Compliance Reviews for C.3 Regulated Projects

Peter Schultze-Allen, CPSWQ
EOA, Inc.
San Mateo Countywide
Water Pollution Prevention Program
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Presentation Outline

- **Important Resources**
- **Overview of Compliance Review Process and Stages**
  - Planning Permit Compliance Review
  - Building Permit Compliance Review
  - Occupancy Certificate Compliance Review
- **Use of the C.3 and C.6 Development Review Checklist**
- **Stormwater Management Plan (SMP) Elements**
- **Operation and Maintenance (O&M) Plan Tips**

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Important Resources

- **New! SMCWPPP Website www.flowstobay.org (2020)**
- **New! SMCWPPP C.3 Regulated Projects Guide (2020)**

- **C.3 and C.6 Development Review Checklist (2019)**
- **Small Projects Checklist (2019)**

- **Both Checklists are:**
  - To be completed by the project applicant
  - Available in several formats: PDF-Fillable Form, Excel and Word

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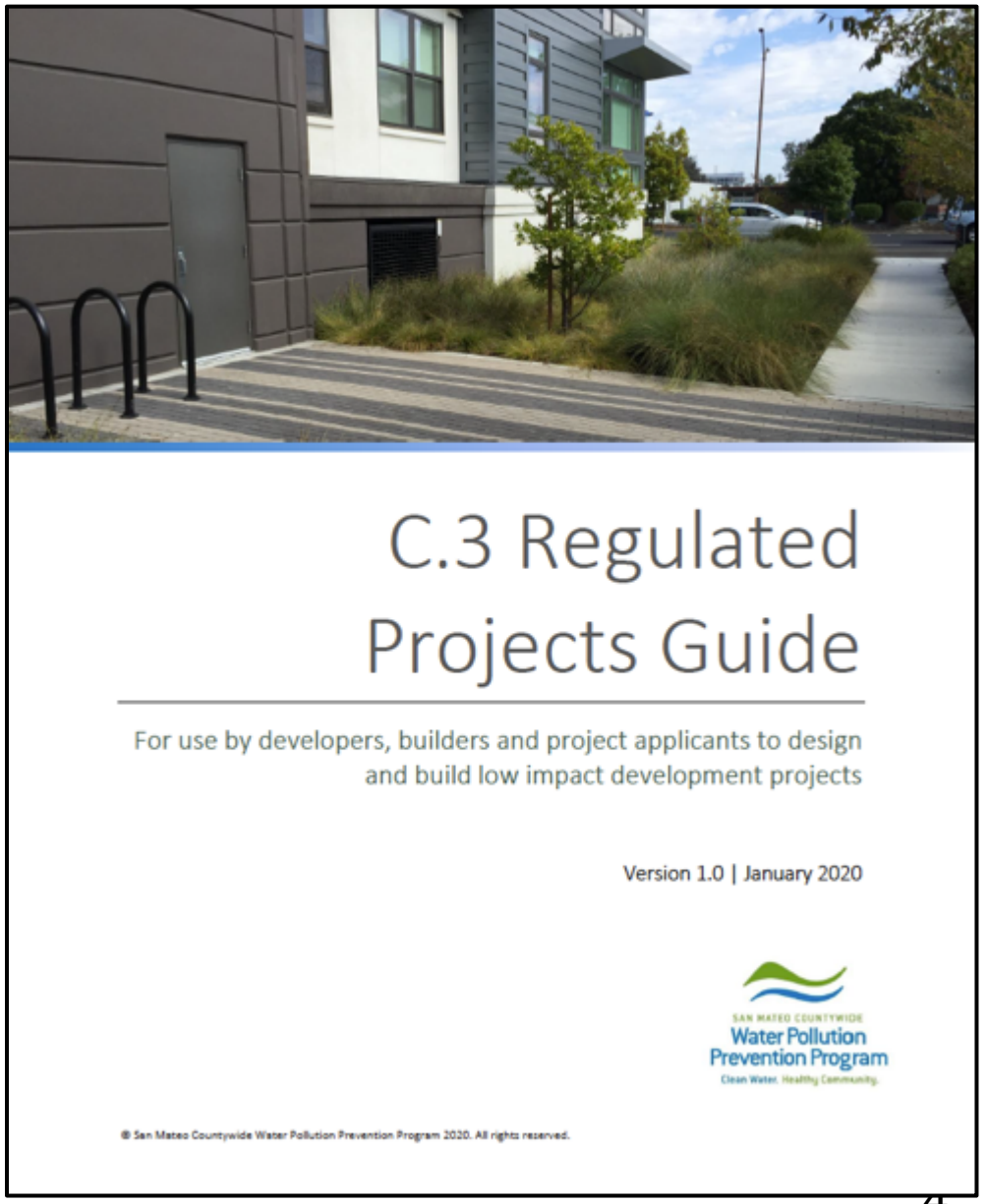
SMCWPPP C.3 Regulated Projects Guide

- **Main updates**
  - Match the look and feel of the GI Design Guide
  - New cross-references to the GI Design Guide
  - Updated SCM guidance and new organization of content in each section
  - New tree guidance
  - New Alternative Compliance section
  - Updated glossary



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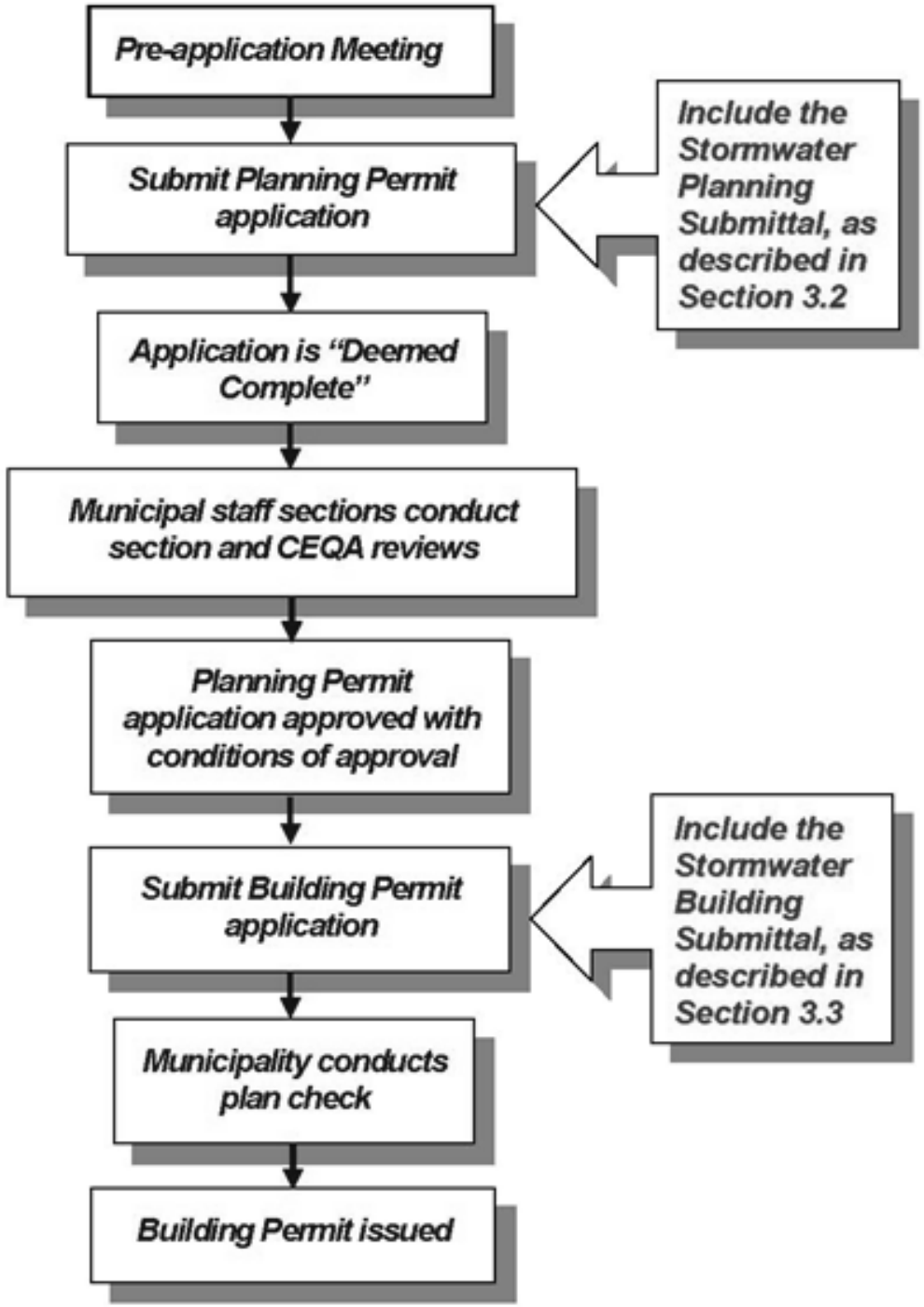
Development Review Process Overview:

(Figure 3-1 from Ch.3 of the C3RPG)

1. Planning Permit Stage (14 steps)
2. Building Permit Stage (3 steps)
3. Occupancy Permit Stage (O&M)

Small Projects may have a different process.



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Planning Permit Stage Compliance Review Process

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How Detailed Does a Stormwater Management Plan (SMP) Need to be at the Planning Stage?

1. A summary narrative of the project – can be part of the SMP
2. A completed C.3 and C.6 Checklist
3. The whole site has been addressed with SCMs or through self-treating or self-retaining areas.
4. DMAs and SCMs are sized correctly and summarized in a table
5. Appropriately chosen SCMs (e.g. pervious pavement infiltrates)
6. Enough space is provided for SCMs
7. An appropriate LID/GI plant palette is provided

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Planning Permit Stage Steps 1-7:

(from Chapter 3 of the C3RPG)

1. **Collect needed site/project information**
2. **Minimize site disturbances/protect sensitive areas**
3. **Incorporate site design measures**
4. **Measure pervious/impervious areas for C.3 analysis**
5. **Special project determination**
6. **Will rainwater harvesting be utilized?**
7. **Select SCMs & hydromodification management measures**

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Planning Permit Stage Steps 8-14:

8. Locate SCM/HM measures on the site
9. Preliminary design of SCM/HM measures
10. Consider planting palettes for SCM/HMMs
11. Prepare preliminary O&M Plan (if required)
12. Use applicable source control measures
13. Coordinate with other project requirements
14. Submit planning permit application

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Stormwater Management Plan (SMP) Components

- **For minimum MRP compliance and data for the Annual Report (approved projects), the plan must include:**
  - C.3 and C.6 Development Review Checklist
    - Special Project LID Feasibility Narrative (C.3 Regulated Projects Guide - Attachment J2), if applicable
  - To understand if the SMP is realistic, SCM plan sheets are needed with:
    - Location of site design measures
    - Location of DMAs
    - Location of SCMs
    - Runoff flow lines and entry points
    - Table with each DMA, SCM and sizing calculation showing compliance

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C.3 and C.6 Development Review Checklist

- Critical part of the SMP Submittal
- Used to fill out the Annual Report which is submitted to the Water Board
- Applicants must complete all fields on the Checklist

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C.3 and C.6 Development Review Checklist
Municipal Regional Stormwater Permit (MRP)
Stormwater Controls for Development Projects

CITY/COUNTY OF _____
_____ **Dept.**
Address _____
Phone _____
website _____

Project Information

I.A Enter Project Data *(For "C.3 Regulated Projects," data will be reported in the municipality's stormwater Annual Report.)*

Project Name: _____ Case Number: _____

Project Address & Cross St.: _____

Project APN: _____ Project Watershed: _____

Applicant Name: _____ **I.A.4** Slope on Site: _____ %

Applicant Phone: _____ Applicant Email Address: _____

Development type: (check all that apply)

- ☐ Single Family Residential: A stand-alone home that is not part of a larger project.
- ☐ Single Family Residential: Two or more lot residential development.[1] # of units: _____
- ☐ Multi-Family Residential # of units: _____
- ☐ Commercial
- ☐ Industrial, Manufacturing
- ☐ Mixed-Use # of units: _____
- ☐ Streets, Roads[2], etc.
- ☐ 'Redevelopment' as defined by MRP: creating, adding and/or replacing exterior existing impervious surface on a site where past development has occurred.

I.A.1

- ☐ **'Special land use categories'** as defined by MRP: (1) auto service facilities[3], (2) retail gasoline outlets, (3) restaurants, (4) uncovered parking area (stand-alone or part of a larger project)
- ☐ Institutions: schools, libraries, jails, etc.
- ☐ Parks and trails, camp grounds, other recreational
- ☐ Agricultural, wineries
- ☐ Kennels, Ranches
- ☐ Other, Please specify_____

Project Description[4]: (Also note any past or future phases of the project.)

I.A.2 Total Area of Site: _____ acres

I.A.3 Total Area of land disturbed during construction (include clearing, grading, excavating and stockpile area):_____ acres.

I.A.5 Certification:
I certify that the information provided on this form is correct and acknowledge that, should the project exceed the amount of new and/or replaced impervious surface provided in this form, the as-built project may be subject to additional improvements.

☐ Attach Preliminary Calculations ☐ Attach Final Calculations ☐ Attach copy of site plan showing areas

Name of person completing the form: _____ Title: _____

Signature: _____ Date: _____

Phone number: _____ Email address: _____

[1] Common Plans of Development (subdivisions or contiguous, commonly owned lots, for the construction of two or more homes developed within 1 year of each other) are not considered single family projects by the MRP.
[2] Roadway projects creating 10,000 sq.ft. or more of contiguous impervious surface are subject to C.3 requirements if the roadway is new or being widened with additional traffic lanes.
[3] See Standard Industrial Classification (SIC) codes here
[4] Project description examples: 5-story office building, industrial warehouse, residential with five 4-story buildings for 200 condominiums, etc.

1 1/1/19

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I.B Is the project a "C.3 Regulated Project" per MRP Provision C.3.b?

I.B.1 Enter the amount of impervious surface[5] Retained, Replaced and/or Created by the project:

Table I.B.1 Impervious[5] and Pervious Surfaces

Type of Impervious[5] Surface	I.B.1.a Pre-Project Impervious[5] Surface (sq.ft.)	I.B.1.b Existing Impervious[5] Surface to be Retained[6] (sq.ft.)	I.B.1.c Existing Impervious[5] Surface to be Replaced[6] (sq.ft.)	I.B.1.d New Impervious[5] Surface to be Created[6] (sq.ft.)	I.B.1.e Post-Project Impervious[5] Surface (sq.ft.) (=b+c+d)
Roof area(s)					0
Impervious[5] sidewalks, patios, paths, driveways, streets					0
Impervious[5] uncovered parking[7]					0
Totals of Impervious Surfaces:	0	0	0	0	0

I.B.1.f - Total Impervious[5] Surface Replaced and Created *(sum of totals for columns I.B.1.c and I.B.1.d)*: 0 sq. ft.

Type of Pervious Surface	Pre-Project Pervious Surface (sq.ft.)				Post-project Pervious Surface (sq.ft.)
Landscaping					
Pervious Paving				**I.B.1.e.1:**	
Green Roof					
Totals of Pervious Surfaces:	0				0
Total Site Area (Total Impervious[5]+Total Pervious=**I.A.2**)	0				0

C.3 and C.6 Checklist: Common Errors

- **Reporting "replaced" as "new" impervious area**

	Pre-Project IS (ft^2)	Existing IS Retained (ft^2)	Existing IS Replaced (ft^2)	New IS Created (ft^2)	Post-Project IS Total (ft^2)
Type of Impervious Surface (IS)					
Roof	76,600	0	0	90,000	90,000
Sidewalks, etc.	102,800	0	0	94,600	94,600
Uncovered Parking	45,200	0	0	40,000	40,000
Total IS	224,600	0	0	224,600	224,600
Total IS Replaced & Created			224,600		

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C.3 and C.6 Checklist: Common Errors

- **Reporting replaced and new impervious area**

	Pre-Project IS (ft^2)	Existing IS Retained (ft^2)	Existing IS Replaced (ft^2)	New IS Created (ft^2)	Post-Project IS Total (ft^2)
Type of Impervious Surface (IS)			✓		
Roof	76,600	0	90,000	0	90,000
Sidewalks & streets	102,800	0	94,600	0	94,600
Parking	45,200	0	40,000	0	40,000
Total IS	224,600	0	224,600	0	224,600
Total IS Replaced & Created			224,600		

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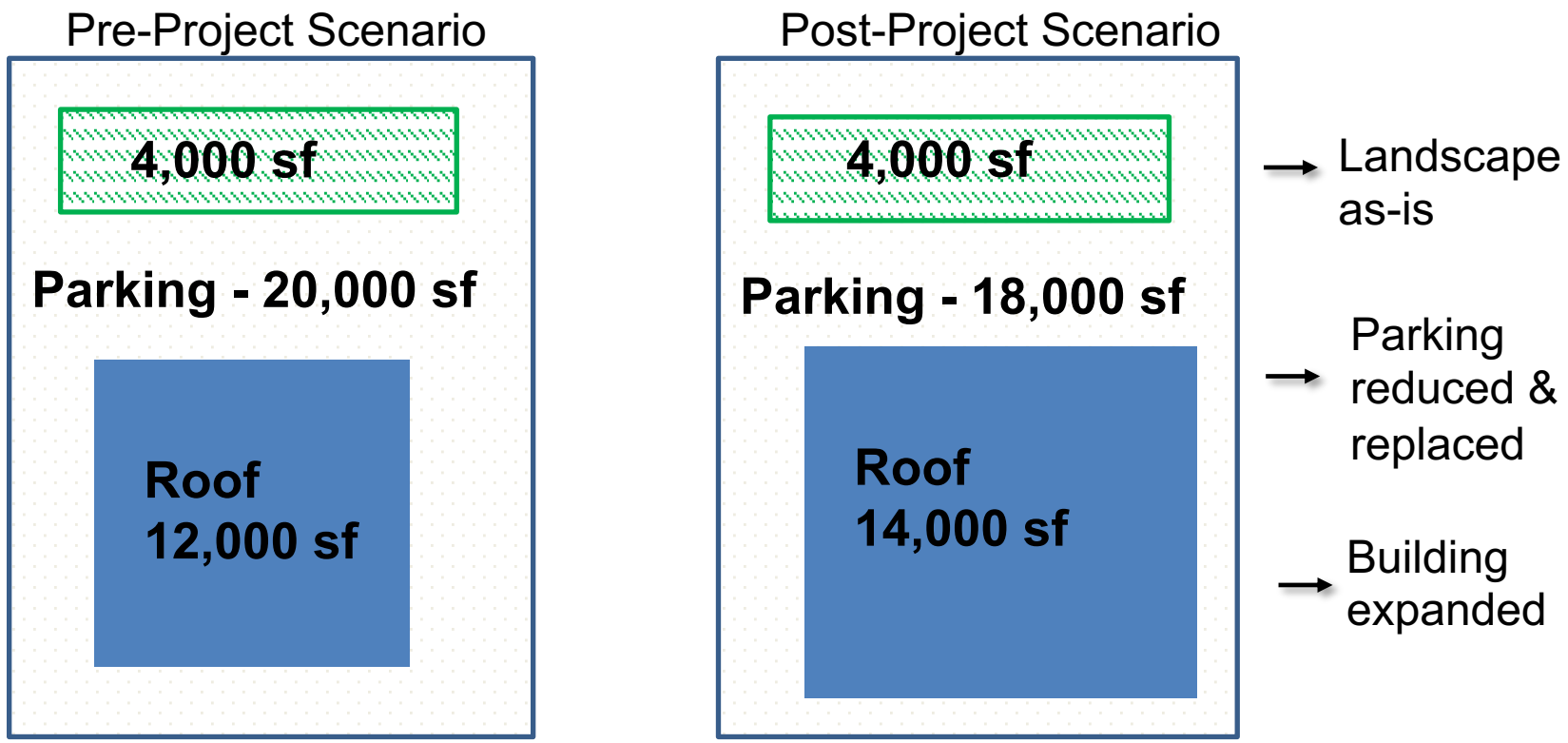
Scenario 1 - Reporting Impervious Surfaces (IS)



Pre-project IS - 32,000 sf
Post-project IS - 32,000 sf
Replaced IS - 32,000 sf
New – 0 sf

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Scenario 1 - Reporting Impervious Surface (IS)

	Pre-Project IS (ft^2)	Existing IS Retained (ft^2)	Existing IS Replaced (ft^2)	New IS Created (ft^2)	Post-Project IS Total (ft^2)
Type of Impervious Surface (IS)					
Roof	12,00	0	14,000	0	14,000
Parking	20,000	0	18,000	0	18,000
Total IS	32,000	0	32,000	0	32,000
Total IS Replaced & Created:			32,000		
Type of Pervious Surface (PS)					
Landscaping	4,000				4,000
Pervious Pavement	0				0
Green Roof	0				0
Total PS	4,000				4,000
Total Site Area:	36,000				36,000
Percent Replacement= (Replaced Total IS/Existing Total IS)*100 = 32,000/32,000*100 = 100%					

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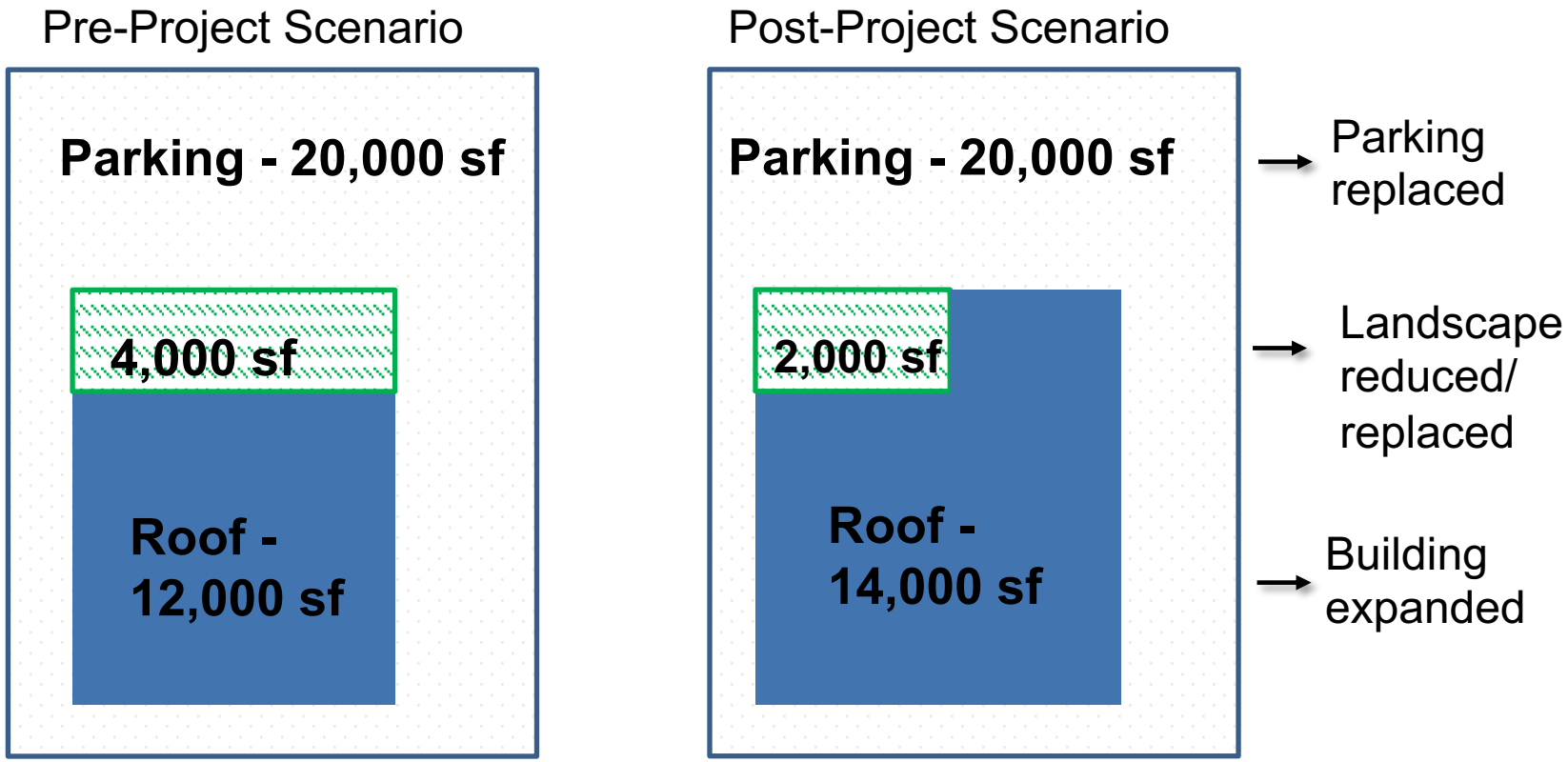
Scenario 2 - Reporting Impervious Surface



Pre-project IS - 32,000 sf
Post-project IS - 34,000 sf
Replaced IS - 32,000 sf
New IS – 2,000 sf

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Scenario 2 - Reporting Impervious Surface (IS)

	Pre-Project IS (ft^2)	Existing IS Retained (ft^2)	Existing IS Replaced (ft^2)	New IS Created (ft^2)	Post-Project IS Total (ft^2)
Type of Impervious Surface (IS)					
Roof	12,000	0	12,000	2,000	14,000
Parking	20,000	0	20,000	0	20,000
Total IS	32,000	0	32,000	2,000	34,000
Total IS Replaced & Created:			34,000		
Type of Pervious Surface (PS)					
Landscaping	4,000				2,000
Pervious Pavement	0				0
Green Roof	0				0
Total PS	4,000				2,000
Total Site Area:	36,000				36,000
Percent Replacement= (Replaced Total IS/Existing Total IS)*100 = 32,000/32,000*100 = 100%					

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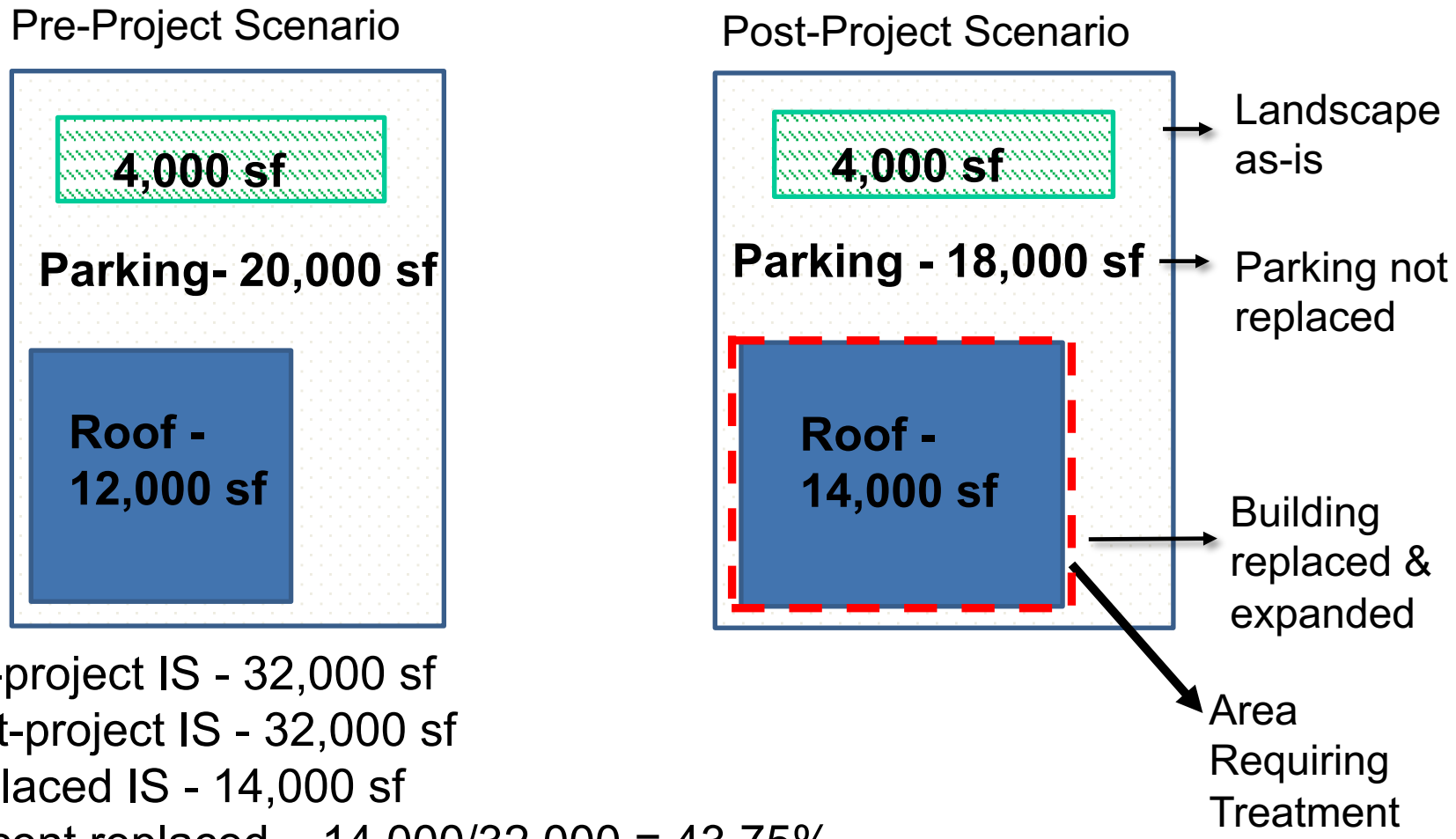
Scenario 3 - Reporting Impervious Surface



Pre-project IS - 32,000 sf
Post-project IS - 32,000 sf
Replaced IS - 14,000 sf
Percent replaced – 14,000/32,000 = 43.75%
New IS – 0 sf; Existing IS retained – 18,000 sf

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Scenario 3 - Reporting Impervious Surface (IS)

	Pre-Project IS (ft^2)	Existing IS Retained (ft^2)	Existing IS Replaced (ft^2)	New IS Created (ft^2)	Post-Project IS Total (ft^2)
Type of Impervious Surface (IS)					
Roof	12,000	0	14,000	0	14,000
Parking	20,000	18,000	0	0	18,000
Total IS	32,000	18,000	14,000	0	32,000
Total IS Replaced & Created:			14,000		
Type of Pervious Surface (PS)					
Landscaping	4,000				4,000
Pervious Pavement	0				0
Green Roof	0				0
Total PS	4,000				4,000
Total Site Area:	36,000				36,000
Percent Replacement= (Replaced Total IS/Existing Total IS)*100 = 14,000/32,000*100 = 43.75%					

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C.3 and C.6 Checklist: Common Errors

- **Checklist not updated as plan sheets are updated**

I.B.1.d	I.B.1.e
ervious[5] e to be [6] (sq.ft.)	Post-Project Impervious[5] Surface (sq.ft.) (=b+c+d)
	191,320

Calculations from Plan Sheet

Drainage Area ID	Area (SF)	Imperv Area (SF)	% Imperv
H1	191,340	156,412	82%
H2	59,930	47,944	80%
H3	5,960	0	0%
Total	***257,230***	***205,784***	***80%***

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Special Projects Worksheet

- **Provide supporting documentation for project characteristics identified**
  - Gross density credit calculation
    - Dwelling Units per acre (DU/ac)
    - Floor Area Ratio (FAR)
  - Location credit – include map showing distance to transit station “as the crow flies”
  - Parking credit – show that surface parking is <10 % of total post-project impervious area

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Special Projects Worksheet (cont.)

- **Review LID Feasibility narrative (must include in the Annual Report to the Water Board)**
- **Examples of acceptable infeasibility criteria:**
  - Steep slopes
  - Proximity to an unstable bank or slope
  - Inadequate space for bioretention areas that meet the C.3.d sizing
  - Environmental constraints (e.g., landscaped area in riparian corridor)
  - High groundwater or shallow bedrock;
  - Conflict with subsurface utilities;
  - Cap over polluted soil or groundwater;
  - Lack of head or routing path to move runoff;
  - Other conflicts or required uses that preclude use for stormwater treatment (explain).

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Reviewing Site Design & Source Control Measures

- List of measures provided on C.3 and C.6 Checklist Worksheets B & C
- Measures that are applicable to the project
- Measures indicated on plan sheets or SMP narrative

Yes	Detail/Plan Sheet No.	Features that require source control measures

Select appropriate site design measures and Identify the Plan Sheet where these elements are shown.

Yes	Plan Sheet Number	

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Source Control Measures

Worksheet B

C3 - Source Controls

Select appropriate source controls and identify the detail/plan sheet where these elements are shown.

Yes	Detail/Plan Sheet No.	Features that require source control measures	Source Control Measures (Refer to Local Source Control List for detailed requirements)
☐		Storm Drain	Mark on-site inlets with the words "No Dumping! Flows to Bay" or equivalent.
☐		Floor Drains	Plumb interior floor drains to sanitary sewer[8] [or prohibit].
☐		Parking garage	Plumb interior parking garage floor drains to sanitary sewer.[8]
☐		Landscaping	• Retain existing vegetation as practicable. • Select diverse species appropriate to the site. Include plants that are pest- and/or disease-resistant, drought-tolerant, and/or attract beneficial insects. • Minimize use of pesticides and quick-release fertilizers. • Use efficient irrigation system; design to minimize runoff.
☐		Pool/Spa/Fountain	Provide connection to the sanitary sewer to facilitate draining.[8]
☐		Food Service Equipment (non-residential)	Provide sink or other area for equipment cleaning, which is: • Connected to a grease interceptor prior to sanitary sewer discharge.[8] • Large enough for the largest mat or piece of equipment to be cleaned. • Indoors or in an outdoor roofed area designed to prevent stormwater run-on and run-off, and signed to require equipment washing in this area.
☐		Refuse Areas	• Provide a roofed and enclosed area for dumpsters, recycling containers, etc., designed to prevent stormwater run-on and runoff. • Connect any drains in or beneath dumpsters, compactors, and tallow bin areas serving food service facilities to the sanitary sewer.[8]
☐		Outdoor Process Activities[9]	Perform process activities either indoors or in roofed outdoor area, designed to prevent stormwater run-on and runoff, and to drain to the sanitary sewer.[8]
☐		Outdoor Equipment/ Materials Storage	• Cover the area or design to avoid pollutant contact with stormwater runoff. • Locate area only on paved and contained areas. • Roof storage areas that will contain non-hazardous liquids, drain to sanitary sewer[8], and contain by berms or similar.
☐		Vehicle/ Equipment Cleaning	• Roofed, pave and berm wash area to prevent stormwater run-on and runoff, plumb to the sanitary sewer[8], and sign as a designated wash area. • Commercial car wash facilities shall discharge to the sanitary sewer.[8]
☐		Vehicle/ Equipment Repair and Maintenance	• Designate repair/maintenance area indoors, or an outdoors area designed to prevent stormwater run-on and runoff and provide secondary containment. Do not install drains in the secondary containment areas. • No floor drains unless pretreated prior to discharge to the sanitary sewer.[8] • Connect containers or sinks used for parts cleaning to the sanitary sewer.[8]
☐		Fuel Dispensing Areas	• Fueling areas shall have impermeable surface that is a) minimally graded to prevent ponding and b) separated from the rest of the site by a grade break. • Canopy shall extend at least 10 ft. in each direction from each pump and drain away from fueling area.
☐		Loading Docks	• Cover and/or grade to minimize run-on to and runoff from the loading area. • Position downspouts to direct stormwater away from the loading area. • Drain water from loading dock areas to the sanitary sewer.[8] • Install door skirts between the trailers and the building.
☐		Fire Sprinklers	Design for discharge of fire sprinkler test water to landscape or sanitary sewer.[8]
☐		Miscellaneous Drain or Wash Water	• Drain condensate of air conditioning units to landscaping. Large air conditioning units may connect to the sanitary sewer.[8] • Roof drains from equipment drain to landscaped area where practicable. • Drain boiler drain lines, roof top equipment, all wash water to sanitary sewer.[8]
☐		Architectural Copper Rinse Water	• Drain rinse water to landscaping, discharge to sanitary sewer[8], or collect and dispose properly offsite. See flyer "Requirements for Architectural Copper."

[8] Any connection to the sanitary sewer system is subject to sanitary district approval.

[9] Businesses that may have outdoor process activities/equipment include machine shops, auto repair, industries with pretreatment facilities.

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Site Design Measures

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Worksheet C

Low Impact Development – Site Design Measures

Select Appropriate Site Design Measures *(Required for C.3 Regulated Projects; all other projects are encouraged to implement site design measures, which may be required at municipality discretion.) Projects that create and/or replace 2,500 – 10,000 sq.ft. of impervious surface, and stand-alone single family homes that create/replace 2,500 sq.ft. or more of impervious surface, must include* ***one of Site Design Measures a through f*** *(Provision C.3.i requirements).*[10] *Larger projects must also include applicable Site Design Measures g through i. Consult with municipal staff about requirements for your project.*

Select appropriate site design measures and identify the Plan Sheet where these elements are shown.

Yes	Plan Sheet Number	
☐		a. Direct roof runoff into cisterns or rain barrels and use rainwater for irrigation or other non-potable use.
☐		b. Direct roof runoff onto vegetated areas.
☐		c. Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas.
☐		d. Direct runoff from driveways and/or uncovered parking lots onto vegetated areas.
☐		e. Construct sidewalks, walkways, and/or patios with pervious or permeable surfaces. Use the specifications in the C3 Technical Guidance (Version 4.1) downloadable at www.flowstobay.org/newdevelopment.
☐		f. Construct bike lanes, driveways, and/or uncovered parking lots with pervious surfaces. Use the specifications in the C3 Technical Guidance (Version 4.1) downloadable at www.flowstobay.org/newdevelopment.
☐		g. Limit disturbance of natural water bodies and drainage systems; minimize compaction of highly permeable soils; protect slopes and channels; and minimize impacts from stormwater and urban runoff on the biological integrity of natural drainage systems and water bodies.
☐		h. Conserve natural areas, including existing trees, other vegetation and soils.
☐		i. Minimize impervious surfaces.

Regulated Projects can also consider the following site design measures to reduce treatment system sizing:

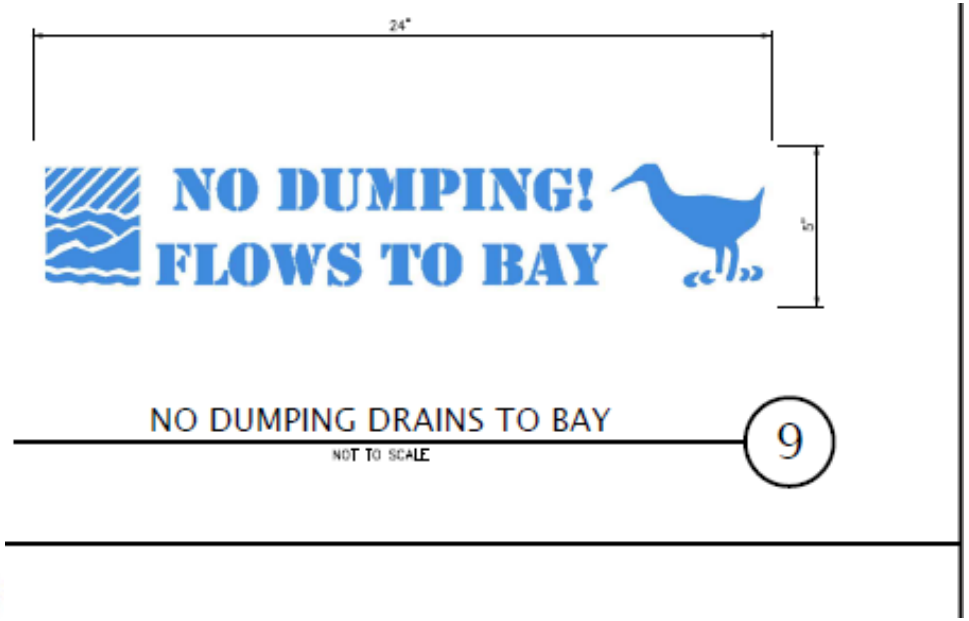
Yes	Plan Sheet Number	
☐		j. Self-treating area (see Section 4.2 of the C.3 Technical Guidance)
☐		k. Self-retaining area (see Section 4.3 of the C.3 Technical Guidance)
☐		l. Plant or preserve interceptor trees (Section 4.1, C.3 Technical Guidance)

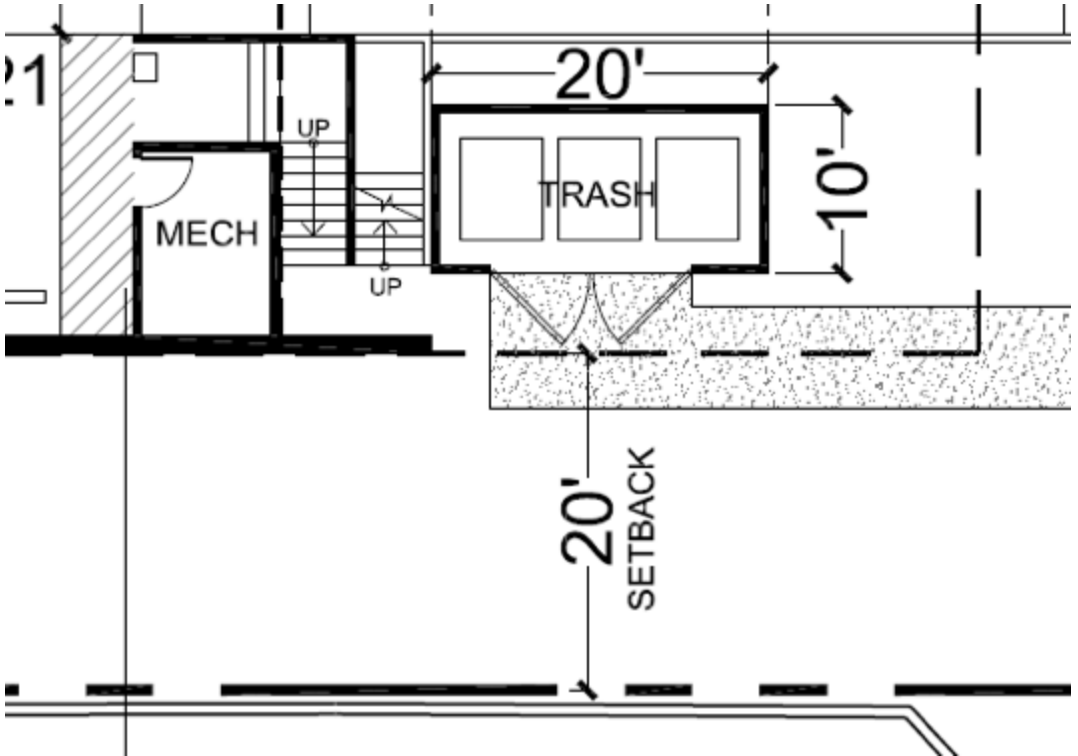
[10] See MRP Provision C.3.a.i.(6) for non-C.3 Regulated Projects, C.3.c.i.(2)(a) for Regulated Projects, C.3.i for projects that create/replace 2,500 to 10,000 sq.ft. of impervious surface and stand-alone single family homes that create/replace 2,500 sq.ft. or more of impervious surface.

Finding Source Controls on Plans

STORMWATER SOURCE CONTROLS

1. COVERED DUMPSTER AREA CONNECTED TO SANITARY SEWER.
2. BENEFICIAL LANDSCAPING, INCLUDING MINIMIZING IRRIGATION, RUNOFF, SYNTHETIC PESTICIDES, AND QUICK RELEASE FERTILIZER.
3. MAINTENANCE ACTIVITIES, INCLUDING PAVEMENT SWEEPING, CATCH BASIN CLEANING, AND GOOD HOUSEKEEPING.
4. STORM DRAIN LABELING.





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SMP Components (Continued)

- **Level of SCM and SMP detail:**
  - Some jurisdictions allow for more comprehensive details to be submitted with the building permit phase as long as the SMP is clear
  - Grading plan sheets
  - Utility plan sheets
  - Landscape plan
    (may be required for Planning Permit stage)

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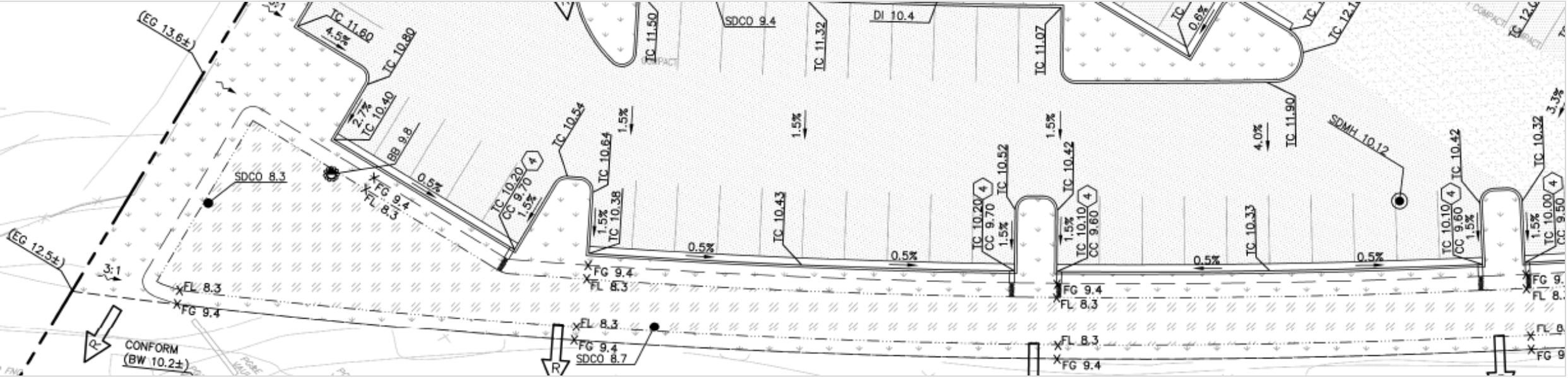
Reviewing Drainage Management Areas (DMAs)

- **Stormwater management should not be an after-thought**
- **Review site topography/grading**
  - Runoff should flow toward the treatment measures



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Reviewing DMAs

- **Designed for gravity flow**
  - Drainage into & out of the treatment measures should be by gravity flow
- **Pumping runoff into treatment measures is strongly discouraged**
  - Extra maintenance required
  - Frequent testing required
  - Failure of system may not be noticed
  - Flood/property damage risk
  - Failure during storm events
  - Mosquito problems from stagnant/residual water
  - Higher rate flows than gravity can cause erosion
  - Backup power generators

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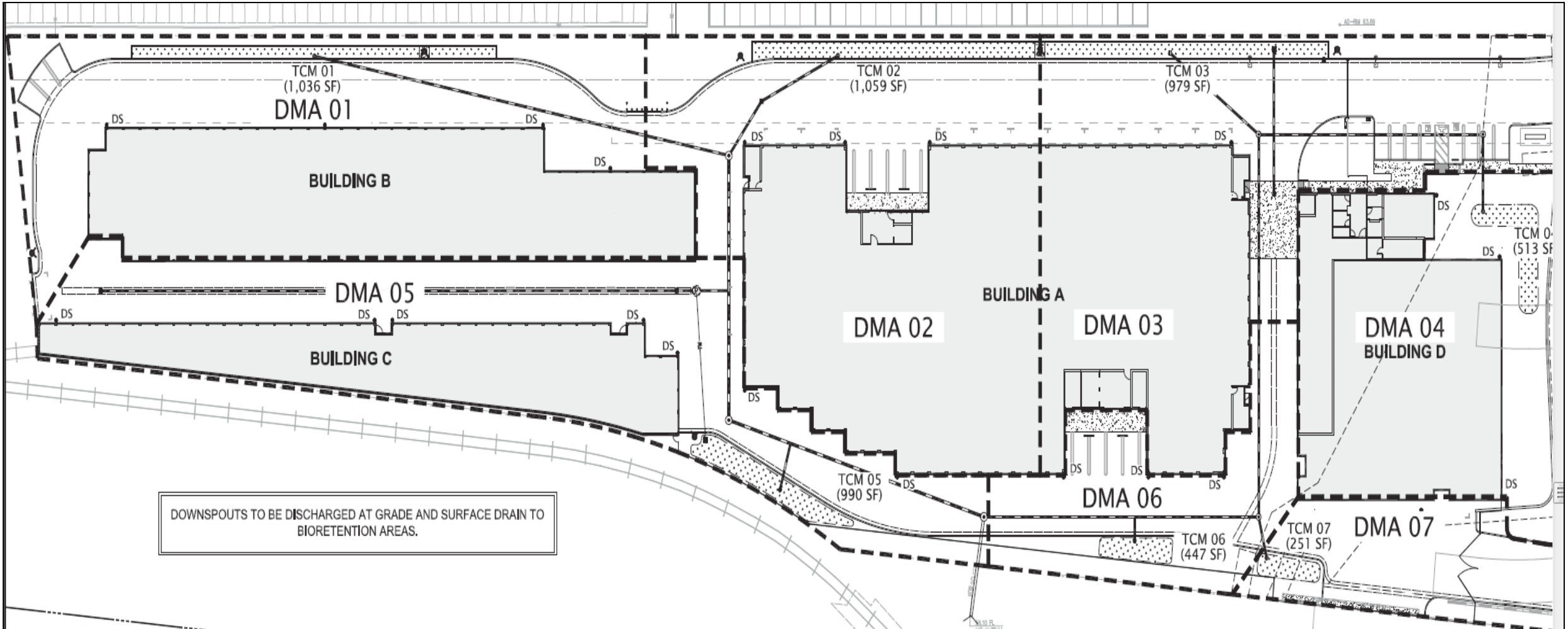
Reviewing DMAs

- Divide the whole site into DMAs
- Indicate self-treating areas, self-retaining areas or SCMs for all DMAs



Reviewing DMAs

- All impervious areas within the DMA should drain to a SCM or a self-retaining area
  - Roofs, driveways, parking areas, walkways
- Indicate DMAs and SCMs on plan sheets
- DMAs on the plan sheet should match those on the DMA summary table

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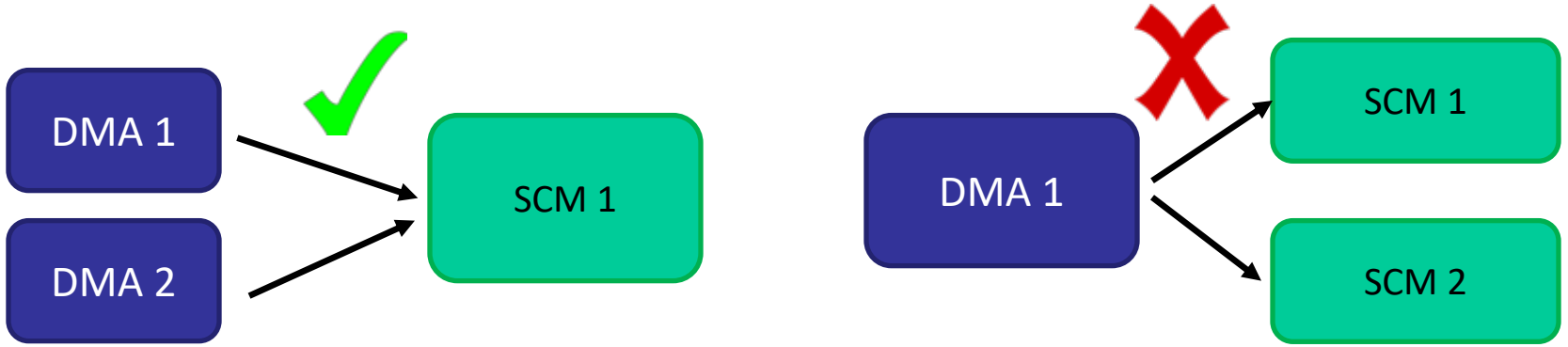
Water Pollution
Prevention Program

Reviewing DMAs

- **Multiple DMAs may flow to same SCM**
  - SCMs should be sized adequately
  - Flow path should be indicated
- **One DMA should not flow to multiple SCMs**



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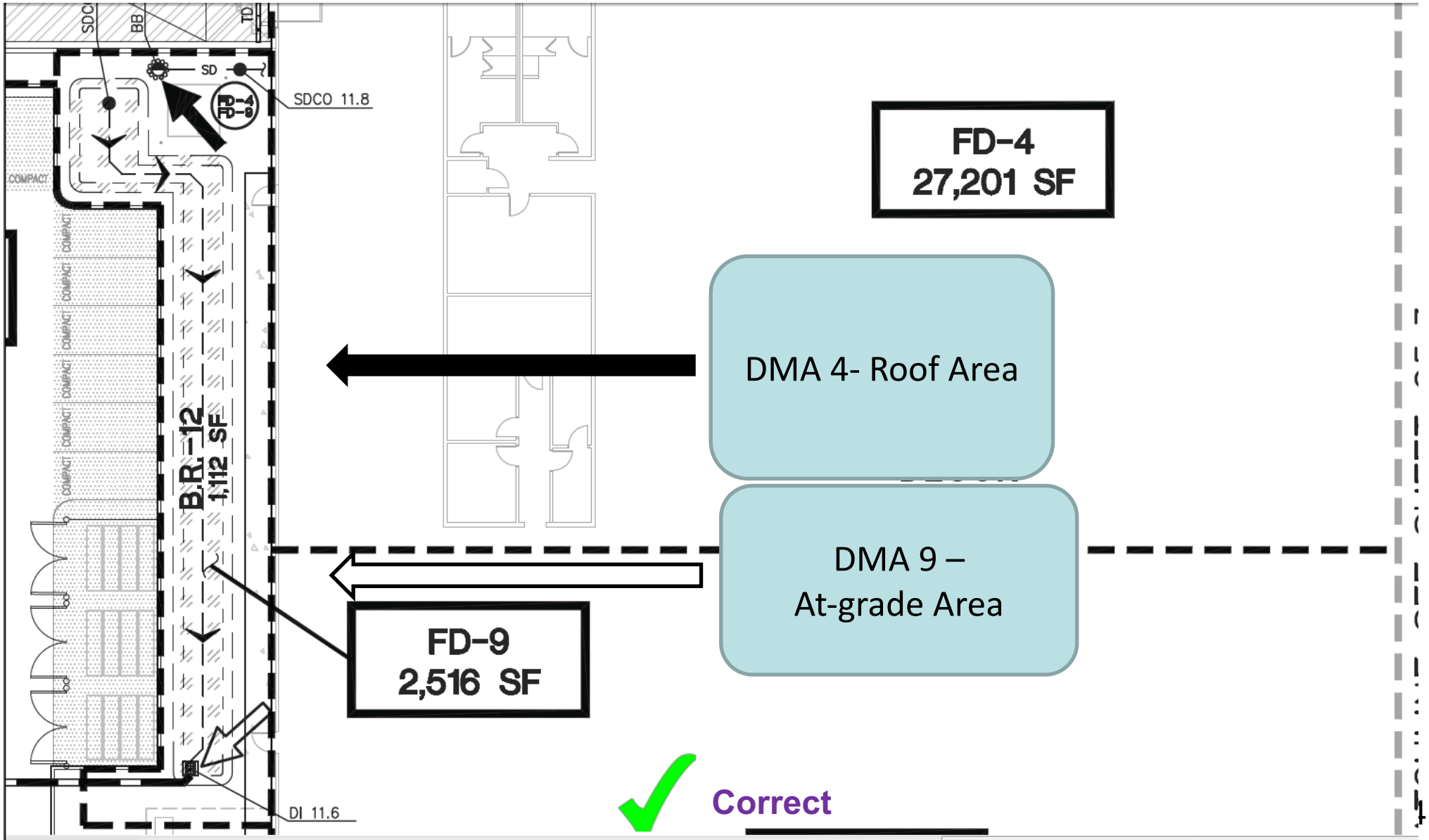
Multiple DMAs Flowing to the Same SCM



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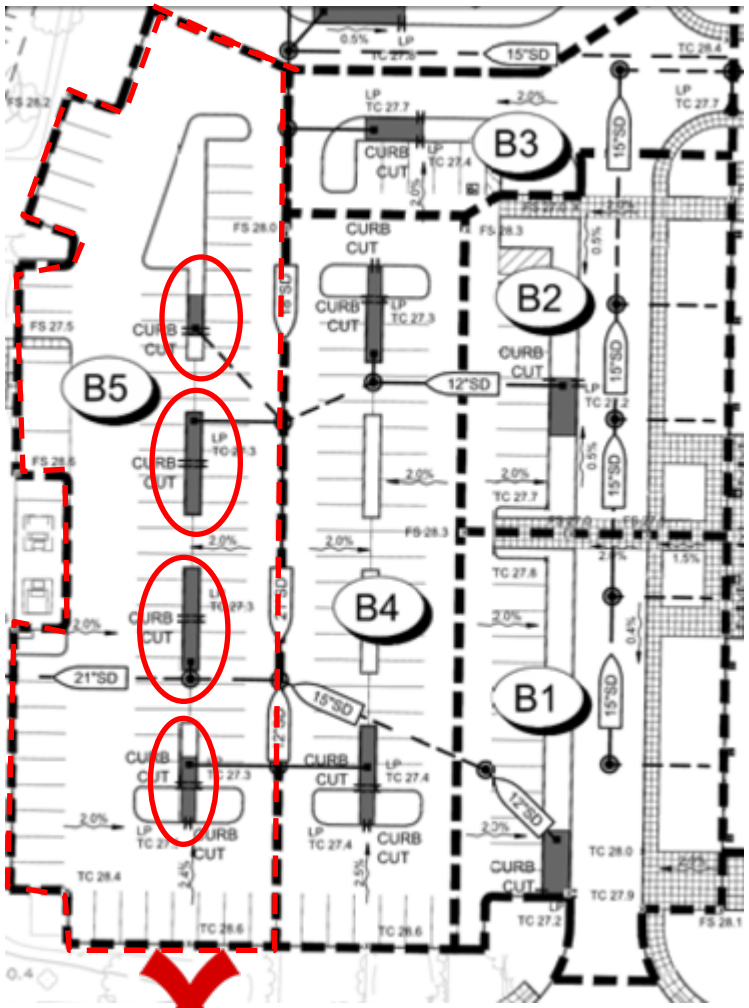
Each DMA Flowing Into One SCM



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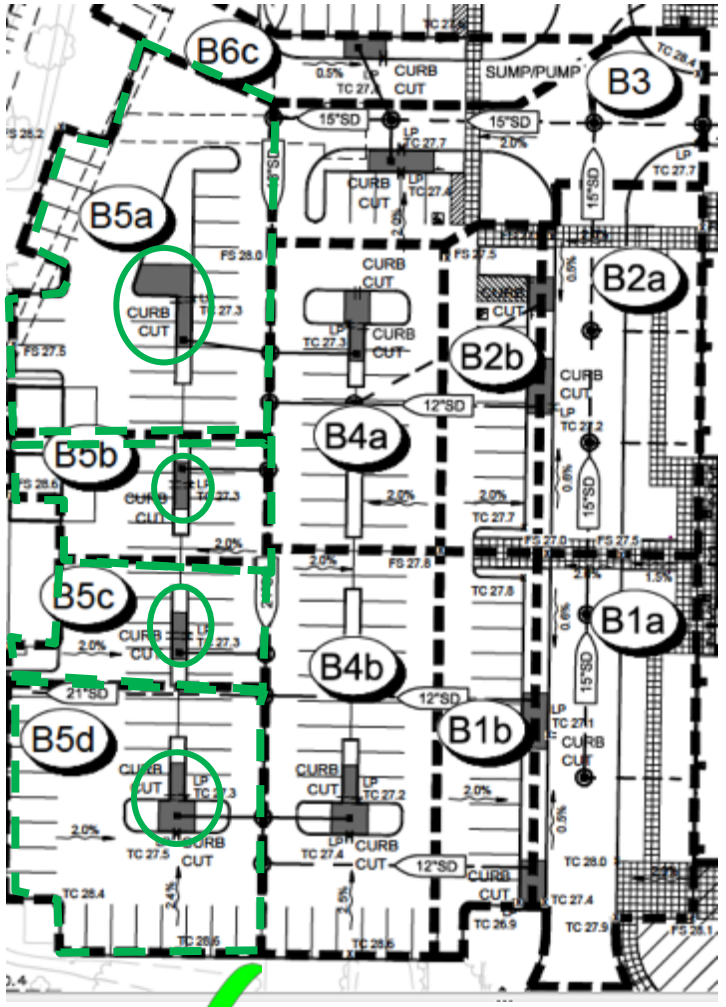

Correct

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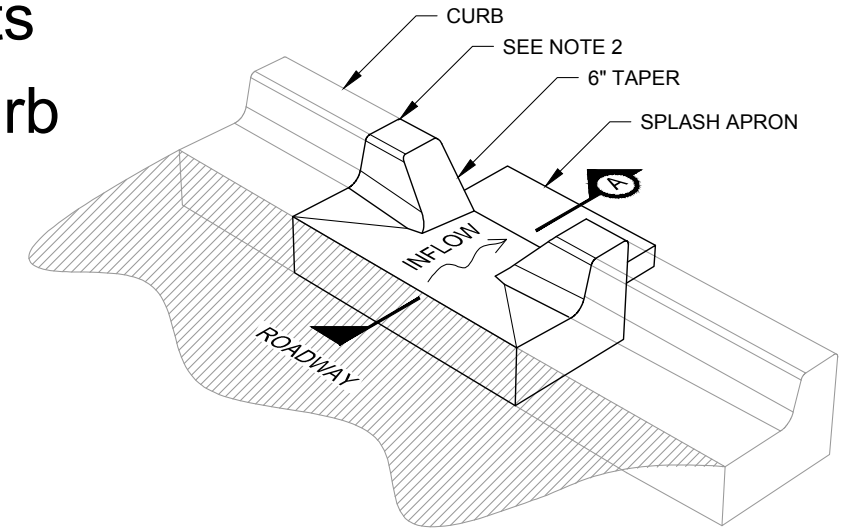
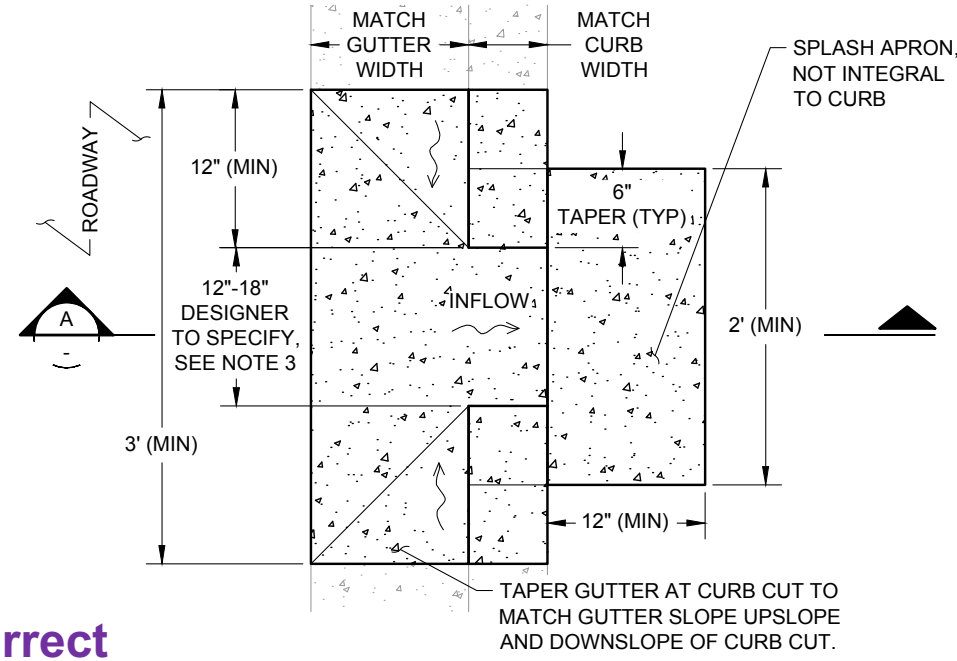
Flow Lines and Runoff Entry Points Indicated

- **Direction of flow and how runoff enters treatment measures**
  - Roof downspouts
  - Area drain inlets
  - Bubblers/pop-up emitters
  - Curb cuts
  - Flush curb



ISOMETRIC

✓ **Correct**



PLAN

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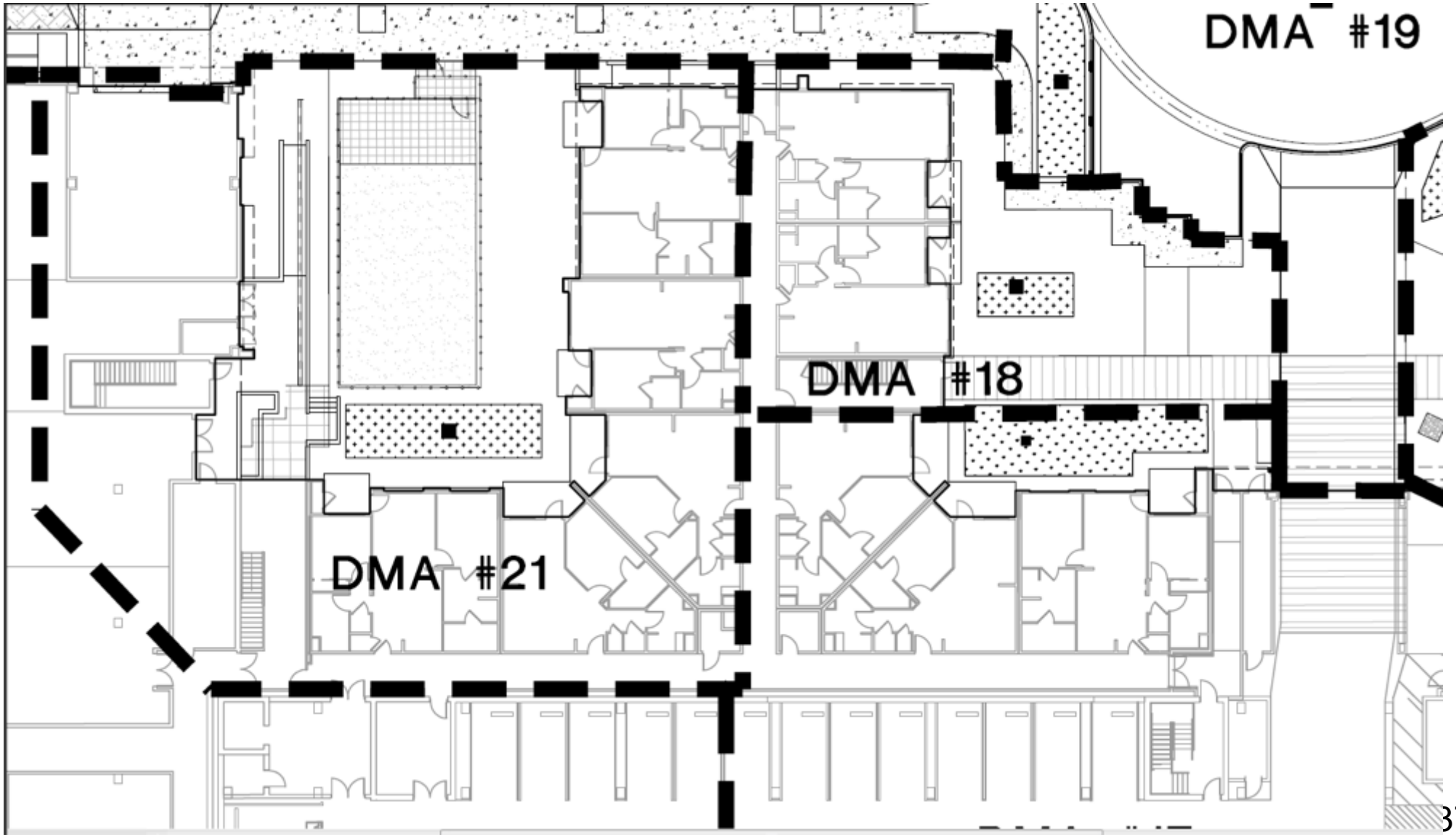
Flow Lines and Runoff Entry Points Indicated



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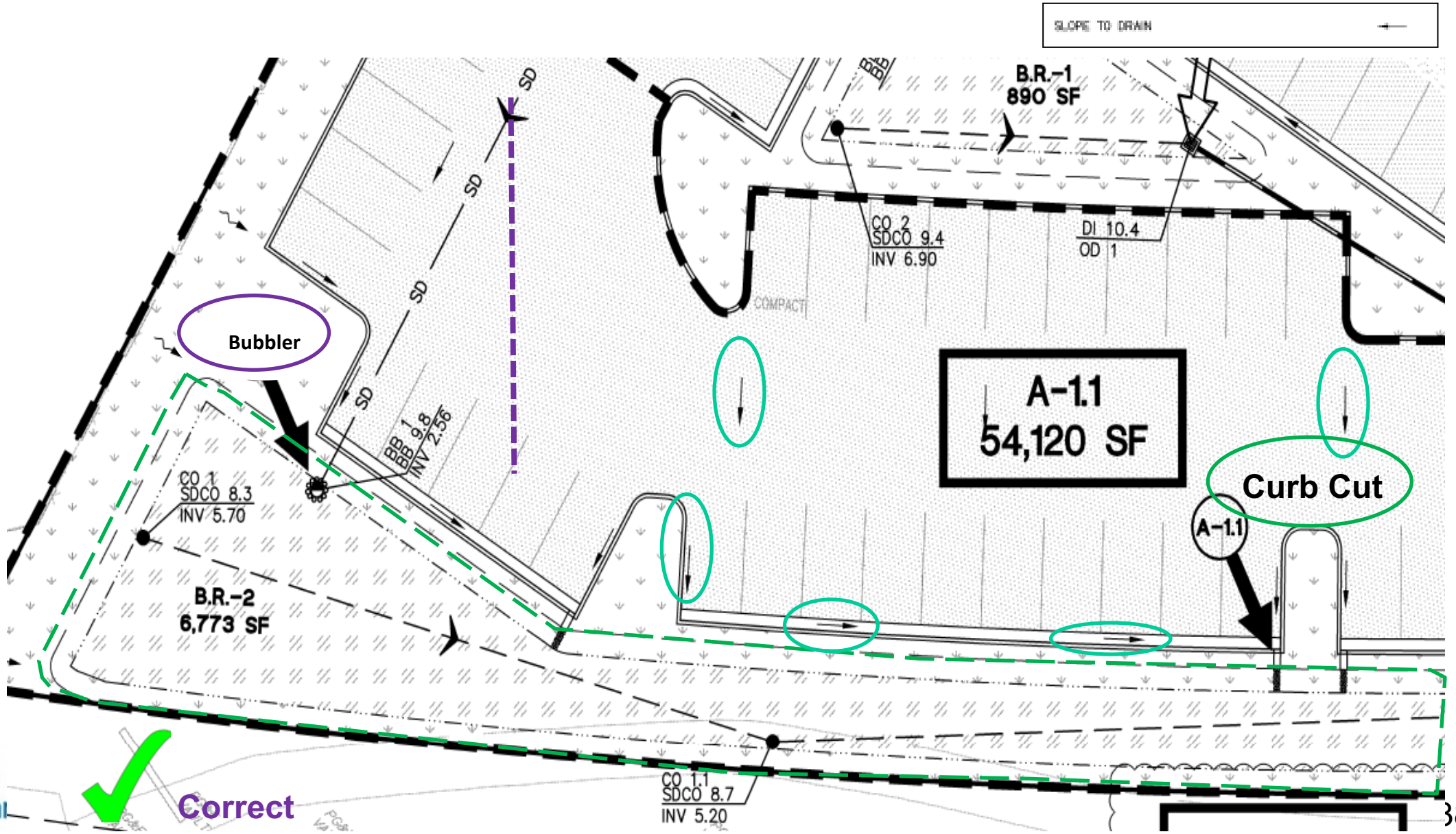
Flow Lines and Runoff Entry Points Indicated



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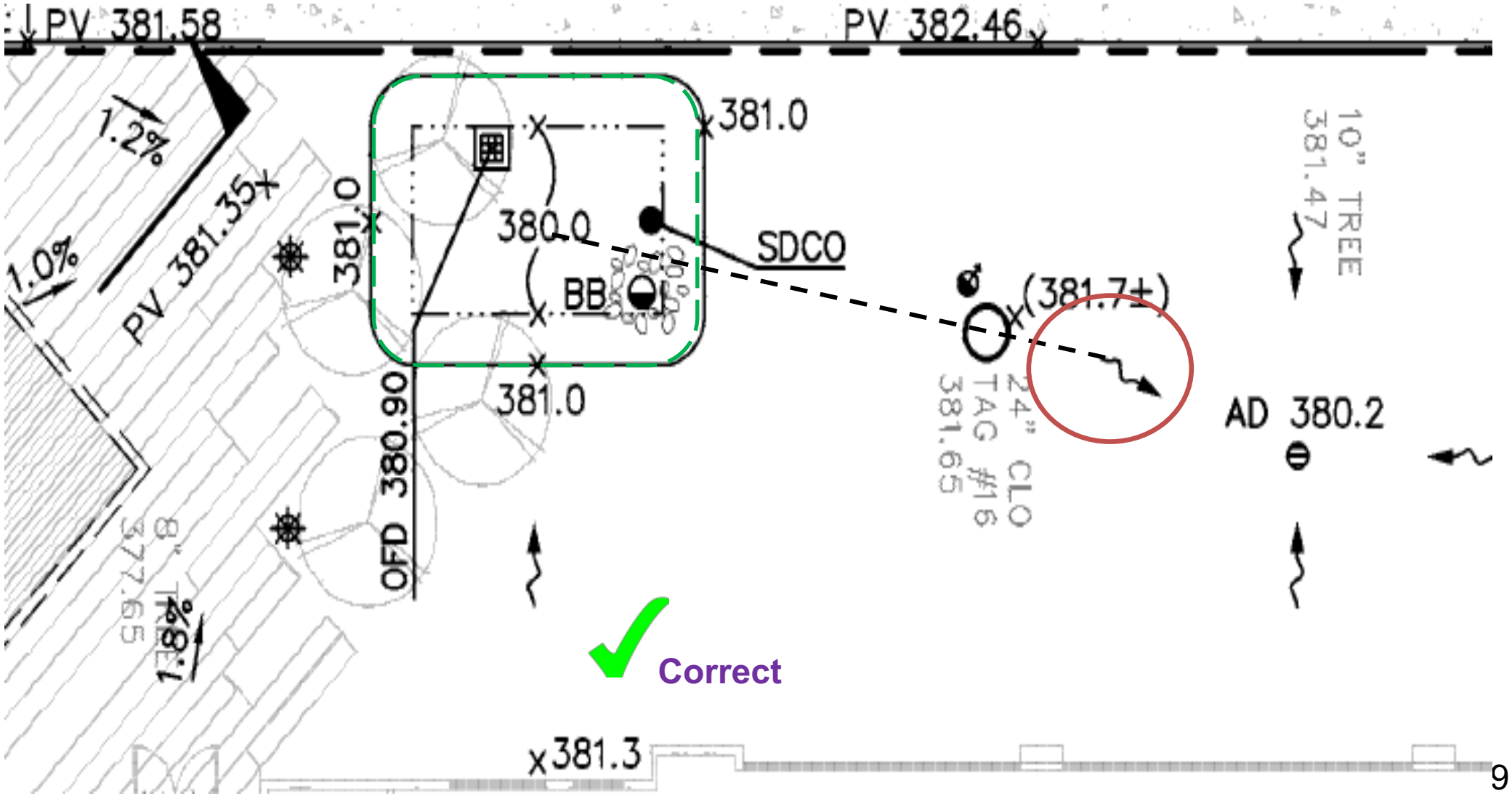
Flow Lines and Runoff Entry Points Indicated



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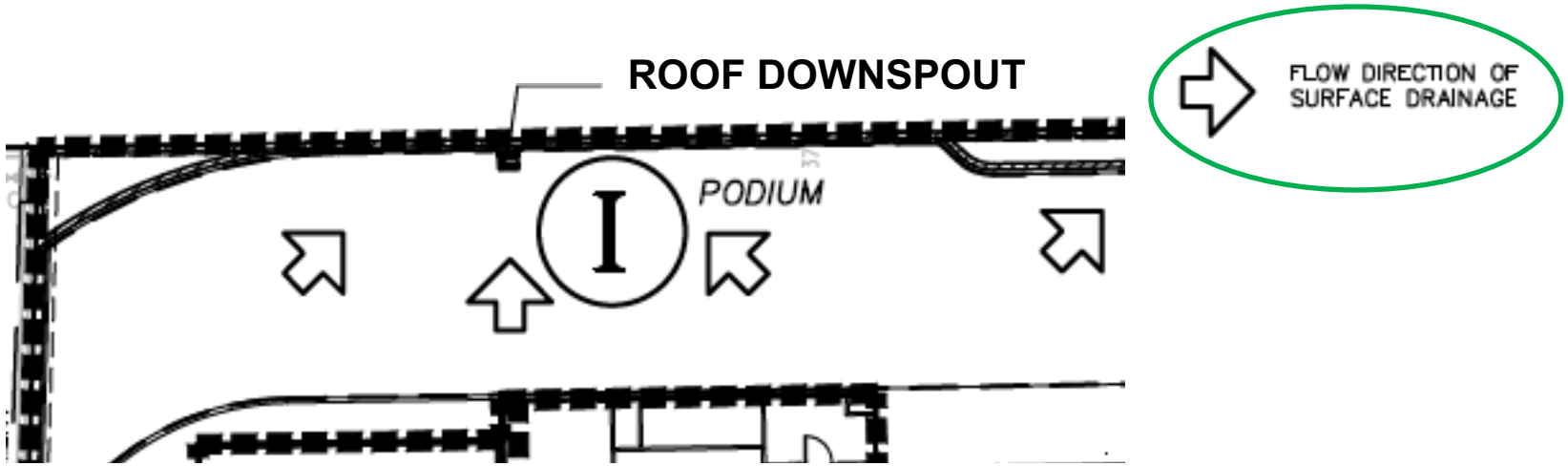
Water Pollution Prevention Program

Flow Lines and Runoff Entry Points Indicated



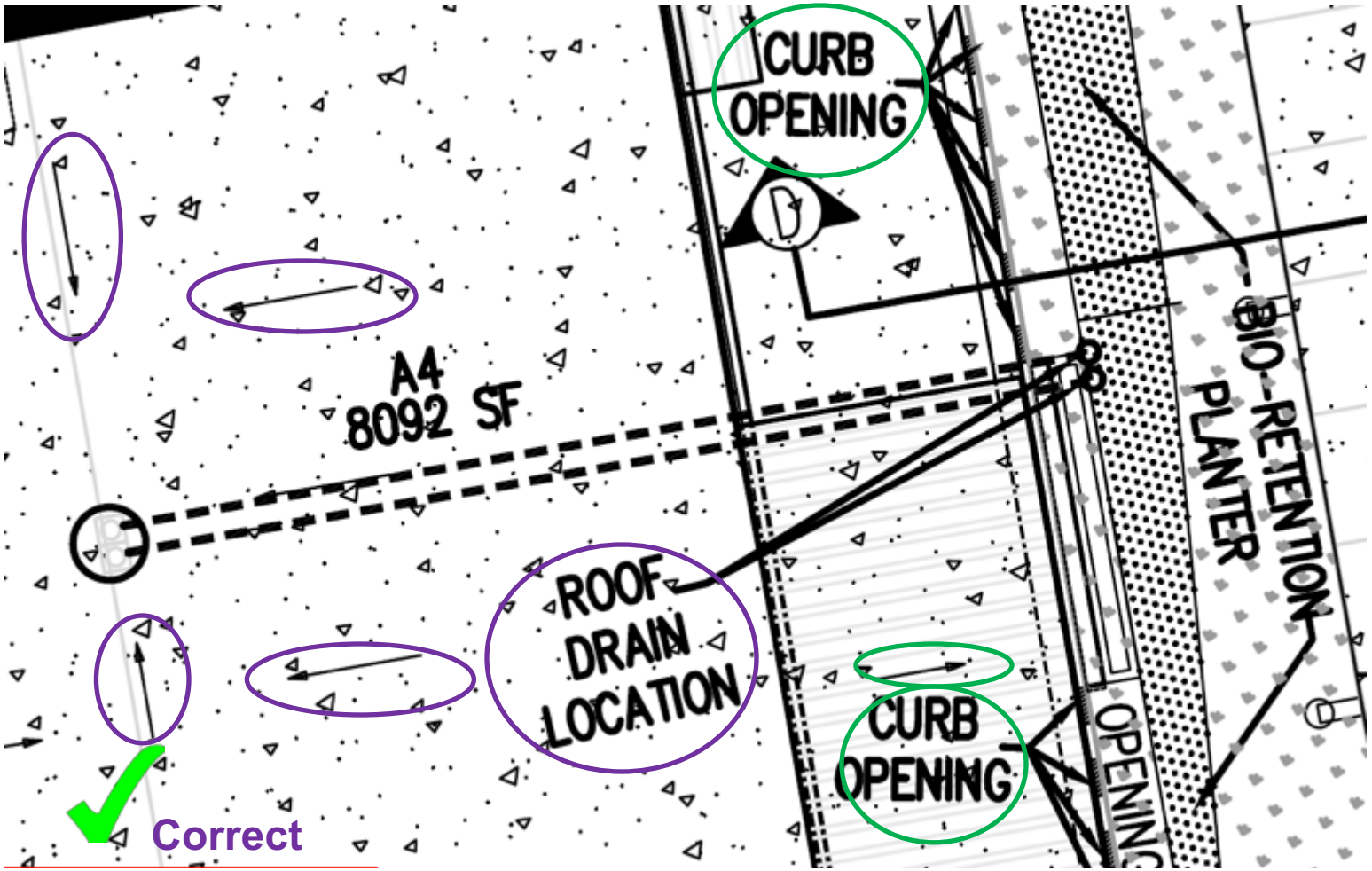
GENERAL NOTES

1. DOWNSPOUTS ARE TO BE EITHER:
   1.1. DISCONNECTED FROM STORM DRAIN PIPE AND HAVE STORMWATER RUNOFF SHEET FLOW TO BIORETENTION AREAS; OR
   1.2. HARD PIPED TO BIORETENTION AREAS.

✓ Correct

SAN MATEO COUNTYWIDE Water Pollution Prevention Program

Flow Lines and Runoff Entry Points Indicated



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SCM Details

- Review typical details from the C.3 Regulated Projects Guide
- Require detail be customized to the project

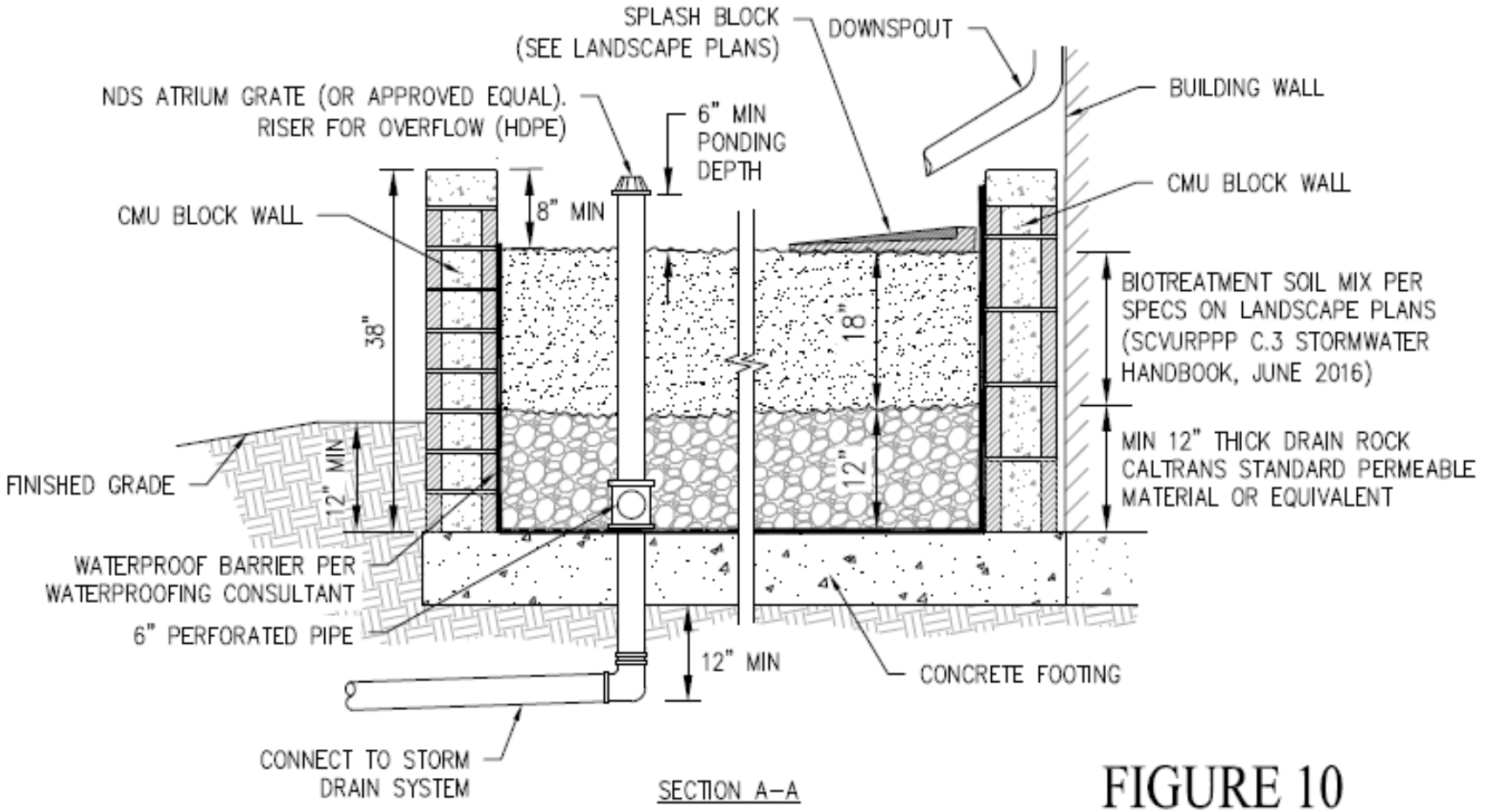

FIGURE 10

SAN MATEO COUNTYWIDE
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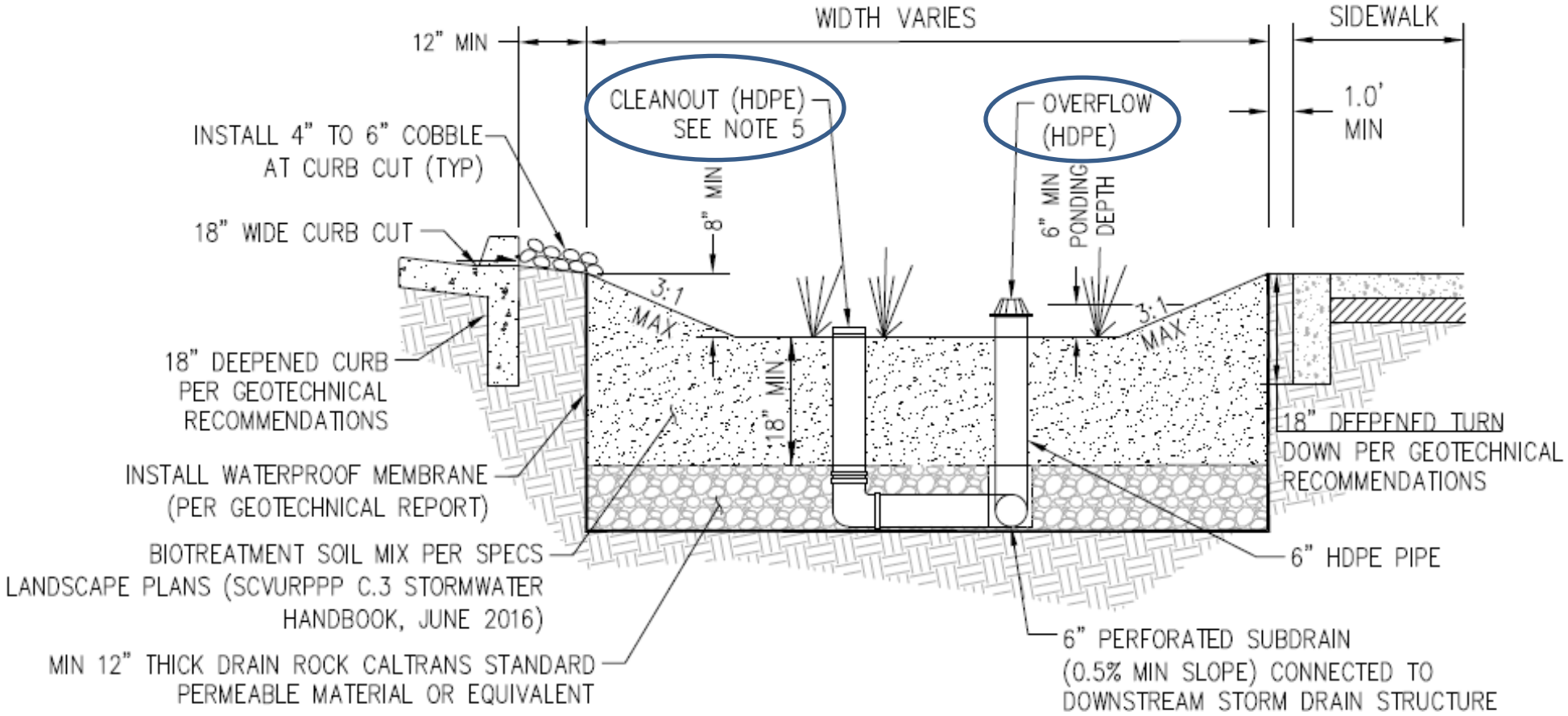
Prevention Program

SCM Details

- **Require multiple views so inlets, outlet and cleanout are visible**



BIORETENTION AREA IN LANDSCAPE AREAS

NOT TO SCALE

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SCM Details: Common Errors

- Inlets for runoff not shown
- Overflow inlet not set above ponding depth
- Specific ponding depth not indicated
- Cleanout not shown
- Underdrain placement not correct
- Energy dissipation not shown
- Filter fabric between biotreatment soil and drain rock (never allowed)

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SCM Details: Common Errors

- **Bioretention Area/Flow-through Planter**
  - Biotreatment soil mix not mentioned or wrong reference
  - Mulch not mentioned – need 3” of aged (composted) mulch or rock mulch
- **Bioretention Area**
  - Bottom lined without providing justification
    - Less than 5’ separation from base to groundwater
    - Located within 10’ of building
    - Infiltration not permitted on site

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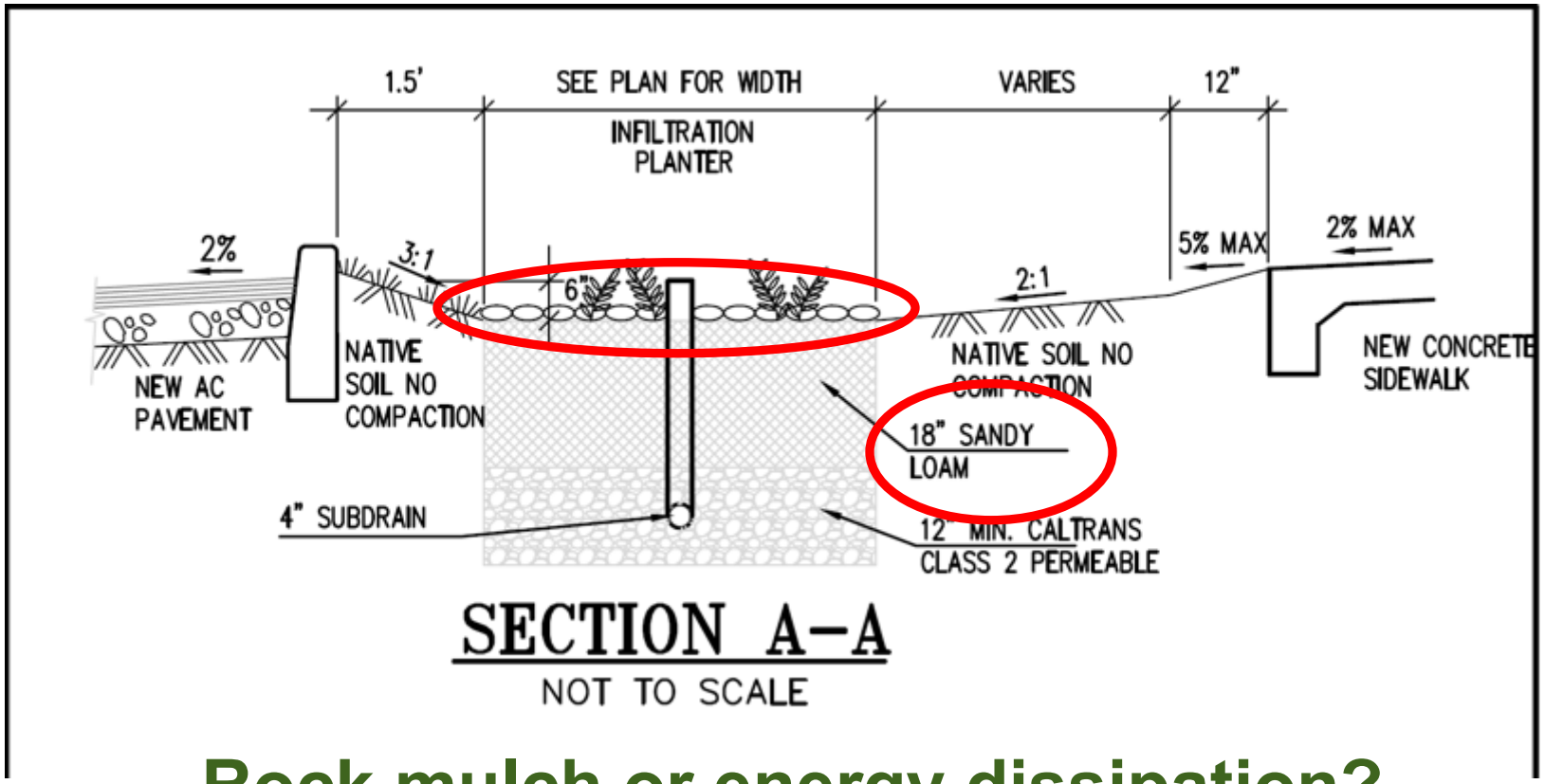
SCM Details:
Common Errors



- Rock mulch or energy dissipation?
- No cleanout shown
- Incorrect soil specification

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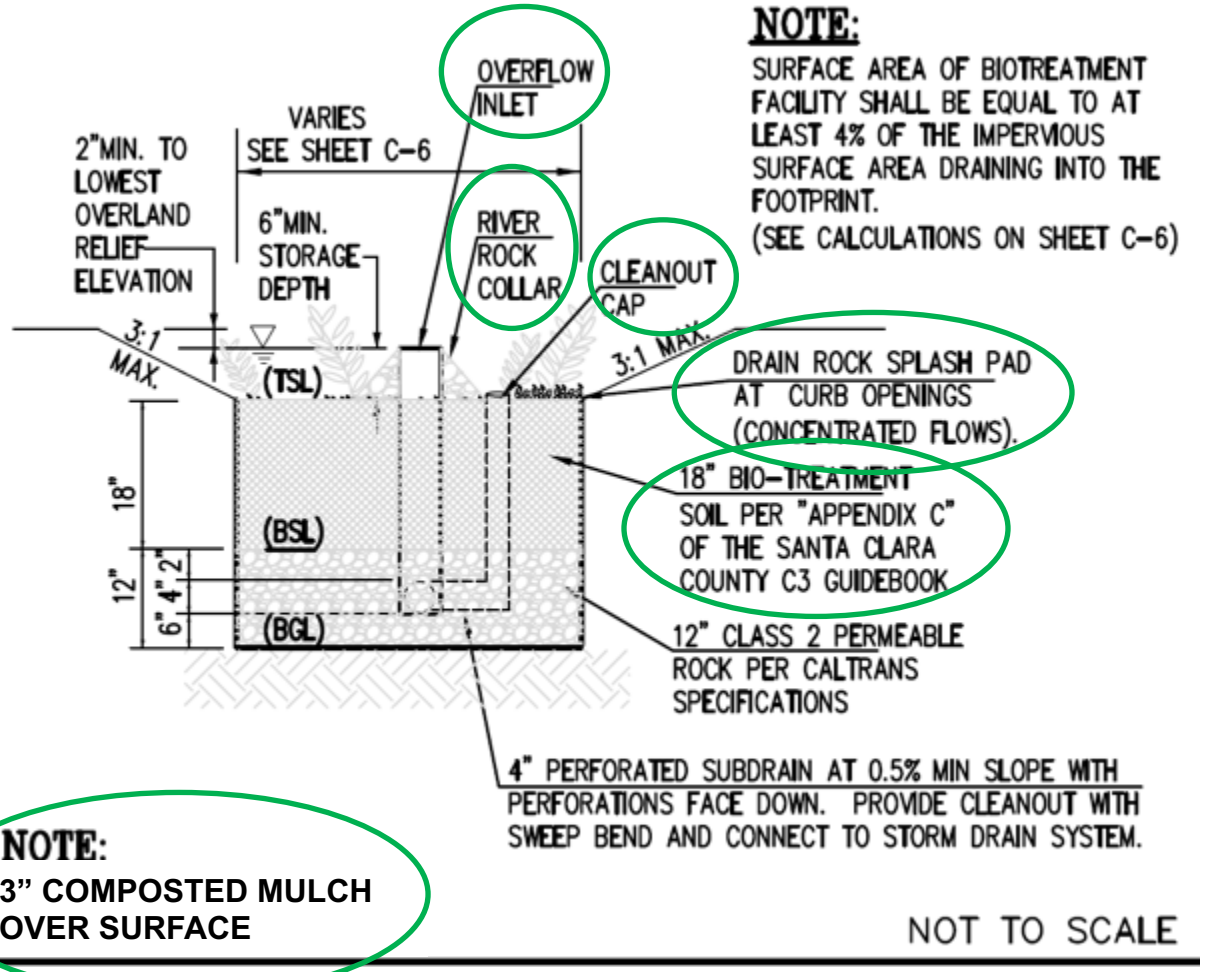
SCM Details: Good Notes



SAN MATEO COUNTYWIDE Water Pollution Prevention Program

Biotreatment Soil Media

- **BSM = 60-70% sand + 30-40% compost**
- **MRP 1.0 (revised Nov. 2011)**
  - Specification included in Attachment L
- **MRP 2.0 (adopted Nov. 2015)**
  - No Attachment L
  - Allows permittees to develop and adopt revisions to soil specification (with Water Board approval)
  - Revised soil specifications posted on WB website
  - Included in Appendix K of C.3 Regulated Projects Guide
- **BASMAA BSM Spec. (adopted and revised 2016)**

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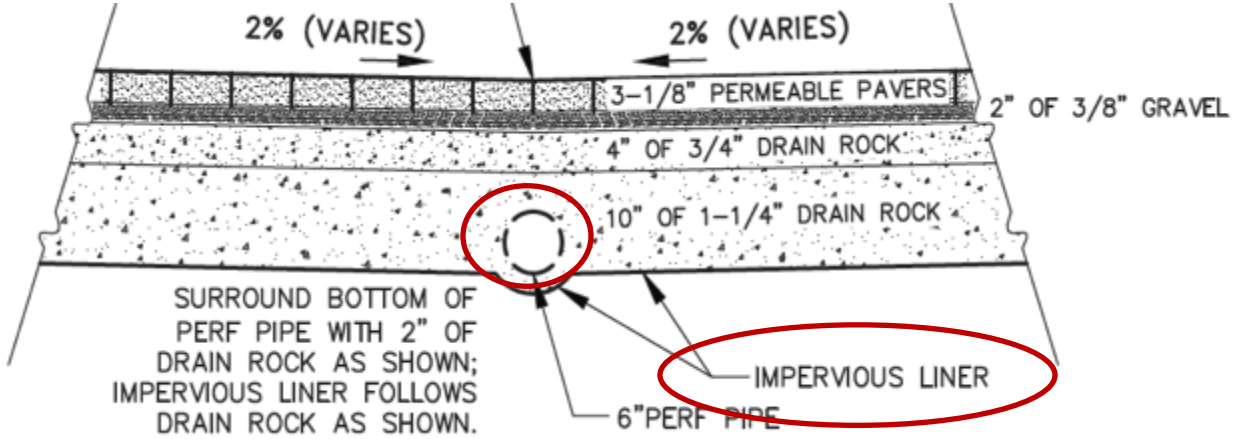
SCM Details: Common Errors

- **Infiltration Trench**
  - Lined with impervious liner
- **Pervious Pavement**
  - Not consistent with C3RPG guidance
  - Lined with impervious liner and/or sand in the joints
  - Designed to allow surface ponding
  - Underdrain placement in aggregate layer – not best practice anymore



SAN MATEO COUNTYWIDE Water Pollution Prevention Program

SCM Sizing

- **Indicate SCM & sizing method on C.3 and C.6 Checklist**
- **Starting July 1st – collect and submit DMA and SCM data**

Infiltration Measures:	Hydraulic sizing method[12]
☐ Bioinfiltration[13]	☐1.a ☐1.b ☐2.c ☐3
☐ Infiltration trench	☐1.a ☐1.b
☐ Other (specify):	

Biotreatment Measures:	Hydraulic sizing method[12]
☐ Bioretention area	☐2.c ☐3
☐ Flow-through planter	☐2.c ☐3
☐ Other (specify): _____	

Indicate which of the following Provision C.3.d.i hydraulic sizing methods were used. Volume based approaches: 1(a) Urban Runoff Quality Management approach, or 1(b) 80% capture approach (recommended volume-based approach). Flow-based approaches: 2(a) 10% of 50-year peak flow approach, 2(b) 2 times the 85th percentile rainfall intensity approach, or 2(c) 0.2-Inch-per-hour intensity approach (recommended flow-based approach – also known as the 4% rule). Combination flow and volume-based approach: 3

SAN MATEO COUNTYWIDE Water Pollution Prevention Program

SCM Sizing

- **Ensure sizing calculations are complete**

TREATMENT CONTROL MEASURE SUMMARY TABLE

Area	TCM#	Type	Drainage Area (s.f)	Impervious Area (s.f.)	Pervious Area (s.f)	Bioretention Area Required (s.f)	Bioretention Area Provided (s.f)
A	1	Planter Box	4,571	4,219	352	131 *	140
B	2	Planter Box	4,947	4,625	322	143 *	150
C	3	Planter Box	2,559	2,377	182	74 *	75
D	4	Planter Box	5,317	4,985	332	154 *	155
E	5	Planter Box	5,015	4,675	340	144 *	150
F	6	Planter Box	2,540	2,357	183	73 *	75
G	7	Planter Box	5,141	4,953	188	149 *	152
H	8	Planter Box	4,545	4,295	250	131 *	131

* REQUIRED BIORETENTION SQUARE FOOTAGE OF BASE ON COMBINATION FLOW AND VOLUME CALCULATION ON SHEET TM6.1.

SAN MATEO COUNTYWIDE Water Pollution Prevention Program

Landscape Plans

- Choose plants consistent with the Plant List in Appendix A of the C.3 Regulated Projects Guide
- If choosing different plants, submit documentation from the landscape architect showing that the plants are appropriate
- Select plants that can tolerate the ponding depth provided

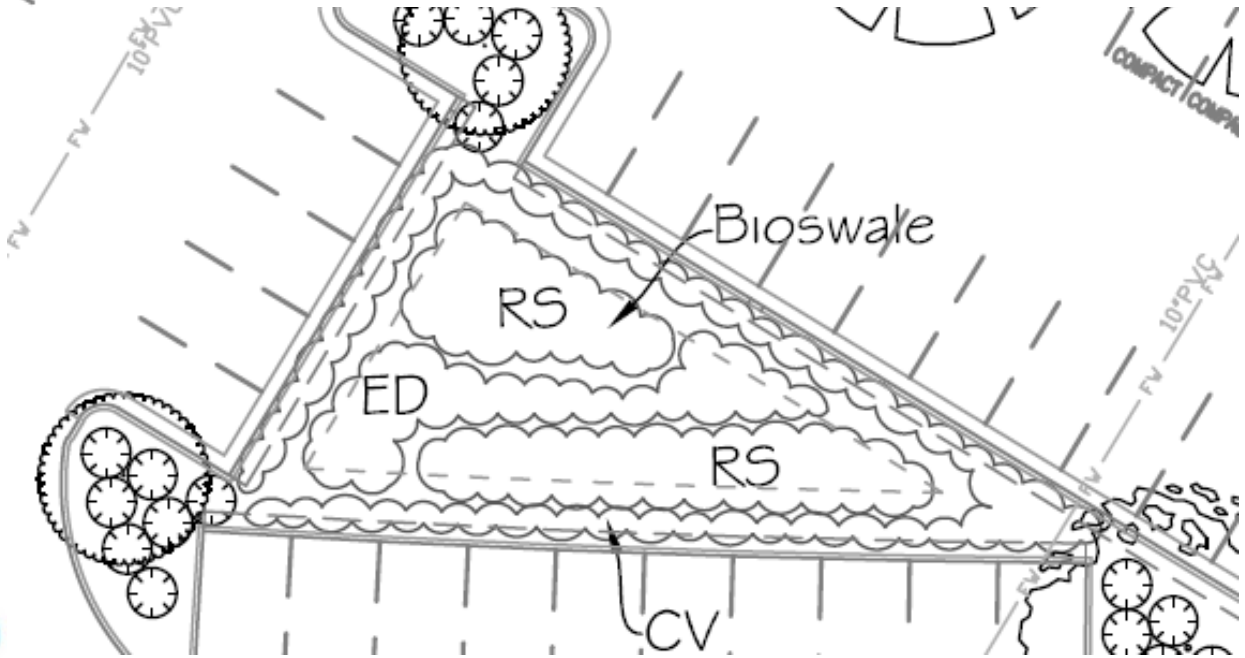
SAN MATEO COUNTYWIDE
Water Pollution
Prevention Program

Landscape Plans

- **Clearly indicate the plants that will be planted in the treatment areas**

Bioretention Plantings

ED	Epilobium densiflorum	Dense Spike Primrose	Low	1 Gallon	36" OC
ID	Iris douglasiana	Douglas iris	Low	1 Gallon	24" OC
MR	Muhlenbergia rigins	Muhly Grass	Low	1 Gallon	48" OC
RS	Ribes sanguinium	Red Flowering Current	Low	1 Gallon	48" OC



OR add a note on the plan that plants selected will be consistent with the SMCWPPP C3RPG Appendix A

SAN MATEO COUNTYWIDE Water Pollution Prevention Program

Building Permit Stage Compliance Review Process

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Prevention Program

Building Plans

- Consistent with the Planning permit SMP?
- If conditions have changed, have C.3 and C.6 Checklist revised.
- If choosing different plants, submit documentation from the landscape architect showing that the plants are appropriate.
- Check to make sure that other sections of the building plans are consistent with the stormwater-related plans. Mechanical, Electrical and Plumbing (MEP) plans can sometimes interfere or conflict with stormwater plans.

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Occupancy Certificate Stage Compliance Review Process

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Prevention Program

Operation and Maintenance Plan

- **Submit an O&M plan with the SMP or at a later stage – before the Temporary or Final Certificate of Occupancy is granted**
- **Templates available in Appendix G of the C3RPG**

Bioretention Area[1] Maintenance Plan for
[[== Insert Project Name ==]]

[[== Insert Date =]]

Bioretention areas function as soil and plant-based filtration devices that remove pollutants through a variety of physical, biological, and chemical treatment processes. These facilities normally consist of a ponding area, mulch layer, vegetation and biotreatment soil mix.

Project Address and Cross Streets_____

_____

Assessor's Parcel No.: _____

Property Owner: _____

Phone No.:_____

Designated Contact: _____

Phone No.:_____

Mailing Address:_____

_____

The property contains [[== insert number ==]] bioretention area(s), located as described below and as shown in the attached site plan[2].

- **Bioretention Area No. 1** is located at [[== describe location ==]].
- [[== Add descriptions of other bioretention areas, if applicable. ==]]

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program

Occupancy Certificate

- Is the final project construction and the O&M Agreement consistent with the Planning and Building permit SMP?
- If conditions have changed have the C.3 and C.6 Checklist revised
- Ensure that SCM and DMA information is accurate for Annual Report and is summarized in a table or in the C.3 & C.6 Checklist
- Last opportunity to have project team submit special project narrative and as-builts for O&M agreement
- Consider issues and communication for hand-off to new owners and/or HOAs etc.

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Questions?

Peter Schultze-Allen

510-832-2852, X128

pschultze-allen@eoainc.com

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