



STAFF REPORT

To the Honorable Mayor and City Council
From the City Manager

DATE: April 22, 2019

SUBJECT

Progress report on the development of a Green Infrastructure Plan intended to reduce pollution in stormwater flowing to San Francisco Bay, and opportunity to provide direction on potential strategies to be included in the Plan.

RECOMMENDATION

Receive a progress report on the development of a Green Infrastructure Plan and provide input on staff's recommendations and analysis regarding the following policies:

1. Requiring stormwater treatment on a wider range of development projects including new residential homes, new commercial buildings, and substantial commercial remodels.
2. Requiring Green Infrastructure improvements in the public right-of-way for new commercial buildings and subdivisions.
3. Changing the local development standards definition to require more projects to provide onsite treatment of stormwater.

STRATEGIC INITIATIVE

Government Operations

BACKGROUND

In an effort to reduce pollution in San Francisco Bay, in November 2015, the California Regional Water Quality Control Board (RWQCB) issued the second version of the Municipal Regional Permit (MRP). The MRP is a National Pollutant Discharge Elimination System (NPDES) permit, and sets the requirements of stormwater discharges into receiving waters (such as creeks and the San Francisco Bay). The City is obligated to follow the mandates of the MRP to control the quality of stormwater discharged within City limits; however, no funding is associated with the new infrastructure required by this mandate. The City must establish a plan to meet these requirements, and depending on the elements of the plan, the burden

to avoid pollution in stormwater will fall on private property owners and City taxpayers to greater or lesser degrees.

Past iterations of the MRP set standards for large development projects to capture and treat stormwater from new and replaced roofs, parking lots, and other impervious surfaces, because runoff from these surfaces can carry contaminants such as motor oil, pesticides, pet wastes or household chemicals into creeks and the Bay. The standards were achieved primarily through Low Impact Development (LID) design that emphasizes conservation and use of on-site natural features to protect water quality and promote ground water infiltration, although the MRP does allow for mechanical treatment in high-density areas near transit facilities, such as Downtown Redwood City. Under the MRP, the City is obligated to ensure the long-term maintenance of on-site stormwater capture and treatment facilities. The City does this by entering into maintenance agreements at the time of development approval where the property owner is required to maintain the treatment facilities, and the City must conduct inspections to ensure effective operations of the treatment facilities. The MRP requires installation of capture and treatment facilities for developments of a certain size; however, the 2015 MRP sets new, higher goals for contaminant and treatment that the City is obliged to meet.

In this latest version of the MRP, a new section was added for “Green Infrastructure” (GI). This new section requires that all permittees, including the City, develop a GI Plan to meet the following goal:

“Over the long term, the Plan is intended to describe how the Permittees will shift their impervious surfaces and storm drain infrastructure from gray, or traditional storm drain infrastructure where runoff flows directly into the storm drain and then the receiving water, to green—that is, to a more-resilient, sustainable system that slows runoff by dispersing it to vegetated areas, harvests and uses runoff, promotes infiltration and evapotranspiration, and uses bioretention and other green infrastructure practices to clean stormwater runoff.”

This is a significantly different approach than traditional stormwater design that primarily focused on sizing infrastructure to capture the runoff and pipe or pump it directly to the ocean or Bay. This new GI requirement also places a large part of the burden on the City to meet the goals of the MRP, as the City is required to meet these goals whether or not there is any development. The timeline for achieving the long-term goal for reducing the levels of contaminants through GI is by 2040, with short- and mid-term targets at 2020 and 2030. Typically, the types of projects that would help achieve these long-term pollutant reductions include regional scale stormwater retention systems that manage runoff at a watershed scale, green streets that manage runoff at the city block scale, and on-site LID that manages runoff at a parcel scale. The City/County Association of Governments of San Mateo County (C/CAG) is currently developing models to determine the relative amounts of GI at these different scales needed to meet the MRP objectives.

The MRP also speaks to “no missed opportunities,” which sets more immediate requirements on municipalities to ensure that GI is incorporated into all appropriate projects. City staff has been evaluating currently-funded Capital Improvement Projects to determine whether City capital projects have potential for LID design elements. GI elements also need to be integrated into the City’s existing long-term planning documents, including the General Plan, precise plans, and other environmental documents.

Recognizing the significant cost, maintenance burden, and staff time implications of this new MRP requirement, C/CAG is supporting its member agencies with GI Plan development by creating model GI

Plan materials, technical resources, and generally assisting the municipalities in meeting the MRP requirements. The Engineering & Transportation Division staff are taking the lead in coordinating the effort with C/CAG's GI subcommittee. A GI working group has been formed that includes staff from many of the departments within the City, and that group currently meets on a quarterly basis to discuss C/CAG's ongoing efforts and provide input as needed.

In May 2017 the City Council adopted a Resolution ([Attachment 1](#)) approving the GI Workplan, which is a framework outlining the schedule, budget, and tasks, such as outreach and mapping and prioritizing areas for potential and planned projects, necessary to develop and implement a GI Plan. The resolution included the City Council's commitment to the MRP goals. As outlined in the GI Workplan and required by the 2015 MRP, the City Council must approve the City's GI Plan before June 30, 2019.

In May 2018, City staff gave a presentation to the City Council's Utilities Sub-committee (Councilmembers Seybert, Howard, and Aguirre) outlining the results of a preliminary analysis by C/CAG regarding what would be needed to meet the goals of the MRP, which include the additional goals of the GI Plan. Staff investigated compliance with pollutant load reduction goals through a combination of treatment measures built into future development projects and by installing GI in "green streets" projects and found that the cost of public improvements was expected to be more than \$100 million. Recognizing that installing green streets was cost prohibitive, staff worked with C/CAG to develop a regional project concept that would serve Redwood City, Woodside, and surrounding unincorporated parts of San Mateo County. The conceptual project is a 2.6 acre infiltration gallery underneath McGarvey Field in Red Morton Park that would divert stormwater from the Redwood Creek culvert that runs through the center of the park (see [Attachment 2 – Regional Stormwater Capture Project at Red Morton Community Park](#)). This concept was presented to the Utilities Sub-committee. The project would capture a substantial drainage area of approximately 1,600 acres, and at a cost of approximately \$40 million, the price was significantly less than the estimated \$100 million green streets cost and would serve to meet 93% of the MRP goals.

ANALYSIS

The feedback given by the Utilities Sub-committee was that, although the cost savings were beneficial, the \$40 million project was still burdensome. Staff then sought other means to meet the MRP goals and focused on the following policies:

1. Requiring stormwater treatment on a wider range of development projects,
2. Requiring developers to install green infrastructure improvements in the right-of-way in order to treat stormwater flowing from the site proposed for development, and
3. Requiring stormwater treatment on an increased number of building remodels.

Requiring Stormwater Treatment on a Wider Range of Development Projects

After taking a closer look at the MRP, staff examined the thresholds set by the MRP for requiring treatment of stormwater on redeveloped sites. The MRP requires all sites that add or replace 10,000 square feet or more of impervious area (roofs, concrete, asphalt, etc.) to install treatment facilities, and has a lower threshold of 5,000 square feet for auto-related facilities including parking lots. With this in mind, staff analyzed development patterns to identify the type and number of projects being constructed in the City

and whether the City could meet the long-term pollutant-reduction goals by increasing the number of development projects required to install stormwater treatment facilities. Redwood City Municipal Code Chapter 18 Article XIV – Local Development Standards was used to define the categories of projects included in the analysis:

NEW BUILDING(S): Means any construction of a building, or buildings with a total floor area of one thousand (1,000) square feet or more.

SUBSTANTIAL COMMERCIAL REMODELING or SUBSTANTIAL REMODELING OF A COMMERCIAL BUILDING: Means any: (A) remodeling of a commercial building or buildings and/or the construction of tenant improvements which amounts to more than fifty percent (50%) of the square footage of the existing building or building(s) on which the remodeling or the tenant improvements are performed; or (B) the construction of an addition of one thousand (1,000) square feet or more floor area; or (C) a combination of remodeling, tenant improvements, and construction of an addition if the combined square footage of any improvement amounts to fifty percent (50%) or more of the square footage of the existing building.

SUBSTANTIAL RESIDENTIAL REMODELING: Means any addition of one thousand (1,000) square feet or more floor area.

The analysis focused on the last four calendar years of the current MRP term and focused on parcel sizes for these categories of projects assuming that stormwater runoff from the entire site would be captured and treated similar to existing MRP-regulated projects. The results of the study showed that, if the 2015 MRP requirements were applied to projects during these years, there would have been approximately 62.5 additional acres of land that could have captured and treated stormwater. This includes approximately 9 acres of land from projects with new single-family homes, 48 acres of land with new commercial buildings and substantial commercial remodels, and 5.5 acres of land with substantial residential remodeling. As a comparison, over that same period, there were approximately 73 acres of land with projects that were required to have treatment under the existing requirements of the MRP.

Based on these results, staff recommends adopting new threshold changes in the GI Plan that would require stormwater treatment for the entire site on projects that have new single- and multiple-family residential homes, new commercial buildings, and substantial commercial remodels. These are projects that generally require grading and site improvements, so the additional cost to install GI is likely to be small compared to the overall project cost. Since the goals set by the MRP are required to be met by 2040, adoption of the threshold change is expected to capture a substantial amount of new treated area that would help meet those goals. Responsibility for the construction and ongoing maintenance of these GI facilities would be placed on the developer/property owner, which would mean that the City is only responsible for ongoing inspection of the facilities.

Green Infrastructure Improvements in the Right-of-Way

As part of the analysis, staff also looked at requiring GI to treat the public right-of-way for large developments, including new residential subdivisions, commercial projects, and larger multi-family residential buildings. Currently, the local development standards set requirements on the installation of new sidewalk, street trees, and pedestrian scale lighting, so the inclusion of GI is a relatively simple

addition when these facilities are already required. For projects currently under review, staff has been using the “no missed opportunities” section of the existing MRP as the authority to require these improvements, and have been working with developers to install the GI improvements in practical locations. Nearly every project since mid-2018 includes facilities that treat the project’s frontage drainage area. With the creation of the GI Plan, staff intends to include this practice as policy but still provide staff the discretion to determine the appropriate locations for these facilities so as not be impactful to other interests in the right-of-way. Based on projects that recently have been approved or currently are under review, staff expects approximately 14 acres of GI to be installed.

Requiring Stormwater Treatment on an Increased Number of Building Remodels

In doing the analysis, staff considered whether MRP goals could be met by requiring stormwater treatment on partial commercial remodeling projects. In this scenario, it was envisioned that the developer would provide treatment as a percentage of the building area being remodeled. In practice, it would mean that if 20% of the building is being remodeled, then 20% of the land would need to have capture and treatment facilities. For sites where the building covers the entire parcel, the City would be more flexible about allowing mechanical treatment devices or other GI in the right-of-way to ensure compliance.

Another consideration is a change to the meaning of “substantial commercial remodel” to state that if 50% or more of the building were remodeled within a period of three years, the site would need to meet all local development standards including all applicable requirements of the adopted GI Plan.

One or both of these changes would greatly increase the number of sites that install capture and treatment facilities. Policies involving remodeled buildings would be more impactful than the land-threshold and right-of-way related policies. Staff would like direction as to whether a change to the “substantial commercial remodel” definition should be considered for inclusion in the GI Plan.

Next Steps

With the City Council’s direction for these policy changes, staff will be able to create the GI Plan which will adequately identify how the City intends to meet the goals of the MRP. Staff expects that even if all of the above changes are made to the City’s development standards, the regional project at Red Morton Park would still need to be constructed to fill the gap for meeting the MRP goals. Because it is inherently uncertain how much development there will actually be prior to 2040, it is not clear how much of a gap there will be. The benefit of the regional project is that it acknowledges the Town of Woodside and San Mateo County’s stormwater contribution to Redwood City’s watershed, and it would ease the City’s financial obligations if those agencies could be potential partners in sharing the cost of improvements and ongoing maintenance of the project. San Mateo County in particular has shown great interest in the project, and has been helping Redwood City in applying for grant funding to get the project both designed and constructed. The County recently received notification of a successful grant application from the Environmental Protection Agency for the conceptual design of the Red Morton Regional Project. Staff anticipate seeking direction from the City Council on forming a partnership with the County and the Town of Woodside to pursue the project after the conceptual design is complete.

In addition to outlining how the City intends to comply with the MRP goals, the GI Plan needs to include the following elements:

- 1) Develop priorities and maps for potential and planned Green Infrastructure projects
- 2) Develop process for tracking and mapping completed Green Infrastructure projects
- 3) Develop overall Green Infrastructure guidelines, standard specifications, and design details
- 4) Develop requirements for design of projects to meet hydromodification sizing requirements or other accepted sizing requirements
- 5) Develop workplans to incorporate Green Infrastructure into the General Plan, precise plans, municipal code, and zoning ordinance updates Develop workplan for completion of prioritized projects as identified in the GI Plan
- 6) Evaluate funding options
- 7) Adopt other policies, ordinances, and/or other legal mechanisms to ensure Green Infrastructure Plan implementation
- 8) Conduct outreach and education with public, staff, and elected officials
- 9) Report on Green Infrastructure planning efforts

After receiving direction from City Council, staff will prepare the draft GI Plan and discuss it with stakeholders. Staff provided an update to the Utilities Sub-Committee on March 13, 2019 and plans to present the draft GI Plan to the Complete Streets Advisory Committee and the Parks, Recreation and Community Services Commission, and to the Chamber of Commerce, prior to returning to City Council on June 24, 2019 for final approval of the GI Plan. The GI Plan must be approved by June 30, 2019.

FISCAL IMPACT

Staff time to develop and implement the GI Plan is included in the Adopted FY 2018-19 budget. While there is no immediate fiscal impact to the City as a result of this action, ultimately, implementing the GI Plan will require ongoing funding for administrative, capital, and maintenance activities.

ENVIRONMENTAL REVIEW

This activity is not a project under California Environmental Quality Act (CEQA) as defined in CEQA Guidelines, section 15378, because it has no potential for resulting in either a direct or reasonably foreseeable indirect physical change in the environment.

PUBLIC NOTICE

Public Notification was achieved by posting the agenda, with the agenda items being listed, at least 72 hours prior to the meeting.

ALTERNATIVES

The City Council may suggest additional policy considerations be made in preparing the GI Plan, or expand on the policy changes identified.

ATTACHMENTS

Attachment A: Resolution No. 15587: Green Infrastructure Workplan, May 22, 2017

Attachment B: Regional Stormwater Capture Project at Red Morton Community Park: Project Overview

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