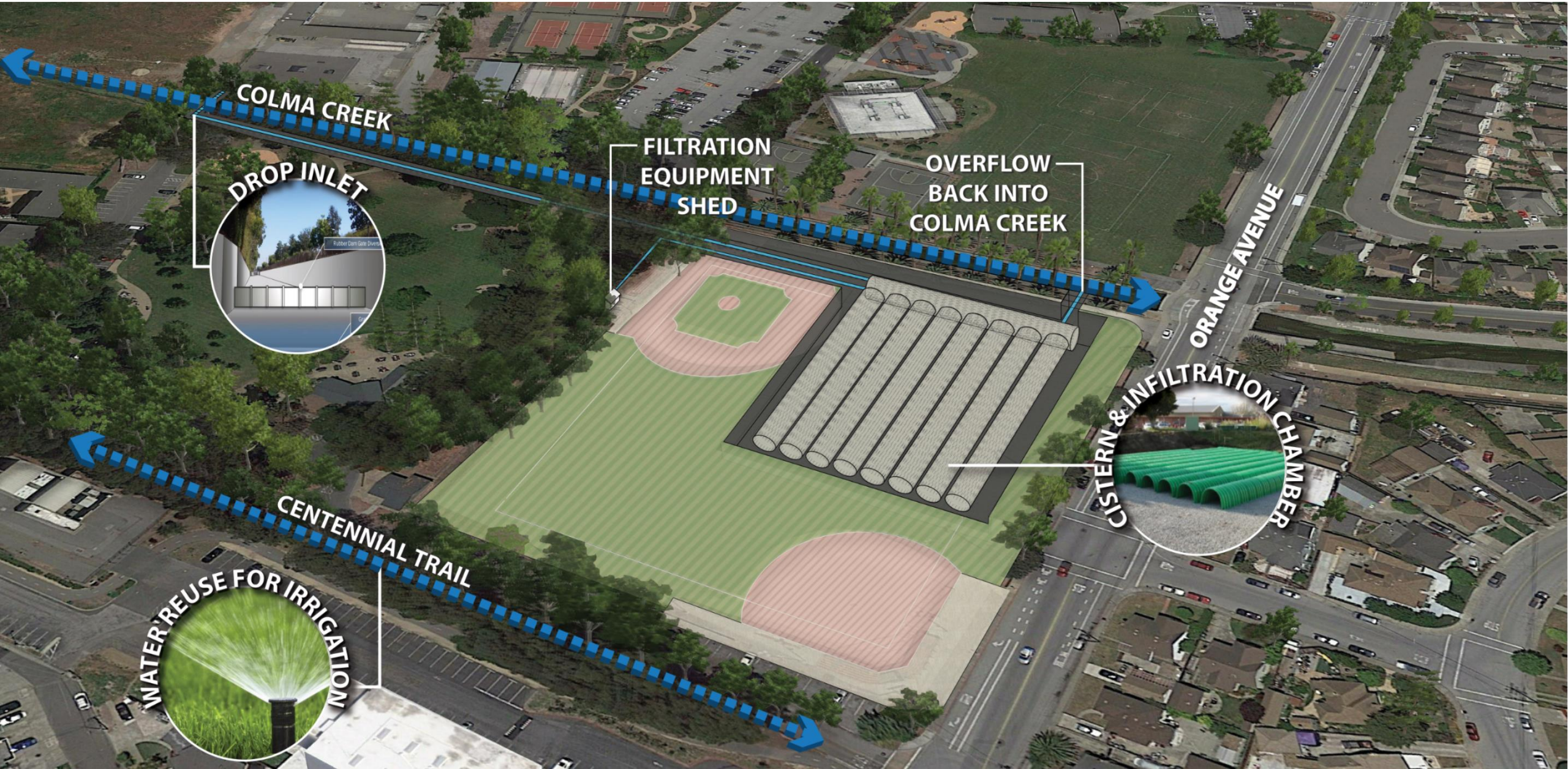
Orange Memorial Park Storm Water Capture Project

South San Francisco City Council Meeting

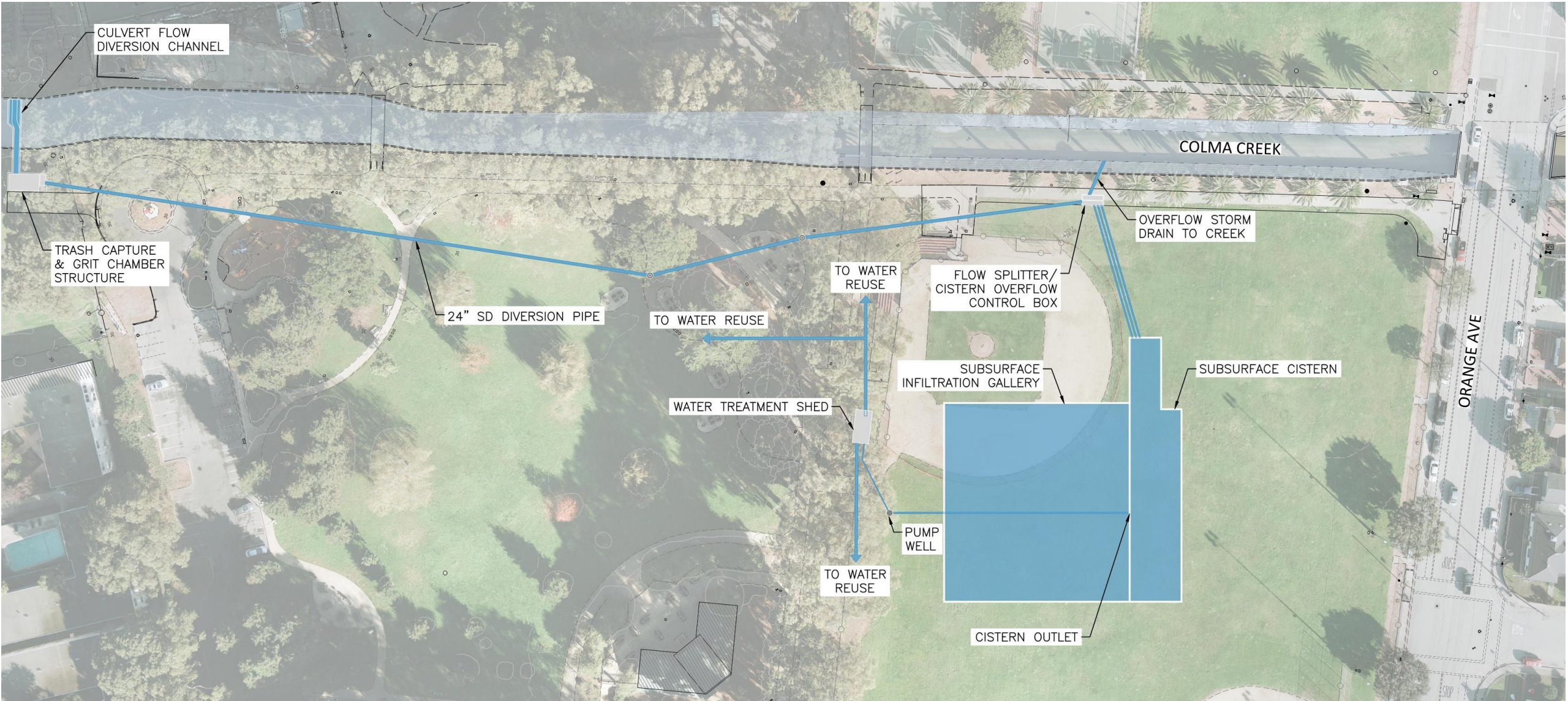
June 26, 2019

Project Update

Selected Alternative: Subsurface Cistern under Ballfields

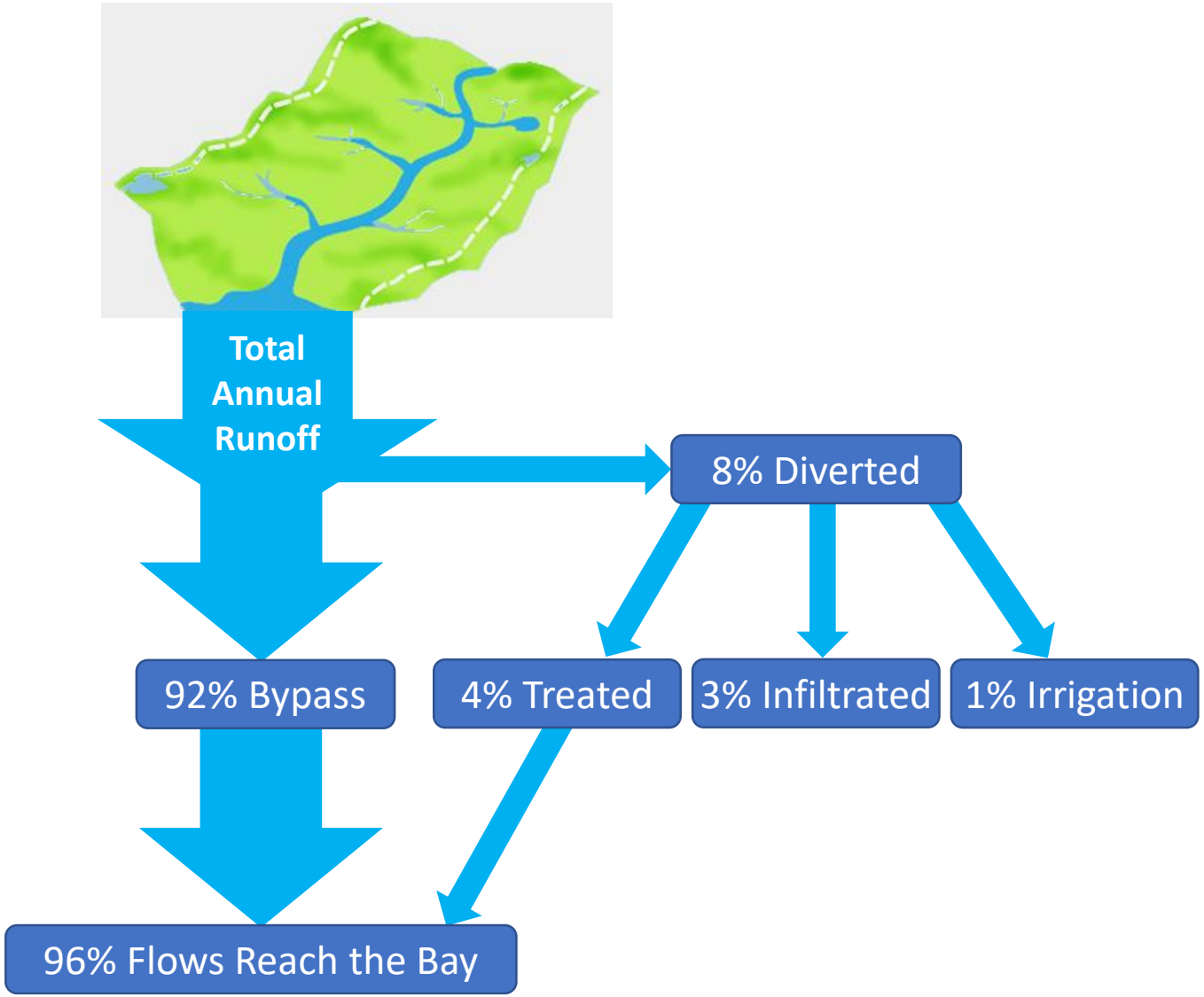


60% Design – Water Capture System Layout



60% Design – Water Capture System Performance

Hydrology



Annual Benefits (RAA Model)

Equivalent Areas treated

- 351 acres for general water quality (85^{th} percentile storm)
- 133 acres for trash capture (1-yr, 1-hr storm)

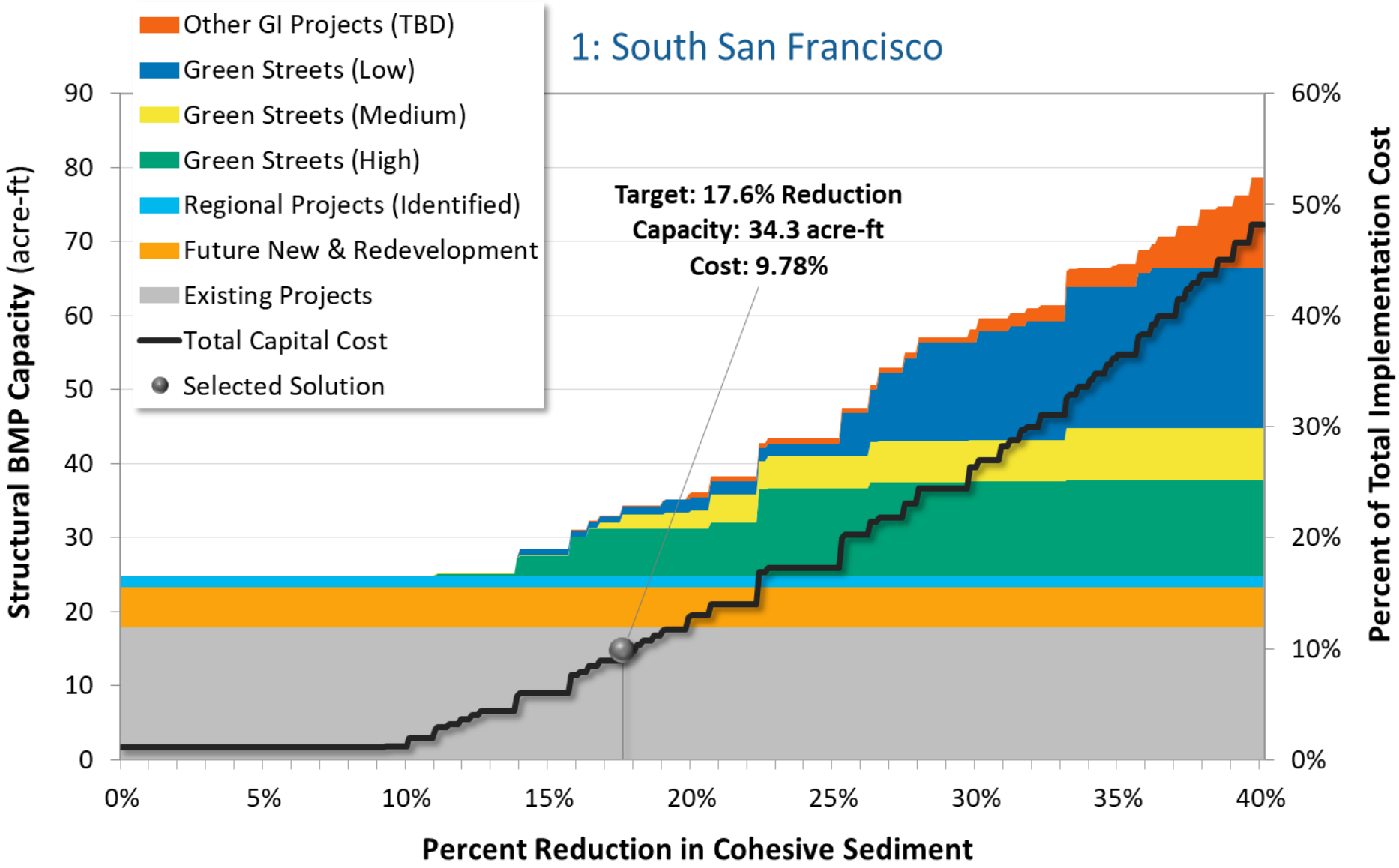
Pollutant Load Reduction

- 56 tons of sediment removed
- 5 grams of PCBs removed
- 16 grams of Hg removed

Beneficial Uses

- 120 ac-ft/yr groundwater recharge
- 40 ac-ft/yr potable offset
- 160 ac-ft/yr treated and returned

Water Quality Benefits



Schedule – Design, Bid, and Construction

- Design, Bid, Stormwater Capture
- Planning ballfield replacement

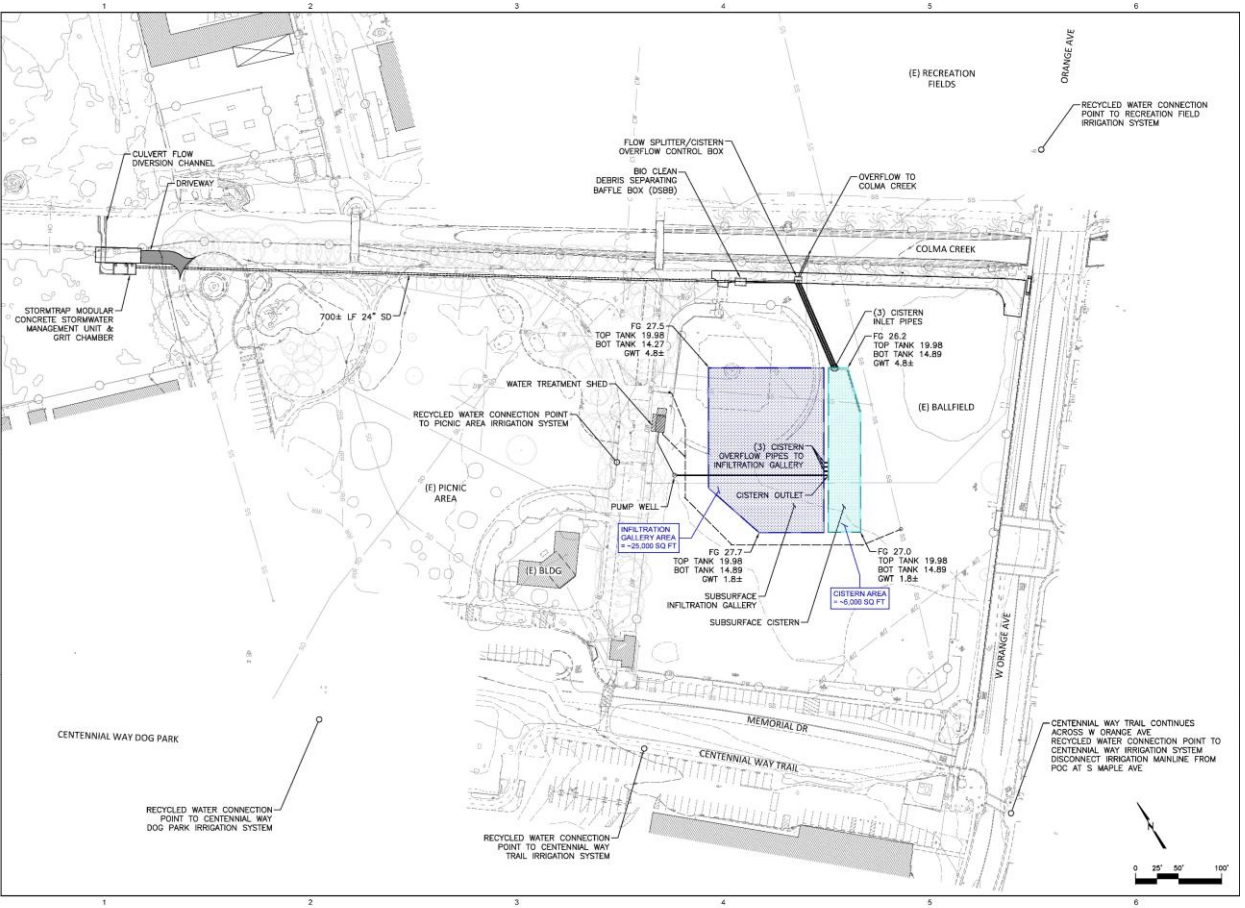
- Complete Construction Stormwater Capture
- Begin construction of ballfield replacement

- Complete construction phase 1 of new ballfield

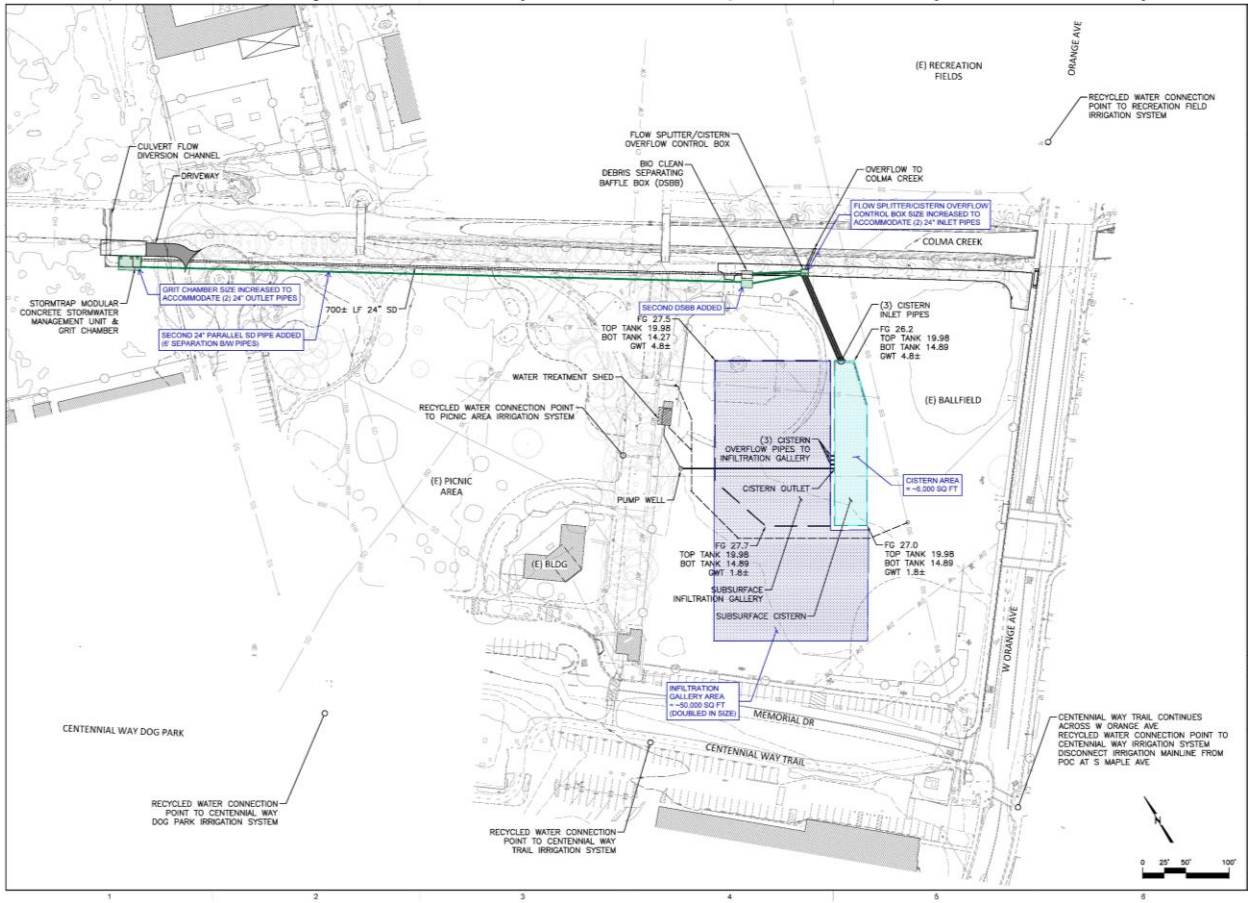
New CIA with Caltrans

Potential Expanded Project Footprint

Current Tank Layout



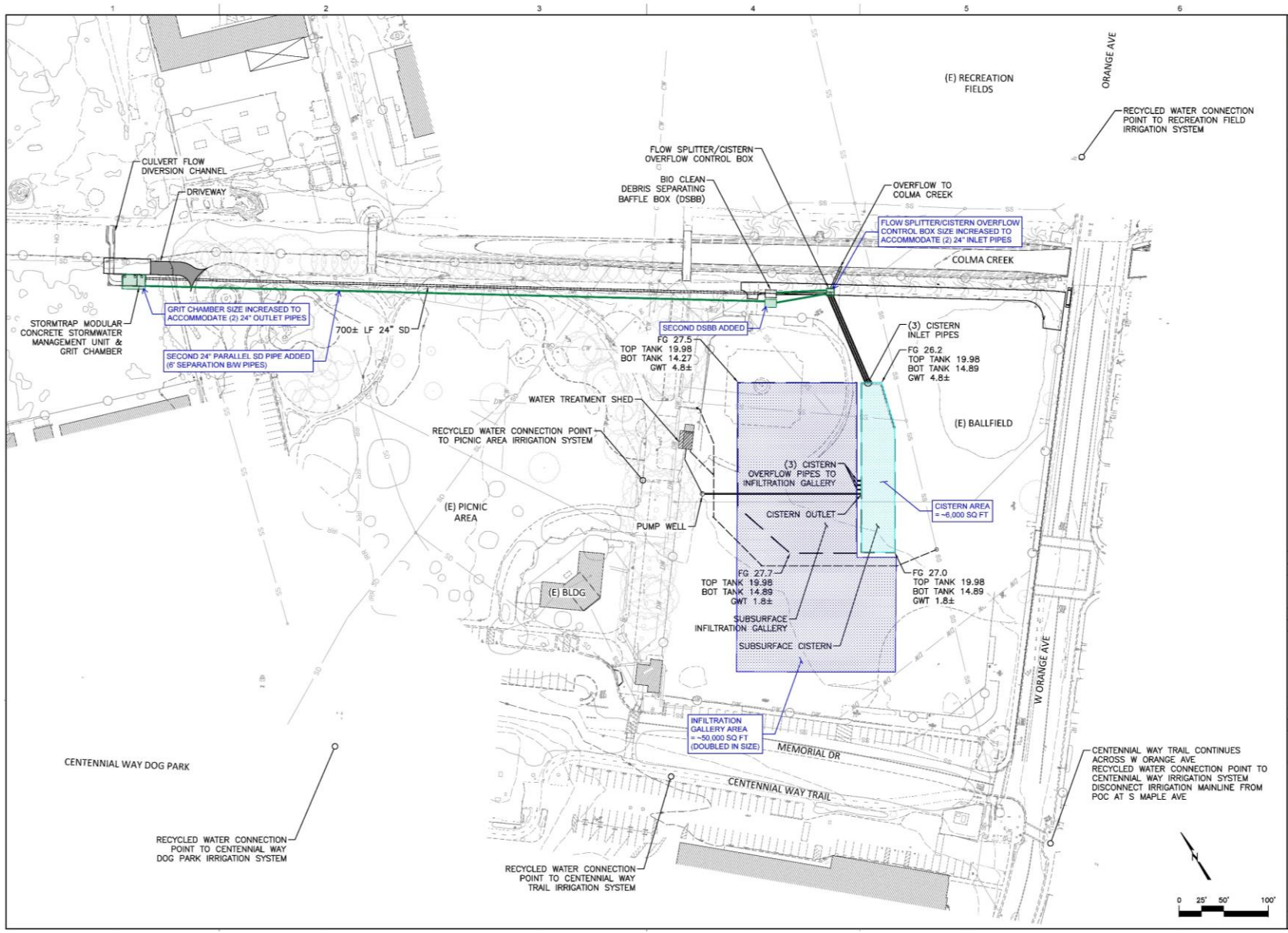
Expanded Tank Layout



Potential Expanded Project Footprint

Upsized Elements:

- Instream diversion
- Grit chamber
- Diversion pipe
- Flow splitter
- Overflow pipe
- Infiltration gallery



Cost and Performance Comparison

Current Project

- Cost = $9.5M
  - $1.0M for field renovation
- Equivalent Area Treated = 590 ac
- 320 ac-ft diverted & treated
  - 120 ac-ft infiltrated
  - 40 ac-ft used for irrigation
  - 160 ac-ft treated & returned

Expanded Project

- Cost = $15.5M
  - $1.7M for field renovation
- Equivalent Area Treated = 1,150 ac
- 640 ac-ft diverted & treated
  - 240 ac-ft infiltrated
  - 40 ac-ft used for irrigation
  - 360 ac-ft treated & returned

Cost and Performance Comparison

Current Project

Total Annual Runoff

8% Diverted

92% Bypass

4% Treated

3% Infiltrated

1% Irrigation

96% Flows Reach the Bay

Expanded Project

Total Annual Runoff

16% Diverted

84% Bypass

9% Treated

6% Infiltrated

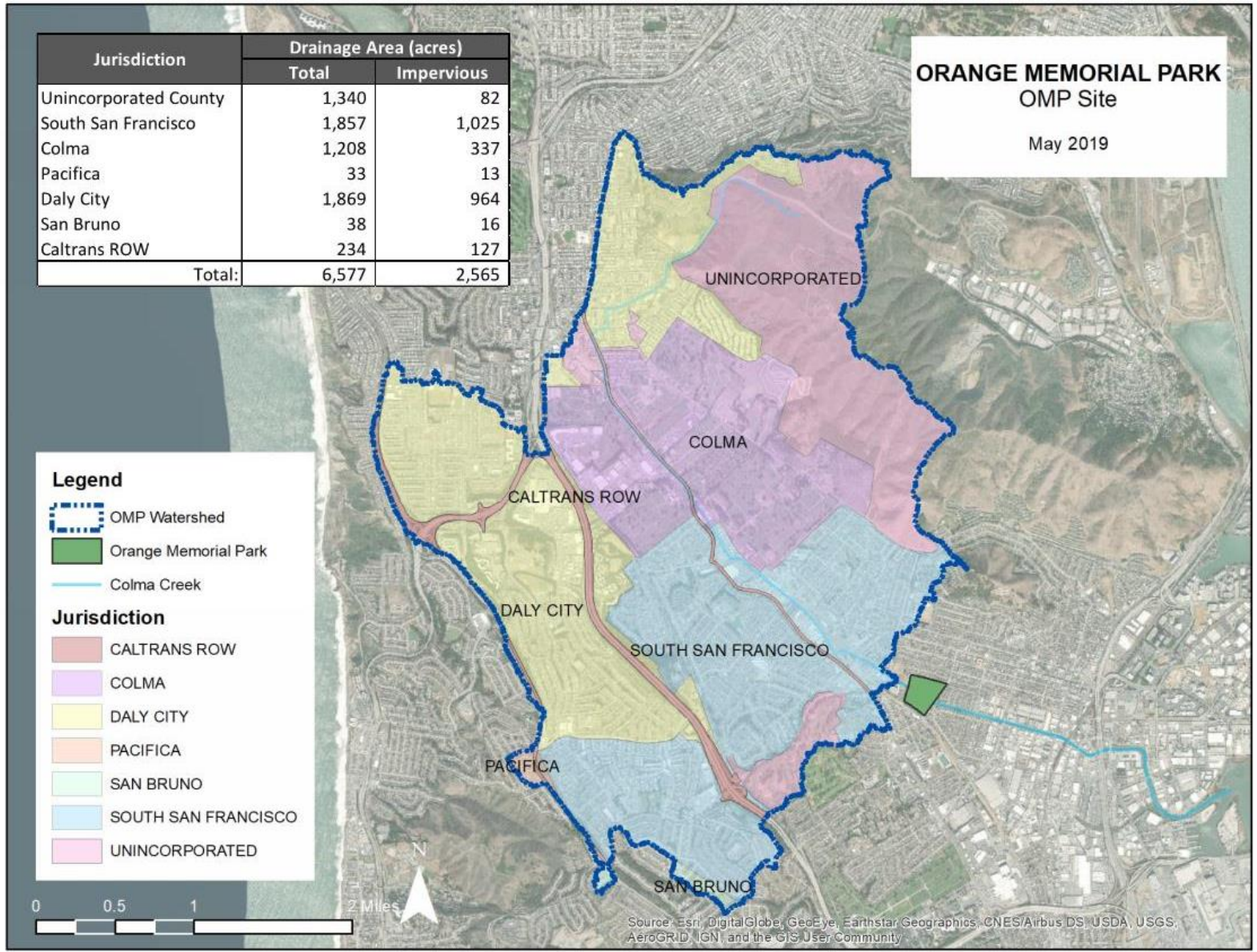
1% Irrigation

93% Flows Reach the Bay

Thank you!

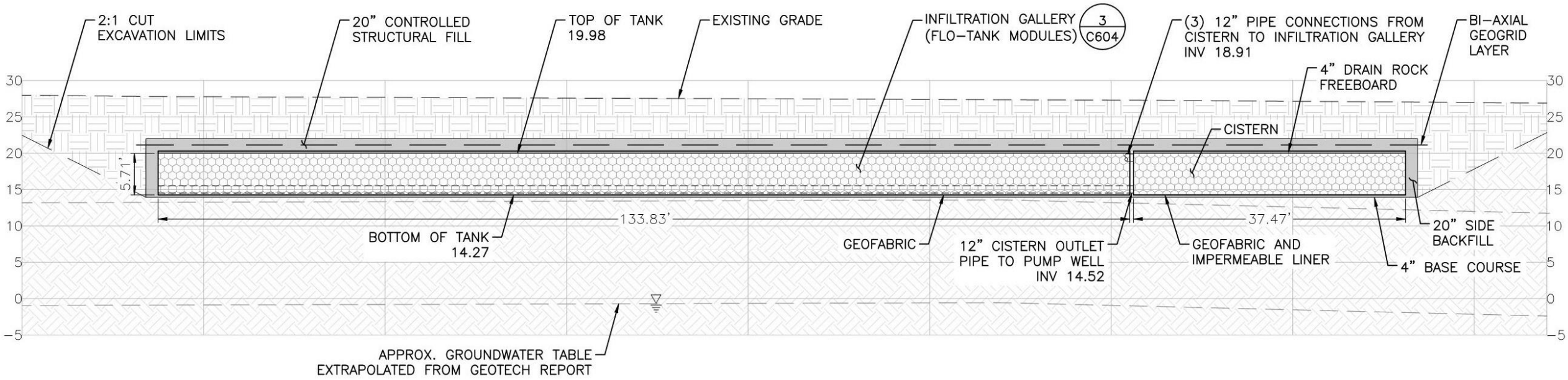
Extra Slides

Tributary Watershed

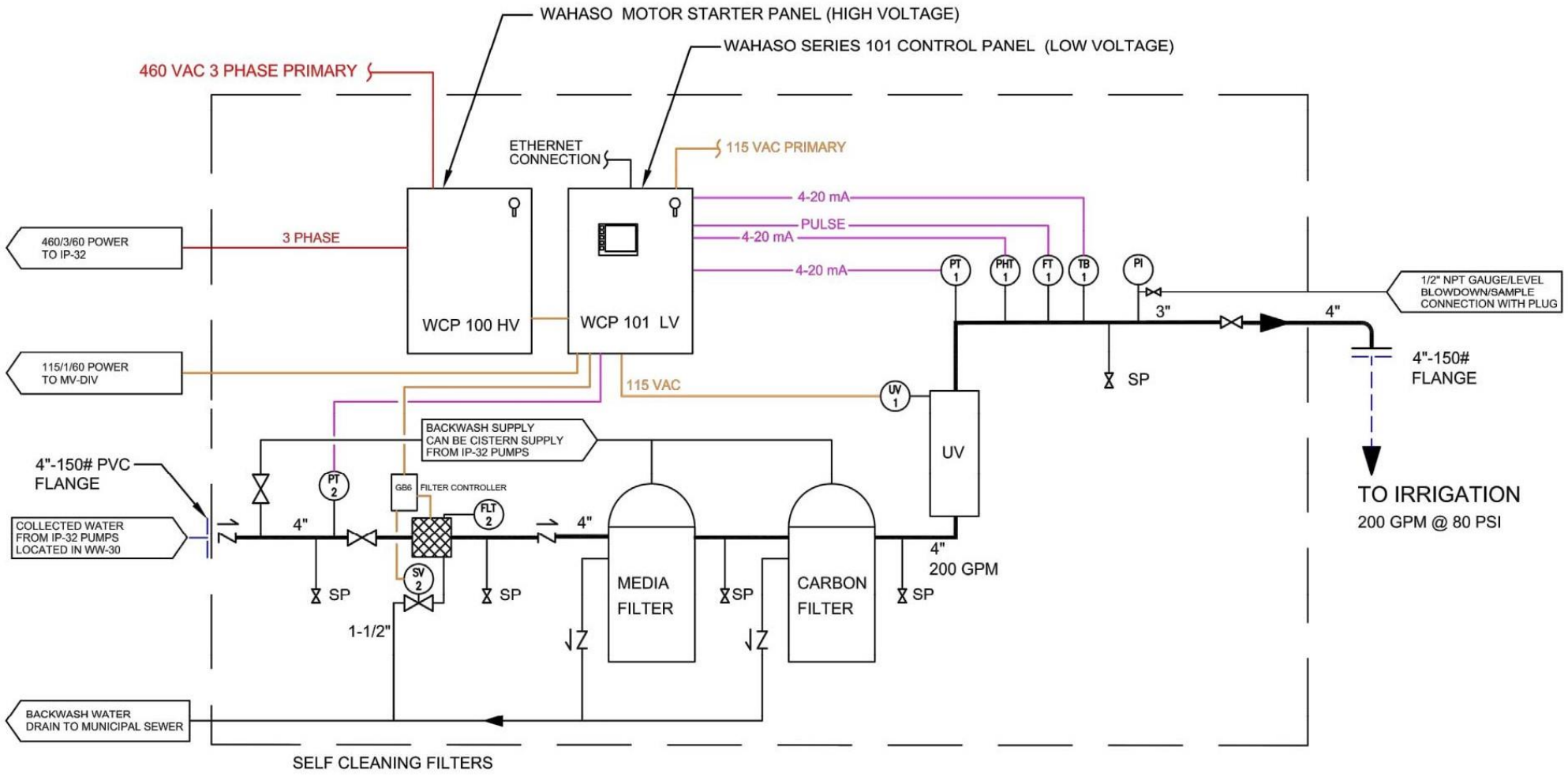


Jurisdiction	Drainage Area (acres)	
	Total	Impervious
Unincorporated County	1,340	82
South San Francisco	1,857	1,025
Colma	1,208	337
Pacifica	33	13
Daly City	1,869	964
San Bruno	38	16
Caltrans ROW	234	127
Total:	6,577	2,565

Subsurface Storage Reservoir – Cross Section



Water Treatment System



ABBREVIATIONS

FLT	FILTER (SELF CLEANING)
FT	FLOW TRANSMITTER
HC	HYDROCARBON TRANSMITTER
LT	LEVEL TRANSMITTER
PI	PRESSURE GUAGE
PT	PRESSURE TRANSMITTER
PHT	pH TRANSMITTER
TB	TURBIDITY TRANSMITTER
SV	SOLENOID VALVE
MV	MOTORIZED VALVE
SP	SAMPLE PORTS

Instream Diversion from Colma Creek