Ventura Countywide Stormwater Quality Management Program

Technical Guidance Manual Revision Step-by-Step Process

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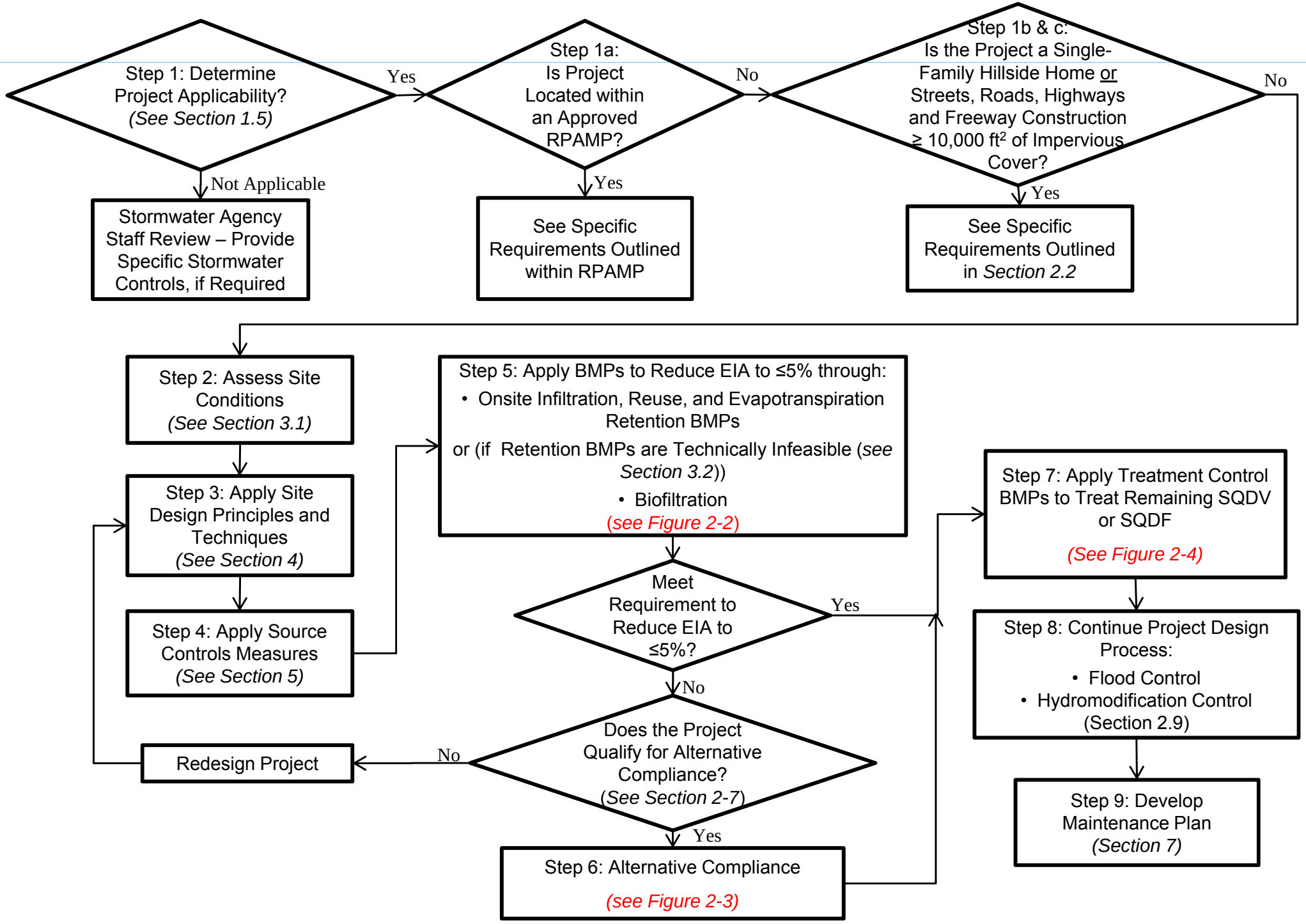
Introduction

- 4 Flow Charts:
  - Technical Guidance Manual (TGM) Process
  - Process to Reduce EIA to 5%
  - Alternative Compliance
  - BMP Selection Process
- Establishes a framework and decision process to address permit requirements
- Purpose today is to highlight changes, answer questions and take comments

FINAL DRAFT 2010 TGM Process Flow Chart

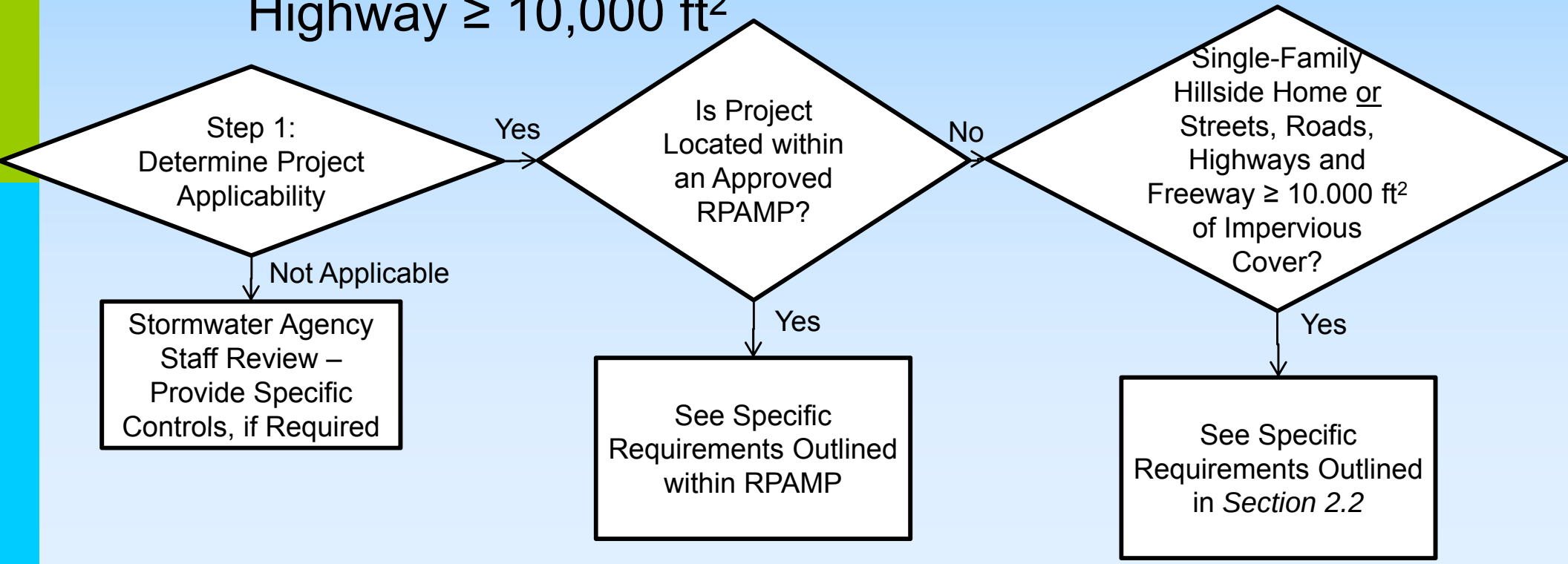


2010 TGM Step-by-Step Process

- Steps roughly correspond to Sections in Final Draft 2010 TGM
- Each step references section where more information will be provided

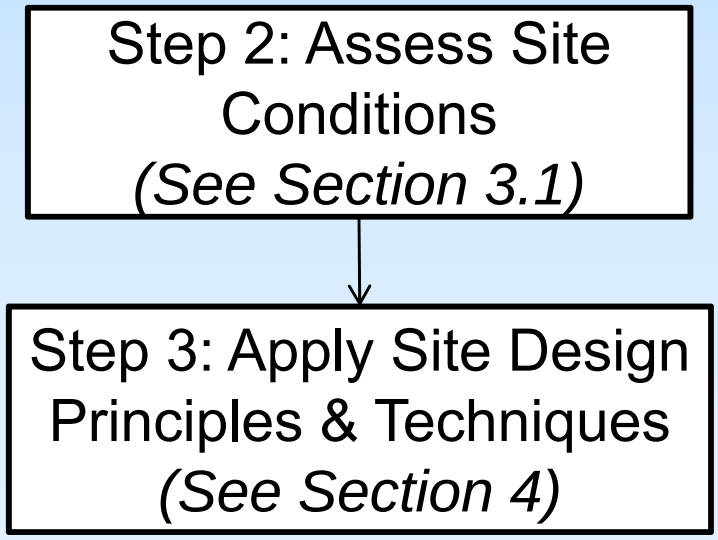
2010 TGM Step-by-Step Process

1. Determine if Project is Subject to TGM
   - Permit Project Categories
   - Within RPAMP
   - Single-Family Hillside Home or Street, Road and Highway ≥ 10,000 ft^2



2010 TGM Step-by-Step Process

2. Assess Site Conditions
   - Understand conditions and constraints onsite critical to the selection of BMPs
   - Site conditions (topo, soils), nearby waterbodies, etc.
3. Apply Site Design Principles & Techniques
   - Protect Natural Areas
   - Minimize Land Disturbance
   - LID Considerations Early in Site Planning Process



2010 TGM Step-by-Step Process

4. Apply Source Controls

- Same as 2002 TGM
  - Storm Drain Signage, Fueling Area Design, etc.

Step 4: Apply Source Controls *(See Section 5)*

2010 TGM Step-by-Step Process

5. Reduce EIA to 5%

- Intent is to use Volume as the surrogate

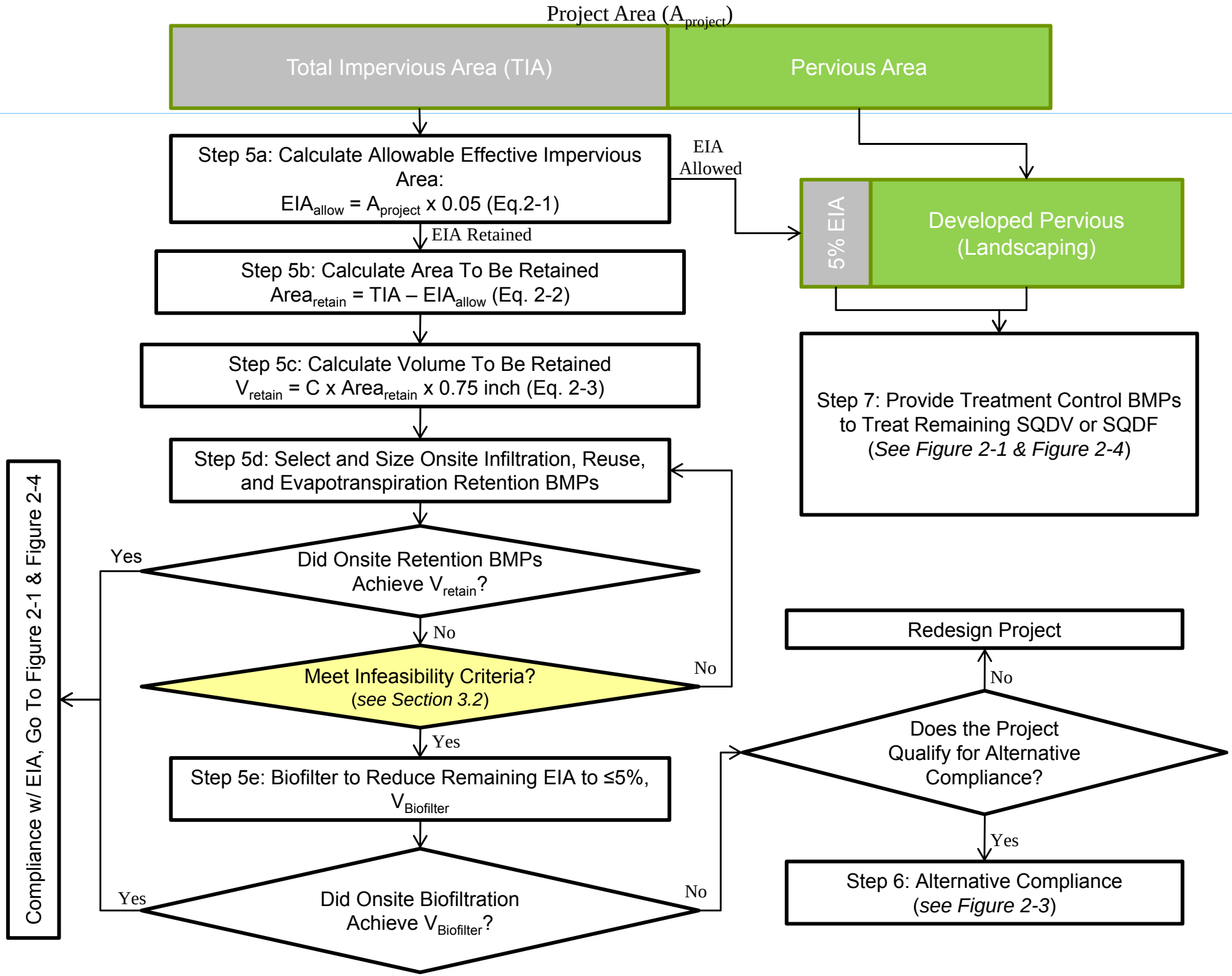
Step 5: Apply BMPs to Reduce EIA to ≤5% through:

- Onsite Infiltration, Reuse, and Evapotranspiration Retention BMPs

or (if Retention BMPs are Technically Infeasible (*see Section 3.2*))

- Biofiltration

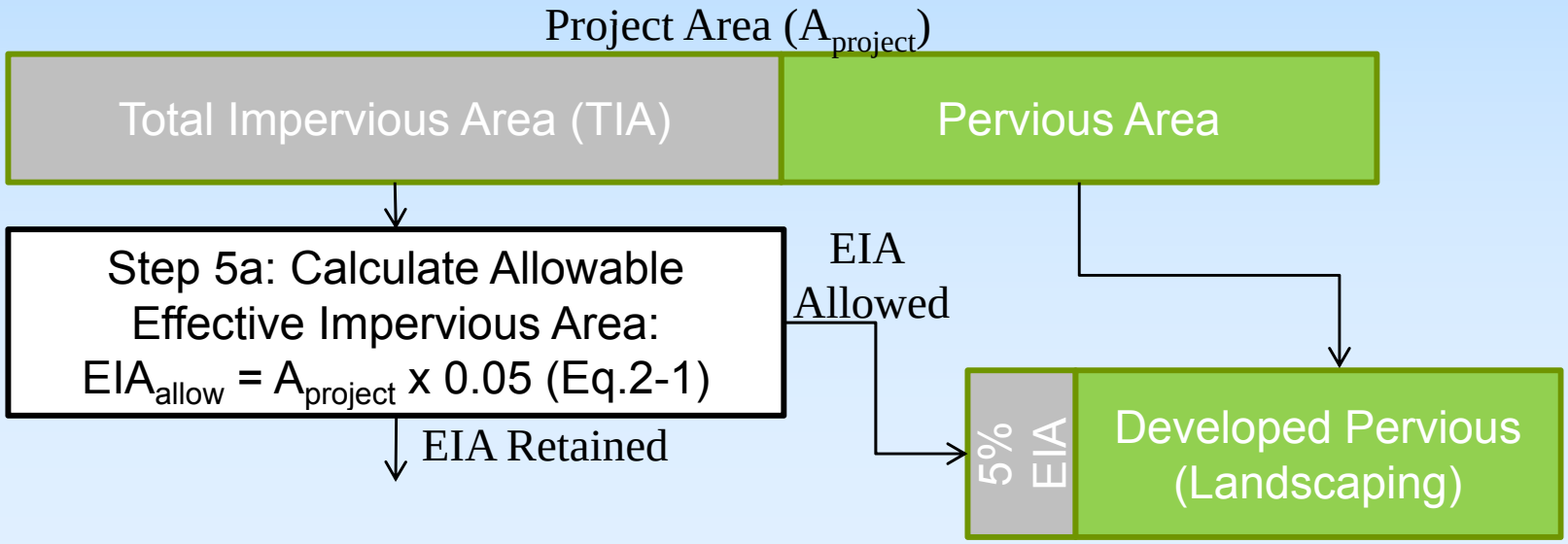
(*see Figure 2-2*)


Project Area ($A_{project}$)
Total Impervious Area (TIA)
Pervious Area
Step 5a: Calculate Allowable Effective Impervious Area:
$EIA_{allow} = A_{project}$ x 0.05 (Eq.2-1)
EIA Allowed
5% EIA
Developed Pervious (Landscaping)
EIA Retained
Step 5b: Calculate Area To Be Retained
$Area_{retain} = TIA – EIA_{allow}$ (Eq. 2-2)
Step 5c: Calculate Volume To Be Retained
$V_{retain} = C$ x $Area_{retain}$ x 0.75 inch (Eq. 2-3)
Step 7: Provide Treatment Control BMPs to Treat Remaining SQDV or SQDF (*See Figure 2-1 & Figure 2-4*)
Step 5d: Select and Size Onsite Infiltration, Reuse, and Evapotranspiration Retention BMPs
Yes
Did Onsite Retention BMPs Achieve V_{retain}?
No
Meet Infeasibility Criteria? (*see Section 3.2*)
No
Yes
Step 5e: Biofilter to Reduce Remaining EIA to ≤5%, $V_{Biofilter}$
Yes
Did Onsite Biofiltration Achieve $V_{Biofilter}$?
No
Compliance w/ EIA, Go To Figure 2-1 & Figure 2-4
Redesign Project
No
Does the Project Qualify for Alternative Compliance?
Yes
Step 6: Alternative Compliance (*see Figure 2-3*)

2010 TGM Step-by-Step Process

5a. Calculate Allowable EIA

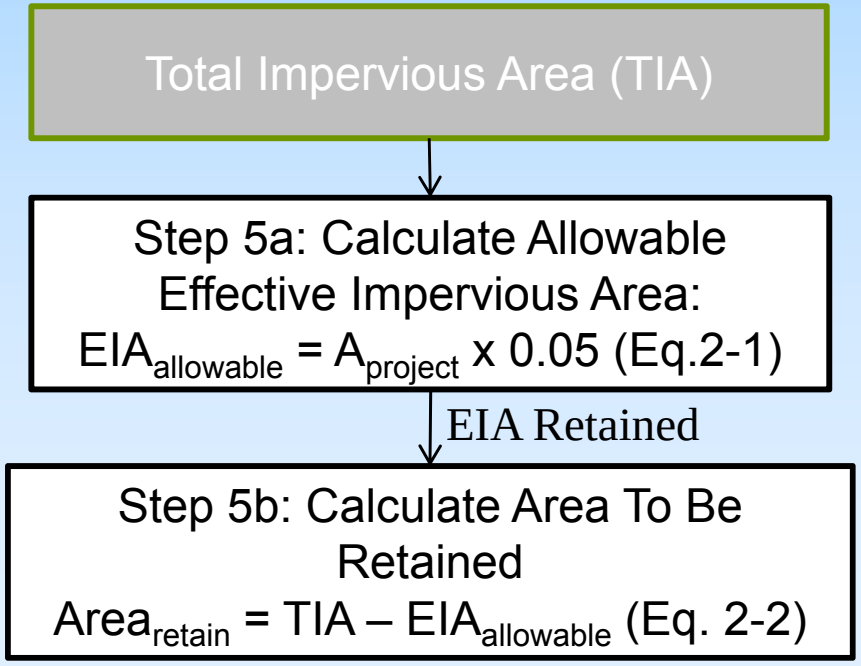
- the maximum impervious area from which runoff can be treated and discharged offsite (acres)
- 5% of total project area



2010 TGM Step-by-Step Process

5b. Calculate the Impervious Area to be Retained

- The impervious area from which runoff must be retained onsite is the total impervious area minus the Allowable EIA ($EIA_{allowable}$)

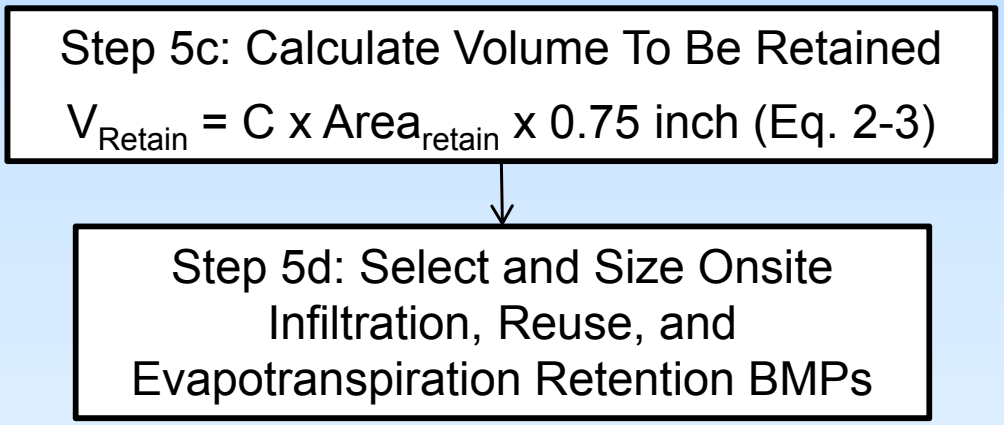


2010 TGM Step-by-Step Process

5c. Calculate the Volume to be Retained

5d. Select and Size Retention BMPs

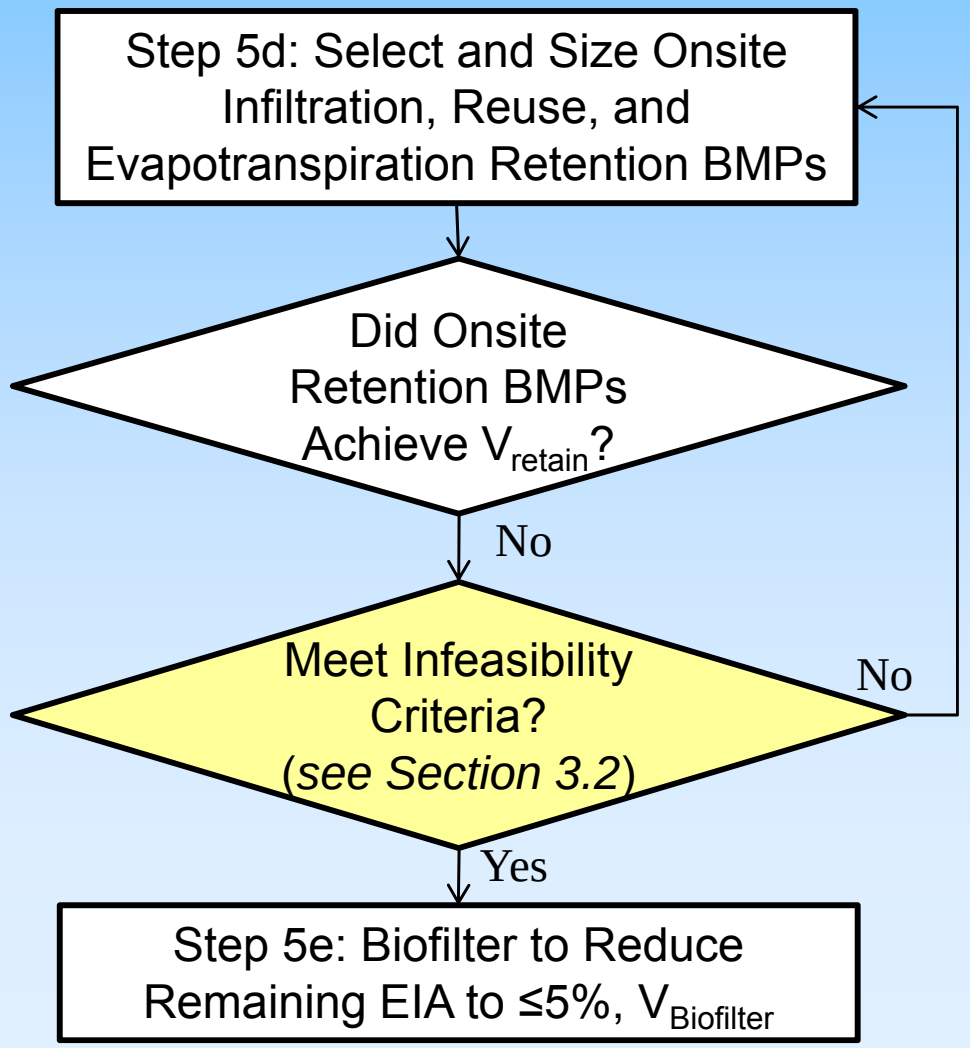
- In order to render impervious surfaces “ineffective”, Retention BMPs must be sized to retain the Stormwater Quality Design Volume (SQDV)



2010 TGM Step-by-Step Process

5e. Biofilter to Reduce Remaining EIA to ≤5%

- Apply Retention BMPs to the MEP
- Demonstrate technical infeasibility
- Biofiltration must be sized to treat 1.5 times the remaining volume



Infill Definition

- Infill projects meet the following conditions:
  a) consistent with applicable general plan and zoning designations
  b) occurs on a project site of no more than 5 ac substantially surrounded by urban uses
  c) no value as habitat for endangered, rare, or threatened species
  d) not result in any significant effects relating to traffic, noise, air quality, or water quality
  e) can be adequately served by all required utilities and public services
- modified from State Guidelines § 15332

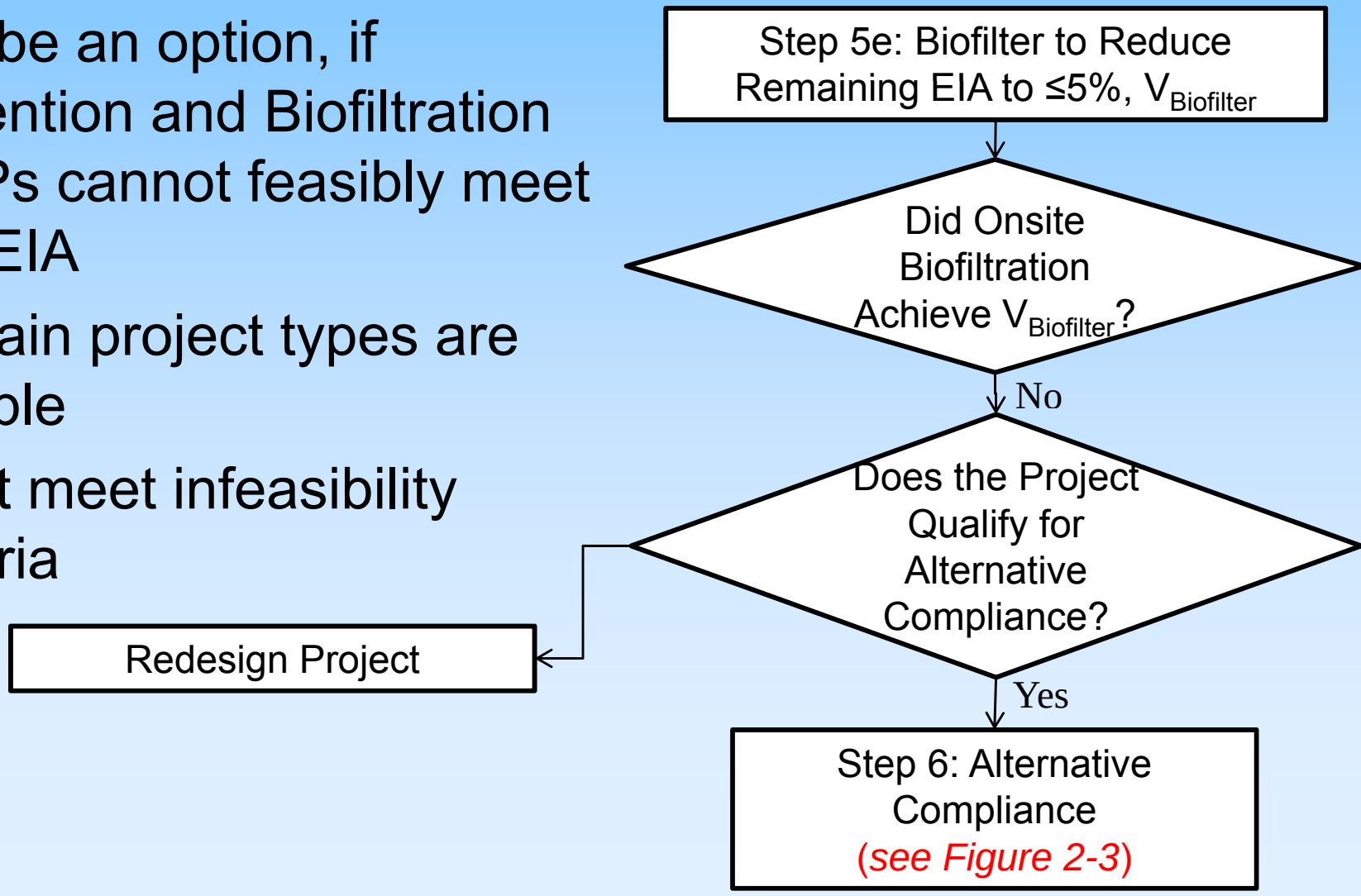
Smart Growth Definition

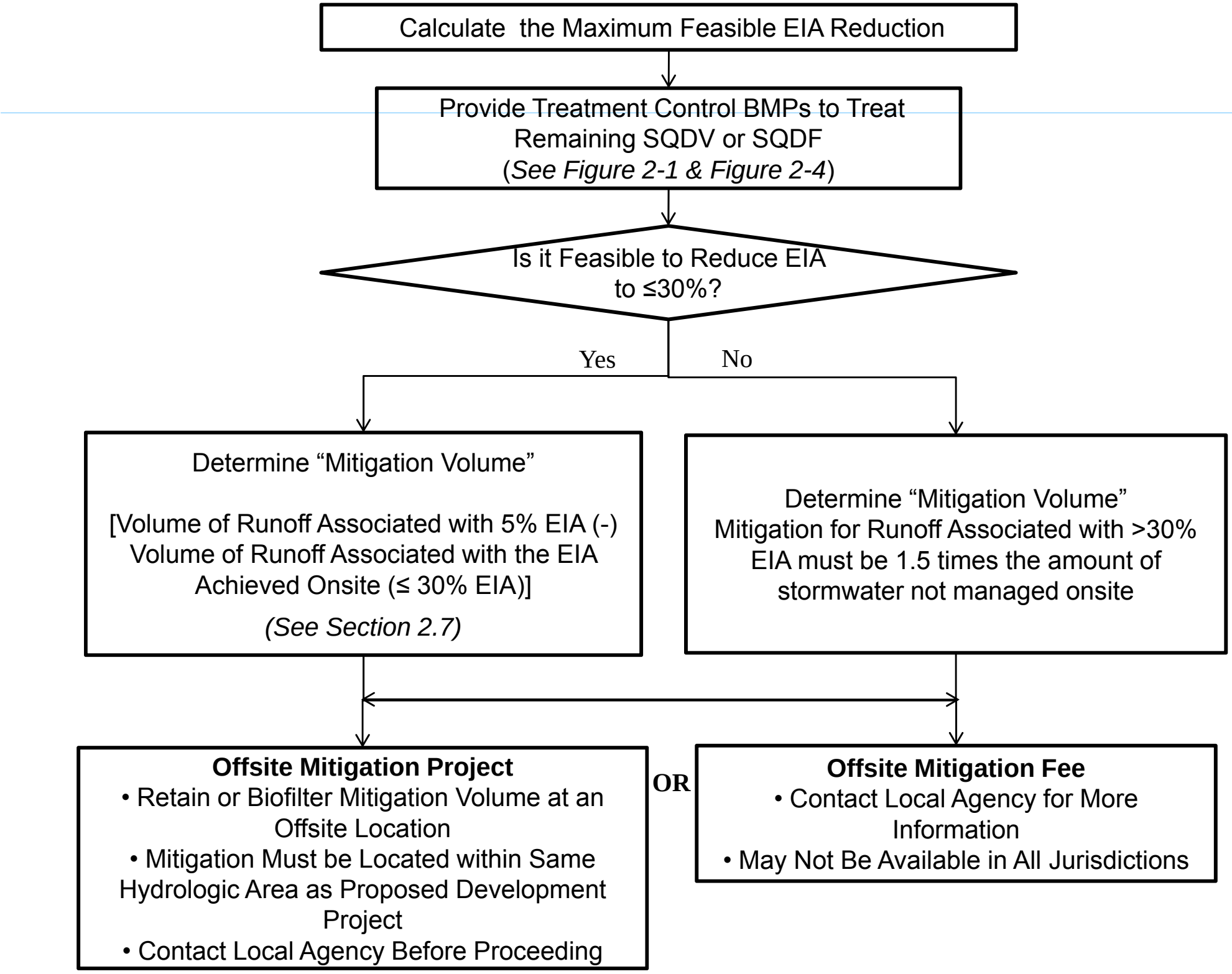
- Projects that occur within existing urban areas designed to achieve the majority of the following principles:
  a) Create a range of housing choices
  b) Create walkable neighborhoods
  c) Mix land uses
  d) Preserve open space, natural beauty, and critical areas
  e) Provide a variety of transportation choices
  f) Direct development towards existing communities
  g) Take advantage of compact building design

2010 TGM Step-by-Step Process

6. Alternative Compliance

- Maybe an option, if Retention and Biofiltration BMPs cannot feasibly meet 5% EIA
- Certain project types are eligible
- Must meet infeasibility criteria




Calculate the Maximum Feasible EIA Reduction
Provide Treatment Control BMPs to Treat Remaining SQDV or SQDF (See Figure 2-1 & Figure 2-4)
Is it Feasible to Reduce EIA to ≤30%?
Yes
No
Determine "Mitigation Volume"
[Volume of Runoff Associated with 5% EIA (-) Volume of Runoff Associated with the EIA Achieved Onsite (≤ 30% EIA)]
(See Section 2.7)
Determine "Mitigation Volume"
Mitigation for Runoff Associated with >30% EIA must be 1.5 times the amount of stormwater not managed onsite
Offsite Mitigation Project
• Retain or Biofilter Mitigation Volume at an Offsite Location
• Mitigation Must be Located within Same Hydrologic Area as Proposed Development Project
• Contact Local Agency Before Proceeding
OR
Offsite Mitigation Fee
• Contact Local Agency for More Information
• May Not Be Available in All Jurisdictions

2010 TGM Step-by-Step Process

Calculate the Maximum Feasible EIA Reduction

- In addition to technical feasibility criteria, Section 3.2 provides criteria for determining “maximized” volume for Retention and Biofiltration BMPs
- Includes % of site feasible to dedicate to BMPs based on project type

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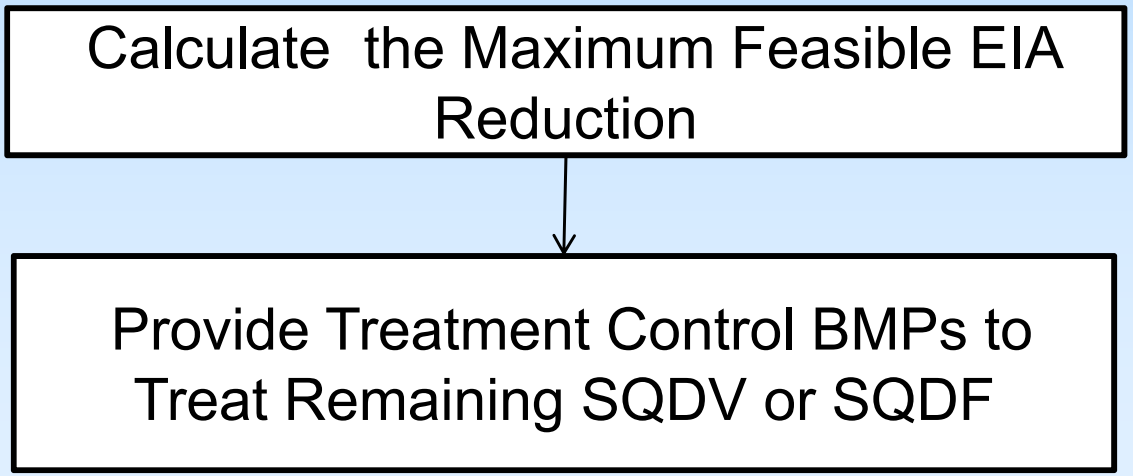
- runoff from impervious surfaces and developed pervious surfaces not fully retained onsite must still be mitigated using Treatment Control Measures



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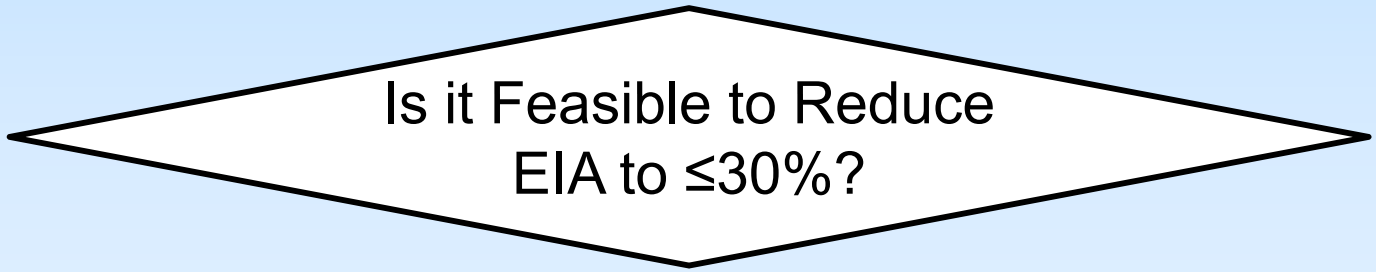
- Alternative compliance options will be based on the “mitigation volume.”
  - The mitigation volume is the difference between the volume that must be retained per the 5% EIA Requirement and the amount feasibly retained and/or biofiltered onsite



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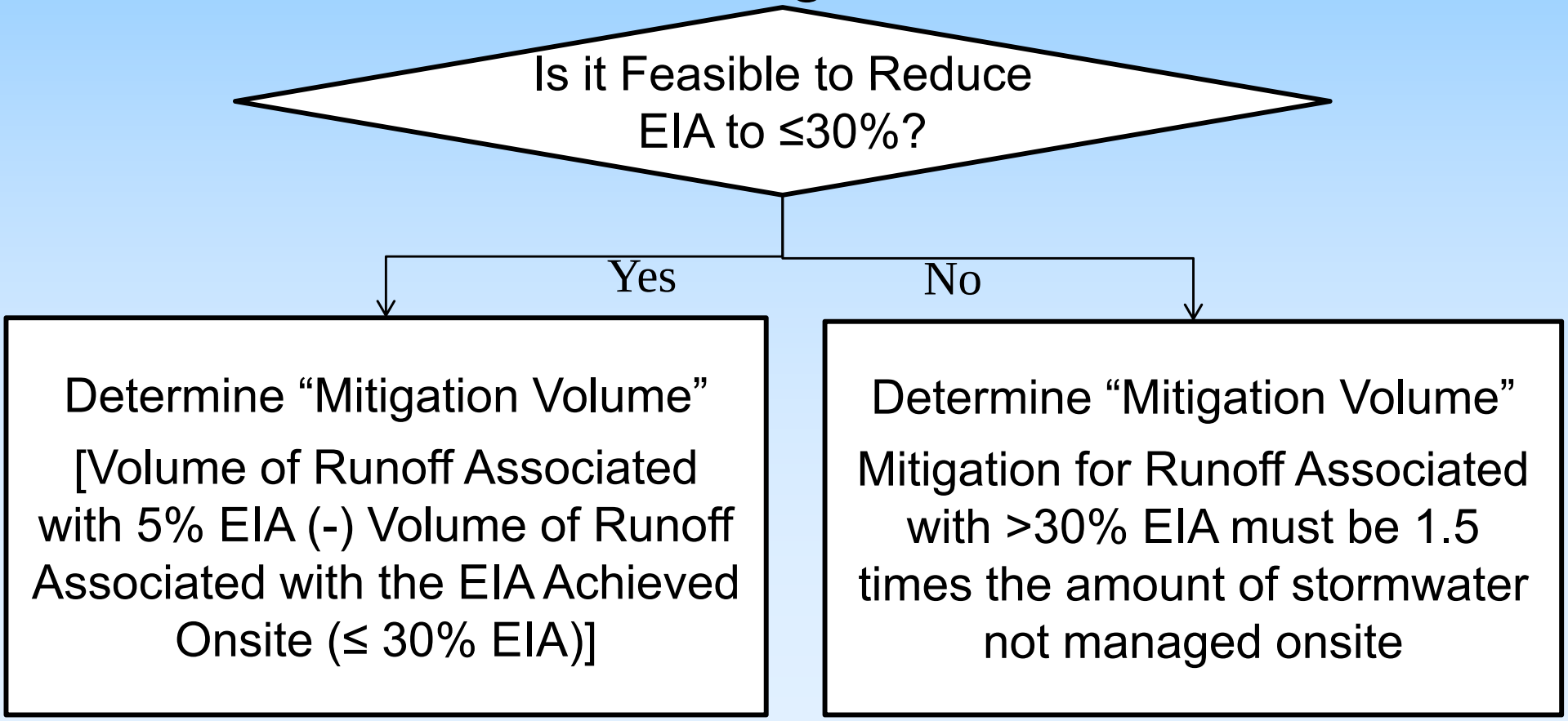
- Mitigation for volume assoc. w/ ≤30% EIA is 1:1
- Mitigation for >30% EIA is 1.5 times the amount of stormwater not managed onsite



Alternative Compliance

Offsite Mitigation Project

- Mitigation Volume must be retained at offsite location
- Must be within same hydrologic area

Offsite Mitigation Fee

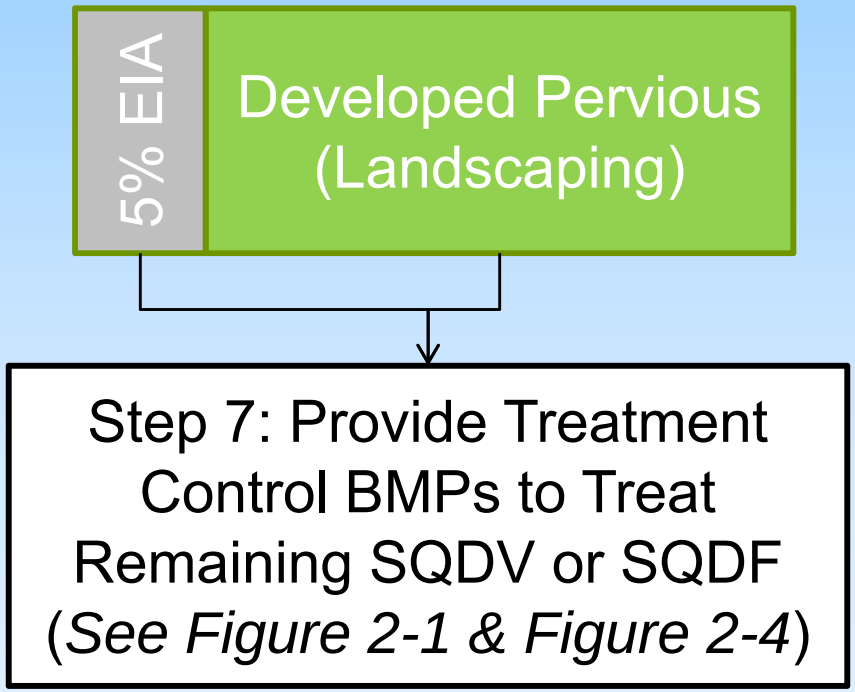
- May be an option in future

Offsite Mitigation Project
• Retain Mitigation Volume at an Offsite Location
• Mitigation Must be Located within Same Subwatershed as Proposed Development Project
• Contact Local Agency Before Proceeding

Offsite Mitigation Fee
• Contact Local Agency for More Information

2010 TGM Step-by-Step Process

7. SQDV/SQDF must be captured and treated for Developed Pervious and Allowed EIA




Identify Receiving Waters and Determine Pollutants of Concern
Apply Retention BMPs, Biofiltration BMPs, and/or Treatment Control Measures to Treat Remaining SQDV or SQDF to Address the Pollutants of Concern:
Retention BMPs
• Infiltration Basin
• Infiltration Trench
• Bioretention (no underdrain)
• Drywell
• Permeable Pavement (no underdrain)
• Proprietary Infiltration
• Cistern
• Green Roof
• Hydrologic Source Controls (Impervious Area Dispersion, Amended Soils, Street Trees, and Residential Rain Barrels)
Biofiltration BMPs
• Bioretention with Underdrain
• Planter Box
• Vegetated Swale
• Vegetated Filter Strip
• Vegetated Sand Filter
• Constructed Wetland
• Proprietary Biotreatment
Treatment Control Measures
• Dry Extended Detention Basin
• Wet Detention Basin
• Sand Filters
• Cartridge Media Filter
Select Pretreatment (Required for Infiltration BMPs)
• Biofiltration BMPs
• Proprietary Retention BMPs
• Other Treatment BMPs
• Gross Solids Removal
Compliance with Retention BMP, Biofiltration BMP and Treatment Control Requirements

2010 TGM Step-by-Step Process

- Determine receiving waters and identify Pollutants of Concern
- Select BMPs to treat remaining SQDV/SQDF and address pollutants of concern
  - Retention
  - Biofiltration
  - Treatment Control Measures

2010 TGM Step-by-Step Process

8. Address additional requirements including flood control and hydromodification
9. Develop and submit a maintenance plan for stormwater controls