)

Column 1 Column 2 Column 3

INSTRUCTIONS

1. Enter square footage of new or redeveloped impervious site area in Box 1 at the top of this form.
2. Select impervious area reduction techniques from rows 1-3 to reduce the site's resulting stormwater management requirement. Tree credit can be calculated using the tree credit worksheet on the next page.
3. Select desired stormwater management facilities from rows 4-10. In Column 1, enter the square footage of impervious area that will flow into each facility type.
4. Multiply each impervious area from Column 1 by the corresponding sizing factor in Column 2, and enter the result in Column 3. This is the facility surface area needed to manage runoff from the impervious area.
5. Total Column 1 (Rows 1-10) and enter the resulting "Impervious Area Managed" in Box 2.
6. Subtract Box 2 from Box 1 and enter the result in Box 3. When this number reaches 0, stormwater pollution reduction and flow control requirements have been met. Submit this form with the application for permit.
7. If Box 3 is greater than 0 square feet, add square footage or facilities to Column 1 and recalculate, or use additional facilities from Chapter 2.0 of the Stormwater Management Manual to manage stormwater from these remaining impervious surfaces.

Impervious Area Reduction Technique	Impervious Area Managed = Facility Surface Area
1) Eco-Roof / Roof Garden	<u>0</u> sf
2) Contained Planter	<u>100</u> sf
3) Tree Credit (See Next Page)	<u>438.5</u> sf

Note: Pervious Pavement areas do not need to be included in Box 1

Stormwater Management Facility	Impervious Area Managed	Sizing Factor	Facility Surface Area	Unit
4) Infiltration Planter	<u>0</u> sf	x 0.06 =	<input style="width: 50px;" type="text"/>	sf
5) Flow-Through Planter	<u>4385</u> sf	x 0.06 =	<input style="width: 50px; border: 1px solid black;" type="text" value="263"/>	sf
6) Vegetated Swale	<u>0</u> sf	x 0.09 =	<input style="width: 50px;" type="text"/>	sf
7) Grassy Swale	<u>0</u> sf	x 0.12 =	<input style="width: 50px;" type="text"/>	sf
8) Vegetated Filter Strip	<u>0</u> sf	x 0.2 =	<input style="width: 50px;" type="text"/>	sf
9) Vegetated Infil. Basin	<u>0</u> sf	x 0.09 =	<input style="width: 50px;" type="text"/>	sf
10) Sand Filter	<u>0</u> sf	x 0.07 =	<input style="width: 50px;" type="text"/>	sf

For drywell and soakage trench sizing and design requirements, see Section 2.9.

Total Impervious Area Managed 4923.5 **Box 2**

Box 1 - Box 2 -538.5 **Box 3**

Form SIM (Page 2): Tree Credit Worksheet

See **Tree Credits** in Section 2.9 for more information regarding the use of trees to meet stormwater management requirements.

New Evergreen Trees

To receive stormwater management credit, new evergreen trees must be planted within 25 feet of ground-level impervious surfaces. New trees cannot be credited against rooftop surfaces. Minimum tree height (at the time of planting) to receive credit is 6 feet.

Enter number of new evergreen trees that meet qualification requirements in Box A

 Box A

Multiply Box A by 200 and enter result in Box B

 Box B

New Deciduous Trees

To receive stormwater management credit, new deciduous trees must be planted within 25 feet of ground-level impervious surfaces. New trees cannot be credited against rooftop surfaces. Minimum tree caliper (at the time of planting) to receive credit is 2 inches.

Enter number of new deciduous trees that meet qualification requirements in Box C

 Box C

Multiply Box C by 100 and enter result in Box D

 Box D

Existing Tree Canopy

To receive stormwater management credit, existing tree canopy must be preserved during and after construction. Existing tree canopy must be within 25 feet of ground-level impervious surfaces. Existing trees cannot be credited against rooftop surfaces. Minimum tree caliper to receive credit is 4 inches. No credit will be given to existing tree canopy located within environmental zones. Tree canopy is measured around the tree's drip line.

Enter square-footage of existing tree canopy that meets qualification requirements in Box E

 Box E

Multiply Box E by 0.5 and enter the result in Box F

 Box F

Total Tree Credit

Add boxes B, D, and F and enter the result in Box G

 Box G

For sites with less than 1,000 square-feet of new or redeveloped impervious area:

The amount in Box G is to be entered as "Tree Credit" on Form SIM. ** Stop Here **

For sites with more than 1,000 square-feet of new or redeveloped impervious area:

Multiply Box 1 of Form SIM by 0.1 and enter the result in Box H

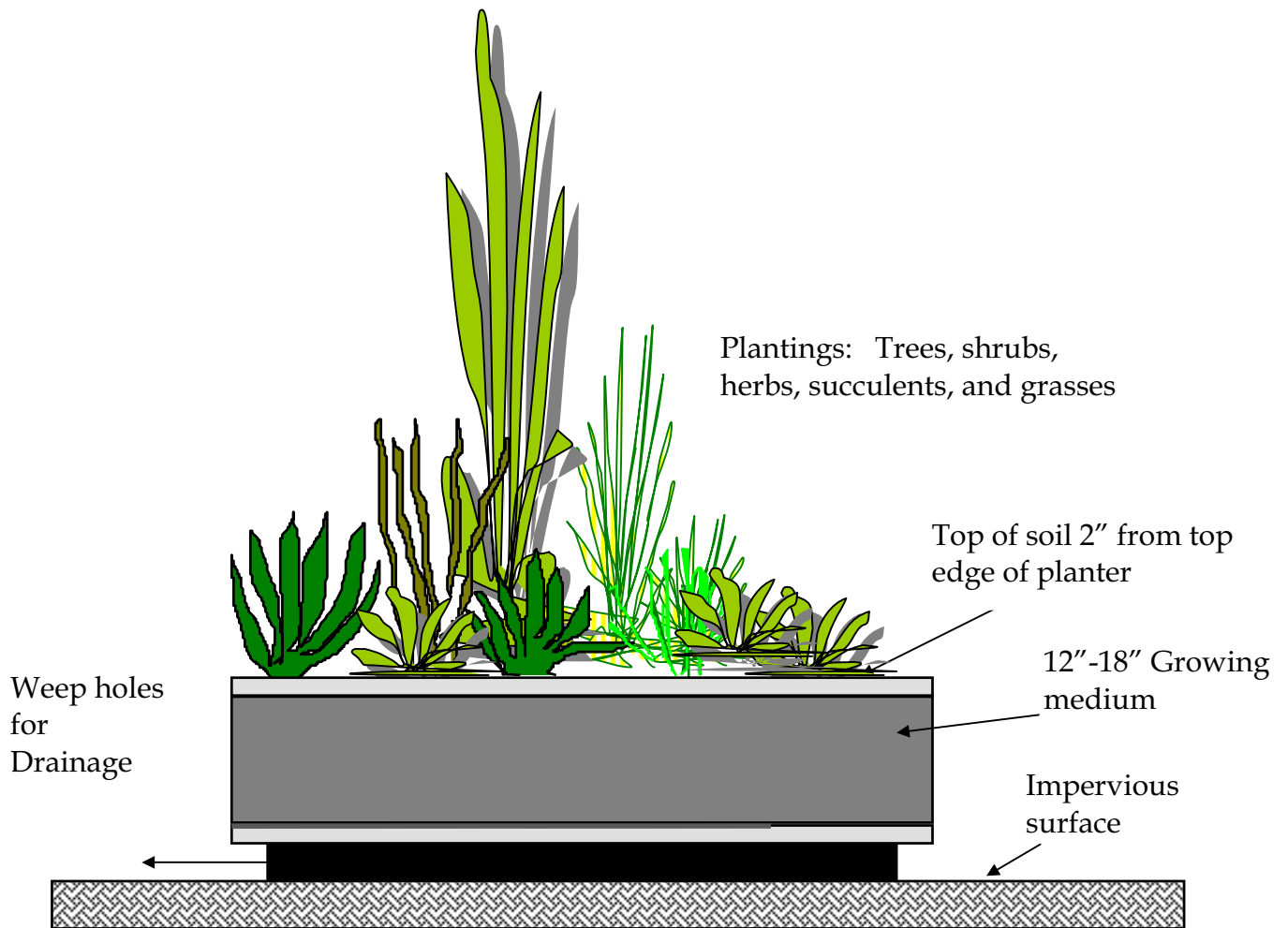
 Box H

Enter the lesser of Box G and H in Box I.

 Box I

This is the amount to be entered as "Tree Credit" on Form SIM. **Stop Here**

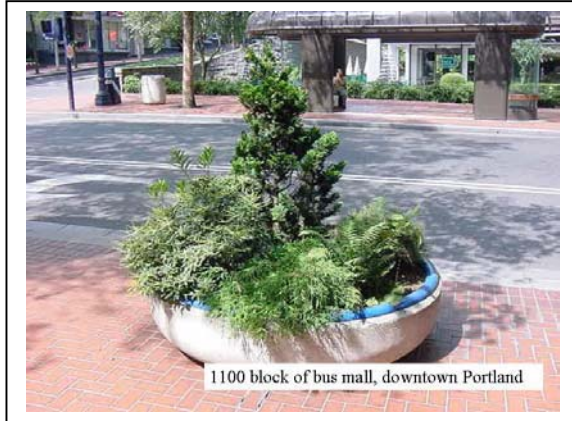
Contained Planter



Section Not to Scale

<u>Stormwater Management Goals Achieved</u>	<u>Acceptable Sizing Methodologies</u>
√ Impervious Area Reduction.....	SIM
√ Pollution Reduction.....	SIM
√ Flow Control.....	SIM
Destination/ Disposal.....	NA
This facility is not classified as an Underground Injection Control structure (UIC).	
SIM=Simplified Approach, PRES= Presumptive Approach, PERF= Performance Approach	
Notes: 1) This facility is an impervious surface reduction technique. It may be placed over sidewalk, parking lot, flat roof, and plaza areas to reduce the effective impervious area.	

Contained Planter



Description: Contained planters are used for planting trees, shrubs, and ground cover to be placed over impervious surface. The planter may be a prefabricated pot of various dimensions or may be constructed in place and have an infinite variety of shapes and sizes. Contained planters accept precipitation only, not stormwater runoff. Planters are placed on impervious surfaces, such as sidewalks, plazas and rooftops. Drainage is allowed through the bottom of the planter.

Design Considerations: Plants shall be relatively self-sustaining, with little need for fertilizers or pesticides. Irrigation is optional, although plant viability must be maintained. Trees are encouraged and may receive added stormwater management credit on the tree credit section of Form SIM.

Design Requirements:

Soil Suitability: Contained planters are appropriate for all soil types, as they are placed over impervious surface. Topsoil shall be used within the top 12 to 18 inches of the facility.

Setbacks: Not applicable.

Planter Walls: Planter walls shall be made of stone, concrete, brick, clay, plastic, wood, or other stable material. Chemically treated wood that can leach out toxic chemicals and contaminate stormwater shall not be used.

Sizing: Contained planters are given stormwater management credit for the square-footage of impervious surface that they cover, at a 1 to 1 ratio.

Landscaping: Contained planters shall be planted to cover at least 50% of the planter surface.

Contained Planter

[*Link to Planter Recommended Plants](#)

Checklist of minimal information to be shown on the permit drawings:

(Additional information may be required on the drawings during permit review, depending on individual site conditions.)

- 1) Facility dimensions and setbacks from property lines and structures
- 2) Profile view of facility, including typical cross-sections with dimensions
- 3) Planter wall material specification
- 4) Growing medium specification
- 5) Landscaping plan

Inspection requirements and schedule: The following table shall be used to determine which stormwater facility components require City inspection, and when the inspection shall be requested:

Facility Component	Inspection Requirement
Structural planter components	
Growing medium	
Plantings	Call for inspection

Operations and Maintenance requirements: See [Chapter 3.0](#).

[* Link to contained planter O&M form](#)

Additional photos and drawings:

[* Link to contained planter photos](#)

[* Link to contained planter drawings](#)