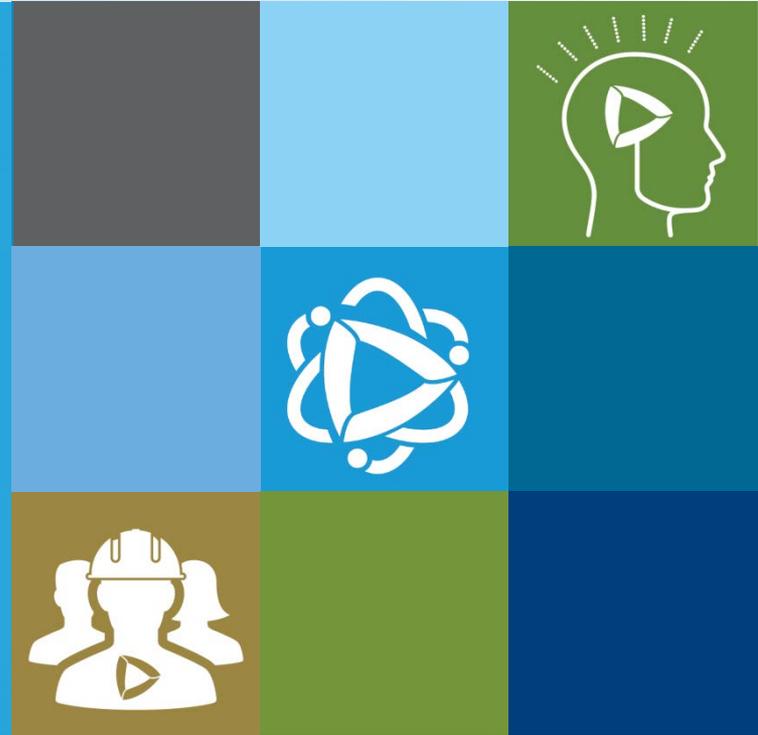




City of Redding Stormwater Resource Plan

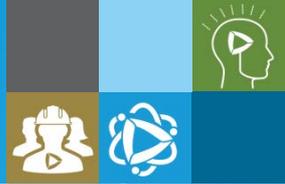
Stakeholder – Meeting #3
June 6, 2018



Discussion Topics

- Overview of Public Draft SWRP
- 30% Design Status
- Wrap up

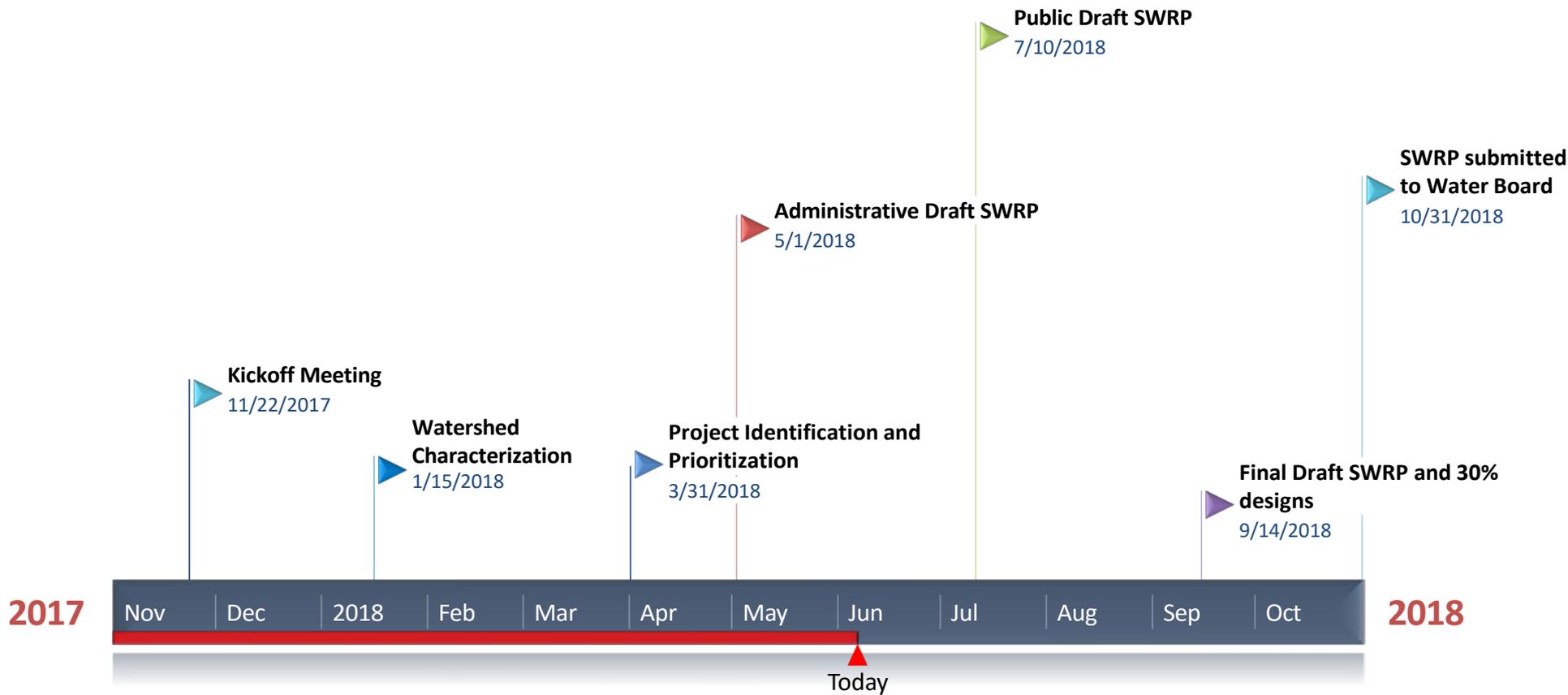
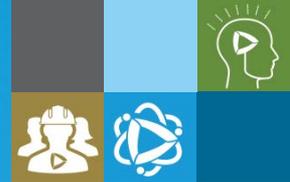
Primary Goals and Mission



Develop a forward-thinking Stormwater Resource Plan (SWRP) that includes:

- Prioritizing water quality concerns
- Community education
- Identification of projects that bring value and benefit to the community
- Collaborative development
- Local project support
- Opportunities for future grant funding

Project Milestones



Overview of Public Draft SWRP



Prepared for

The City of Redding



**Public Draft – City of Redding Stormwater
Resource Plan**

Redding, CA

Prepared by

Geosyntec
consultants

engineers | scientists | innovators

924 Anacapa Street, Suite 4A
Santa Barbara, CA 93101

Geosyntec Project # LA0443

June 2018

- Executive Summary
- Introduction
- Organization, Coordination, and Collaboration
- Background
- Identification and Prioritization of Projects
- Implementation Strategy and Schedule
- References



- Purpose
- SWRP Overview
- Appendix A – Completed SWRP Checklist and Self-Certification Form
- Appendix B – Summary of Conceptual Projects

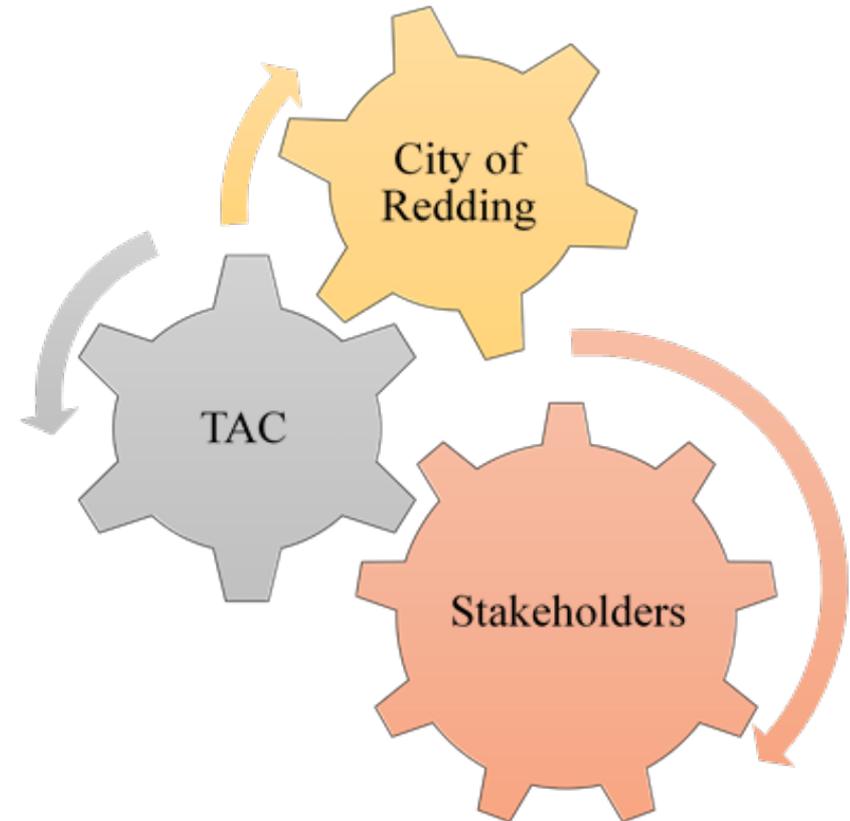


Figure 2. Boulder Creek Elementary Flooded (KRCR News February 2017)

Organization, Coordination, and Collaboration



- Organization of the SWRP Developers
- Stakeholder Identification, Engagement, and Participation
- Appendix C – Stakeholder Involvement



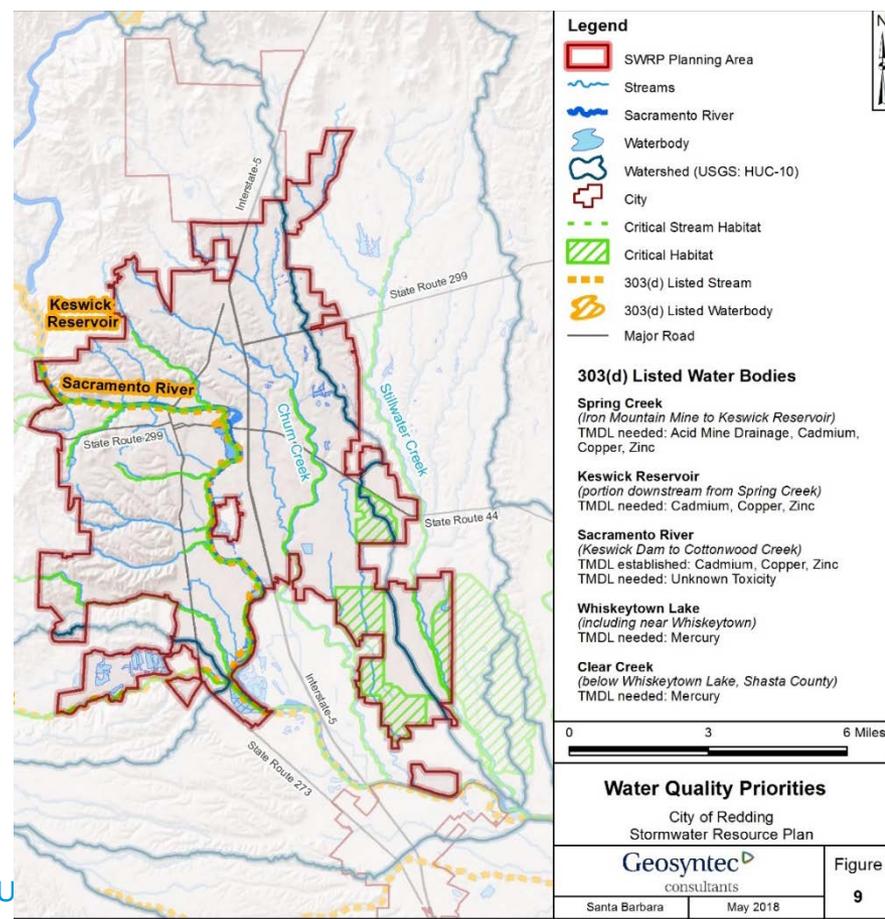
Stakeholder List



Type	Affiliation
City/County	City of Anderson
	City of Shasta Lake
	County of Shasta Health and Human Services Agency
	County of Shasta Public Works
Special Districts	Western Shasta Resource Conservation District
	Shasta Mosquito and Vector Control District
Other Public Agencies	Caltrans
	Shasta College
Non- Governmental Organizations	Shasta Environmental Alliance*
	Sierra Club
	Audubon
	Shasta MRCD
* nonprofit organizations working on stormwater and dry weather resource planning or management in the watersheds	

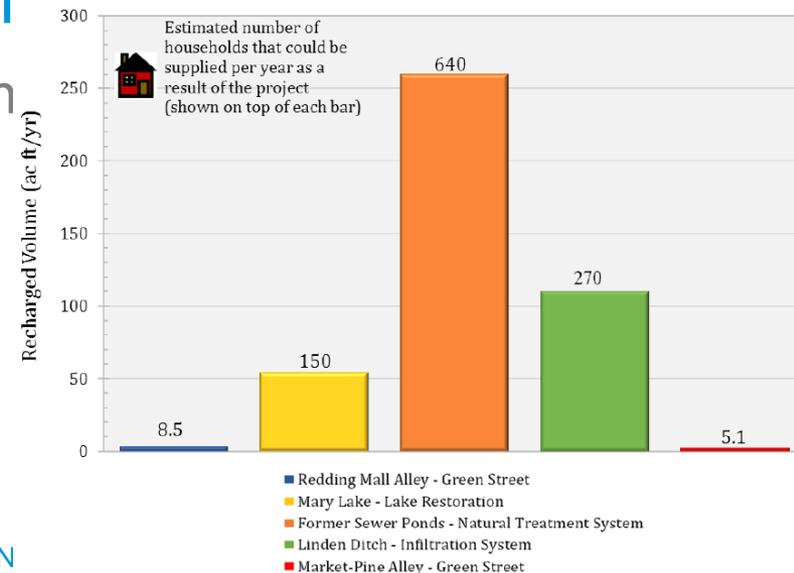


- Existing Relevant Reports and Data
 - Appendix D – Summary of Relevant Reports and Data
- Watershed Characterization
- Water Quality Priorities
 - Critical habitat
 - 303(d) listings
- Water Quality Compliance
 - MS4 Permit, Trash Provision, TMDLs, and 303(d) listing





- **Project Identification and Ranking**
 - Appendix E – Project Identification and Ranking Technical Report
 - Two KMZ files and a Excel file
- **Conceptual Project Design**
- **Quantitative Analysis of Project Benefits**
- **Multiple Benefits Prioritization**
 - Appendix F – Technical Approach
 - Appendix H – Initial Results



Implementation Strategy and Schedule



- Resources for Implementation
- Implementation Schedule
- Ongoing Collaboration
- Adaptive Management Framework
- Implementation Performance Measures

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[Help](#)

Ongoing Coordination



- Among TAC (as needed)
 - SWRP E-mail updates
 - Meetings to discuss significant items
- With Community
 - During project design and construction
 - Email notice of significant updates to the plan
 - Information distributed on City website
 - www.cityofredding.org/departments/public-works/environmental-management/storm-water-management



- Ongoing monitoring will continue
 - Basin wide Groundwater monitoring
 - Sacramento River monitoring
 - **Any other monitoring programs?**
- Ongoing monitoring results analyzed as needed for project specific performance evaluation
- Project specific monitoring to be determined during design phase
- GIS data management: new SWRP geodatabases now contain all relevant geospatial data

Field Feasibility and 30% Designs

Sewer Ponds – Field Investigations



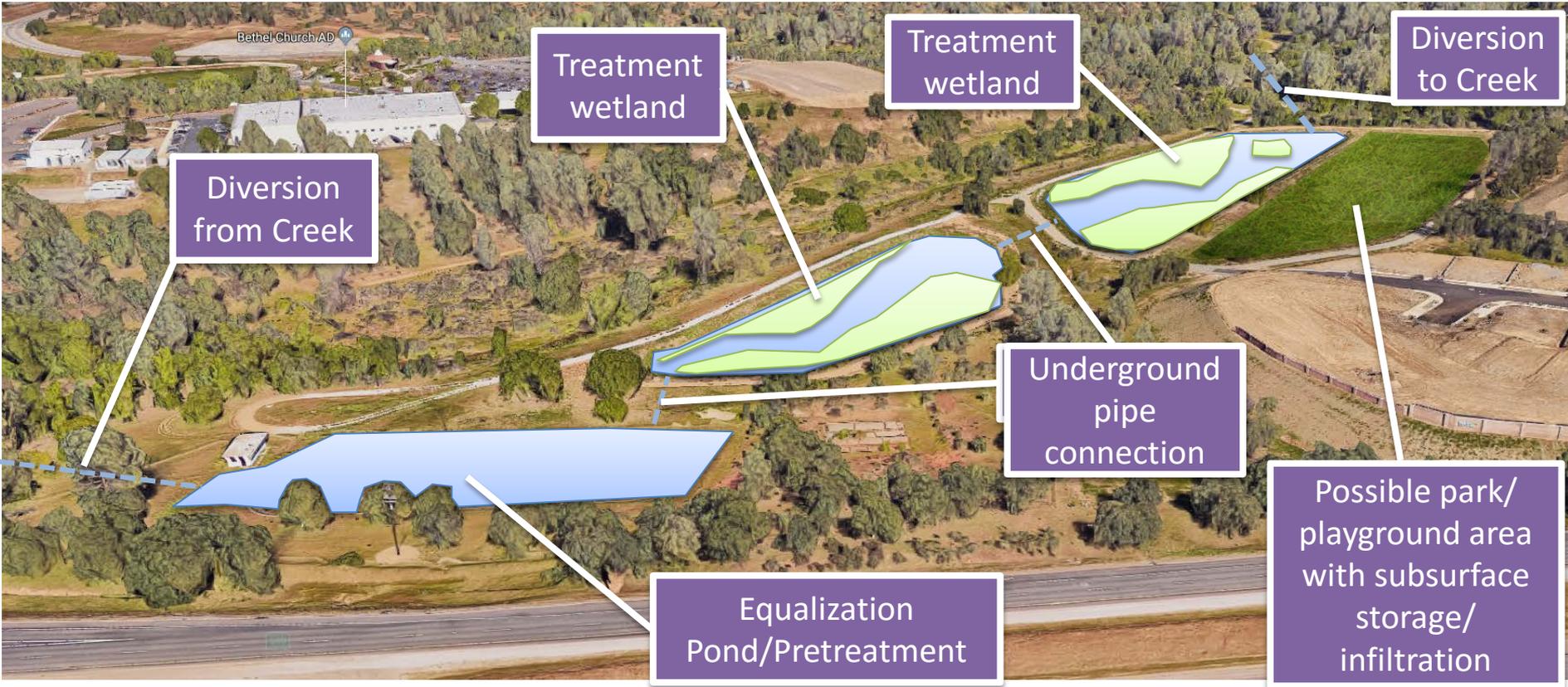
Sewer Ponds – Field Feasibility



- Many boreholes initiated and abandoned due to gravely/compact soil
- Shallow water present, likely hydraulically connected to the creek
- Infiltration favorable



Design Layout



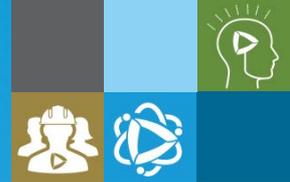
Sewer Ponds – Design Questions



- Are measured or observed dry weather flowrates available for the creek?
- Beyond the bike path, are there other planned or desired uses to support nearby community?
- Photos available during or immediately after a rain storm?



Potential Connection Bike Network



Mary Lake – Field Investigation



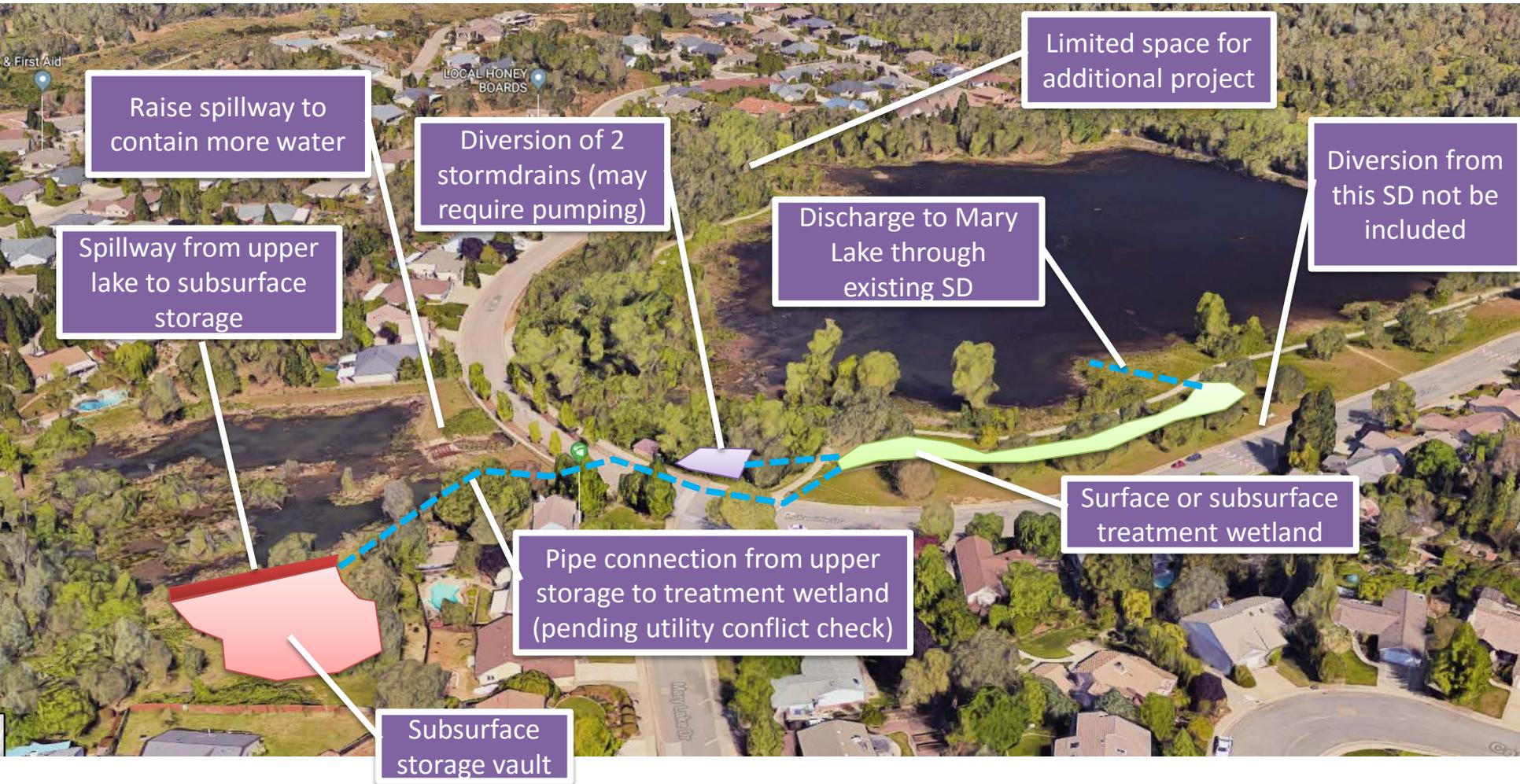
Mary Lake – Field Feasibility



- Soil testing results suggest shallow water present, likely directly connected to Mary Lake
- Infiltration not recommended as BMP feature



Mary Lake - Design Layout



Mary Lake – Design Questions

- Are measured or observed dry weather flowrates available from the stormdrains that discharge to the lake?
- Are there planned or desired uses around the lake to support nearby community?



LEGEND

Interpretive Signage	Lake Edge	Planting	Hardscape / Other
A Wetland	A Flashed slope	A Palm tree*	A Concrete / asphalt paving
B Habitat	B Eroded rock	B Canopy tree*	B Porous paving
C Sustainability	C Vertical wall	C Shrubs / ornamental grasses	C Bench (mounted)
D Lotus	D Wood walkway	D Lawn	D Low retaining wall - proposed
E History	E Concrete overlook (using existing structure)	E Wetland vegetation	E Existing landscaping to remain
F Do Not Disturb Habitat		F Lotus beds	F Temporary pond

* Tree locations are representational

A Proposition C water quality improvement project by the City of Los Angeles Department of Public Works and Department of Recreation and Parks

Un proyecto de mejora de la calidad del agua que recibe fondos de la Proposición C realizado por el Departamento de Obras Públicas de la Ciudad de Los Angeles y el Departamento de Recreación y Parques

LEYENDA

Carreles interpretativos	Borde del lago	Vegetación plantada	Elementos sólidos del paisaje / otros
A Pantano	A Ladera con vegetación plantada	A Palmera*	A Concreto / pavimento de asfalto
B Hábitat	B Rocas enclavadas	B Árbol de sombra*	B Pavimento poroso
C Sostenibilidad	C Muro vertical	C Arbustos / pastos ornamentales	C Banqueta (montada)
D Lotus	D Sendero de madera	D Césped	D Muro de retención de bajo altura - propuesto
E Historia	E Vista de concreto (usando la estructura existente)	E Vegetación de pantano	E El diseño de paisaje actual permanecerá igual
F No alterar el hábitat		F Lechos de loto	F Temporary pond

* Las ubicaciones de los árboles son representativas

Echo Park Lake Rehabilitation (Example)

Market-Pine Alley – Field Investigation



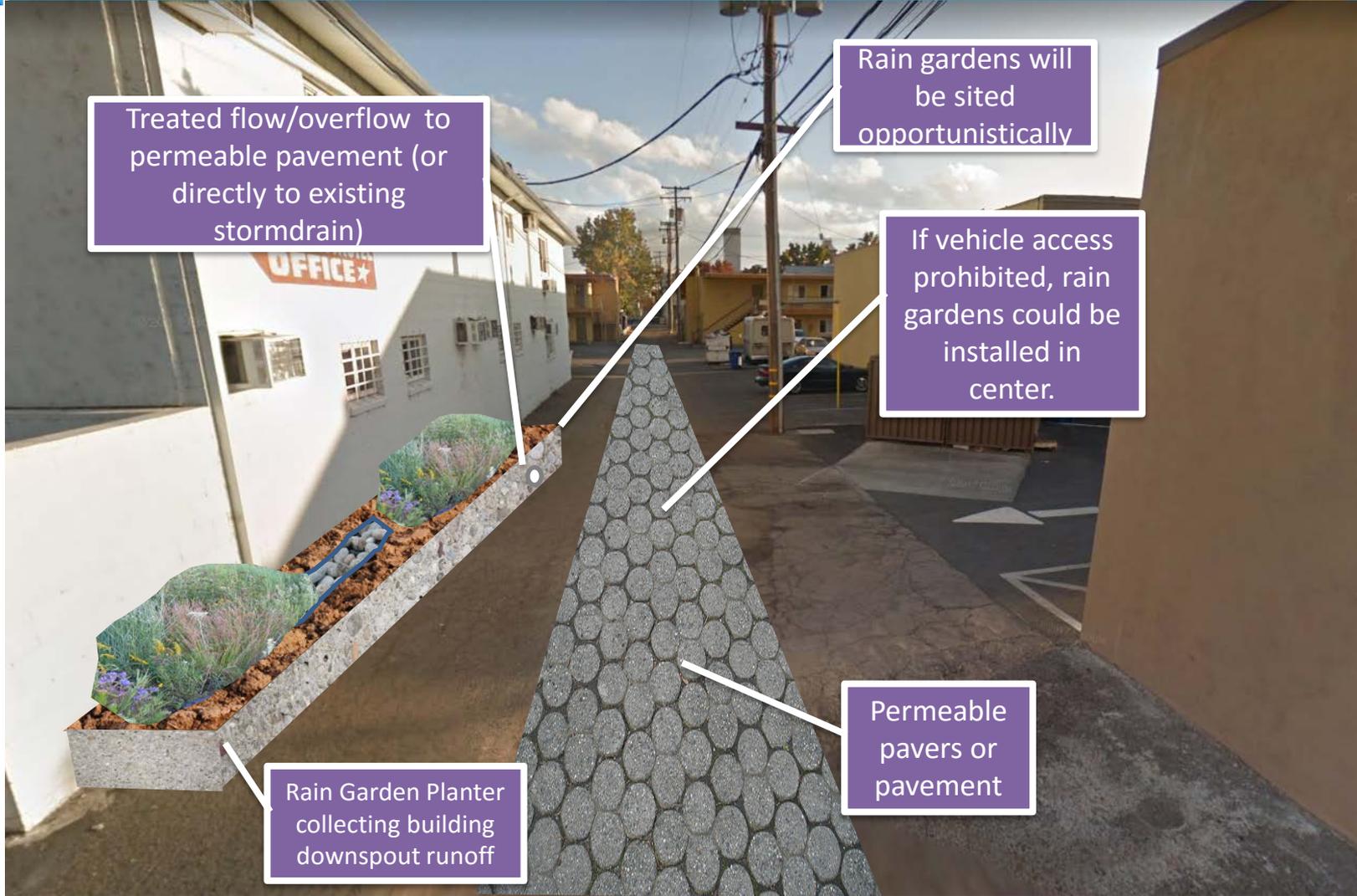
Market-Pine Alley – Field Feasibility



- Sandy soils at surface
- Silty-clayey soil below sandy soils
- Encountered hard surface (possibly concrete/rock) 5' 5" below surface
- Water not encountered
- Hydraulic conductivity ~1 in/hr
- Infiltration may be feasible



Market-Pine Alley - Design Layout



Market-Pine Alley – Design Questions



- Other specific features of interest



Trust for Public Land Green Alley in Los Angeles (Example)

Wrap up

TAC Actions Needed

- Comments on preliminary designs (6/8)
- Public Draft SWRP ready for review (7/10)
- Comments on Public Draft SWRP (7/24)

Group Discussion



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Project Manager
805-979-9125

ablackwell@geosyntec.com



Geosyntec[◀]
consultants