



SEWER SYSTEM IMPROVEMENT PROGRAM | Grey. Green. Clean.

Islais Creek, Sunnydale and Yosemite Watersheds

November 16, 2013 | Urban Watershed Assessment

Community Workshop Summary Report | Urban Watershed Planning Game Results

Introduction

This Summary Report highlights key community input and provides a snapshot of the project ideas generated during the Urban Watershed Assessment Community Workshop and Planning Game on November 16, 2013. These project ideas will be considered by the SFPUC and evaluated for technical feasibility and cost effectiveness as part of the Urban Watershed Assessment process.

Workshop Objectives and Purpose

The SFPUC is developing a comprehensive plan to guide investments for the next 20 years of sewer and stormwater management upgrades to address sewer system challenges in each of San Francisco's urban watersheds. This planning process is called the Urban Watershed Assessment (UWA). San Francisco has eight distinct urban watersheds, five on the Bayside (North Shore, Channel, Islais Creek, Yosemite and Sunnydale) and three on the Westside (Richmond, Sunset and Lake Merced). Each has its own unique sewer system challenges and potential solutions. This workshop focused on stormwater management challenges and potential solutions in the three southeast Bayside watersheds: Islais Creek, Yosemite and Sunnydale.

"I feel so thankful that this game exists! It was such a powerful form of participatory planning and community education."
~ workshop participant

The objectives of the workshop were to provide an opportunity for participants to:

- Become aware of system challenges specific to each urban watershed;
- Understand the cost, benefits and trade-offs of different solutions;
- Provide input on planning priorities and solution preferences; and
- Generate project ideas for further analysis.



Workshop participants playing the Watershed Planning Game

Meeting Format

More than 90 members of the public participated in the workshop at the Southeast Community Facility. The opening presentation introduced the Sewer System Improvement Program, the Urban Watershed Assessment, characteristics of the Southeast Watersheds and an overview of the technologies the SFPUC will use to help meet stormwater management goals. To ensure the City has a reliable and resilient sewer system, future infrastructure solutions will include both green (e.g. rain gardens and permeable pavement) and grey (e.g. pipes and tunnels) infrastructure.

Following the presentation, participants worked in small group breakout teams to "play" the Urban Watershed Planning Game. Each group worked as a team to meet the stormwater management goals of their watershed challenge area. Participants were given game pieces representing different green and grey stormwater management technologies, and then "played" pieces to achieve combined sewer discharge and excess stormwater management targets within the budget provided. The game wrapped up with a discussion of potential solutions and voting on favorite ideas, after which each team presented their top recommendations to the larger group.



Game board showing community member's project ideas for the Islais Creek Watershed.

Workshop Results

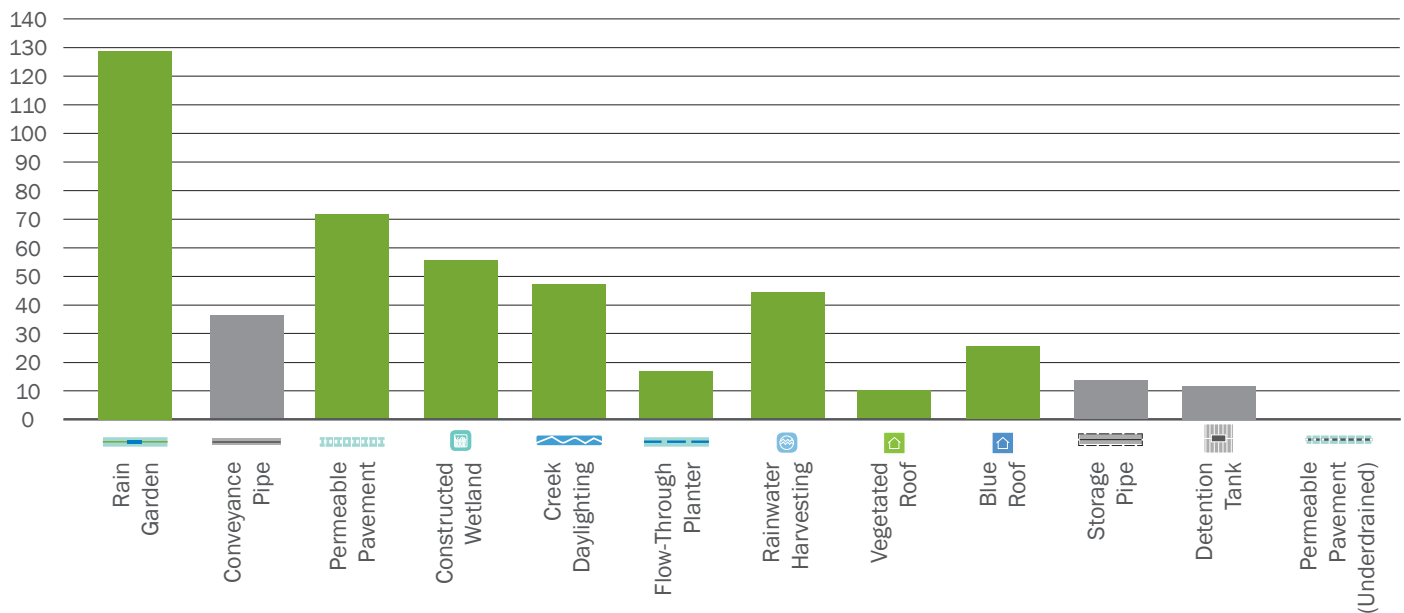
Technologies and Project Types

All teams proposed overall watershed solutions that featured a blend of green and grey technologies. Overall, rain gardens, permeable pavement and constructed wetlands were the top three technologies chosen. The chart below lists the number of times each stormwater management technology was used during the workshop. Most participants played green technologies at the beginning of the game with the goals of beautifying neighborhoods and improving open space while managing

stormwater. As the game progressed, many teams began playing or switching to technologies that were more cost effective in order to meet combined sewer discharge and excess stormwater management targets within budget. For example, several green roofs were replaced by blue roofs, and grey technologies such as pipes and detention tanks became more popular.

Creek daylighting was also a popular technology played, specifically along the historic Islais Creek path. Many teams also played conveyance pipes in order to employ a cost effective solution to help manage stormwater. Images of creek daylighting and a conveyance pipe are shown below.

Number of Times a Type of Game Piece was Played



Examples of creek daylighting.

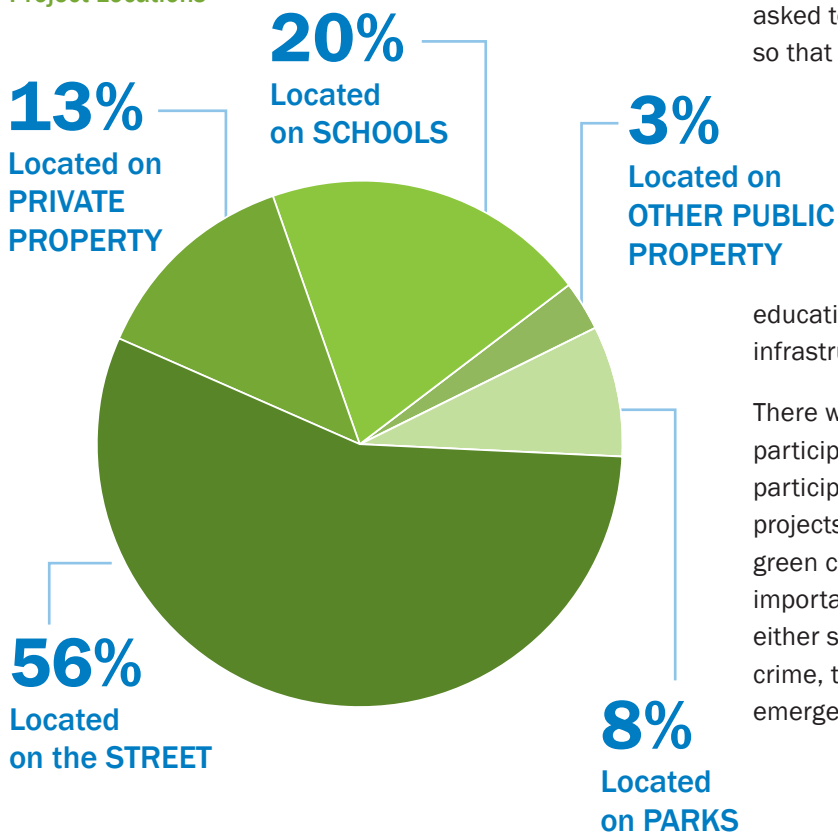


Conveyance pipe construction.

Location of Projects

More than half the projects played were located on streets. Parks and schools were also popular locations specifically for green infrastructure projects, due in part to an interest in designing projects that provide educational opportunities and community benefits. A number of project ideas were also located on private property including hospitals and shopping centers. Several groups also proposed ideas for BART

Project Locations



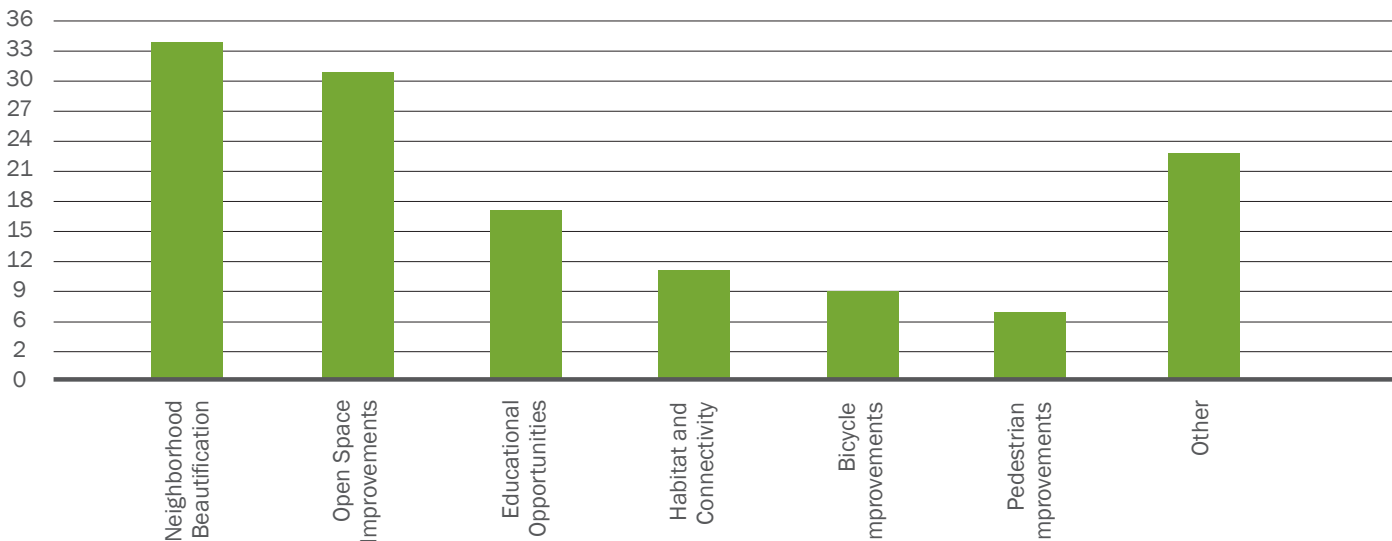
facilities. All groups reported cost was a factor in determining project types, but indicated they were willing to pay more for certain project types they favored. Most teams suggested the SFPUC consider land acquisition for projects. The chart (left) shows the distribution of project ideas across different types of land.

Community Values

After selecting green and/or grey technologies to address stormwater management challenges, participants were asked to explain the reasoning behind their project idea so that the UWA Team could better understand community values in decision making processes. In addition to the primary goals of managing excess stormwater and reducing combined sewer discharges, the most commonly mentioned additional benefits were providing neighborhood beautification and open space improvements. Participants also cited educational opportunities as a goal for locating green infrastructure technologies on school parcels.

There were a variety of other benefits mentioned by participants. For example, it was important for many participants that projects have synergies with other City projects and that the projects were connected to create green corridors. Participants also cited the following as important additional benefits: safety improvements to either slow traffic speeds or activate areas to help prevent crime, transit area improvements, economic benefits and emergency water supply.

Number of Times a Benefit was Mentioned as a Project Justification

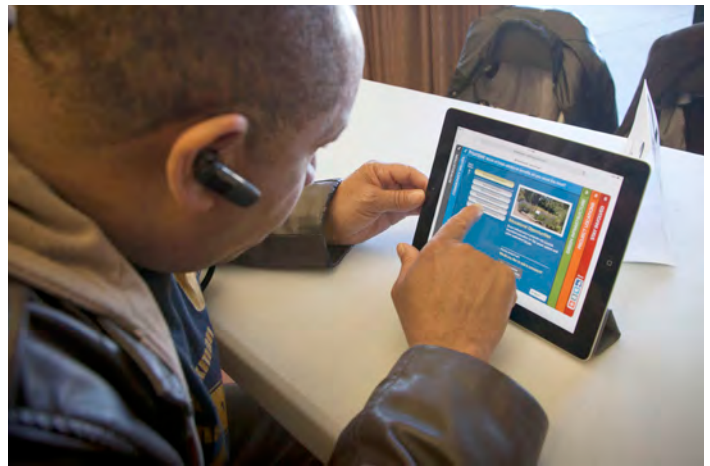


Suggestions for Overall Watershed Strategy

While teams preferred to play green technologies, they recognized grey technologies as needed to provide cost effective solutions to meet stormwater management goals. Many teams suggested green technologies be located in highly visible areas that restore natural resources and create green corridors that connect public places. Synergies with existing and planned City projects, educational opportunities and community collaboration were also strategies suggested by several teams.



Workshop participants playing the Planning Game.



Workshop participant submitting a Southeast Watersheds Green Infrastructure Survey.

Project Ideas for Consideration

The game yielded a number of site and technology-specific project ideas from the community participants. The chart below shows a subset of project ideas brainstormed for the three watersheds. These brainstormed ideas will be added to concepts generated by the SFPUC project team and other City agency partners. All concepts will be analyzed based on stormwater performance and community, environmental and economic considerations during the Urban Watershed Assessment process. Many may not be technically feasible or cost effective.

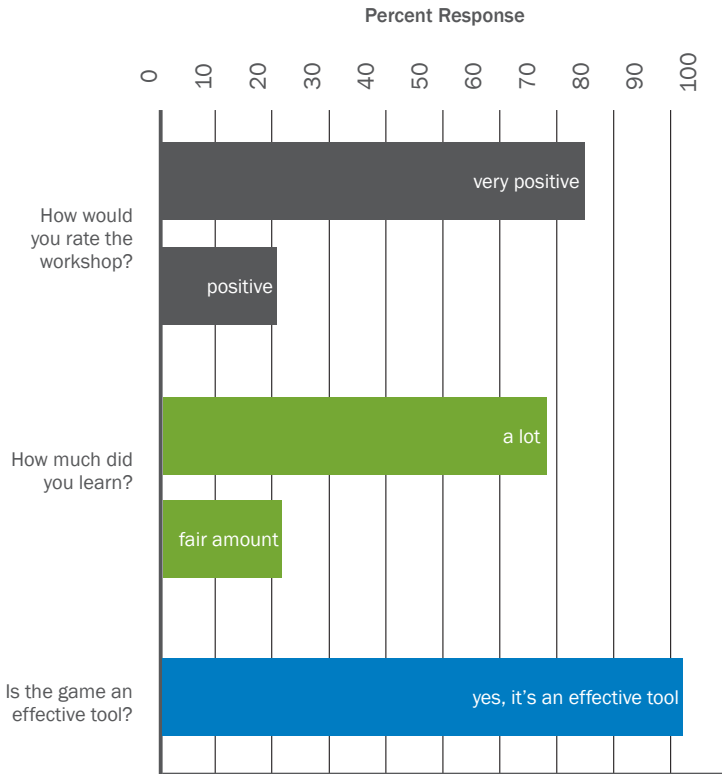
Yosemite and Sunnydale Watershed Project Ideas

Project Name	Location	Technologies
Double Rock Greenway	Flow Through Planters and Permeable Pavement along Jennings Street from Armstrong to Gilman, along Gilman and Paul Ave to San Bruno/Hwy 101	Flow Through Planters and Underdrained Permeable Pavement
Keith Street Wetland	Constructed wetland along Keith Street between Yosemite and Armstrong Avenues	Constructed Wetland
Mansell "Rain Forest"	Rain Gardens along Mansell from San Bruno to McLaren Park Bowdoin Street	Rain Gardens
MLK Creek Daylighting Project	Creek Daylighting from MLK Pool along Armstrong Ave and constructed wetlands along Ingalls	Creek Daylighting and Wetland
Palega Recreation Center Wetland	Constructed Wetland at Palega Recreation Area	Constructed Wetland
Paul Avenue Green Street	Flow Through Planter and Rain Gardens along Paul Avenue between 3rd Ave and San Bruno Ave	Flow Through Planters and Rain Gardens
Rainwater Harvesting	Rainwater Harvesting at Phillip and Sala Burton HS	Rainwater Harvesting

Islais Creek Watershed Project Ideas

Project Name	Location	Technologies
280 Corridor Rainwater Harvesting	Rainwater Harvesting along 280 with a spur green street along 22nd towards the Bay	Rainwater Harvesting and Rain Garden
Alemaný Permeable Street	Permeable Paving on Silver to Seneca, Amazon to Faragut	Permeable Paving
Balboa Neighborhood Greening	Detention Tank under Balboa HS Athletic Field (Cayuga and Seneca) and Balboa Park; Rain Gardens on San Jose from Cotter to Seneca, Mt Vernon to Lakeview, Otsego from Oneida to Ocean and Cayuga Ave from Santa Inez to Junior Terrace; along Geneva between Lick & Delano, and along San Jose from Geneva to Cotter	Detention Tank and Rain Gardens
Cayuga Green Corridor	Rainwater Harvesting at Balboa School and Santa Ynez and Cayuga; Creek Daylighting along Cayuga between Theresa & Santa Ysabel and along Cayuga between Onondaga & Navajo at Balboa High School; Constructed Wetlands at Cayuga & Onondaga and Theresa & Cayuga; Rain Gardens along Cayuga between Theresa & Santa Ysabel; Rain Gardens and Permeable Pavement along Cayuga Ave between Oneida and Silver	Rainwater Harvesting, Creek Daylighting and Wetlands, and Rain Gardens and Permeable Pavement
Community Garden at Capistrano and Cayuga	Rainwater Harvesting on Cotter between Capistrano and Cayuga; Rain Gardens on Cayuga, San Jose and Alemaný	Rainwater Harvesting and Rain Gardens
Creek Daylighting to Warm Water Cove Park	Creek Daylighting along 24th and Constructed Wetlands at Warm Water Cove Park	Creek Daylighting, Constructed Wetlands
Diamond Heights Greening	Permeable Paving and Rainwater Harvesting at Diamond Heights Shopping Center and Police Training Academy	Permeable Pavement and Rainwater Harvesting
Glen Canyon Corridor	Large Constructed Wetlands in lower Glen Canyon Park; Detention Tank under ball field in Glen Canyon Park; Creek Daylighting from Glen Park to Alemaný and Mission; Constructed Wetlands at the end; Rainwater Harvesting at Ruth Asawa School and Glen Canyon BART Station.	Creek Daylighting, Constructed Wetlands, Detention Tank, Rainwater Harvesting, Rain Gardens and Permeable Paving
Hunters Point Shipyard Gateway	Along Oakdale (Mendell to Phelps), Phelps (Oakdale to Evans) and Evans Avenue (Rankin to India Basin Shoreline Park)	Flow Through Planters
Lower Islais Creek Daylighting	Creek Daylighting in the lower Islais Creek path under Highway 280 and a series of constructed wetlands at the mouth of the former marsh area near San Bruno and Gavin	Creek Daylighting and Wetlands
Mission Green Street	Rain Gardens on Foote to Maynard, Trumble to Geneva	Rain Gardens
Neighborhood Green Streets	Green Streets with Rain Gardens in the area bounded by Church Street and Guerrero, 27th Street and Day Street	Rain Gardens
Permeable Pavement at Post Office	Permeable Paving on Cargo Way and along Evans Ave from Post Office to 280	Permeable Paving
Playground Wetlands	Playground Wetlands on St. Mary's Playground	Constructed Wetland
School Blue Roof Program	Balboa School Complex, Rooftop Elementary, Alvarado Elementary, Lick Elementary, Mission Education Center and Fairmount Elementary	Blue Roof
Stormwater Detention Basins at Alemaný Farmers Market	Detention Tank at Alemaný Farm and Rainwater Harvesting along Alemaný Boulevard upstream of the farm	Detention Tank and Rainwater Harvesting
Upper Islais Creek Daylighting	Creek Daylighting along Cayuga Avenue from the intersection with Mt Vernon to Alemaný and Cambridge; Constructed wetlands at the end at Alemaný and Cambridge	Creek Daylighting and Constructed Wetlands

Workshop Feedback Results



Workshop Feedback

One-third of participants submitted feedback rating the workshop experience through an online follow-up survey. Nearly 100% of respondents reported their overall experience at the workshop was very positive (76%) or positive (21%). Eighty-nine percent indicated that they learned a lot (62%) or a fair amount (28%) about sewer infrastructure and stormwater management challenges in San Francisco. Most participants (93%) felt the planning game was an effective tool for generating potential projects for San Francisco's watersheds.

"All of the participants that I interacted with, at my table and at other tables were enjoying it and getting a lot out of it. It was so interesting to hear the innovative ideas that other tables came up with. Time flew by..."

~ workshop participant

Next Steps

Project ideas generated through the workshop will be reviewed and considered for further analysis based on several factors including site suitability and feasibility. These project ideas will be analyzed during the Opportunities Phase and will feed directly into the Alternatives Phase (see project development process chart below).

Please visit sfwater.org/urbanwatersheds for more information about upcoming meetings, educational materials and project updates.



Workshop participants reporting on their group's favorite project ideas.

Project Development Process Chart





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