



**DATE: September 12, 2016**

**TO: City Council Sustainability Committee**

**FROM: Director of Utilities & Environmental Services**

**SUBJECT**

Stormwater & Green Infrastructure Regulations for Development

**RECOMMENDATION**

That the Committee reviews and comments on this report.

**SUMMARY**

This report provides an overview of the historical new development and redevelopment stormwater requirements, the newly adopted Municipal Regional Permit (MRP 2.0), green infrastructure requirements, and staff's plan to implement the new green infrastructure requirements. Most stormwater systems, including the system serving the City, flow directly into receiving waters without treatment. Green Infrastructure is a more sustainable system that slows runoff by dispersing it to vegetated areas, harvests and uses runoff, promotes infiltration and evapotranspiration, and uses bioretention and other practices to reduce pollutants. This report provides the CSC with the background regarding the shift in stormwater regulation to Green Infrastructure and the necessary steps City staff has to complete in order to comply with the MRP 2.0.

**BACKGROUND**

*Municipal Regional Permit* – The National Pollutant Discharge Elimination System (NPDES) program was established in 1972 by the Federal Clean Water Act (CWA). In 1986, the NPDES program was amended to regulate stormwater runoff and established a permitting structure for municipal discharge to the waters of the state. From 1990 to 2009, each municipality was regulated under countywide stormwater permits. In October 2009, the first *regional* stormwater permit, the Municipal Regional Permit (MRP), was adopted by the San Francisco Bay Regional Water Quality Control Board (Water Board). The MRP regulated municipalities within Alameda, Contra Costa, Santa Clara, San Mateo counties as well as the cities of Fairfield, Suisun, and Vallejo and the Vallejo Sanitation and Flood Control District. The MRP, adopted as a five-year permit, requires stormwater pollution prevention control measures for both public and private properties and activities including municipal operations, development, inspections, response to illicit discharges, education and outreach, water quality monitoring, and specific controls for pollutants of concern identified by the Water Board.

Past Stormwater Controls for Development Projects (Provision C.3) – Stormwater controls required for development projects (Provision C.3 of the MRP) have undergone significant changes over the last fifteen years. Provision C.3 specifically addresses the control of stormwater impacts associated with new development and redevelopment projects. These requirements were separate from, and in addition to, requirements for erosion and sediment control and for pollution prevention measures during construction. In 2003, Provision C.3 in the countywide permit was amended to require Permittees to modify their project review processes to ensure stormwater pollutant discharges were reduced by the maximum extent practicable (MEP) with the following goals:

- Requiring a project to implement site design/landscape characteristics to maximize filtration, provide retention or detention, slow runoff, and minimize impervious land coverage, so that post-development pollutant loads from a site have been reduced to the MEP; and
- For new and redevelopment projects that discharge directly to water bodies impaired under the Clean Water Act Section 303(d) list, ensure that post project runoff does not exceed pre-project levels of pollution.

In 2003, as required by the county stormwater permit, the City incorporated Provision C.3 into Chapter 11, Article 5 of the Municipal Code. The requirements were applicable to projects that created one or more acres of impervious area.

With the adoption of the MRP in 2009, Provision C.3 was expanded to apply to projects that create 10,000 square feet or more of impervious area. In addition, the regulations included more prescriptive requirements for incorporating post-construction stormwater control/low impact development (LID) measures. Furthermore, Permittees were required to implement outreach, training, and best management practices education regarding C.3 to developers and municipal staff. Permittees were also required to implement green street pilot projects, an operation and maintenance inspection program, and more LID control measures such as diverting stormwater runoff to landscape areas and other methods, thus minimizing stormwater pollution.

#### Current Stormwater Controls for Development Projects

The MRP was renewed as MRP 2.0 in November 2015 and included a revised Provision C.3 with increased prescriptive requirements for development and a significant new requirement for Green Infrastructure Planning and Implementation. Other new requirements in Provision C.3 include pervious pavement design specifications, 100% LID treatment measures for regulated projects, and a formal inspection program to implement, enforce, track, and report the operation and maintenance of C.3 facilities including an inspection plan and an enforcement response plan.

In the MRP 2.0, Green Infrastructure was also required to reduce both PCBs and mercury pollution to the bay by treating a minimum number of acres of old industrial areas known to contain legacy PCB and mercury contamination. Specifically, it is estimated the City has to treat forty-three acres of old industrial area to reduce PCBs and mercury by the year 2020. It

is estimated the City has to treat 797 acres of old industrial areas with an additional 865 acres of old urban areas to reduce PCBs and mercury by the year 2040. The acreage required to be treated with green infrastructure and the associated costs are identified in the MRP 2.0 as requirements with which the City must comply. Private property owners who propose new development could be responsible for installing green infrastructure above and beyond current C.3 requirements. Responsibilities for private property owners will be identified in the Green Infrastructure Plan (discussed below).

### Green Infrastructure Planning and Implementation

MRP 2.0 requires Permittees, in the next five years, to develop and begin to implement a Green Infrastructure Plan. This plan is intended as a framework, developed by municipalities, to guide development and redevelopment to include the treatment of stormwater (capture for reduction, filtration and absorption or recharging of groundwater). The purpose of this plan is to, over time, reduce the adverse water quality impacts of urbanization and urban runoff on receiving waters as well as reduce PCBs and mercury from entering the Bay. The requirements for the plan include a description of how the Permittee will shift impervious surfaces and stormwater drain infrastructure from gray, or traditional storm drain infrastructure where runoff flows directly into the storm drain and then the receiving water, to a green and more sustainable system.

The green infrastructure 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. The City is required to develop a workplan that details the process and schedule to develop the green infrastructure plan. This workplan must be approved by the City Manager or City Council by June 30, 2017. The plan as well as its proposed implementation schedule is due in September of 2019. Implementation of the plan is expected to have begun prior to 2019 as numerical reduction goals for PCBs and mercury are mandated in 2020.

## **DISCUSSION**

To implement the new Green Infrastructure requirements, Water Pollution Source Control (WPSC), a division of Utilities & Environmental Services will begin organizing the effort to draft the required Green Infrastructure (GI) workplan due in June of 2017 and the longer term GI Plan due in 2019. A staff working group will be formed to create the workplan, Plan, and implementation of these associated plans. The staff working group will be comprised of a staff "GI Team". The GI Team will likely include staff from Planning, Building, Streets and Maintenance, Engineering and Transportation, Fire, and Economic Development. WPSC staff will take the lead in organizing and tracking progress of the Team and assisting the process of developing and presenting the workplan and Plan to Council and the CSC. Initially, the Team will meet monthly and start to review a draft framework document provided by the Alameda Countywide Clean Water Program (ACCWP). The Team will prepare updates and solicit input from the Council Sustainability Committee and appropriate City staff who will be tasked with implementing the GI requirements.

As required by the MRP 2.0 Green Infrastructure section, the GI Team will conduct outreach to city staff and the development community involved in planning and constructing infrastructure. The GI Team will also develop training materials to assist City staff who will be involved in designing and overseeing GI projects.

Implementation of the GI requirements will also be organized and managed by the GI Team. To start, the Team will be reviewing all capital improvement projects to incorporate GI features into the design as feasible. Review of projects and reporting of why or why not GI was incorporated into the projects is part of the GI requirements. Next the GI Team will identify public projects, particularly in the old industrial areas of Hayward where GI can be incorporated and develop project descriptions with the idea of submitting projects as proposals for grant funding in the near future. The cost associated with redeveloping old industrial areas is estimated to range from \$200,000 to \$365,000 per acre. There is great incentive to organize future projects in order to apply for grants to help pay for these costs.

To begin working towards the GI Plan and Workplan, WPSC has already begun mapping the approximately ninety-six C.3 facilities currently existing in Hayward and determining the acres treated by these facilities. These facilities include bioretention facilities, vegetated swales, underground stormwater treatment filtration devices (vortex separators), detention basins, filter inlets, pervious pavers, and tree wells. The acres of current C.3 facilities will be subtracted from the required forty-three acres and the remaining acres will be analyzed and included in the Plan by the GI Team. Preliminary numbers indicate the combined acres treated by current C.3 facilities will not be enough to meet the goal of forty-three acres by 2020. Future large scale projects specifically created with GI will be required to meet the forty-three acres treated goal. Another task for the GI team will be to analyze the City's current C.3 program and assess what acreage already treated with GI counts towards the forty-three acres required to be treated by the year 2020 for PCB and mercury reduction.

The GI Team will also be tasked with using the ACCWP tools provided by the newly created Green Infrastructure and GIS committees tasked with creating tools and assisting Permittees with the new C.3 requirements for green infrastructure. The ACCWP Committees have to date created a template for a green infrastructure framework, factsheets, spreadsheet tools for calculating acres required to be treated by green infrastructure, and other tools for green infrastructure understanding and planning. WPSC staff has been and will continue to participate in these committees to help develop these tools. The countywide collaboration and local collaboration with the GI Team will be essential to planning and implementing the GI requirements accurately, comprehensively, and on schedule.

## **ECONOMIC IMPACT**

The development community will share in the cost to implement green infrastructure as required by the current C.3 requirements. The development community will also share in the cost of implementing green infrastructure and other control measures to ensure PCBs and mercury do not enter the storm drain system. City staff will be looking at old industrial areas in Hayward to determine where reduction of PCBs and mercury is possible either through development/redevelopment or through stormwater mitigation measures through our

inspection program. The enhanced stormwater inspection enforcement will result in costs to some Hayward businesses. These enhanced enforcement actions will include implementation of routine stormwater inspection requirements with a strong emphasis on operation and maintenance of C.3 facilities as well as PCB and mercury controls. It should be noted that given the regional and statewide network of the GI requirement, the cost impacts will not be unique to Hayward.

## **FISCAL IMPACT**

Implementation of MRP 2.0 will impact staff resources though the exact costs are unknown at this time. The funding for MRP-related activities is currently provided by the stormwater enterprise fund. The City's local stormwater program is funded by property tax revenue; however, expenditures have been and are expected to increase every year. The City is challenged with finding innovative tools and other resources to complete the above mentioned tasks. In addition to the requirements described in this report, it will also be a challenge to fund the other provisions in the MRP 2.0, mainly the aggressive trash reduction activities required by Provision C.10 to reach 100% trash reduction by the year 2022. To comply with the MRP 2.0 requirements, WPSC staff has pursued grant funding opportunities both locally and regionally to offset some of these costs. Staff will continue to pursue funding opportunities to meet the MRP requirements, specifically for Provision C.10 (trash) and C.3 (green infrastructure). Staff will also continue to work collaboratively as a member of the Alameda Countywide Clean Water Program to comply with the MRP 2.0 as regional projects can satisfy some of the MRP requirements.

Finally, the City will carry the majority of the cost of implementing large scale public projects during the next five years of the MRP 2.0 called for in the Green Infrastructure Plan to meet the PCBs and mercury wasteload allocation limits. The Green Infrastructure Plan will include details about public versus private responsibilities and will include cost estimates for both. However, the timeframe for the pollutant reductions is a municipal requirement. Infrastructure provided by private development will likely help the City comply, but the timing associated with future private development is uncertain.

## **SUSTAINABILITY FEATURES**

**Water:** Efficiency and conservation.

GI will create more green landscape to promote stormwater filtration, capture (harvesting), and reuse features into public and private projects as well as groundwater recharge.

**Air:** Air emissions of pollutants.

GI will create more green landscape to reduce greenhouse gases and promote urban cooling.

**Transportation:** *Consistent with the City's Complete Streets Policy.*

GI will create more open space and recreational areas that promote City walkability, and beautification for the community.

## **PUBLIC CONTACT**

No public meetings have been scheduled to discuss the new MRP 2.0 requirements. Staff will conduct comprehensive outreach with developers during the development of the Green Infrastructure Plan.

## **NEXT STEPS**

Staff will continue to enhance the current stormwater program to comply with the MRP 2.0 requirements, specifically the C.3 green infrastructure plan, and will continue to proactively pursue funding opportunities. WPSC will continue to engage with other City staff, namely Planning, Building, Streets and Maintenance, Engineering and Transportation, and Economic Development, develop the GI Team, and develop the above mentioned required plans and protocols for implementing control measures specifically for C.3 and GI. WPSC will continue to participate in countywide and regional collaborations to support GI and C.3 compliance.

Following is a summary of the key requirements and deadlines included in the MRP 2.0 Provision C.3:

Develop and Approve a Green Infrastructure Framework (requires Council adoption)	June 30, 2017
Prepare a Green Infrastructure Plan (requires Council adoption)	September 2019

Prepared by: Elisa Wilfong, Water Pollution Control Administrator

Recommended by: Alex Ameri, Director of Utilities & Environmental Services

Approved by:



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Kelly McAdoo, City Manager