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City of Redding
Stormwater Resource Plan

Stakeholder Meeting #2

March 1, 2018

Discussion Topics

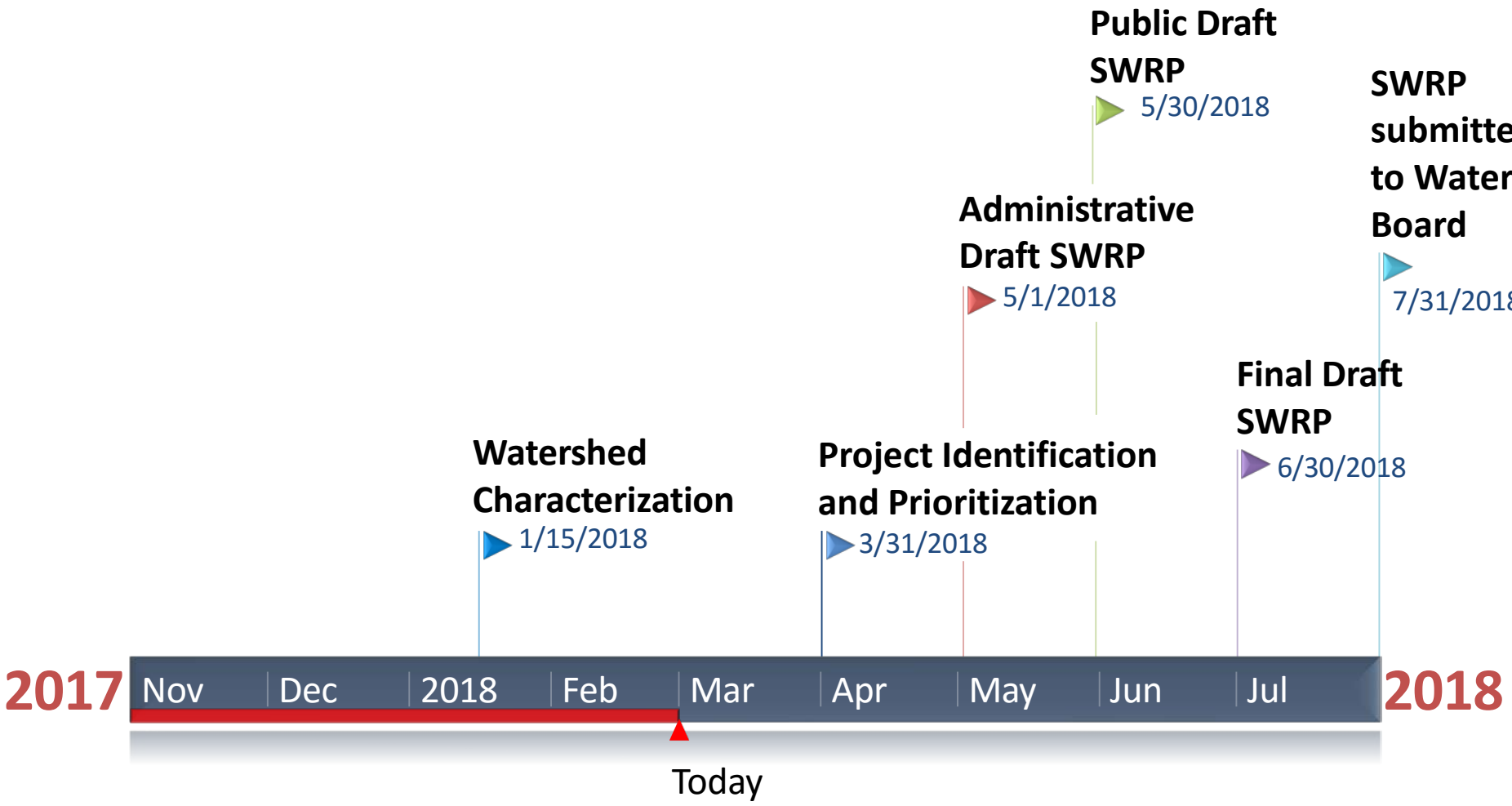
- Stakeholder Involvement
- Project Identification and Prioritization
- Wrap up

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



Stakeholder Involvement

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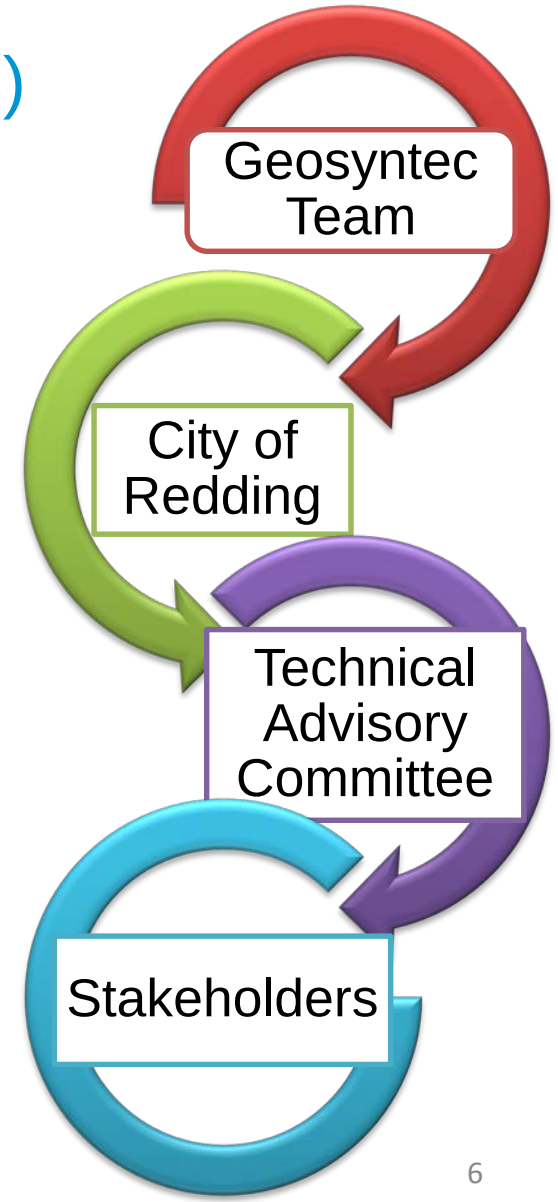
1st Stakeholder Meeting Highlights

- Well Attended (over 10 participants)
  - Diverse group of stakeholders
- Good Discussion (over an hour)
  - General discussion of the plan
  - Lots of general project ideas
  - Green streets
- Lots of post meeting project ideas
  - 14 projects



Stakeholder List

Public Entities

- County of Shasta
  - Health and Human Services Agency
  - Public Works
- Shasta Mosquito and Vector Control District
- City of Anderson
- City of Shasta Lake
- Caltrans
- Shasta College

Non Governmental Organizations

- Western Shasta Resource Conservation District
- Shasta Environmental Alliance
- Sierra Club
- Audubon
- Shasta MRCD
- Shasta Living Streets

Project Identification and Prioritization

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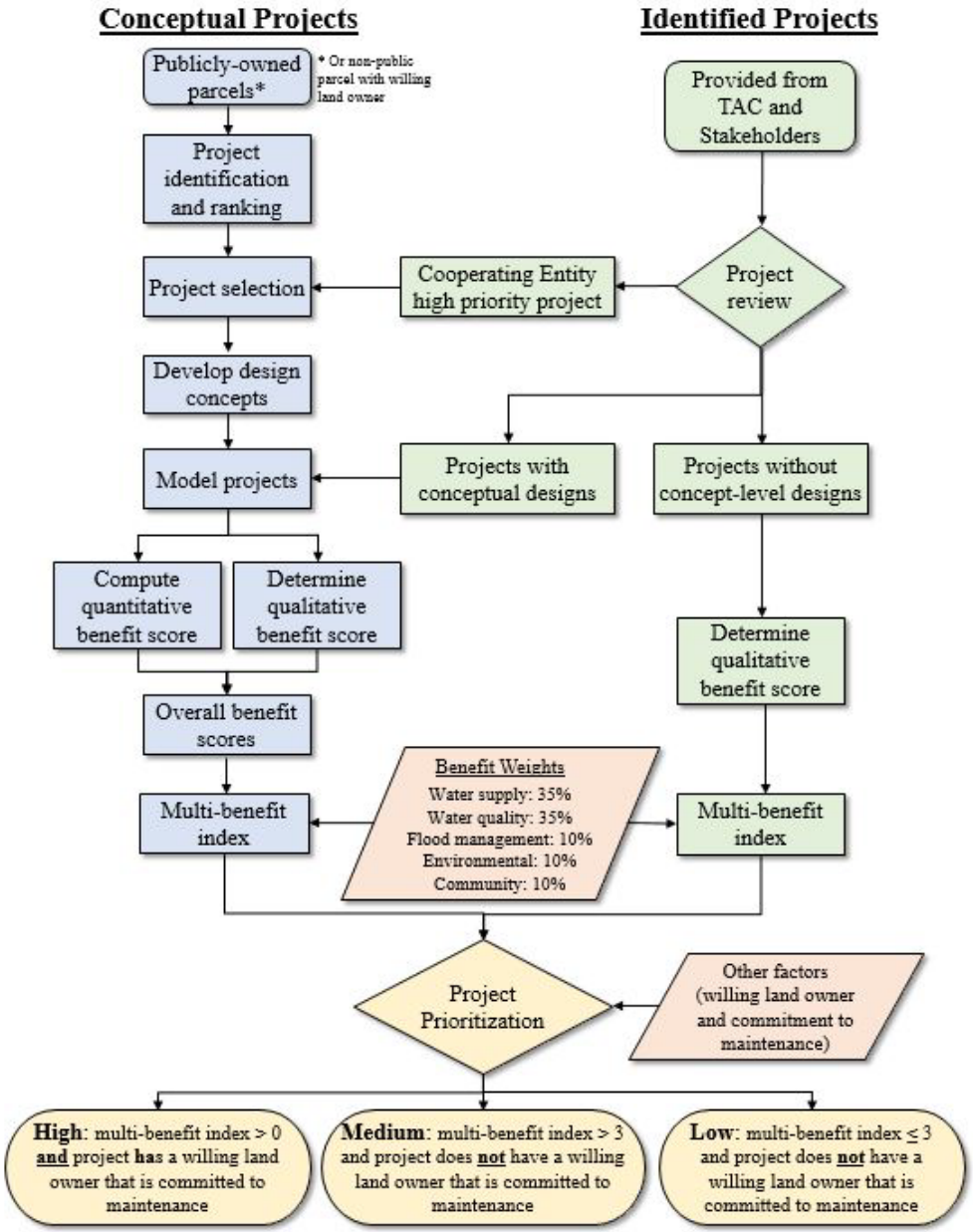
Project Identification and Prioritization Approach



Project Screening Criteria

Screening Criteria	Infeasible Constraint	Natural Treatment System	Direct Use	Green Streets
Parcels	Privately Owned*	X		X
Right of way	highways/freeways			X
Slope	>10%	X	X	X
Environmentally sensitive areas	ESAs	X	X	X
100-year floodplain boundary	within floodplain	X	X	X
Vernal Pools	within pools	X	X	X
Lakes	within 300 ft	X	X	X
Water wells	within 100 ft of production wells	X	X	X
soil or groundwater contamination	within 100 ft of a contaminated site	X		X
Remaining Usable Areas	< 0.25 acre or <150 ft	X	X	X
Storm Drains/channels	farther than 500 ft	X	X	
Near potential use parcel	farther than 500 ft		X	

*Except agriculture, religious facilities, golf courses, mortuaries, cemeteries, mausoleums, and parking lots

Project Screening Results

- 35,663 parcels in the city
- Feasible project
  - Natural Treatment Systems: 434
  - Direct Use: 365
  - Green Streets: 3,927

Project Ranking – GIS Analysis

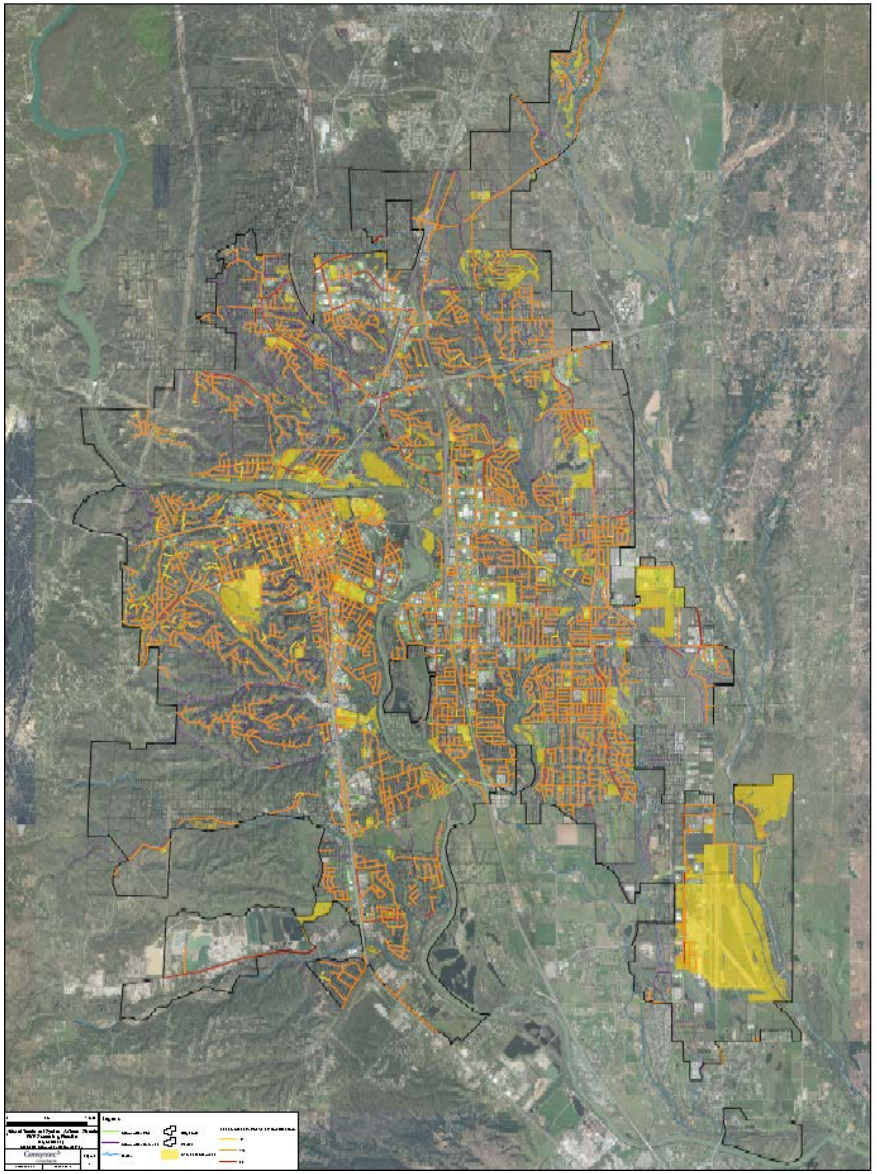
Metric	Metric Points			
	0	1	2	3
Imperviousness of useable area (%)	>75	50-75	25-50	<25
Slope in useable area	8-10%	4-8%	2-4%	0-2%
Ownership	Private		Other Public	City of Redding
Distance from source	300-500 ft	200-300 ft	100-200 ft	<100 ft
Onsite Septic Systems	Yes			No
Distance from planned subdivision (miles)	>1	0.25-1	<0.25	Touching
Size of storm drain	<18 inch or unknown	18-32 inch	32-42 inch	>42 inch
Size of useable area (acres or feet)	<.5 (< 1 block)	.5-1 (1 -2 blocks)	1-2	>2 (>2 blocks)
Soil Infiltration	D or unknown	C	B	A
Street Type	Local		Collector	Arterial

Project Ranking– GIS Analysis

Metric	Metric Weight		
	Natural Treatment System	Direct Use	Green Streets
Imperviousness of useable area (%)	5%	10%	
Slope in useable area	5%	10%	10%
Ownership	20%	20%	20%
Distance from source	10%	10%	
Onsite Septic Systems	10%		
Distance from planned subdivision (miles)	10%	20%	20%
Size of storm drain	10%	20%	
Size of useable area (acres or feet)	10%	10%	10%
Soil Infiltration	20%		20%
Street Type			20%
Total	100%	100%	100%

Project Review

- Google Earth kmz files
- A filterable spreadsheet of GIS prioritized parcels



Project Ranking – Desktop Evaluation

Prioritization Category for Usable Area	Category Definition		Metric Point	Metric Weight
Approx Drainage Area Size and % Urban	Extra-large (>5,000 acres)		3	30%
	Large (1,000 – 5,000 acres)	>50% Urban	3	
		10-50% Urban	2	
		<10% Urban	1	
	Medium (50 – 1,000 acres)	>75% Urban	3	
		25-75% Urban	2	
		<25% Urban	1	
	Small (<50 acres)	>75% Urban	2	
		25-75% Urban	1	
		<25% Urban	0	
	Extra-small (< 10 acres of Urban)		Fatal Flaw	
LPR Model Catchment Prioritization Score	5		3	10%
	4		2	
	3		2	
	2		1	
	1		0	
	0		0	
Trash Priority Land Use in Drainage Area	>50%		3	10%
	25-50%		2	
	0-25%		1	
	0		0	
Percent of Drainage Area within DAC/EDA	100% HUD		3	20%
	50-100% in HUD or 100% EDA		2	
	50-100% EDA		1	
	<50% in HUD or EDA		0	
BMP Implementability	Additional Benefits		3	30%
	No issues		2	
	Some issues		1	
	Fatal flaw		Fatal Flaw	

- Conducted for:
  - Top ranked GIS projects
  - Projects provided by the City, TAC, and Stakeholders
- 77 projects evaluated:
  - 18 NTS
  - 5 Direct Use
  - 14 Stream Restoration
  - 39 Green Streets

Project Ranked – Desktop Evaluation

	A	B	C	N	O	P	Q	R	S	T	U
1				Prioritization Score							
2	Project Type	Treatment and Infiltration	Project ID	Drainage Area Size and % Urban	LPR Model CPI	Trash Priority Land Use	Project Benefits EDA	Implementability	Weighted Phase II Score	Weighted Phase I Score	Average Phase I and II Score
3	Direct Use		DU-1	3	2	3	3	2	2.6	2.7	2.7
4	NTS	Treatment	SHHSA-Trail	3	2	2	2	3	2.6	2.8	2.7
5	NTS	Treatment	Redding-Sewer-Ponds	3	2	2	2	3	2.6	2.1	2.3
6	NTS	Treatment	Redding-Sewer-Ponds	3	2	2	2	3	2.6	1.9	2.2
7	Stream Restoration	Treatment	Redding-Callaboose-Creek	3	2	2	3	2	2.5	2.1	2.3
8	Stream Restoration	Treatment	Redding-Callaboose-Creek	3	2	2	3	2	2.5	2.0	2.3
9	Stream Restoration	Treatment	Redding-Callaboose-Creek	3	2	2	3	2	2.5	1.8	2.1
10	NTS	Treatment	Redding-Mall	2	3	3	3	2	2.5		2.5
11	NTS	Treatment	Redding-Mall	2	3	3	3	2	2.5	2.1	2.3
12	NTS	Treatment	Redding-Mall	2	3	3	3	2	2.5	1.6	2.0
13	NTS	Treatment	Redding-Trash-2	3	2	3	2	1	2.1		2.1
14	NTS	Treatment	Redding-Trash-1	3	2	3	2	1	2.1		2.1
15	Direct Use		DU-5	2	2	2	3	1	2.0	2.6	2.3
16	NTS	Treatment	Redding-Caldwell-Park	2	2	1	2	2	1.9	2.6	2.2
17	NTS	Treatment	Redding-Enterprise-Park	3	2	1	1	2	1.9		1.9
18	Stream Restoration	Infiltration	Redding-Henderson	3	0	3	2	1	1.9		1.9
19	Direct Use		DU-4	2	1	1	2	2	1.8	2.7	2.3
20	NTS	Treatment	NTS-1	1	1	2	2	2	1.7	2.6	2.1
21	NTS	Infiltration	NTS-5	2	2	1	1	2	1.7	2.6	2.1
22	NTS	Treatment	Redding-Allens-Golf	2	2	1	1	2	1.7	1.6	1.6
23	Direct Use		DU-3	2	2	1	2	1	1.6	2.7	2.2
24	Lake Restoration		Redding-Mary-Lake	3	2	0	0	2	1.6		1.6

Conceptual Project Selection

Project Location	Project Type	Parcel	Short Description
Linden Ditch	Infiltration System	26 parcels owned by the City	Offline infiltration system adjacent to the current creek to improve water quality, reduce flows, and recharge groundwater.
Mary Lake Pond	Wet Basin (with extended detention), Storage Tank, and Lake Dredging	204350040000, 204560040000, 204330030000	Enhanced wet basin with additional storage, a new storage tank to provide water supply during summer months, dredging of the main lake.
Old City Sewer Ponds	Wet Basin (with extended detention)	116180006000, 117070028000	Utilize existing abandoned sewer ponds to treat, detain, and infiltrate flows from Boulder Creek and enhance environmental functions and values of the creek corridor.
Pine Alley	Porous Pavement and rain garden	Market-Pine Alley at Eureka Way	Convert the alley between Market and Pine Street in downtown Redding into a green pedestrian corridor by replacing the existing surface with permeable pavement and rain gardens

Linden Ditch

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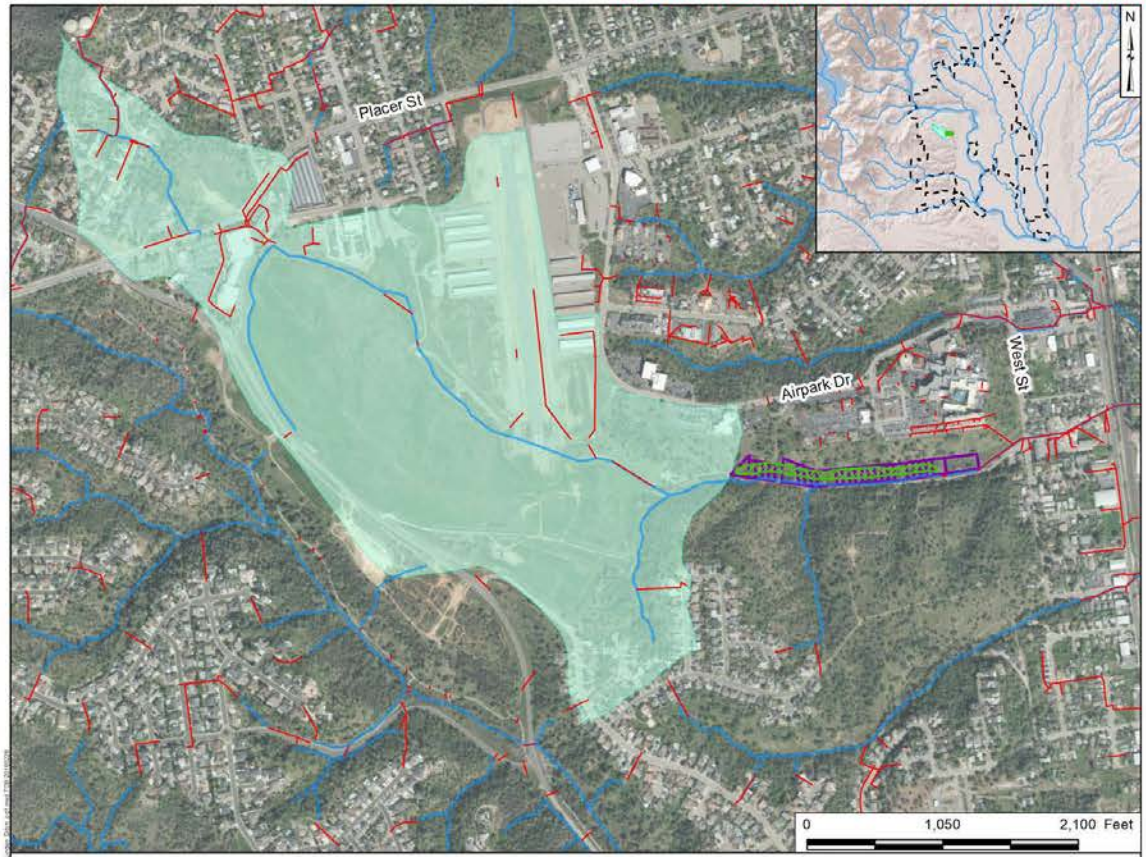

Project Description

This project plans to improve water quality, reduce flows in Linden Ditch, and recharge groundwater by building an offline infiltration system adjacent to the current flow path. Water will be diverted from Linden Ditch approximately where it meets Linden Avenue and directed into the elongated infiltration basin before flowing back into Linden Ditch upstream of West Street. The basin will be located exclusively on city owned parcels and include a pretreatment area. Vegetation, walking paths, and interpretive signage will be incorporated.

Potential Site Constraints:
Vegetation and animals in the basin area should be inspected prior to finalizing the project design to confirm no protected species are present. Additional permitting may be required for vegetation removal. A site survey should be conducted to confirm elevations and infiltration rate in the project site.

Location of Proposed Infiltration System

Legend

- Waterbody
- Storm Drain
- Project Drainage Area
- Project Footprint
- Parcel Boundary
- City

Project Drainage Area

Project Overview

Parcel Ownership	City of Redding
APN	26 city owned parcels
Soil Type	Hydrologic Soil Group A
Watershed	Churn Creek-Sacramento River
Receiving Water	Linden Ditch
Groundwater Basin	Anderson

Note: Proposed project is conceptual and subject to change based on future feasibility assessment, funding availability, and/or other information.

Linden Ditch
Infiltration System Project Concept

City of Redding
Stormwater Resource Plan

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Figure 7

Linden Ditch

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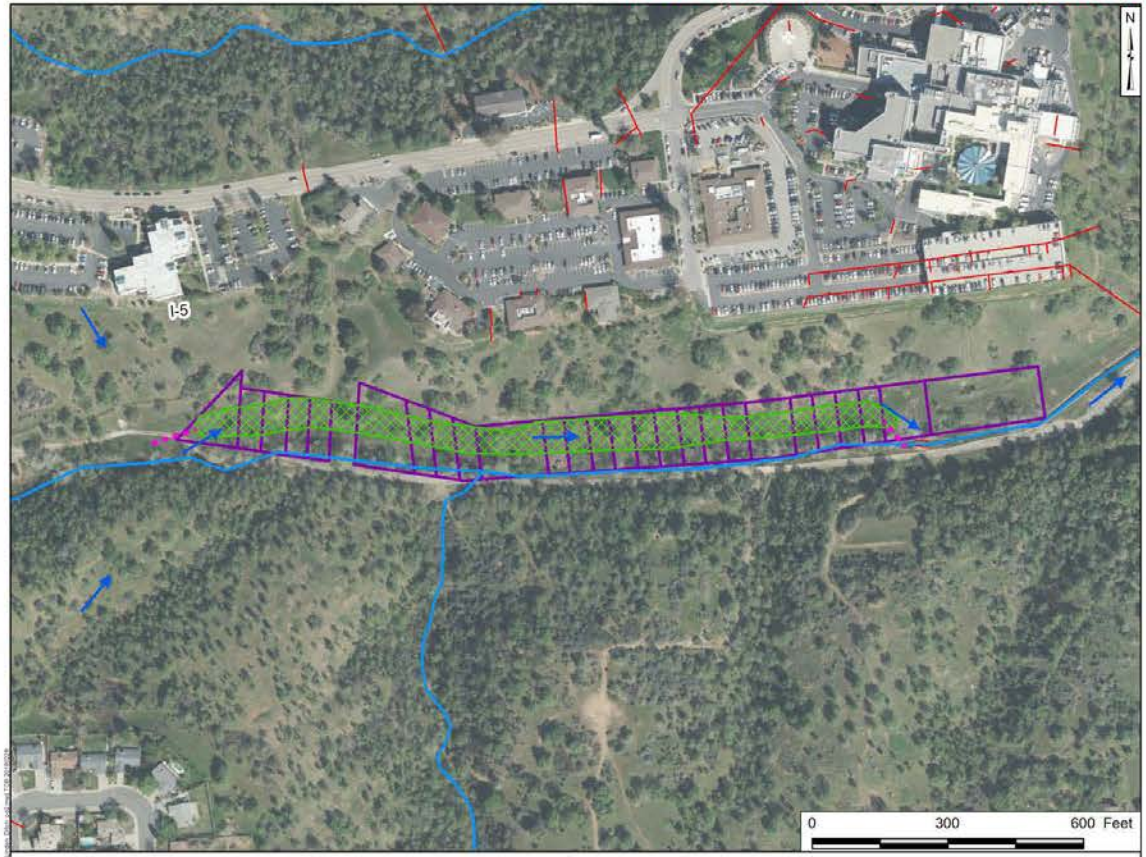


Legend

- Waterbody
- Storm Drain
- Flow Diversion
- BMP Footprint
- Parcel Boundary
- Direction of Flow

Project Design Information

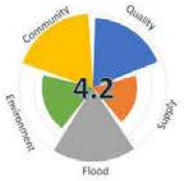
BMP Type	Infiltration System
Total Project Footprint	1.7 acres (includes 0.43 acre pretreatment)
Depth	7 ft (including 1 ft freeboard)
Storage Volume	7.6 ac-ft
Assumed Infiltration Rate	1.5 in/hr
Stormwater Source	Linden Ditch

Note: Proposed project is conceptual and subject to change based on future feasibility assessment, funding availability, and/or other information.

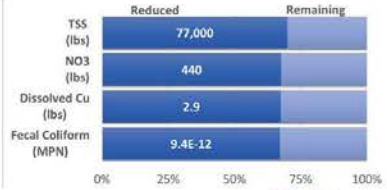
Project Benefits

All benefits are expressed as an average annual estimate based on historical long-term modeling.

Overall Multi-Benefit Score
Highest possible score is a 5

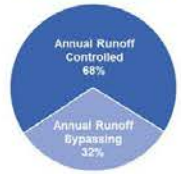


Water Quality:
Pollutant Load Reductions from Drainage Area



Environmental Enhancements: Infiltrated water will enhance the greenspace and promote vegetation, increasing the habitat value.

Flood Management: 170 acre-feet (68%) of the average annual runoff will be removed annually from flowing through the concrete channelized portion of Linden Ditch which runs through the city. All of the runoff generated from an 85th percentile 24-hr storm will be captured and infiltrated.



Community Enhancements: Signage to educate public about the project's multiple benefits; and native vegetation and landscaping will improve the aesthetics of the parcel.

Water Supply: Assuming 65% of the infiltrated water reaches groundwater, 110 acre-feet will be recharged annually, which is equivalent to the supply for 270 households.

Volume Capture Analysis

	85th Percentile, 24-hr Storm	Long-Term Average Annual
Precipitation (in)	0.91	37.5
Runoff Volume (ac-ft)	5.9	250
Percent of Runoff Volume Captured (%)	**>100**	**68**
Total Volume Captured (ac-ft)	**5.9**	**170**

Linden Ditch
Infiltration System Project Concept

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Stormwater Resource Plan

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Figure 8

Mary Lake

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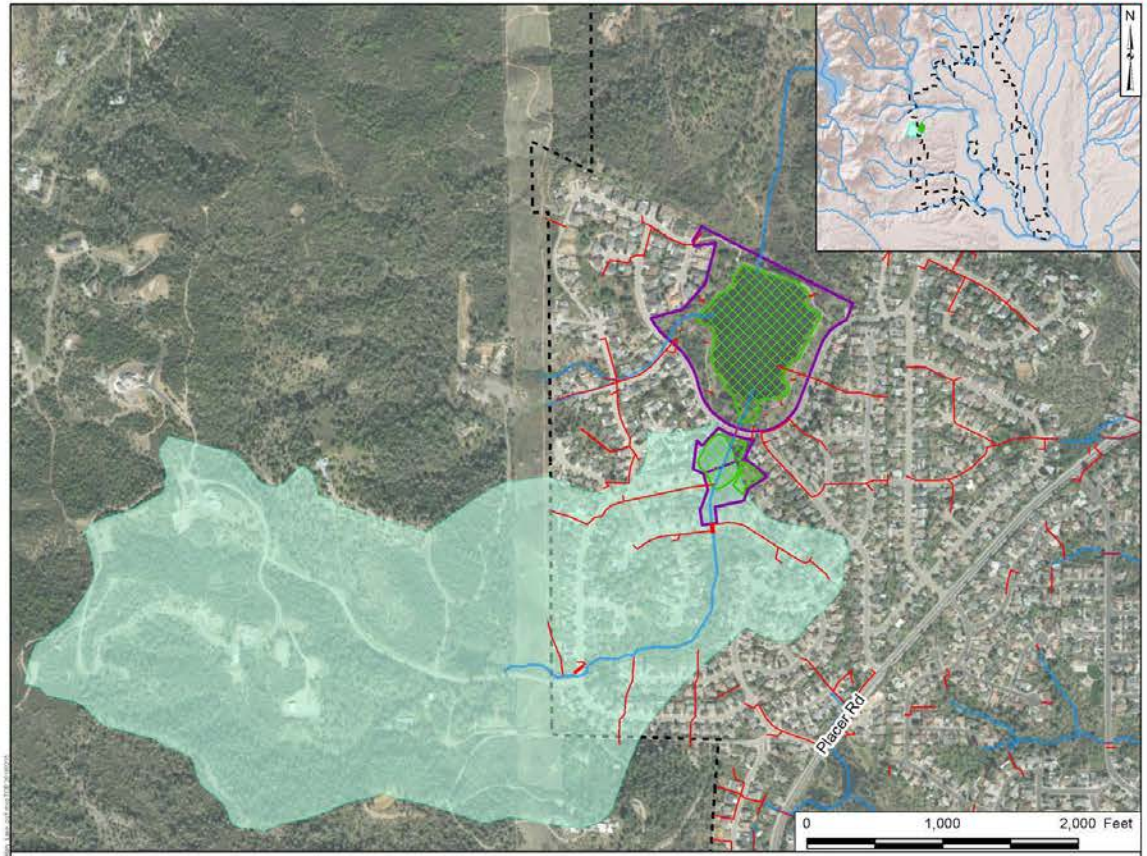

Legend

- Waterbody
- Storm Drain
- Project Drainage Area
- Project Footprint
- Parcel Boundary
- City

Project Drainage Area

Project Overview

Parcel Ownership	City of Redding
APN	204350040000, 204560040000, 204330030000
Soil Type	Hydrologic Soil Group C
Watershed	Churn Creek-Sacramento River
Receiving Water	Jenny Creek
Groundwater Basin	Outside of Anderson

Note: Proposed project is conceptual and subject to change based on future feasibility assessment, funding availability, and/or other information.

Project Description

This project plans to improve water quality in Mary lake by revitalizing the existing wet detention basin above Mary Lake to allow for increased water quality treatment and storage capacity. The revitalization may include reconfiguration of the flow path, increased berm height at the downstream end, sediment removal, and native habitat restoration. Flow into Mary Lake will be controlled by adding an adjustable weir or closable orifice at the low point of the upper basin. A storage tank is also proposed to be built adjacent to the upper basin. This will enable peak flows from winter storms to be captured for release during the dry months to maintain lakes and reduce eutrophication. Dredging of Mary Lake will also support increased capacity and removal of legacy nutrients.

Potential Site Constraints:

Vegetation and animals in the basin area should be inspected prior to finalizing the project design to confirm no protected species are present. A site survey should be conducted to confirm elevations of the project site. Additionally, numerous permits will need to be acquired to implement this project (RWQCB, CDFW, Army Corps, County, etc.).

Location of Proposed Wet Detention Basin

Mary Lake
Lake Restoration Project Concept

City of Redding
Stormwater Resource Plan

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Figure 5

Mary Lake

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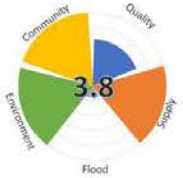
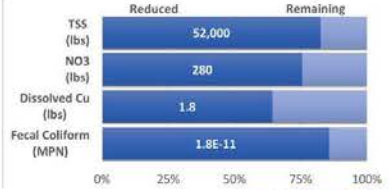
Project Benefits

All benefits are expressed as an average annual estimate based on historical modeling.

Overall Multi-Benefit Score
Highest possible score is a 5

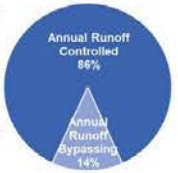


Water Quality:
Pollutant Load Reductions from Drainage Area



Environmental Enhancements: Captured water will enhance the greenspace and promote vegetation, increasing the habitat value by reducing pollutants and releasing water as needed into Mary Lake to maintain beneficial water levels.

Flood Management: 130 acre-feet (86%) of the average annual runoff will be delayed annually from flowing through Mary Lake and into Jenny Creek. All of the runoff generated from an 85th percentile 24-hr storm will be captured and slowly released.



Community Enhancements: Signage to educate public about the project's multiple benefits; and native vegetation and landscaping will improve the aesthetics of the parcel.

Water Supply: The storage tank and the adjustable weir in the upper lake are designed to capture and store 9.1 acre-feet for supplying Lake Mary during the summer months. This reduces the volume of potable water used for this purpose.

Volume Capture Analysis

	85th Percentile, 24-hr Storm	Long-Term Average Annual
Precipitation (in)	0.91	37.5
Runoff Volume (ac-ft)	3.7	150
Percent of Runoff Volume Captured (%)	**>100**	**86**
Total Volume Captured (ac-ft)	**3.7**	**130**

Legend

- Waterbody
- Storm Drain
- Flow Diversion
- Parcel Boundary
- Direction of Flow
- Lake Restoration
- Natural Treatment System
- Storage Tank

Project Design Information

BMP Type	Wet Basin	Storage Tank
Total Project Footprint	2.1 acres (includes 0.69 acre pretreatment)	0.50 acres
Depth (inc. 1 ft freeboard)	3-5.5 ft	9 ft
Storage Volume	12 ac-ft	4.0 ac-ft
Assumed Infiltration Rate	negligible	N/A
Stormwater Source	36 and 24 inch storm drains owned by City	Wet Basin

Note: Proposed project is conceptual and subject to change based on future feasibility assessment, funding availability, and/or other information.

Mary Lake
Lake Restoration Project Concept

City of Redding
Stormwater Resource Plan

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Figure 6

Former Sewer Ponds

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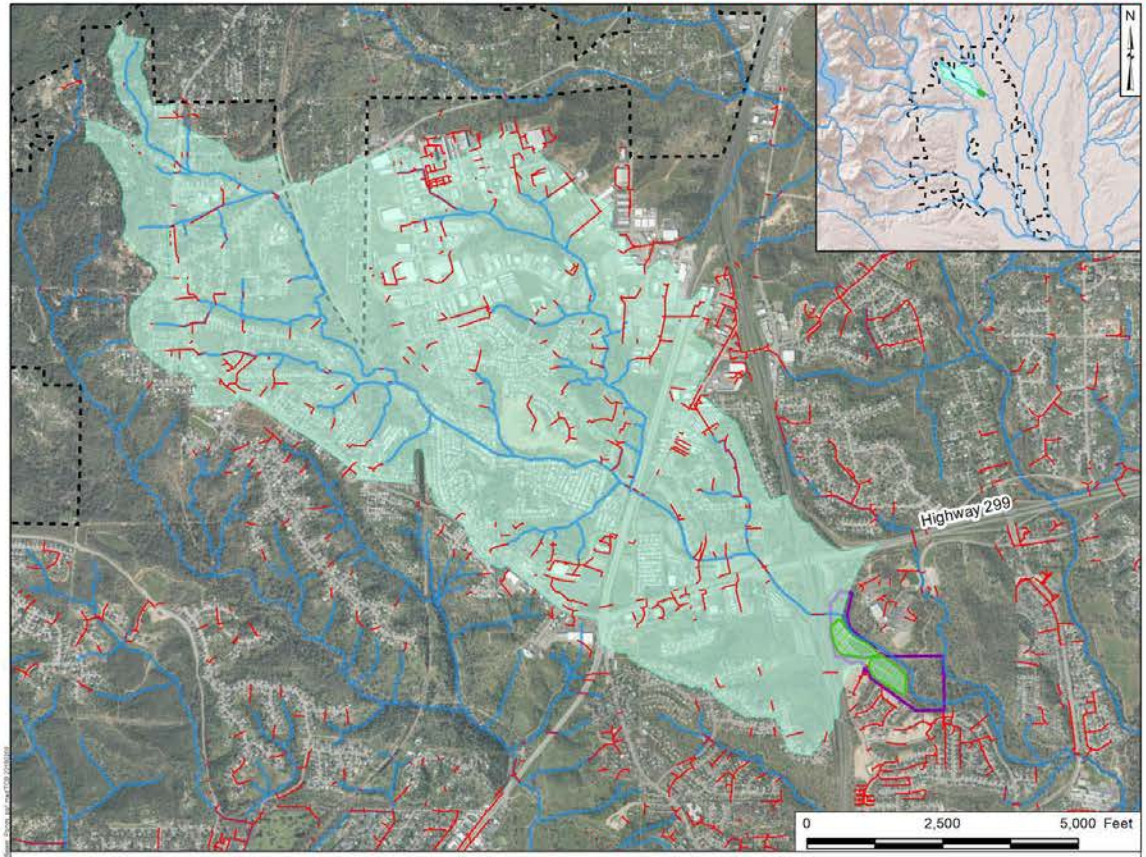

Legend

- Waterbody
- Storm Drain
- Project Drainage Area
- Project Footprint
- Parcel Boundary
- City

Project Drainage Area

Project Overview

Parcel Ownership	City of Redding
APN	116180006000, 117070028000
Soil Type	Hydrologic Soil Group C
Watershed	Churn Creek-Sacramento River
Receiving Water	Boulder Creek
Groundwater Basin	Enterprise

Note: Proposed project is conceptual and subject to change based on future feasibility assessment, funding availability, and/or other information.

Project Description

This project plans to revitalize existing infrastructure to allow for water quality treatment through a series of wet basins with extended detention. The abandoned sewer ponds are located adjacent to Boulder Creek, which is a salmonid stream and receives significant runoff from areas considered high priority for trash and pollution control. Water will be diverted from Boulder Creek just after it crosses under the I-5 freeway and flow through the wet basins before flowing back into Boulder Creek. The upper basin will be expanded and include a pretreatment area while the lower basin will retain its current footprint. Vegetation, walking paths, and interpretive signage will be incorporated.

Potential Site Constraints:

The basin area should be inspected prior to finalizing the project design to confirm no protected species are present. Also necessary ecological instream flows within Boulder Creek along the project location should be confirmed to assist with the design of the project. Numerous permits will need to be acquired to implement this project (RWQCB, CDFW, Army Corps, County, etc.)

Example Wet Basins in Construction

Former Sewer Ponds
Wet Basin (with extended detention)
Project Concept
City of Redding
Stormwater Resource Plan

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Figure 1

Former Sewer Ponds

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Legend

- Waterbody
- Storm Drain
- Flow Diversion
- BMP Footprint
- Parcel Boundary
- Direction of Flow

Project Design Information

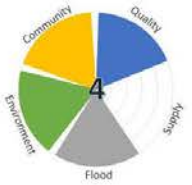
BMP Type	Wet basins with extended detention
Total Project Footprint	13 acres (includes 3.3 acres pretreatment)
Depth	3-9 ft (includes 1 ft freeboard)
Storage Volume	41 ac-ft
Assumed Infiltration Rate	negligible
Stormwater Source	Boulder Creek

Note: Proposed project is conceptual and subject to change based on future feasibility assessment, funding availability, and/or other information.

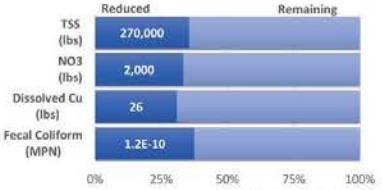
Project Benefits

All benefits are expressed as an average annual estimate based on historical modeling.

Overall Multi-Benefit Score
Highest possible score is a 5

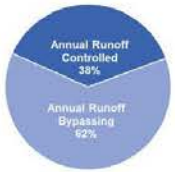


Water Quality:
Pollutant Load Reductions from Drainage Area



Environmental Enhancements: Captured water will enhance the park greenspace and promote vegetation, increasing the habitat value.

Flood Management: 920 acre-feet (38%) of the average annual runoff will be delayed from flowing down Boulder Creek. 77% of the runoff generated from an 85th percentile 24-hr storm will be captured and slowly released back into Boulder Creek.



Community Enhancements: Signage to educate public about the project's multiple benefits; and native vegetation and landscaping will improve the aesthetics of the parcel.

Water Supply: There are no water supply benefits, because infiltration is assumed to be negligible.

Volume Capture Analysis

	85th Percentile, 24-hr Storm	Long-Term Average Annual
Precipitation (in)	0.91	37.5
Runoff Volume (ac-ft)	59	2,400
Percent of Runoff Volume Captured (%)	**77**	**38**
Total Volume Captured (ac-ft)	**46**	**920**

Former Sewer Ponds
Wet Basin (with extended detention)
Project Concept

City of Redding
Stormwater Resource Plan

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Figure 2

Market-Pine Alley

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Legend

- Waterbody
- Storm Drain
- Project Drainage Area
- Project Footprint
- Parcel Boundary
- City

Project Drainage Area

Project Overview

Parcel Ownership	City of Redding
APN	N/A
Soil Type	Hydrologic Soil Group C
Watershed	Churn Creek-Sacramento River
Receiving Water	Sacramento River
Groundwater Basin	Anderson

Note: Proposed project is conceptual and subject to change based on future feasibility assessment, funding availability, and/or other information.

Project Description

This project plans to turn the alley between Market and Pine Street in downtown Redding into a green pedestrian corridor by replacing the existing surface with permeable pavement and rain gardens with an underdrain system. The stormwater will be collected from the busy area near Eureka Way via the existing storm drains and surface runoff. Permeable pavement and rain gardens will reduce the amount of ponding in the alley and provide water quality treatment by allowing the stormwater runoff to percolate into the underdrain system.

Potential Site Constraints:

Business owners on either side of the alley should be coordinated with during planning and construction stages since they alley provides access to some parking areas. Percolation testing should be conducted to confirm assumed infiltration rates. Additionally subsurface utilities may need to be relocated.

Location of Proposed Green Street

Market-Pine Alley
Green Street Project Concept

City of Redding
Stormwater Resource Plan

Geosyntec consultants

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Figure 3

Market-Pine Alley

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Legend

- Waterbody
- Storm Drain
- Flow Diversion
- BMP Footprint
- Parcel Boundary
- Direction of Flow

Project Design Information

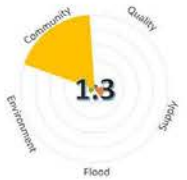
BMP Type	Green Street
Total Project Footprint	0.16 acres (includes 0.041 acre pretreatment)
Depth	2.3 ft
Storage Volume	0.14 ac-ft
Assumed Infiltration Rate	0.32 in/hr
Stormwater Source	Surface Runoff

Note: Proposed project is conceptual and subject to change based on future feasibility assessment, funding availability, and/or other information.

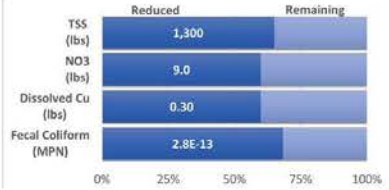
Project Benefits

All benefits are expressed as an average annual estimate based on historical modeling.

Overall Multi-Benefit Score
Highest possible score is a 5



Water Quality:
Pollutant Load Reductions from Drainage Area



Environmental Enhancements: Captured water will enhance the greenspace and promote vegetation, increasing the habitat value.

0.03 acres of habitat created

Flood Management: 5.6 acre-feet (57%) of the average annual runoff will be removed annually from the stormdrain system. About half of the runoff generated from an 85th percentile 24-hr storm will be captured and infiltrated.

Community Enhancements: Signage to educate public about the project's multiple benefits; and native vegetation and landscaping will improve the aesthetics of the alley.

Water Supply: Assuming 65% of the infiltrated water reaches groundwater, 2.1 acre-feet will be recharged annually, which is equivalent to the supply for 5.1 households.

Volume Capture Analysis

	85th Percentile, 24-hr Storm	Long-Term Average Annual
Precipitation (in)	0.91	37.5
Runoff Volume (ac-ft)	0.21	8.7
Percent of Runoff Volume Captured (%)	**48**	**57**
Total Volume Captured (ac-ft)	**0.10**	**5.6**

Market-Pine Alley
Green Street Project Concept

City of Redding
Stormwater Resource Plan

Geosyntec consultants

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Figure 4

Quantified Benefits

Project Location	Project Type	Project Footprint (acres)	Annual Pollutant Load Reductions*					Water Supply (acre-ft/yr)**	Runoff Volume Controlled (cu ft/yr)
			TSS (lb/yr)	Diss P (lb/yr)	NO3 (lb/yr)	Diss Cu (lb/yr)	Fecal Coliform (10^{12} MPN/yr)		
Downtown Mall	Porous pavement and rain garden	0.46	2,600	5.1	15	0.22	0.34	3.4	340,000
Mary Lake Pond	Wet Basin (with extended detention)	2.6	52,000	72	280	1.8	18	9.1	5,700,000
Old City Sewer Ponds	Wet Basin (with extended detention)	13	270,000	610	2,000	26	120	0	40,000,000
Linden Ditch	Infiltration System	1.7	77,000	87	440	2.9	9.4	110	7,300,000
Pine Alley	Porous pavement and rain garden	0.16	1,300	5.9	9	0.3	0.28	2.1	240,000

*Only a selection of key pollutants are shown. 12 pollutants were modeled and all the load reductions will be included in the SWRP.
** Water supply benefits are for project planning only and are not to be used for forecasting water supply.

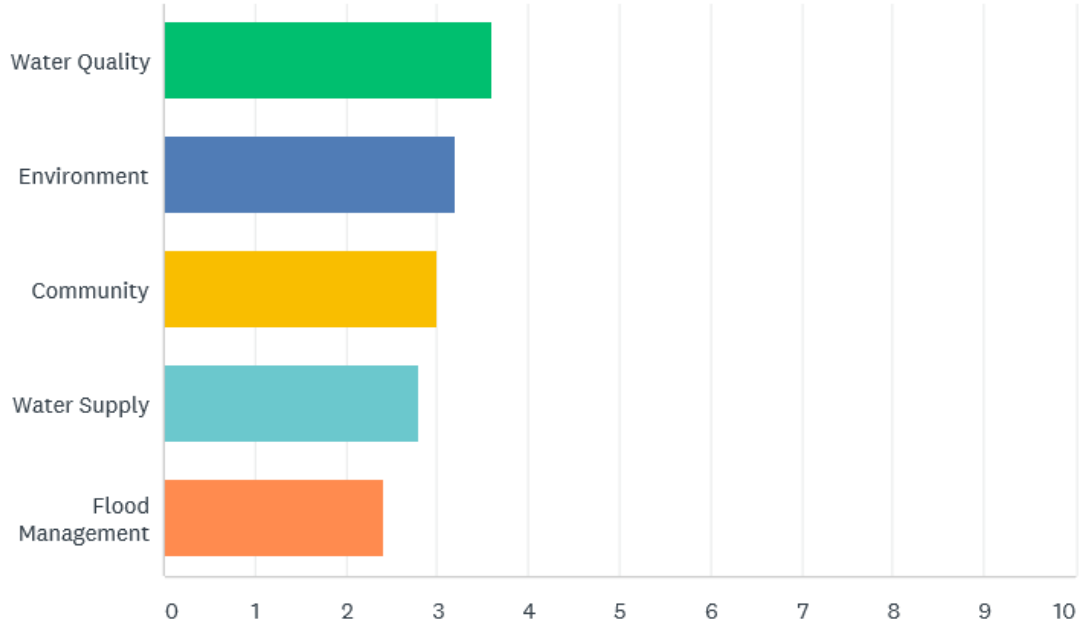
Multi-Benefit Prioritization

Benefit Category	Quantitative Benefit	Qualitative Benefit Weighting	Multi-Benefit Weight
Water Quality	Multi-pollutant load reduction	1 = Non-urban non-listed pollutant 2 = Urban non-listed pollutant 4 = 303(d) listed 5 = TMDL listed	30%
Water Supply	Potential water supply volume	0 = No infiltration or planned use 1 = Provides infiltration in a confined aquifer not used for water supply 2 = Improved water efficiency through drought tolerant vegetation and/or removal of high water need vegetation 3 = Provides groundwater recharge in an unconfined aquifer that is not used for water supply 4 = Provides infiltration in a confined aquifer used for water supply 5 = Provides infiltration in a unconfined aquifer used for water supply	20%
Flood Management	Runoff volume controlled	0 = No flooding problem known to occur locally 1 = Minor alleviation of a local flooding problem 3 = Minor flooding problem known to occur locally 5 = Significant flooding problem known to occur locally	20%
Environment	Environmental Enhancement Area	0 = No environmental benefit 1 = One additional environmental benefits and no main benefits 3 = Medium environmental benefit 5 = High environmental benefit	20%
Community		0 = No community benefit 1 = One additional community benefits and no main benefits 3 = Medium community benefit 5 = High community benefit	10%

Priorities for Benefits

The final four projects will be prioritized using five weighted categories. Please assist the Technical Advisory Committee in weighting these categories by telling us which project benefits are most important to you. Please assign a rank to each of the five categories. *A number "1" indicates this project benefit is a higher priority. *A number "5" indicates this project benefit is a lower priority.

Answered: 5 Skipped: 0



Qualitative Benefit Weights

Project Location	Project Type	Qualitative Benefit Weights				
		Water Quality*	Water Supply	Flood Management	Environmental	Community
Downtown Mall	Porous pavement and rain garden	1.4	3	1	5	5
Mary Lake Pond	Wet Basin (with extended detention)	1.4	5	1	5	5
Old City Sewer Ponds	Wet Basin (with extended detention)	1.4	3	5	5	5
Linden Ditch	Infiltration System	1.4	3	5	5	5
Pine Alley	Porous pavement and rain garden	1.4	3	1	5	5

*The values shown here represent the average qualitative score of all pollutants.

Shading from light blue to dark blue indicates low to high values

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Multiple Benefit Scores

Project Location	Project Type	Overall Benefit Scores					Multi-Benefit Index
		Water Quality	Water Supply	Flood Management	Environmental	Community	
Linden Ditch	Infiltration System	4.7	3	5	3.4	5	4.2
Old City Sewer Ponds	Wet Basin (with extended detention)	5	0	5	5	5	4.0
Mary Lake Pond	Wet Basin (with extended detention)	3.2	5	0.78	5	5	3.8
Downtown Mall	Porous pavement and rain garden	0.29	1.1	0.047	0.91	5	1.5
Pine Alley	Porous pavement and rain garden	0.30	0.69	0.033	0.32	5	1.3

Shading from light blue to dark blue indicates low to high values

Prioritization –
Cooperating Entity Projects with Quantified Benefits

Project Location	Project Type	Multi-Benefit Index	Prioritization (low, medium, or high)
Linden Ditch	Infiltration System	4.2	High
Old City Sewer Ponds	Wet Basin (with extended detention)	4.0	High
Mary Lake Pond	Wet Basin (with extended detention)	3.8	High
Downtown Mall	Porous pavement and rain garden	1.5	High
Pine Alley	Porous pavement and rain garden	1.3	High

- High: Multi-benefit index > 0 and project has a willing land owner that is committed to maintenance
- Medium: Multi-benefit index > 3 and project does not have a willing or public land owner or that is committed to maintenance
- Low: Multi-benefit index ≤ 3 and project does not have a willing or public land owner that is committed to maintenance

Qualitative Benefits

Benefit Category	None	Low	Medium	High
Water Quality	No pollutant removal	Low removal in discharge	Medium removal in discharge	Full removal of captured/diverted flow
Water Supply	No infiltration or planned use	Improved water efficiency through drought tolerant vegetation and/or removal of high water need vegetation	Some recharge of groundwater or direct use	Significant recharge of groundwater or direct use
Flood Management	No alleviation of a local flooding problem	Minor alleviation of a local flooding problem	Medium alleviation of a local flooding problem	Significant alleviation of a local flooding problem
Environmental	No environmental benefit	One (or more) additional environmental benefits and no main benefits	One main environmental benefit	Two (or more) main environmental benefits
Community	No community benefit	One (or more) additional community benefits and no main benefits	One main community benefit	Two (or more) main community benefits

Prioritization –
Projects with Qualified Benefits

Proposed by	Project Name	Project Type	Watershed	Qualitative Benefit Score (0, 1, 3, or 5)					Multi-Benefit Index	Priority
				Water Quality	Water Supply	Flood Management	Environmental	Community		
J. Oldham	Allens Golf Course Project	Wet Basin (with extended detention)	Olney Cr	5	1	5	5	5	4.2	High
J. Oldham	Callaboose Cr at Oregon St	Bioswale	Calaboose	5	1	3	3	5	3.4	High
J. Oldham	Caldwell Park	Bioretention without underdrain	Sacramento River	5	1	1	3	5	3	High
J. Oldham	Enterprise Park	Wet Basin (without extended detention)	Churn Cr	5	1	5	5	5	4.2	High
J. Oldham	Canyon Hollow Cr Enhancement	Detention Basin	Canyon Hollow Cr	5	1	5	5	3	3.8	High
J. Oldham	Olney Cr Levee Enhancement	Detention Basin	Olney Cr	5	0	5	5	3	3.6	Medium
Shasta Living Str.	Green Street 1	Media Filter		3	0	3	3	5	2.8	High
Shasta Living Str.	Green Street 2	Media Filter		3	0	3	3	5	2.8	High
Shasta Living Str.	Green Street 3	Media Filter		3	0	3	3	5	2.8	High
Marty Wayne	Trash-2		Little Churn Creek	5	0	0	0	0	1	Low
Marty Wayne	Trash-1		Little Churn Creek	5	0	0	0	0	1	Low
Amber Kelley	Henderson Ditch	treatment and/or infiltration		5	3	3	5	5	4.2	Medium
Amber Kelley	Hollow Lane	treatment and/or infiltration	Churn Cr	5	3	3	5	5	4.2	Medium
Amy Pendergast	Redding-Mall			5	3	3	5	5	4.2	Medium
Amy Pendergast	SHHSA-Trail			5	3	3	5	5	4.2	Medium
Amy Pendergast	SHHSA-Shasta			5	3	3	5	5	4.2	Medium
Amy Pendergast	SHHSA-Collyer			5	3	3	5	5	4.2	Medium
David Ledger	Oregon Gulch Restoration		Oregon Gulch	3	3	3	5	5	3.8	Medium

Wrap up

Geosyntec consultants

Primary Goals and Mission

Develop a forward-thinking 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

TAC Actions Needed

- Comment on presentation and design concepts (3/12)
- Continue to provide additional projects for inclusion
- Stakeholder meeting (week of June 4)

Group Discussion

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