

An aerial photograph of Orange Memorial Park in South San Francisco. The park features a baseball field, tennis courts, and a large open field. It is surrounded by dense residential housing. A blue semi-transparent overlay covers the left side of the image, containing the project title and meeting information.

# Orange Memorial Park Storm Water Capture Project

South San Francisco  
City Council Meeting

June 26, 2019

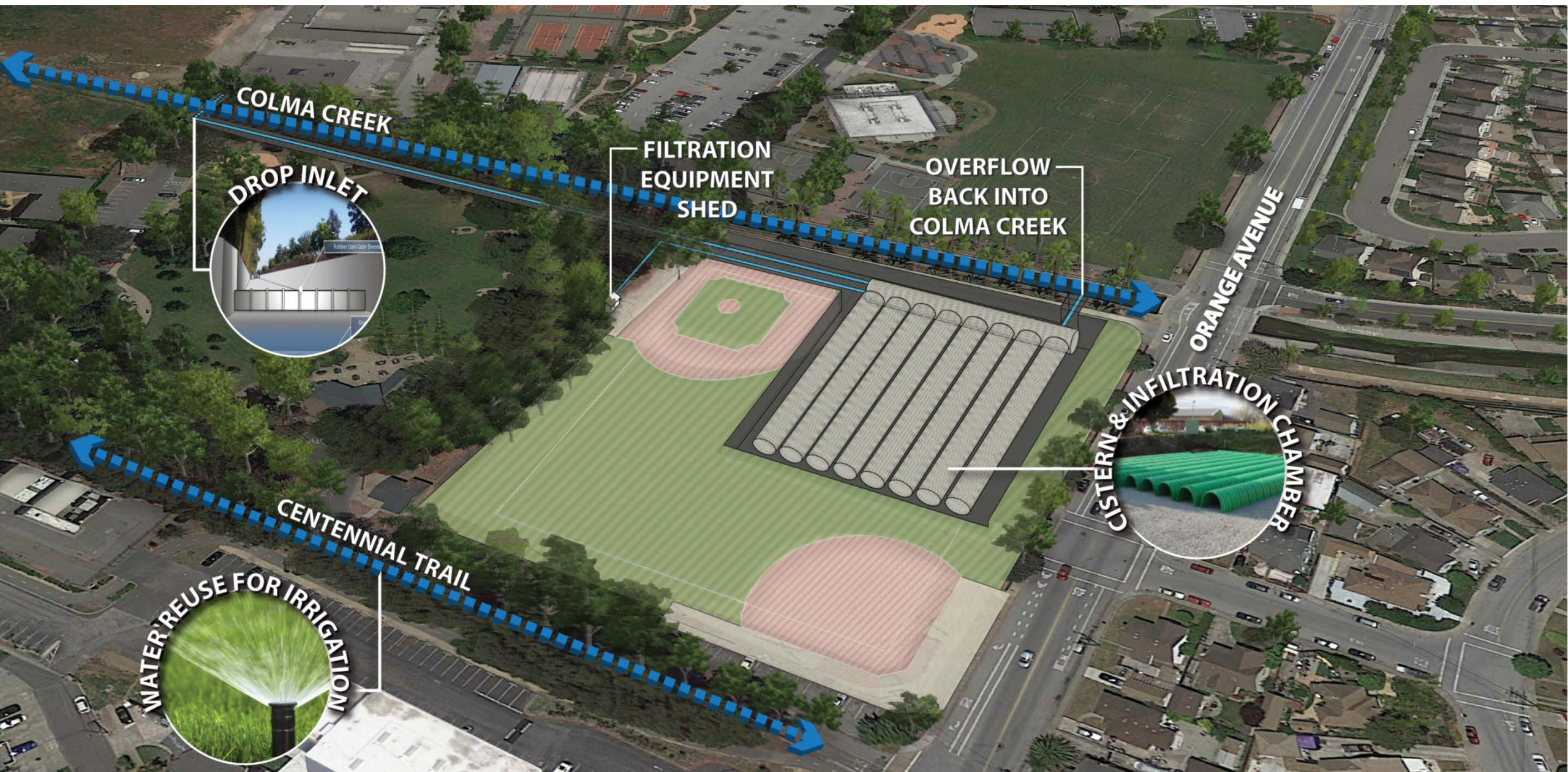




# Project Update

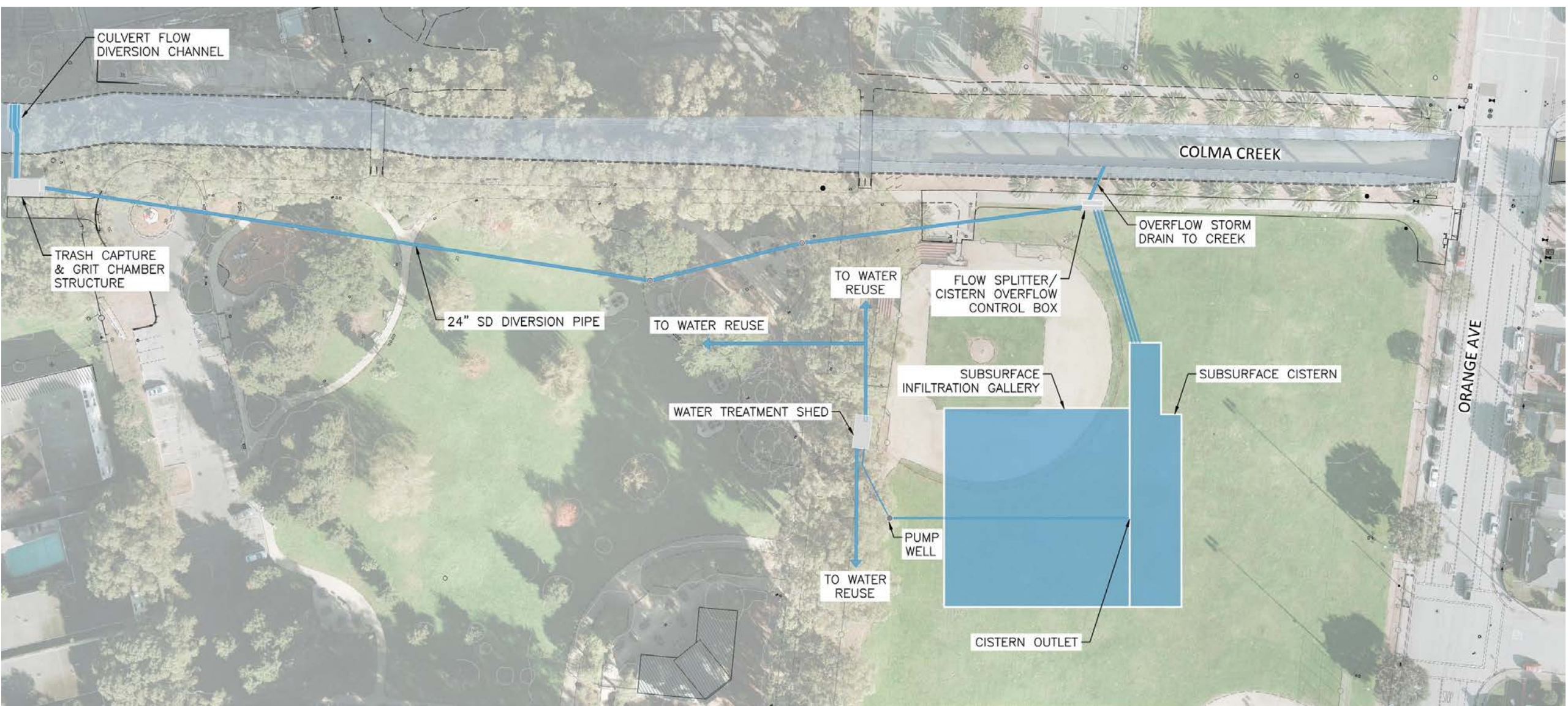


# Selected Alternative: Subsurface Cistern under Ballfields



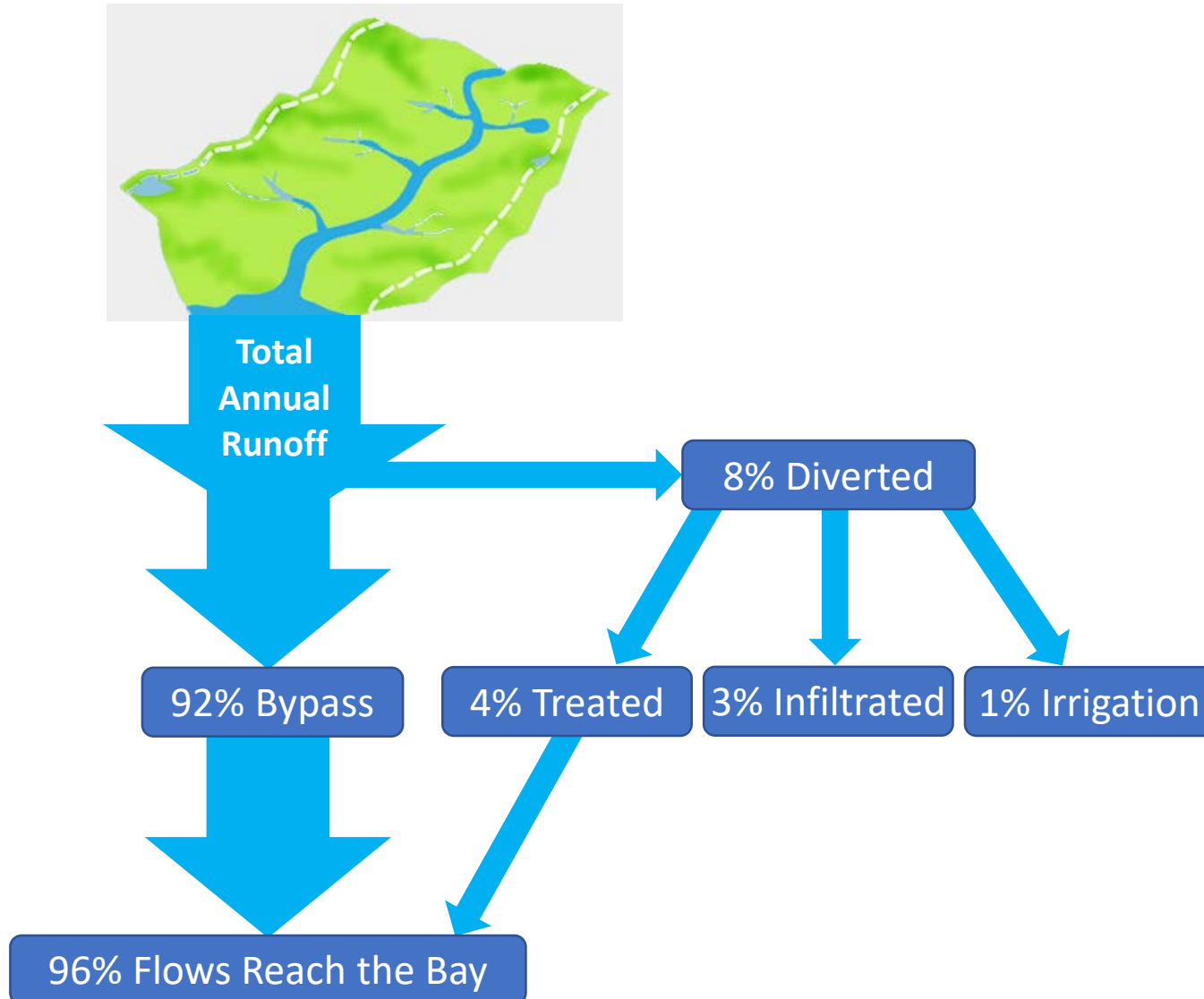


# 60% Design – Water Capture System Layout



# 60% Design – Water Capture System Performance

## Hydrology



## Annual Benefits (RAA Model)

### Equivalent Areas treated

- 351 acres for general water quality (85<sup>th</sup> percentile storm)
- 133 acres for trash capture (1-yr, 1-hr storm)

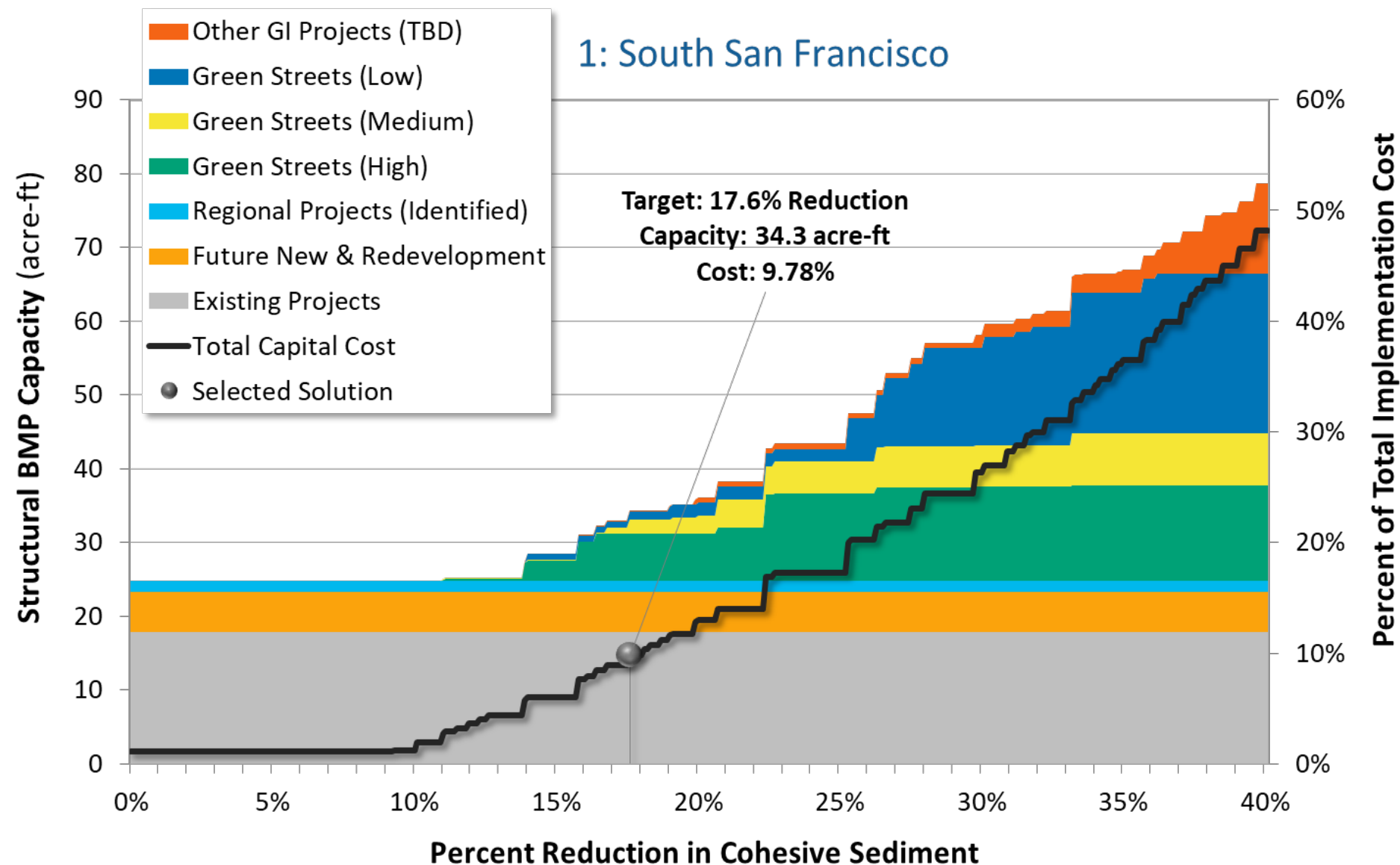
### Pollutant Load Reduction

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

### Beneficial Uses

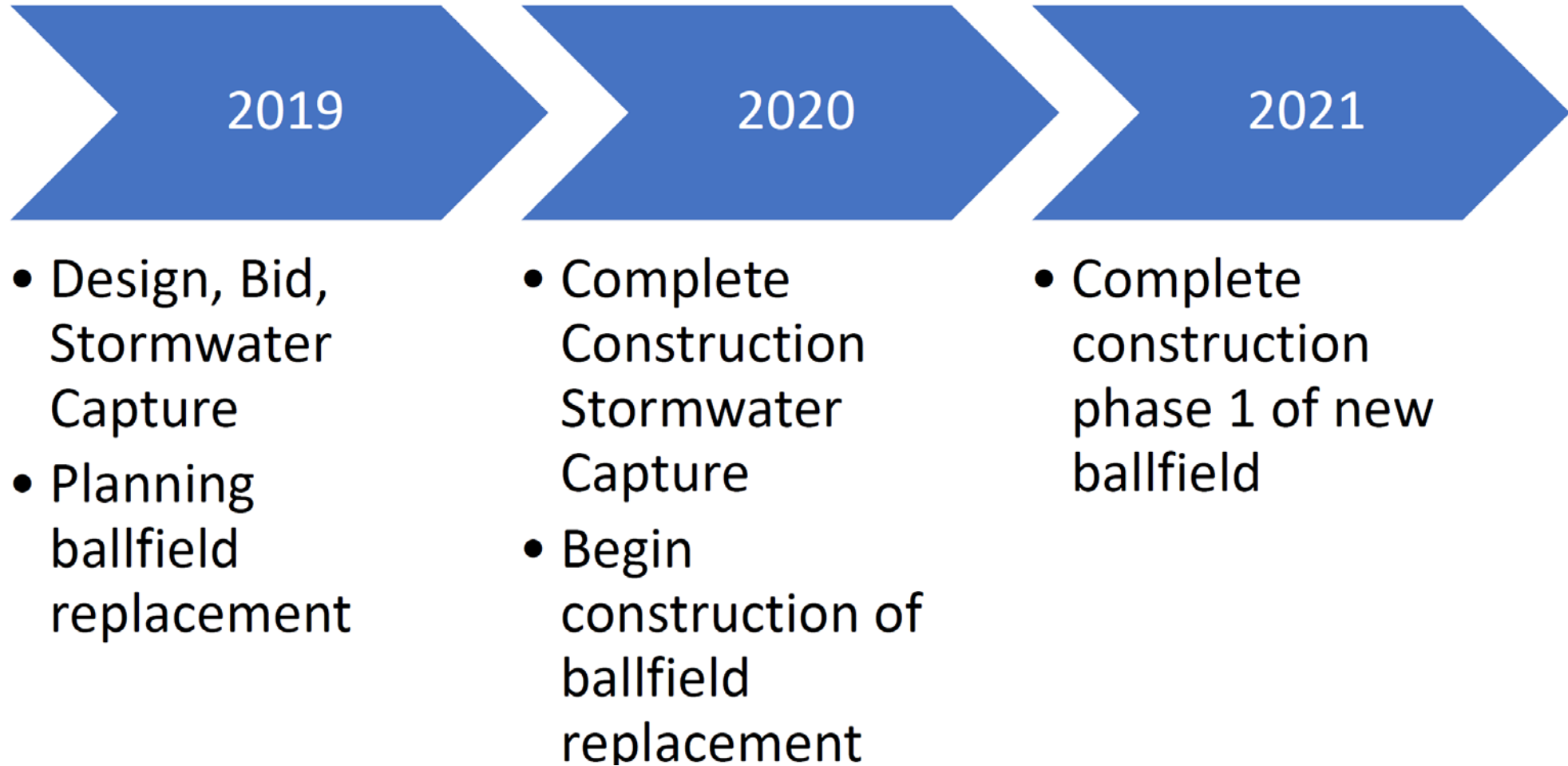
- 120 ac-ft/yr groundwater recharge
- 40 ac-ft/yr potable offset
- 160 ac-ft/yr treated and returned

# Water Quality Benefits





# Schedule – Design, Bid, and Construction

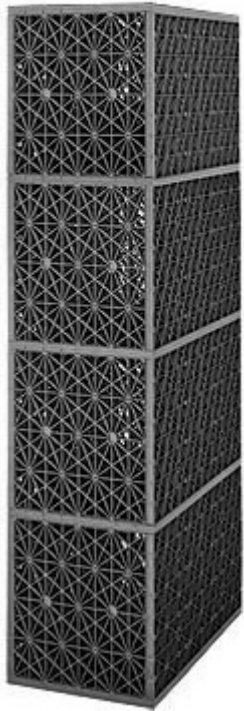


# Storage System Pre-purchase



# Stormwater Storage System Products Comparison

Atlantis Corp.  
Atlantis Quad Flo-Tank



RainHarvest Systems  
Graf EcoBloc Maxx



California Filtration Specialists  
R-Tank HD Pent



# Storage System – Cost Comparison

## Atlantis Flo-Tank

- Storage modules only: \$463,144
- Total cost: \$1,281,000

## Graf EcoBloc Maxx

- Storage modules only: \$696,609
- Total cost: \$1,525,000

## R-Tank HD Pent

- Storage modules only: \$676,425
- Total cost: \$1,492,000



# Storage System – Warranty Terms

## Atlantis Flo-Tank

- 10-year written warranty
- Applies to structural integrity of Atlantis Flo-Tank modules only

## Graf EcoBloc Maxx

- Written warranty not yet provided

## R-Tank HD Pent

- 10-year written warranty
- Applies to structural integrity of R-Tank modules only

# Storage System – Certifications

## Atlantis Flo-Tank

- Raw materials supplier compliant with ISO 9001

## Graf EcoBloc Maxx

- Manufacturing certified according to ISO 9001
- Manufacturing certified according to ISO 50001

## R-Tank HD Pent

- Raw materials supplier compliant with ISO 9001
- Independently certified AASHTO Load and Resistance Factor Design



# Storage System – Testing

## Atlantis Flo-Tank

- 3<sup>rd</sup> party testing done for samples from factory production of modules per in-house Atlantis Production Protocol and Atlantis Quality Requirements
  - Compression Tests
  - Flexibility & Deformation Tests
  - Drop Tests
  - Visual Inspection
- University of Technology Sydney performed creep tests and compression tests of Atlantis modules

## Graf EcoBloc Maxx

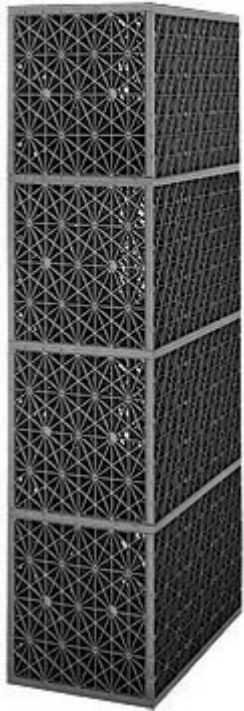
- Written warranty not yet provided
- Testing performed per requirements to obtain European product certificate (BBA)
  - Quick Compression Tests
  - Creep Rupture Tests
  - Design Strength
  - Installation Limits

## R-Tank HD Pent

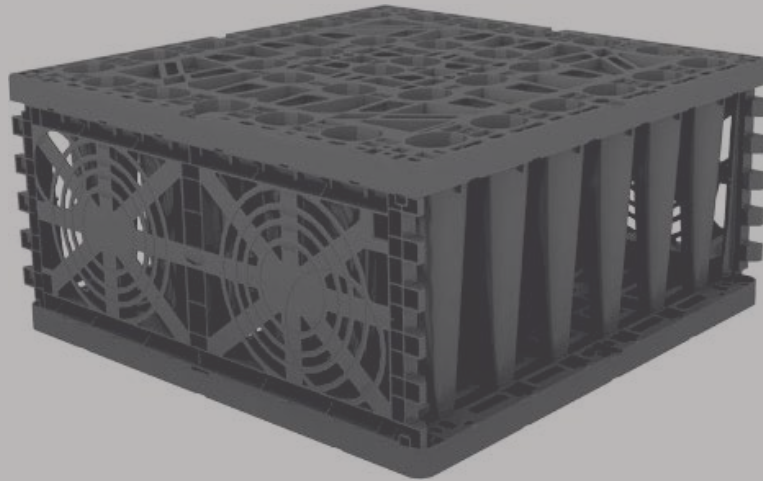
- *Information not yet provided*

# Storage System – RECOMMENDATION

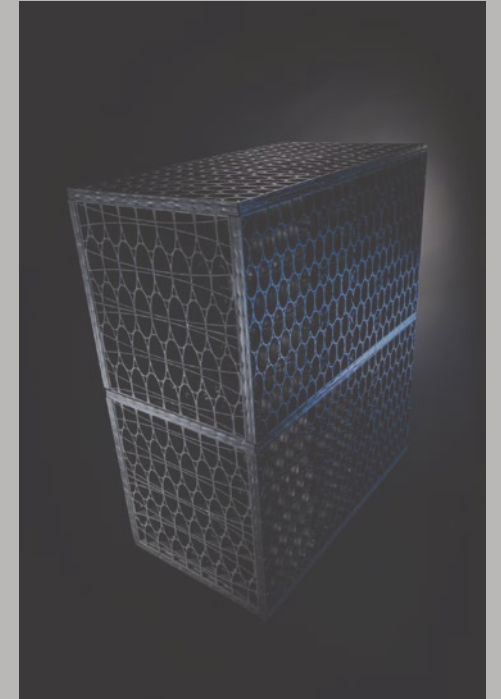
Atlantis Corp.  
Atlantis Quad Flo-Tank



RainHarvest Systems  
Graf EcoBloc Maxx



California Filtration Specialists  
R-Tank HD Pent





Thank you!