City of Sunnyvale

Agenda Item

17-1065 **Agenda Date:** 2/16/2018

2018 COUNCIL STUDY ISSUE

NUMBER
CDD 18-06

TITLE Establishing a “Sponge City”

BACKGROUND

Lead Department:	Community Development
Support Departments:	Office of the City Manager
	Office of the City Attorney
	Environmental Services
	Public Works
Sponsor(s):	Planning Commission
History:	1 year ago: N/A
	2 years ago: N/A

SCOPE OF THE STUDY

What precipitated this study?
The Planning Commission reviews development projects on private properties that must include stormwater runoff features as required by state and local laws. In addition to the localized impacts of development on water runoff, the Commission addressed the larger impact of urbanization on the issue.

Reducing stormwater runoff in the built environment to prevent flooding and manage heat is one way to address the changing climate and work towards creating a more sustainable environment. Cities such as Berlin have established requirements for developments to incorporate stormwater management construction techniques such as green roofs and bio swales on both private property and the streetscape to greatly reduce flooding and move towards zero storm water runoff. Designing cities to reduce and reuse water runoff has been compared to creating an environment that absorbs water and releases the water similar to the way a sponge works; hence the use of the term “Sponge City”.

What are the key elements of the study?
This study would explore the feasibility of establishing elements of a “Sponge City” that would, in the long term, move the City towards zero water runoff within the City. This study would identify construction techniques that could be required for private developments and capital improvements and infrastructure to completely capture and retain rainwater within the City with the goal of zero discharge into the San Francisco Bay. This study would be a multi-departmental effort and could include:

- Evaluating General Plan goals and policies regarding stormwater management and possibly

adopting new goals, policies and action statements;
- Exploring “sponge” construction methods, such as green roofs, that could be required for new developments and City facilities to capture and retain stormwater on site;
- Examining the potential benefits of “sponge” construction methods in areas of the City prone to flooding;
- Developing a transition plan to incorporate stormwater management strategies into City parks and install pervious pavement for roads and sidewalks;
- An assessment of the impacts of such changes in construction methods; and
- Estimating the impacts of reduced flooding as well as impacts to the climate in impacted parts of the City.

Estimated years to complete study: 2 years

FISCAL IMPACT

Cost to Conduct Study

Level of staff effort required (opportunity cost):	Major
Funding Required for Non-Budgeted Costs:	$300,000
Funding Source:	Will seek budget supplement

Conducting this study could require the use of multiple consultants to determine the feasibility of establishing elements of a “Sponge City” and methods of incorporating those elements into City and private infrastructure. The concept of a “Sponge City” is new, and conducting this study will be complex, and therefore a high cost. The funding requirement is an estimate based on limited information because staff has not found examples of this type of effort being completed.

Cost to Implement Study Results

Unknown. Study would include assessment of potential costs, including capital and operating, as well as revenue/savings.

EXPECTED CITY COUNCIL, BOARD OR COMMISSION PARTICIPATION

Council-Approved Work Plan: Yes
Council Study Session: Yes
Reviewed by Boards/Commissions: Sustainability Commission, Planning Commission and Parks and Recreation Commission

STAFF RECOMMENDATION

Drop. This policy issue does not merit discussion at a Study Issues Workshop.

The City currently administers several requirements on new construction and redevelopment projects that limit impervious pavements and aims to reduce stormwater runoff and prevent pollutant discharge from private properties into the City’s storm drain system. Also, the City’s Zoning Code limits the amount of impervious area on private property. And the City’s green building program encourages developments to incorporate design techniques that address climate change, keep rainwater onsite and manage heat.

Additionally, the Municipal Regional Permit (MRP) issued to the San Francisco Bay region by the California Regional Water Quality Control Board includes region-wide stormwater treatment

requirements for private and public new development and redevelopment projects that aim to limit stormwater runoff through low impact development design techniques. These techniques have been developed with the basic principle to design the built environment to remain a functioning part of an ecosystem rather than exist apart from it; LID (low impact development) goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate and detain runoff close to its source. These techniques include onsite rainwater harvesting, green infrastructure, use of pervious paving, swales and bio-retention basins.

The recent update of the MRP (2015) also requires cities to develop Green Infrastructure (GI) Plans to incorporate and implement green infrastructure more expansively in capital improvement projects, such as sidewalk parkstrips, street medians and parks, and to treat stormwater runoff from adjacent roadways and other paved areas. The framework for the City's GI Plan was approved by the City Council on June 20, 2017 (RTC 17-0398), and the final GI Plan is scheduled to come to Council for consideration in April 2019.

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