



Stormwater Management Requirements and Design Guidelines (SMR) - Frequently Asked Questions

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A. GENERAL INQUIRIES

1. What triggers a project to need to comply with the SMR?

As stated in the Stormwater Management Ordinance (see www.sfpuc.org/smr), the SMR apply to development or redevelopment projects that:

- **Create and/or replacement of 5,000 square feet** or more of impervious surface in combined and separate sewer areas (considered **Large Projects**) or
- **Create and/or replacement of 2,500 -5,000 square feet** or more of impervious surface in separate sewer areas ONLY (considered **Small Projects**).

Activities that create or replace impervious surface include, but are not limited to, the construction, modification, conversion, or alteration of any building or structure and the creation or replacement of outdoor impervious surfaces such as parking areas, driveways, private street areas, or new public right-of-way to be dedicated to and accepted by the City within Large Development Projects that are subject to the Subdivision Code. Activities that create or replace impervious surface do not include interior remodeling projects, replacement of existing sidewalks and streets dedicated to and accepted by the City, routine maintenance or repair activities such as pavement resurfacing within the existing footprint, exterior wall surface replacement, and re-roofing. For more information read the SMR (Chapters 5 & 6).

For the purpose of determining whether a project is subject to the SMR, surfaces that are traditionally impervious, including the entire building footprint and paved or hardscape areas, are included in the summation of created and/or replaced impervious surface. This is to ensure that all stormwater management BMPs (including green roofs and permeable pavement) undergo design review and are included in long-term maintenance agreements.

2. What steps would a project take to comply with the SMR?

Projects within SFPUC jurisdiction subject to the SMR are required to:

- Determine if the project is served by the combined sewer system or the separate sewer system (a searchable map is available at www.sfwater.org/smr);
- Meet the applicable performance requirements (see [question 11-13](#) below);
- Develop and submit a Preliminary and Final Stormwater Control Plan to the SFPUC for review and approval, demonstrating how the project will meet the performance requirements (see www.sfpuc.org/smr) (see [questions 23-25](#) below);
- Complete, sign, and record a Maintenance Agreement (available at www.sfpuc.org/smr) (see [question 5](#) below);
- Construct stormwater management controls as designed in the approved Stormwater Control Plan and submit a Certification of Acceptable Construction signed by the project's stormwater designer; and
- Maintain the constructed stormwater management controls in perpetuity and submit Annual Self-Inspection forms as required.

The SMR promote the use of green infrastructure and other Low Impact Design (LID) approaches to meet the SFPUC stormwater management requirements. LID-based stormwater management solutions use ecological- and landscape-based systems that

mimic pre-development drainage patterns and hydrologic processes by increasing retention, detention, infiltration, evapotranspiration, and/or treatment of stormwater at its source. For more information refer to the SMR (Chapter 4)

3. Is there a modified compliance option or a waiver process for the SMR?

SMR performance requirements cannot be waived but the SFPUC has created a Modified Compliance option for development projects in combined sewer areas with proven site challenges and infiltration limitations. Modified Compliance can allow an adjustment to the standard stormwater performance requirements set by the SMR. Projects must submit a Modified Compliance Application and receive approval prior to submitting a Preliminary Stormwater Control Plan. The Modified Compliance Application:

- Evaluates site limitations such as high groundwater, shallow depth to bedrock, poorly infiltrating soils, soil or groundwater contamination, and zero lot-line projects;
- Assesses project potential for non-potable demand; and
- Modifies volume and peak rate reduction requirements or allows stormwater control to be placed in the sidewalk based on site-specific constraints.

More information on Modified Compliance can be found in the SMR (Chapter 5). The Modified Compliance Application is available online at www.sfpuc.org/smr.

4. If a project was already underway when the 2016 SMR went into effect, is the project exempt from the requirements?

All applicable projects that filed for a site permit application or building permit application on or after January 12, 2010 must comply with the Stormwater Management Ordinance. The Stormwater Management Ordinance originally became effective January 12, 2010 and required compliance with the 2010 Stormwater Design Guidelines. On May 29, 2016 the Stormwater Management Ordinance was amended to require applicable projects to comply with the 2016 SMR. If you submitted a Preliminary SCP prior to May 29, 2016 your project is required to comply with the 2010 Stormwater Design Guidelines. Any project that submits a Preliminary SCP after May 29, 2016 is required to comply with the 2016 SMR.

5. Who is required to maintain the stormwater management controls that are installed to comply with the SMR?

For SFPUC jurisdiction projects, the property owner is responsible for the maintenance of all stormwater management controls constructed to comply with the SMR and must sign a Maintenance Agreement to acknowledge and accept this maintenance responsibility. The property owner must perform the activities as outlined in the BMP Inspection and Maintenance Schedules from the approved Stormwater Control Plan. The Maintenance Agreement must be recorded at the San Francisco Office of the Assessor – Recorder prior to approval of the Final Stormwater Control Plan. The Maintenance Agreement Template and Instructions are available on the SMR web site at www.sfpuc.org/smr. If the property owner fails to adequately

maintain the BMPs, they may be subject to enforcement actions. See the SMR (Chapter 10) for further details (www.sfpuc.org/smr).

For Port jurisdiction projects, the project proponent (i.e. prospective lessee, licensee, or facility operator) is responsible for the maintenance of all stormwater management controls constructed to comply with the SMR, and must maintain them in accordance with the terms of their lease agreement, management agreement, or license throughout the term of their agreement with the Port.

6. Can projects comply with the SMR in the public sidewalk ROW?

Parcel projects are no longer required to manage stormwater runoff from the adjacent public sidewalk ROW. Projects applying for Modified Compliance can elect to either adjust the performance requirements, OR use BMPs in the sidewalk to meet the standard performance requirements. More information on Modified Compliance can be found in the SMR (Chapter 5). Parcel projects that elect to manage runoff within the adjacent sidewalk ROW must obtain Planning and DPW approval.

Large redevelopment areas will be required to manage stormwater runoff from the public sidewalk ROW. Management of stormwater within the sidewalk or street ROW will be reviewed and approval by SFPUC project review staff.

7. Are projects allowed to deviate from the setback requirements for infiltration-based BMPs that are listed in the SMR's Appendix C: Criteria for Infiltration-based BMPs?

Yes, the conditional setback table in *Appendix C: Criteria for Infiltration-based BMPs* demonstrates conditions in which deviation is allowed. If conditions vary from those shown, SFPUC project review staff may allow reduced setbacks upon review of a written letter of approval from the project's structural and geotechnical/soils engineers stating they have reviewed the related CD Plans and approved the location and design of the infiltration facility and all related construction documents.

8. Are there any financial incentives available to help project proponents achieve compliance with the SMR?

The SFPUC does not offer incentives to assist projects with SMR compliance. However, if project proponents wish to go above and beyond the performance requirements and incorporate the use of rainwater harvesting to meet on-site non-potable demands, they may be eligible for Grant Assistance for Large Alternate Water Source Projects. Please visit www.sfpuc.org/np for more information. Another funding option is the Watershed Stewardship Grant program, but this is only open to non-profits and community groups for impervious surface removal and rainwater harvesting at schools, parks, and civic places. Please visit www.sfpuc.org/programs/grants for more information.

9. Do temporary projects have to comply with the SMR?

Most often temporary trailers do not create enough impervious surface to trigger the SMR and therefore no separate Stormwater Control Plan is required. However,

temporary projects that are routed through the DBI Site Permit or Addenda permitting process are likely to be associated with a project that will require submittal of a Stormwater Control Plan and submittal of a Construction Site Runoff Plan (see www.sfpuc.org/construction-site-runoff).

10. What other SFPUC requirements apply to my project?

For a brief overview of requirements that may apply to your project or property, see SFPUC's resources for developers: www.sfpuc.org/reqs.

B. PERFORMANCE REQUIREMENTS

11. What are the stormwater management performance requirements of the SMR?

The performance requirements vary depending on whether the project is served by the combined sewer system or the separate sewer system.

Projects served by the **combined sewer system** and with existing imperviousness:

- Less than or equal to 50% must not exceed stormwater runoff rate and volume of pre-development conditions (see [question 12](#) below) for the 1- and 2-year, 24-hour design storm.
- Greater than 50% must decrease stormwater runoff rate and volume by 25% for the 2-year, 24-hour design storm.

For projects served by the **separate sewer system**, the requirement varies depending on jurisdiction:

- SFPUC projects must manage the 90th percentile, 24-hour storm.

To determine the applicable collection system (combined vs. separate), search the interactive map at www.sfpuc.org/smr for your project address.

The CSS BMP Sizing Calculator or MS4 BMP Sizing Calculator can be used to calculate the stormwater management performance of each sub-watershed within the project. For projects with multiple Sub-Watershed Areas, Sub-Watershed Area performance results should be summed to determine overall site results. The calculators are available on the SMR web site at www.sfpuc.org/smr.

12. For sites in the combined sewer area, how does the SFPUC define "Pre-development" conditions?

The SFPUC interprets "Pre-development" as the existing conditions on the site prior to the proposed development project. "Pre-development" is not the natural condition of the site prior to human development. For projects where demolition has occurred prior to the initiation of the current development project, the pre-development condition is defined as the most recent active land use.

13. Does my project need to manage stormwater from every surface equally, or can it manage more stormwater from one area and less from another? Does this differ in MS4 areas?

For projects served by the City's Combined Sewer System (CSS), the SFPUC review team does not require every surface to be managed equally as long as the overall project (the summation of all sub-watersheds) meets the CSS performance requirements.

For projects served by the Separate Sewer System (MS4), runoff from the entire site must be managed to meet Separate Sewer Area performance requirements to the maximum extent feasible.

C. STORMWATER BMP DESIGN

14. What are the limitations to infiltration for stormwater BMPs?

Stormwater best management practices (BMPs) designed to comply with the SMR are limited in their ability to infiltrate on sites that have the following conditions:

- Contaminated soil or groundwater
- Landslide hazards
- Known fill
- Less than 4-foot separation from base of BMP to bedrock
- Less than 4-foot separation from base of BMP depth to seasonal high groundwater in all Bayside groundwater basins or 10-foot separation in Lobos and Westside groundwater basins. For a map of groundwater basins, see www.sfwater.org/index.aspx?page=194.
- Native soil with an infiltration rate less than 0.5 inches per hour
- Native soils that have more than 30% clay content or 40% clay and silt combined
- For infiltration basins, infiltration trenches, and dry wells, infiltration is limited if native soils have a measured infiltration rate greater than 5 inches per hour. In this case, runoff must be treated prior to infiltration.

Additional infiltration BMP setback requirements are outlined in *Appendix C: Criteria for Infiltration-based BMPs* of the SMR (see www.sfpuc.org/smr). Under certain conditions, or with written approval by a licensed structural or geotechnical professional engineer, project review staff may approve reduced setbacks.

15. Are there any exceptions to the 4-foot (or 10-foot in Lobos and Westside groundwater basins) separation from the base of BMP to seasonal high groundwater limitation for infiltration?

The SMR have set these limits to protect groundwater quality. However, SFPUC review staff may be able to reduce the Lobos and Westside requirement to a 4-foot separation on a case-by-case basis.

16. Do green roofs or lined and planted stormwater BMPs help meet the combined sewer area performance requirements?

Yes, green roofs, and other lined and planted stormwater best management practices (BMPs) help to meet the SMR combined sewer area performance requirements. These BMPs provide rate reduction and volume reduction through evapotranspiration. Increasing the media depth, especially for green roofs, can make a significant difference in the volume reduction capability. The Combined Sewer BMP Sizing Calculator allows the design team to adjust the depth of media to increase the volume reduction capability of the BMP. The calculator is available on the SMR web site at www.sfwater.org/smr.

17. Does the SFPUC require a maximum drawdown period for sizing stormwater BMPs, including rainwater harvesting?

The SFPUC requires a 24-hour maximum drawdown time for vegetated stormwater best management practices (BMPs) and a 48-hour maximum drawdown time for all other BMPs except cisterns. The 24 and 48-hour maximum drawdown times are required for plant health, vector control, and to better insure that the BMPs will be empty when the next storm event occurs. Failure to meet the 48-hour drawdown time is also an indicator of an underperforming and/or failing BMP, signaling when major maintenance, remediation or reconstruction is required.

The SFPUC recognizes that cistern drawdown varies throughout the year based on supply and proposed demand. Additionally, the SFPUC's BMP Sizing Calculators calculate the available volume of the cistern at the start of the design storm events based upon the results of the long-term simulation conducted in the RWH Calculator worksheet. For these reasons, there is no maximum required drawdown time for cisterns. The BMP Sizing Calculators available on the SMR web site at www.sfpuc.org/smr.

18. What are the permitted uses of harvested rainwater in San Francisco? What are the treatment requirements for using rainwater for non-potable applications?

On-site alternate water sources may be used for a number of non-potable applications, including irrigation and toilet flushing. The SFPUC, the San Francisco Department of Public Health (DPH) and the San Francisco Department of Building Inspection (DBI) worked together to develop the Non-potable Water Ordinance that allows the use of suitably treated on-site alternate water sources, including rainwater and stormwater, for non-potable purposes.

In San Francisco, DBI will issue construction permits and DPH will issue operating permits for properly designed rainwater and stormwater harvesting systems. The three agencies will coordinate with the project team to ensure that appropriate on-site treatment systems are designed, installed, maintained and operated in a manner that ensures overall safety and compliance with existing plumbing and health and safety codes, and avoids creating a public health nuisance. Further information on the review process for these types of non-potable reuse projects, including the Non-potable Water Program Guidebook, can be found on the SFPUC's Non-Potable Reuse website (www.sfpuc.org/np).

D. CALCULATION METHODS

19. What calculation methods are allowed to prove compliance with the SMR?

The SFPUC allows project teams to use various calculation methods depending on the project's location, scale and complexity. To assist project teams in planning for and calculating compliance with the SMR, the SFPUC has created two BMP Sizing Calculators: one for the separate sewer areas and one for the combined sewer areas (the calculators are available at www.sfpuc.org/smr). The SFPUC allows the use of these calculators for smaller and less complex development projects. For larger projects with complex routing, the SFPUC's BMP Sizing Calculators can be used as a planning tool; however, compliance with the SMR must be proven using a more robust calculation method.

The SFPUC prepared the Accepted Hydrologic Calculation Methods memorandum outlining the accepted calculation methods for different types of projects for proving compliance with the SMR (the memo is available at www.sfpuc.org/smr). Each project team should select the calculation method that best suits the proposed project and proposed stormwater management system.

Please note that the BMP Sizing Calculators are periodically updated to enhance the functions and incorporate user feedback. The project teams should download the most recent version of the BMP Sizing Calculator prior to use from www.sfpuc.org/smr.

20. What should I do if the SFPUC BMP Sizing Calculators do not include the stormwater BMP proposed for my project?

The SFPUC created the BMP Sizing Calculators to assist project teams with planning and design of stormwater best management practices (BMPs) to comply with the SMR. The calculators include the most commonly installed and currently accepted BMPs within the City of San Francisco. Not all stormwater management methods are included in the calculators. Each project team should select the calculation method that best suits the proposed project and proposed stormwater management system. In many cases, the calculators can still be used to approximate the impact a BMP will have. Project review staff can help you use the calculators to fit your design.

Some projects will still have conditions and designs that do not fit easily within the parameters of the calculators. For those projects, the SFPUC allows other calculation methods. The SFPUC prepared the Accepted Hydrologic Calculation Methods memorandum outlining the accepted calculation methods for different types of projects (see www.sfpuc.org/smr). Additionally, the calculators are periodically updated to enhance the functions and incorporate user feedback. If you have comments on the calculators, please convey your comments to the project review staff via the SMR Comment Form (available for download at www.sfpuc.org/smr).

21. Can I use the Municipal Regional Permit (MRP) C.3 methods to prove compliance with the SFPUC's stormwater management requirements?

No. While the SMR and MRP both establish water quality and quantity BMP sizing requirements, the two standards are fundamentally different. The MRP hydromodification requirements involves matching pre- and post-development flow duration curves, which is different than the quantity control requirements of the SMR. Also, although the intent of the MRP and SMR water quality requirements is similar, the application to local conditions results in small differences.

E. STORMWATER CONTROL PLANS

22. What is the Stormwater Control Plan review process?

Projects that create and/or replace 5,000 square feet or more of impervious surface must comply with the SMR and submit a Stormwater Control Plan (SCP) for review and approval by the SFPUC. The following are the steps of the SCP review process. This process is also outlined in the SCP review process chart (available in the SMR and the SCP Instructions forms for Parcel and Multi-Phase projects, see www.sfpuc.org/smr).

1. The project team or the SFPUC determines that SMR apply to the development project. The SFPUC places a hold on the issuance of the Site or Building Permit as well as the issuance of a Certificate of Final Completion (CFC) at the San Francisco Department of Building Inspection (DBI).
2. The project team is *encouraged* to schedule a pre-application meeting with project review staff to discuss the project's options for compliance.
3. If applicable, the project team may submit a Modified Compliance Application to adjust the standard performance requirements. The Modified Compliance Application must be submitted, reviewed, and approved by the SFPUC prior to submittal of the Preliminary SCP.
4. The project team submits a Preliminary SCP for review. This is typically submitted at the same time as DBI's review of the Site or Building Permit application.
5. The SFPUC reviews the Preliminary SCP and provides comments to the project team. The project team may be required to resubmit the Preliminary SCP for further review if the proposed design does not appear to meet SMR intent.
6. The SFPUC conditionally approves the Preliminary SCP and releases the hold on the issuance of the Site or Building Permit.
7. The project team addresses the conditions identified in the approval of the Preliminary SCP and submits a Final SCP for review. In the case of a Site Permit, the Final SCP is typically submitted at the same time as DBI's review of the Addenda plans. In the case of a Building Permit, the Final SCP is typically submitted prior to construction.
8. The SFPUC reviews the Final SCP and provides comments to the project team, if necessary. The project team may be required to resubmit the Final SCP for further review if comments are not addressed.
9. The SFPUC conditionally approves the Final SCP, pending completion and recordation of the Maintenance Agreement and submittal of the Certification of Acceptable Construction.
10. The owner signs and records the Maintenance Agreement.
11. The stormwater designer (licensed civil engineer or registered landscape architect in CA) signs the Certification of Acceptable Construction.

12. The SFPUC approves the Final SCP and releases the hold on the issuance of the Certificate of Final Completion (CFC). DBI issues the CFC.

23. When is a project required to submit a Stormwater Control Plan to the SFPUC?

The Stormwater Control Plan (SCP) review and approval process consists of two phases: Preliminary SCP and Final SCP.

- The Preliminary SCP must be approved by the SFPUC prior to issuance of a Site or Building Permit for a project. The Preliminary SCP is typically submitted at the design development phase of the project. This level of design is similar to the level required for planning approvals or the San Francisco Department of Building Inspection (DBI) Site Permit approval.
- The Final SCP must be approved by the SFPUC prior to issuance of a Certificate of Final Completion (CFC). The Final SCP is typically submitted at the 100% construction document phase of the project. This level of design is similar to the level required for the DBI Addenda approvals. To avoid change orders, the SFPUC requires that all projects submit the Final SCP during the DBI Addenda process so that comments may be returned to the project team and addressed prior to construction.

24. How long does the Stormwater Control Plan review process take?

The Preliminary Stormwater Control Plan (SCP) and the Final SCP submittal each typically take several weeks (i.e. 8-12 weeks) from the receipt of the SCP to the return of comments. (Coordinate with Project Review staff to determine trending turn-around times.) Some SCP reviews may take longer if they require multi-agency coordination or policy interpretations. There is a possibility that the SFPUC may not approve the first submittal of the Preliminary or Final SCP, and approval may require multiple resubmittals. A resubmittal is estimated to take another several weeks for review. Therefore, the project applicant should schedule their project submittals accordingly.