

**TO: PARKS AND RECREATION COMMISSION**

**FROM: PUBLIC WORKS DEPARTMENT**

**DATE: NOVEMBER 27, 2018**

**SUBJECT: UPDATE ON THE GREEN STORMWATER INFRASTRUCTURE PLAN**

**RECOMMENDATION**

This informational report is intended to provide background to Commission members regarding the City of Palo Alto’s (City) Green Stormwater Infrastructure (GSI) Plan (Plan) that must be accepted by City Council by June 2019 as required by the Water Board. There is no staff recommendation at this time.

**BACKGROUND**

GSI uses vegetation, soils, and natural processes to manage stormwater runoff (Figure 1). Where feasible, the City hopes to gradually integrate GSI features into its urban landscape and stormwater conveyance systems over several decades. This process will, in time, create a more resilient, sustainable system that will carry out one or more of the following functions:

- 1) reduces, slows and detains runoff by dispersing it to vegetated areas;
- 2) promotes infiltration and evapotranspiration;
- 3) collects runoff for non-potable uses;
- 4) treats runoff using biotreatment and other GSI practices; and
- 5) incorporates landscaping features within areas that encourage more pedestrian and bicycle safety.

Furthermore, the upland/foothill and shoreline (Baylands) areas act like sponges, allowing rain to be intercepted by vegetation and infiltrate into underlying soils, leading to a significant reduction in stormwater runoff to the downstream watershed in addition to supporting diverse ecosystems, natural assets and wildlife. Consequently, the protection and restoration of these already existing features is just as important as those features the City will create through this Plan.

The City is subject to the requirements of the Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit in the San Francisco Bay Area (Order R2-2015-0049,) also known as the Municipal Regional Permit (MRP), which became effective on January 1, 2016. The MRP applies to 76 municipalities and flood control agencies that discharge stormwater to the San Francisco Bay (Bay). Under the MRP and previous permits, new development and redevelopment projects on private and public property that exceed certain size thresholds have been required to mitigate water quality impacts by incorporating site design, pollutant source control and stormwater treatment measures as appropriate. One of the requirements of the current Permit is to identify public (and potentially) private opportunities to integrate GSI measures on streets, roads, parking lots, roofs, and other elements beyond the current threshold requirements. This long-term GSI Plan serves to meet the MRP requirement

and outlines how the City of Palo Alto aims to transform its stormwater infrastructures over years to come.

**Figure 1. Examples throughout Palo Alto**



The City's GSI Plan contains certain mandatory elements (per the MRP) as well as other elements desired by the City. The GSI Plan elements are briefly listed below.

- Project Identification and Prioritization Process for planned and proposed projects
- Prioritized Project Locations and Timeframes
- Mechanism to Determine Feasibility to be incorporated into the City's long-term planning processes and capital improvement projects
- Project Tracking System
- Construction Guidelines and Specifications
- Integration with Current and Future Plans
- Evaluation of Funding Options
- Implementation Plan & Schedule
- Outreach and Education (during Plan development and implementation)

Internal and external collaboration during the Plan development process involved creating a GSI Workgroup, made up of staff from various departments, with meetings that began in March 2017. In addition, GSI Plan updates were presented to the Stormwater Management Oversight Committee, which was formed to review proposed stormwater management capital improvements and operating programs to be funded by the City's Stormwater Management Fee.

Finally, outreach efforts have included a City utility bill insert in August 2018 and the establishment of a City webpage ([www.cityofpaloalto.org/gsi](http://www.cityofpaloalto.org/gsi)) to provide information about GSI and the Plan. The website will be periodically updated, and once available, the Draft GSI Plan will be posted on the webpage for review.

## **DISCUSSION**

During the comprehensive and elaborate Plan development process, staff identified certain challenges and gaps to long-term successful implementation. Further work will be needed in these areas in future months and after the acceptance of the Plan by City Council. The solutions identified below are in various stages of implementation. Items #1-4 are in progress, while #5-6 will commence in the future. The following briefly describes these items:

- 1) Improved authority to enforce Plan
  - The City's current legal mechanisms related to implementation of MRP requirements need to be updated, especially to provide sufficient legal authority to implement the GSI Plan.
  - *Solution:*
    - Chapter 16.11 (currently titled Stormwater Pollution Prevention) of the City's Municipal Code is being updated and will be adopted by City Council before July 2019. The update will provide sufficient authority to the City to implement its GSI Plan and associated requirements and processes.
- 2) Standard engineering specifications and guidelines
  - The City does not have standard engineering specifications for GSI features that can be used consistently for public and private projects.
  - There is a need for increased understanding of working around existing utilities
  - Consistency in both design and construction are necessary for both public and private projects in order to assess effectiveness. These features are currently inspected on an annual basis by a Stormwater Inspector.
  - *Solution:*
    - Contract consultant to create City-specific engineering designs that will be vetted by all Departments
- 3) Improved maintenance and monitoring of GSI features
  - Current features at City facilities and right-of-way areas may not be maintained using best practices and, thus, may not be as effective as the intention of design.
  - *Solution:*
    - Contract consultant to create a Maintenance & Monitoring Plan that will identify and schedule responsibilities; conduct effectiveness assessments of current features; apply an adaptive management approach; and identify



**NEXT STEPS**

The GSI Plan must be adopted by City Council by June 30, 2019. Prior to Plan development, the Permit required the approval of the Green (Stormwater) Infrastructure Plan Framework (outline document) by June 30, 2017. The Framework document was signed by the City Manager and timely submitted to the Regional Water Quality Control Board (Water Board) by September 30, 2017 as an attachment to the City’s Regulatory Annual Report. The following is a brief schedule of the development and adoption of the GSI Plan.

**Table 1. GSI Plan Adoption Timeline**

<b>Task</b>	<b>Due Date</b>
(50%) DRAFT GSI Plan	June 2018
Parks and Recreation Commission presentation	November 2018
(85%) DRAFT GSI Plan	December 2018
Planning and Transportation Commission presentation	December 2018
City Council Study Session	January 2019
FINAL DRAFT GSI Plan (100%)	February 2019
Final GSI Plan for CITY COUNCIL Adoption	March 2019
<b>CITY COUNCIL Approval of GSI Plan</b>	June 2019

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