

NOVEMBER 9, 2017

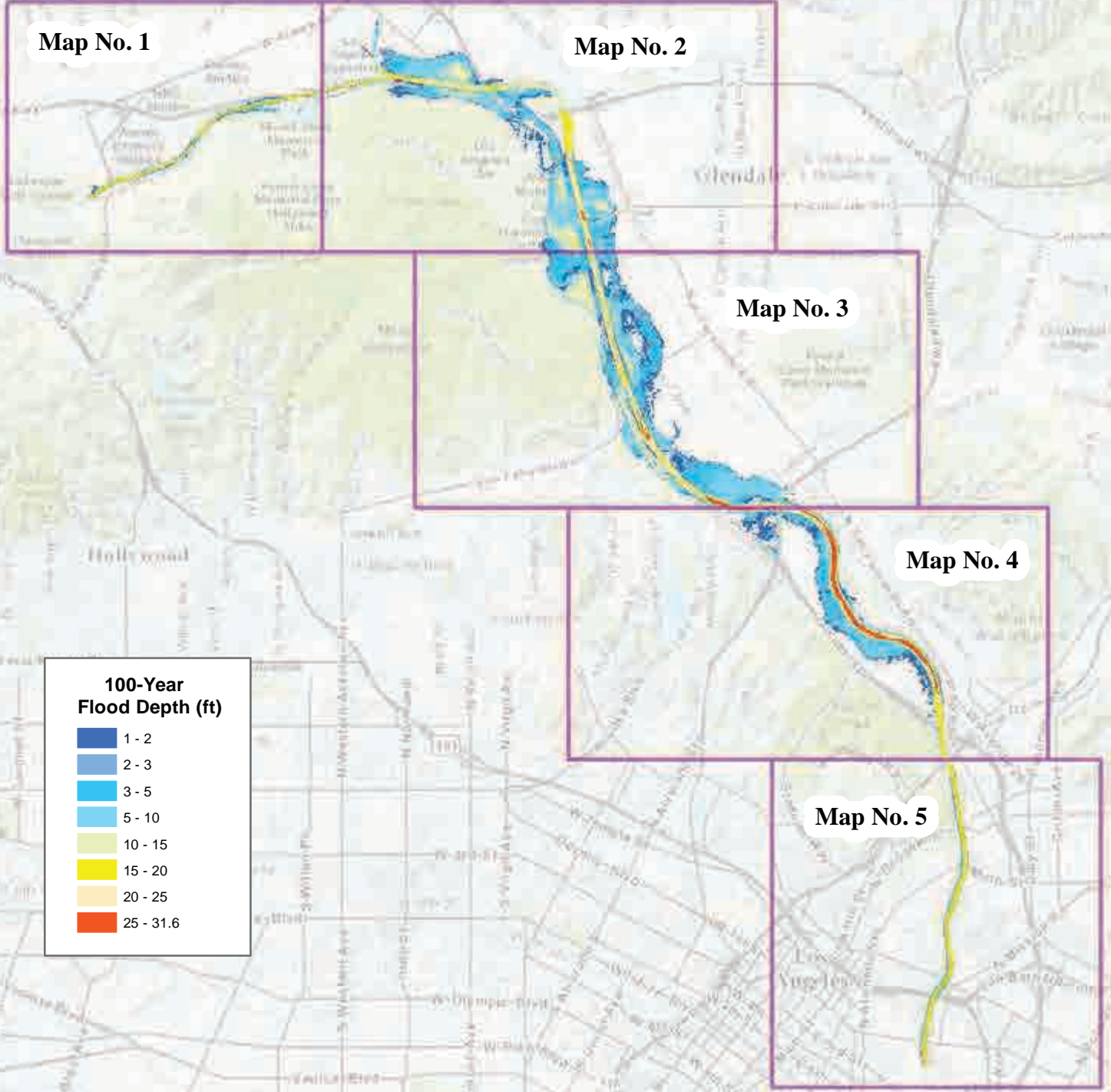
LOS ANGELES RIVER: HABITAT RESTORATION & STORMWATER CAPTURE PROJECT

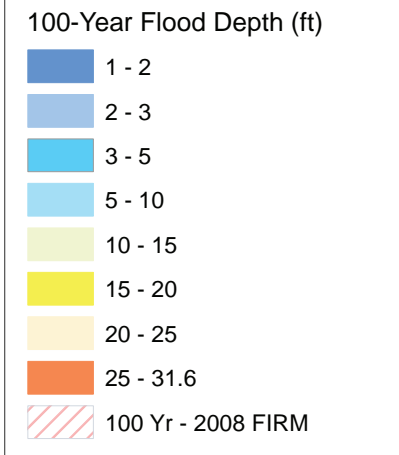
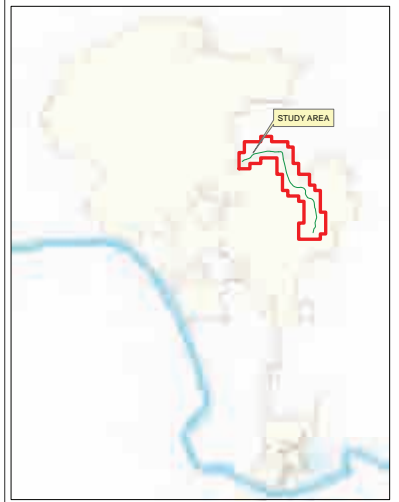
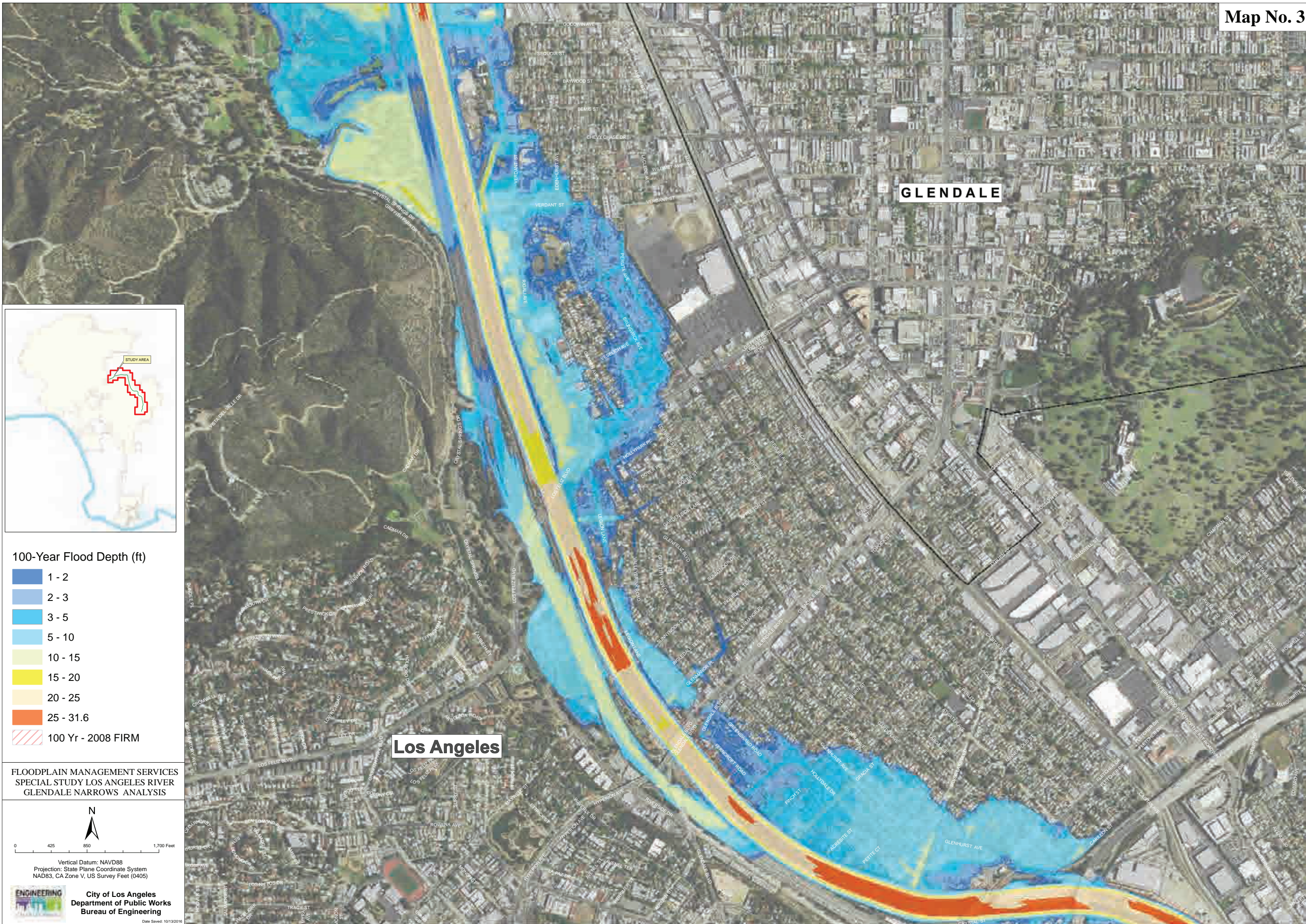
THE NATURE CONSERVANCY

CONCEPT DESIGN MEETING

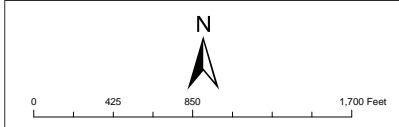


MAP INDEX

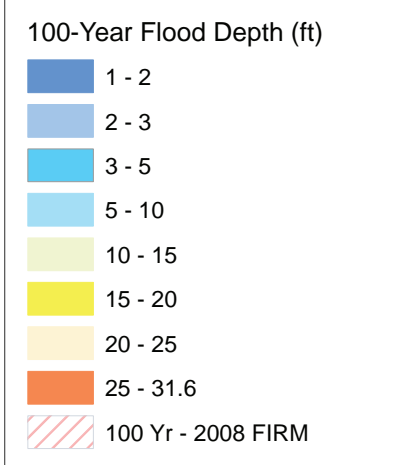
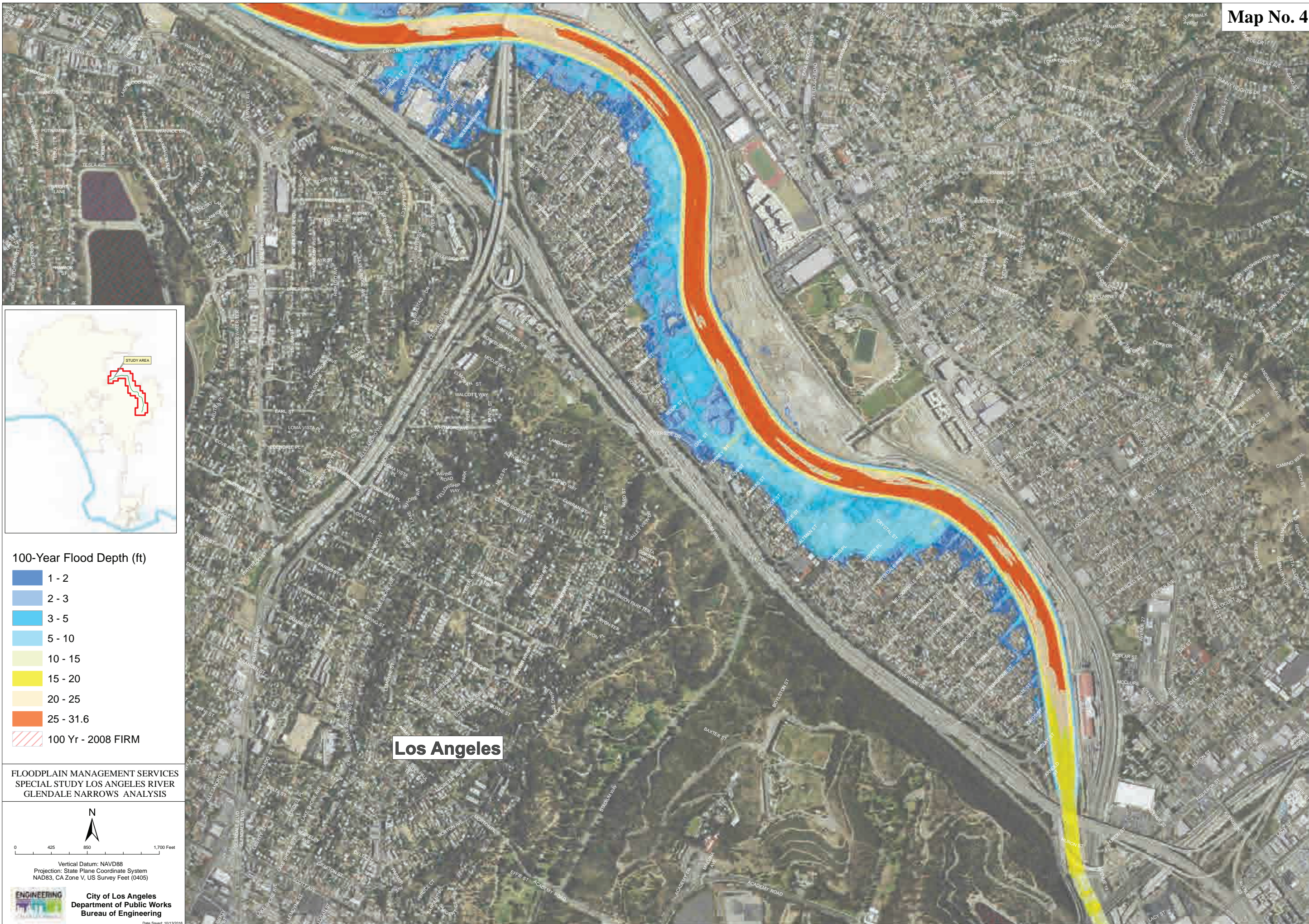




FLOODPLAIN MANAGEMENT SERVICES
SPECIAL STUDY LOS ANGELES RIVER
GLENDALE NARROWS ANALYSIS



Vertical Datum: NAVD88
Projection: State Plane Coordinate System
NAD83, CA Zone V, US Survey Feet (0405)



FLOODPLAIN MANAGEMENT SERVICES
SPECIAL STUDY LOS ANGELES RIVER
GLENDALE NARROWS ANALYSIS

Vertical Datum: NAVD88
Projection: State Plane Coordinate System
NAD83, CA Zone V, US Survey Feet (0405)

ENGINEERING
City of Los Angeles
Department of Public Works
Bureau of Engineering

Date Saved: 10/13/2018

GOALS

- Improve stormwater management practices and increase habitat and connectivity
- Build off of existing methods for managing stormwater in Los Angeles and along the LA River

Street End Stormwater Management Projects along the LA River



GOALS

- Improve stormwater management practices and increase habitat and connectivity
- Build off of existing methods for managing stormwater in Los Angeles and along the LA River
- Test hydrologic and ecological restoration strategies proposed in existing plans
 - Los Angeles River Revitalization Master Plan (2007)
 - Piggyback Yard Feasibility Study (2013)
 - USACE Ecosystem Restoration Integrated Feasibility Report (2015)

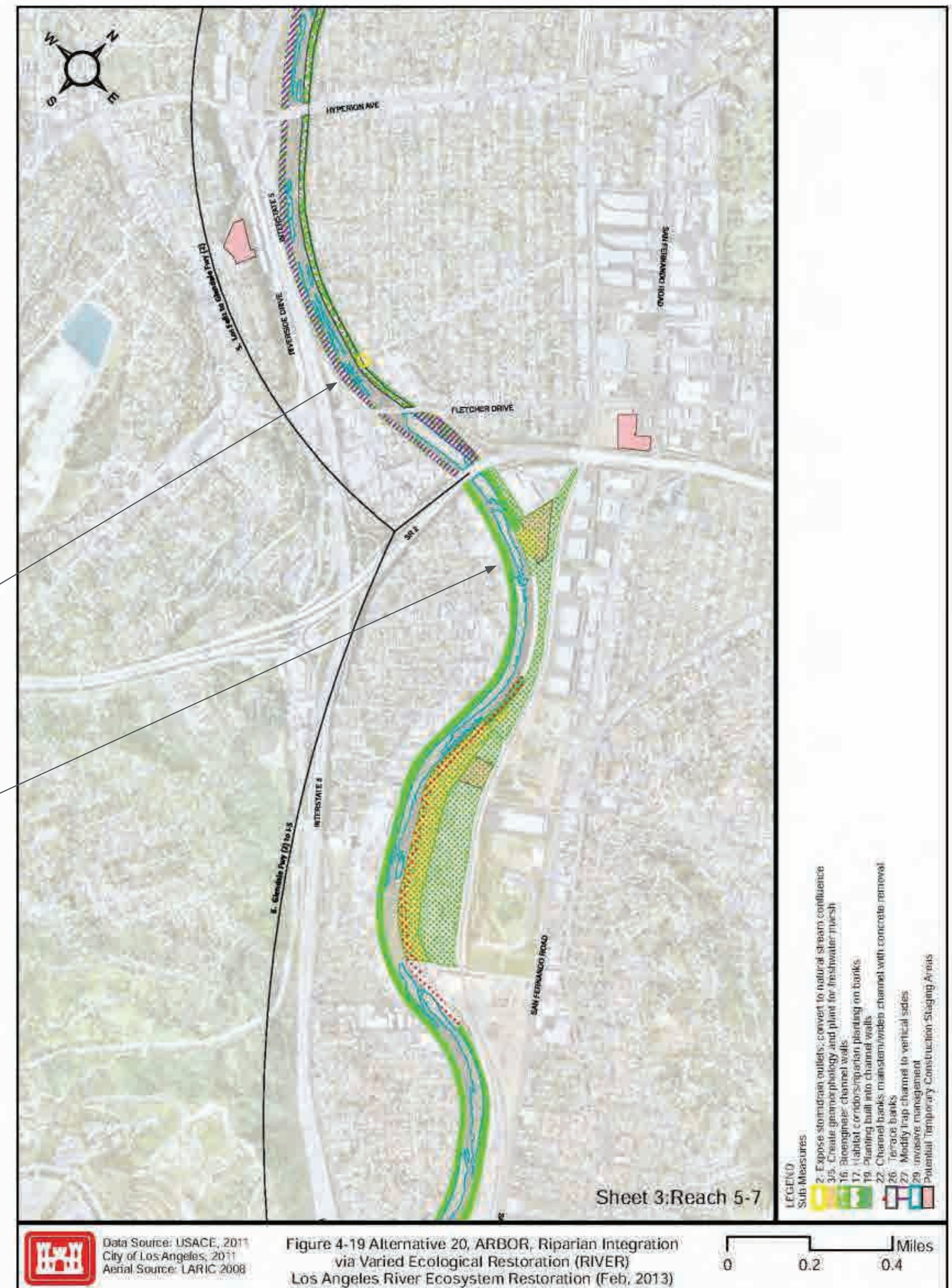
Silver Lake Boulevard

Habitat corridor/riparian planting on banks
 Expose stormdrain outlets; convert to natural stream confluence
 Bioengineer channel walls

Bowtie Parcel

Habitat corridor/riparian planting on banks
 Planting built into channel walls
 Create geomorphology and plant for freshwater marsh
 Bioengineer channel walls
 Potential temporary construction staging area

- Inform best practices for future LA River restoration projects
- Define a new level of “normal” that incorporates innovative strategies for stormwater management and habitat creation



Data Source: USACE, 2011
 City of Los Angeles, 2011
 Aerial Source: LARIC 2008

Figure 4-19 Alternative 20, ARBOR, Riparian Integration via Varied Ecological Restoration (RIVER)
 Los Angeles River Ecosystem Restoration (Feb. 2013)

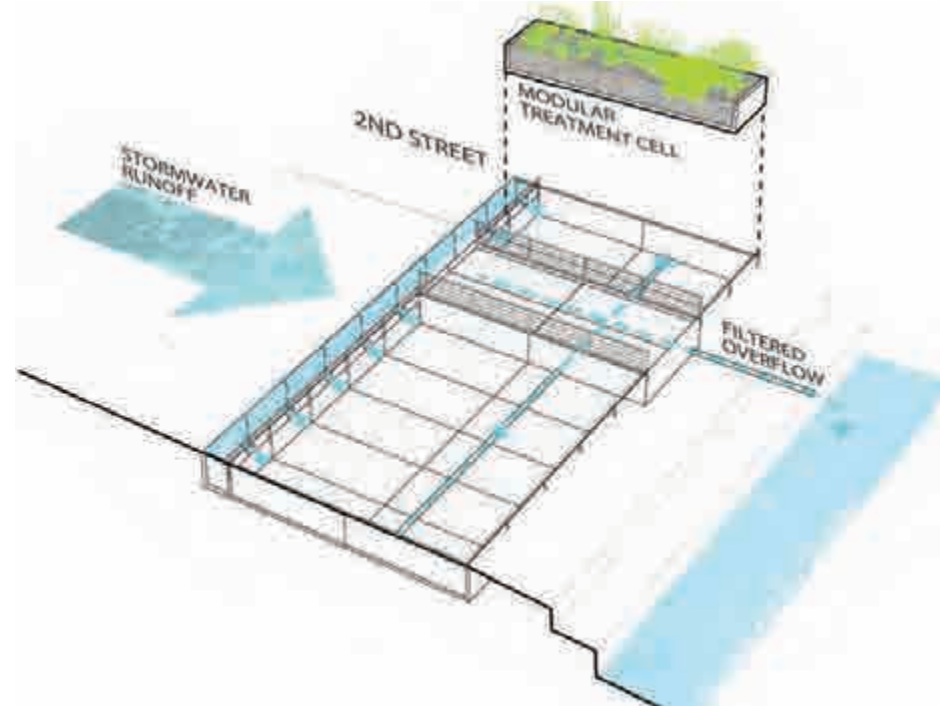
0 0.2 0.4 Miles

PRECEDENTS

local Ed P. Reyes Greenway (Los Angeles, CA)
Dominguez Gap Wetland (Los Angeles, CA)



national Quartermaster Reach Wetland (San Francisco, CA)
Gowanus Canal Sponge Park (Brooklyn, CA)



international Shanghai Houton Park (China)
Riverside Square (France)



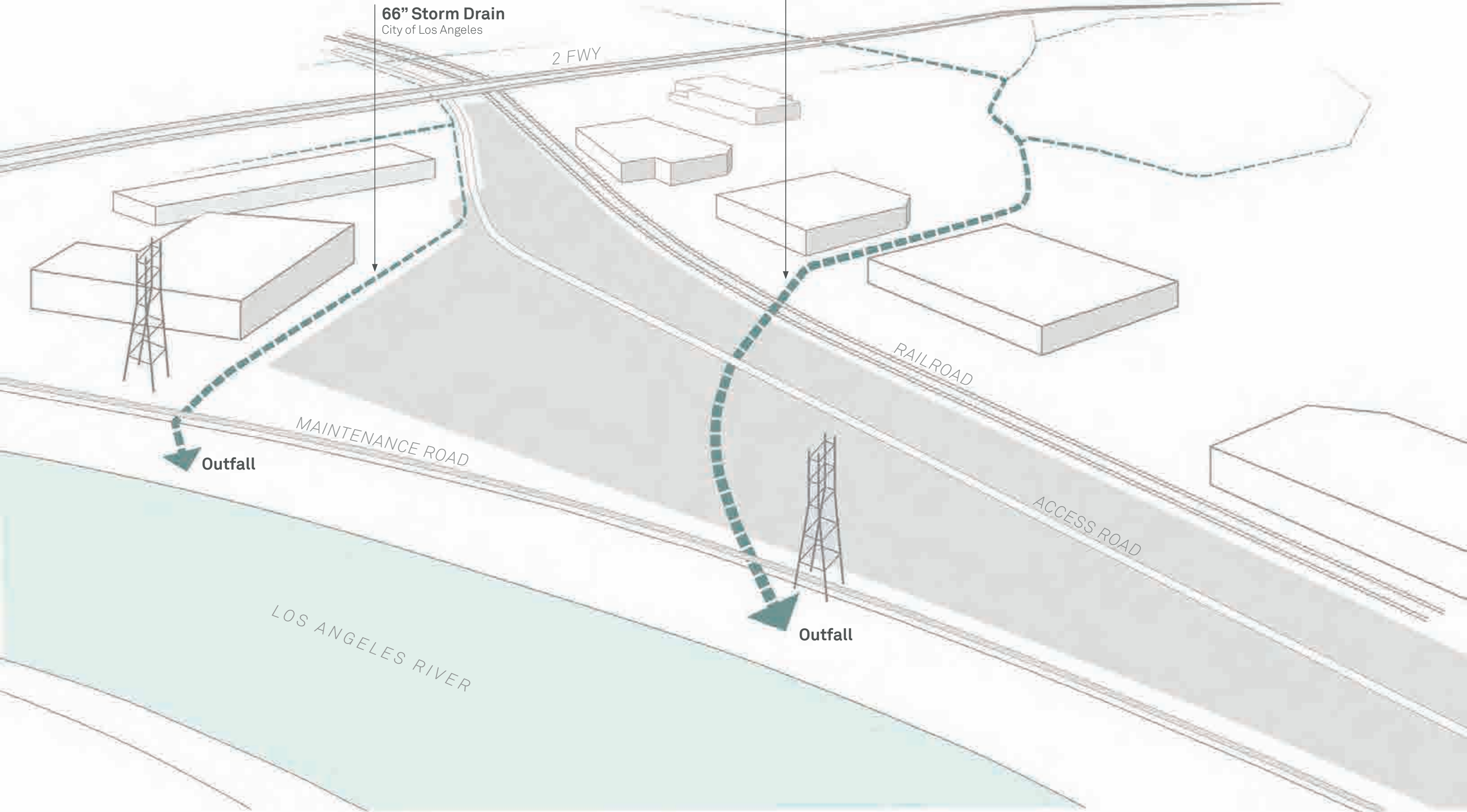
BOWTIE PARCEL CONCEPT DESIGN | Existing Conditions



BOWTIE PARCEL CONCEPT DESIGN | Existing Conditions

Large parcel of land adjacent to LA River

Subsurface stormdrains running through site and outletting into LA River



66" Storm Drain
City of Los Angeles

126" Box Storm Drain
LACFCD

2 FWY

RAILROAD

MAINTENANCE ROAD

Outfall

ACCESS ROAD

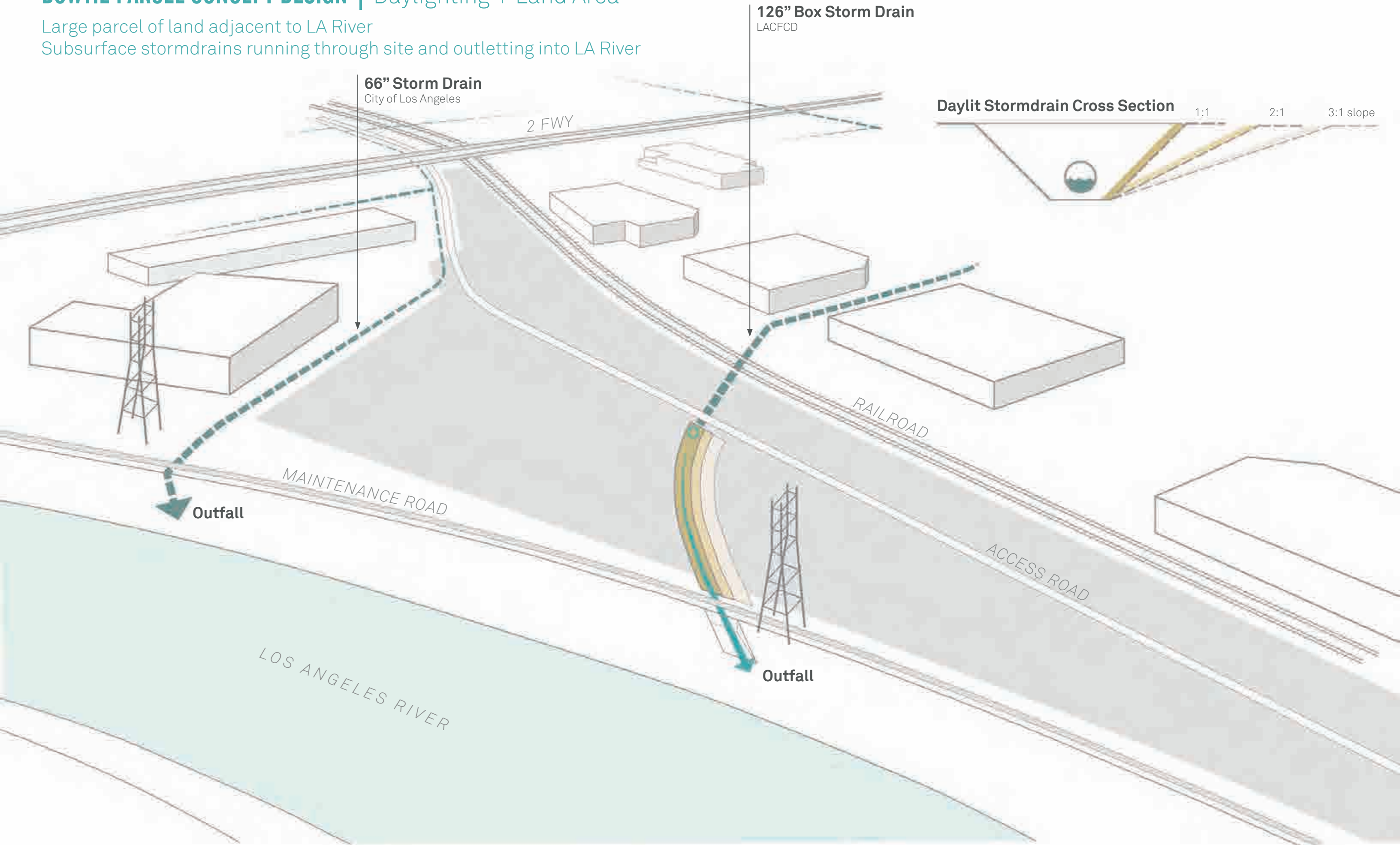
Outfall

LOS ANGELES RIVER

BOWTIE PARCEL CONCEPT DESIGN | Daylighting + Land Area

Large parcel of land adjacent to LA River

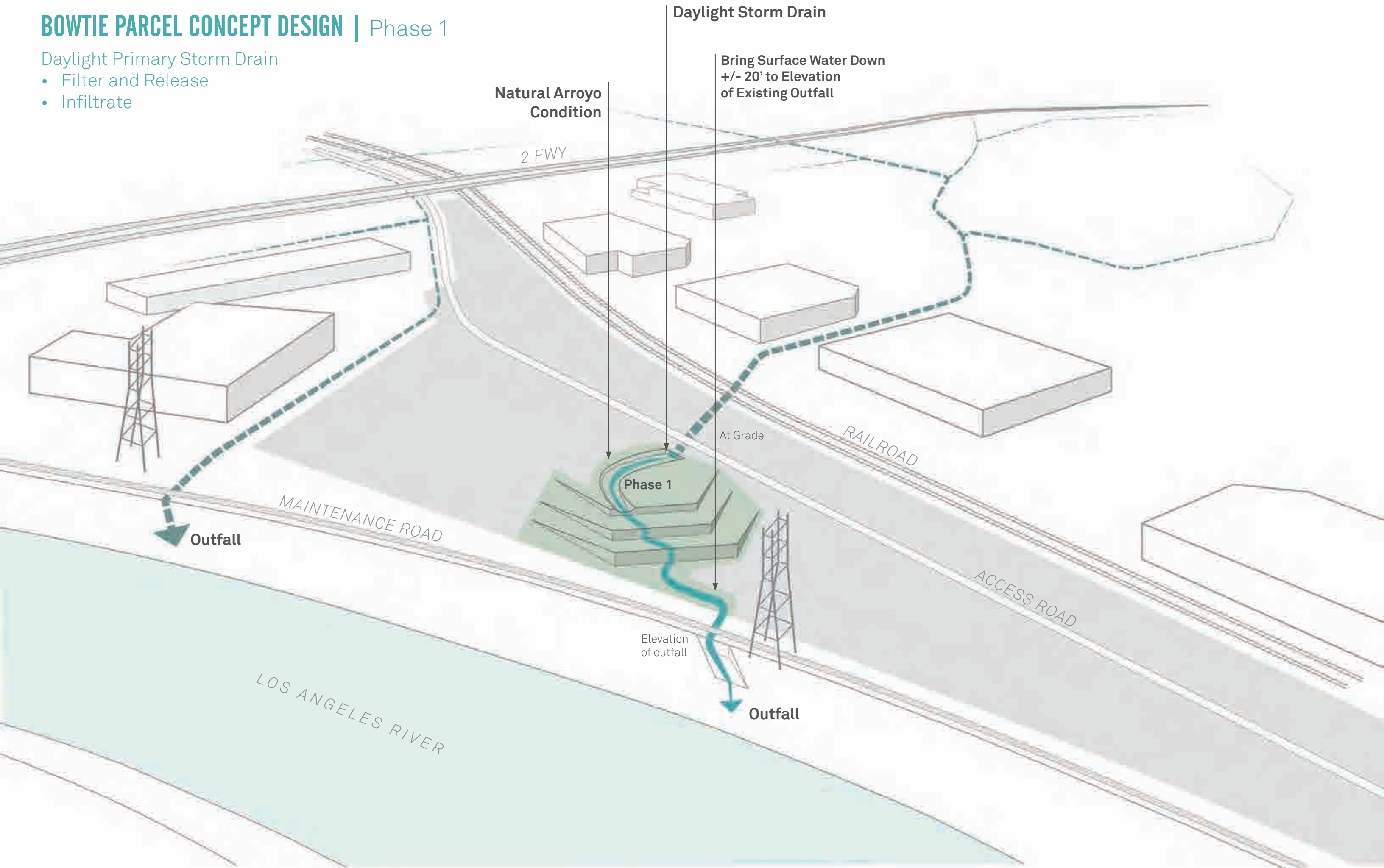
Subsurface stormdrains running through site and outletting into LA River



BOWTIE PARCEL CONCEPT DESIGN | Phase 1

Daylight Primary Storm Drain

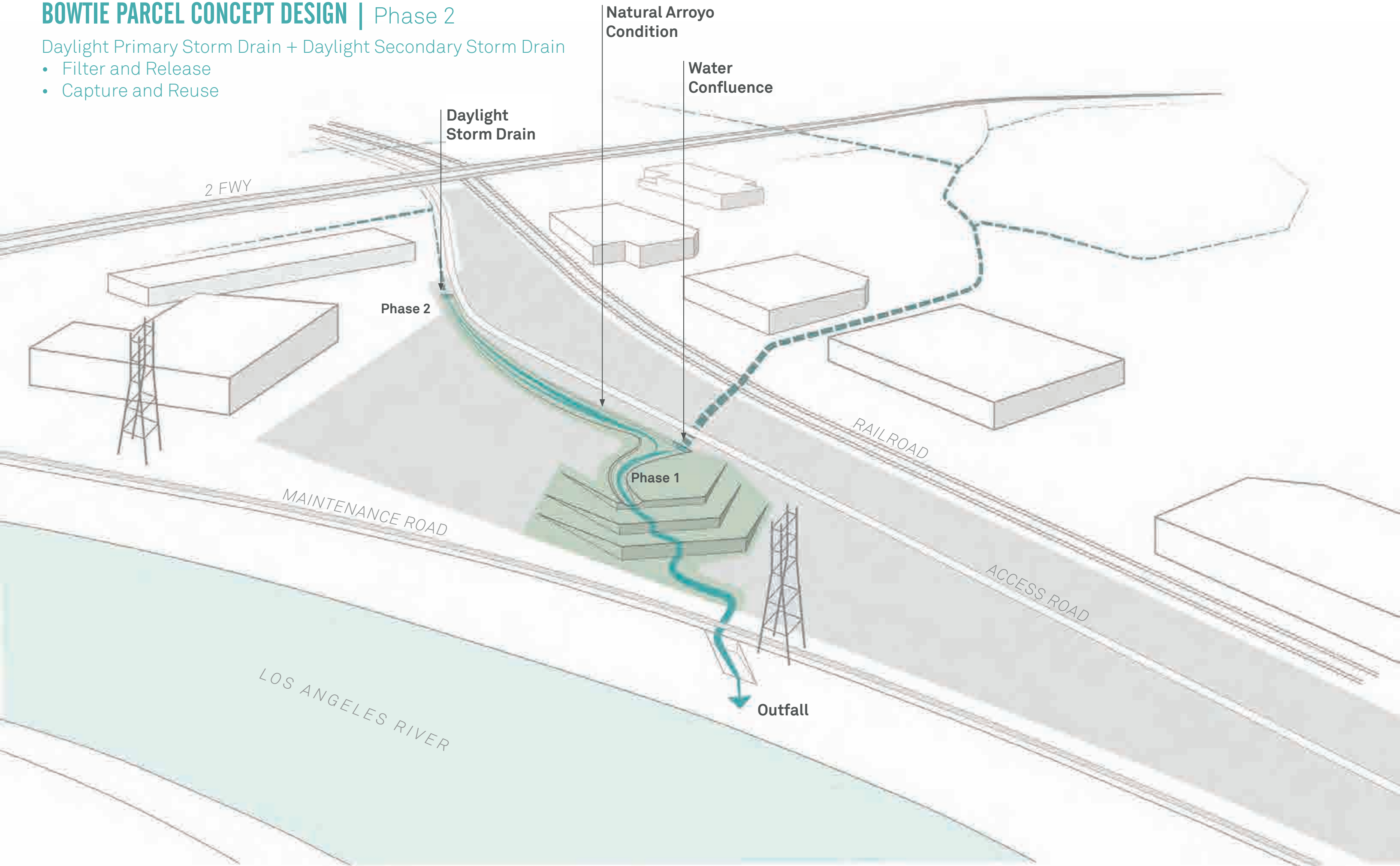
- Filter and Release
- Infiltrate



BOWTIE PARCEL CONCEPT DESIGN | Phase 2

Daylight Primary Storm Drain + Daylight Secondary Storm Drain

- Filter and Release
- Capture and Reuse

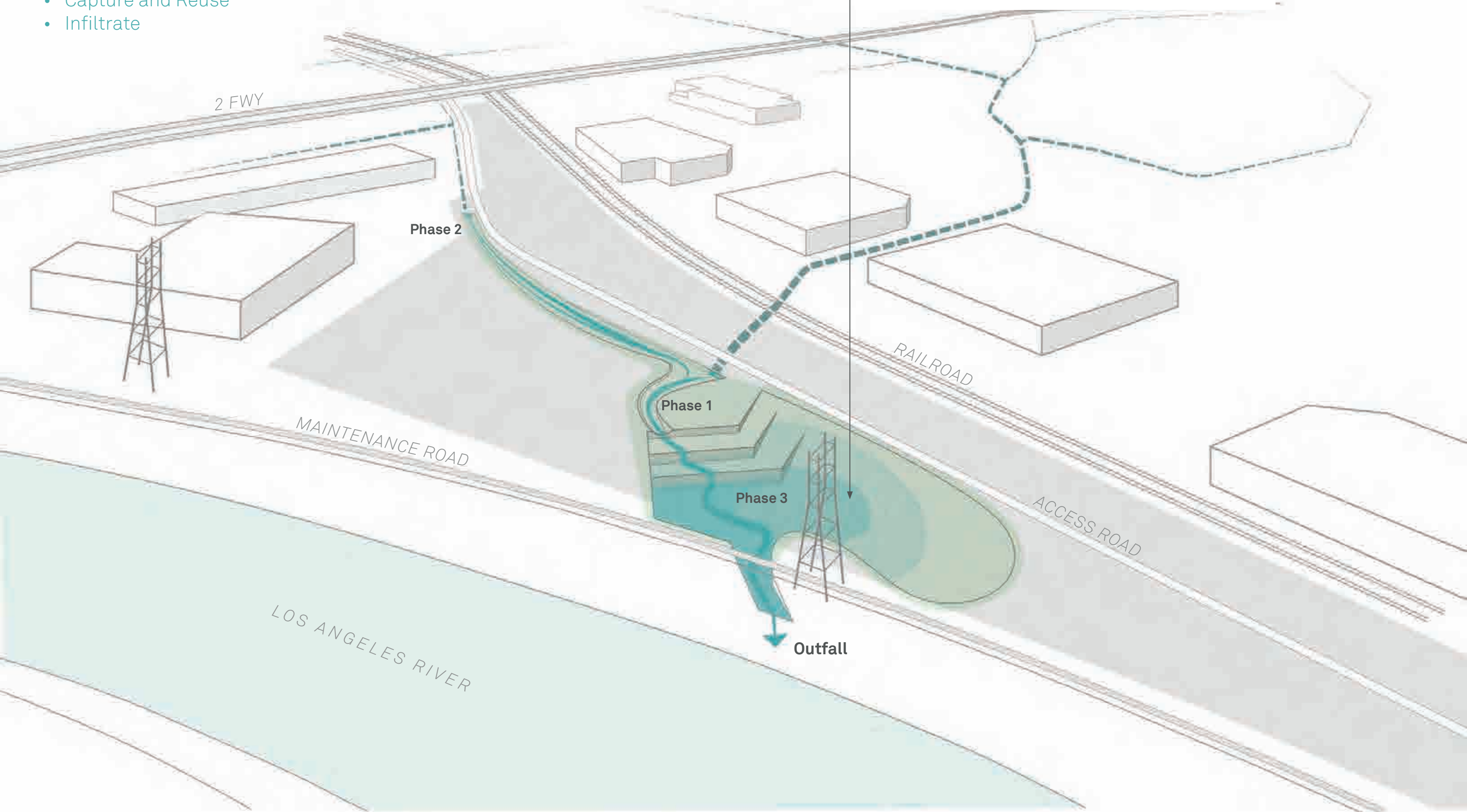


BOWTIE PARCEL CONCEPT DESIGN | Phase 3

Daylight Primary Storm Drain + Daylight Secondary Storm Drain + Create Floodplain

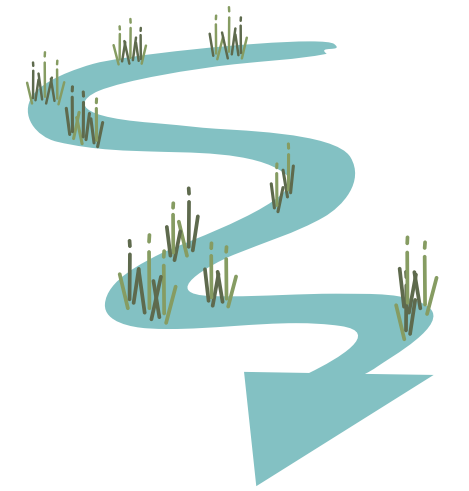
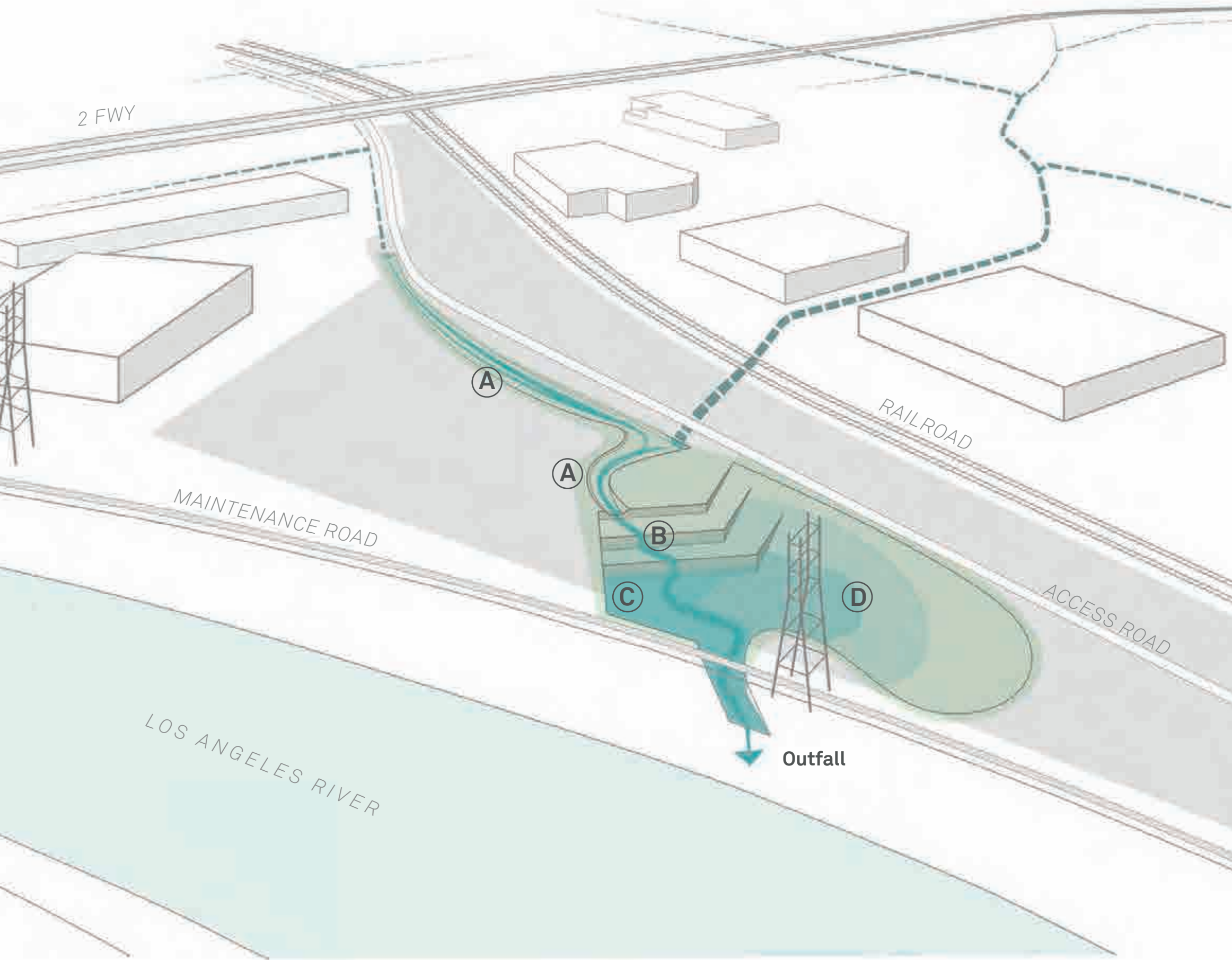
- Filter and Release
- Capture and Reuse
- Infiltrate

**Multi-functional
Retention Basin
(Spreading for Seasonal Flows + Flood Events)**

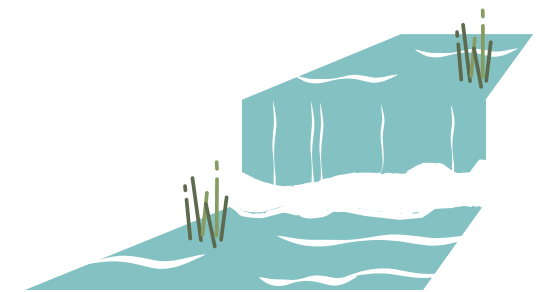


BOWTIE PARCEL CONCEPT DESIGN | On-Site Water Management Strategies

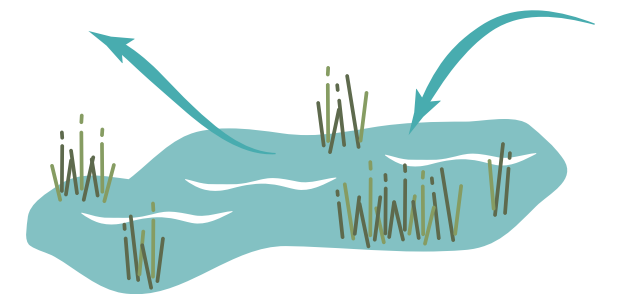
- Test out hydrologic strategies proposed in Piggyback Yard Feasibility Study



A. Lineal Plant Treatment



B. Aeration Waterfall



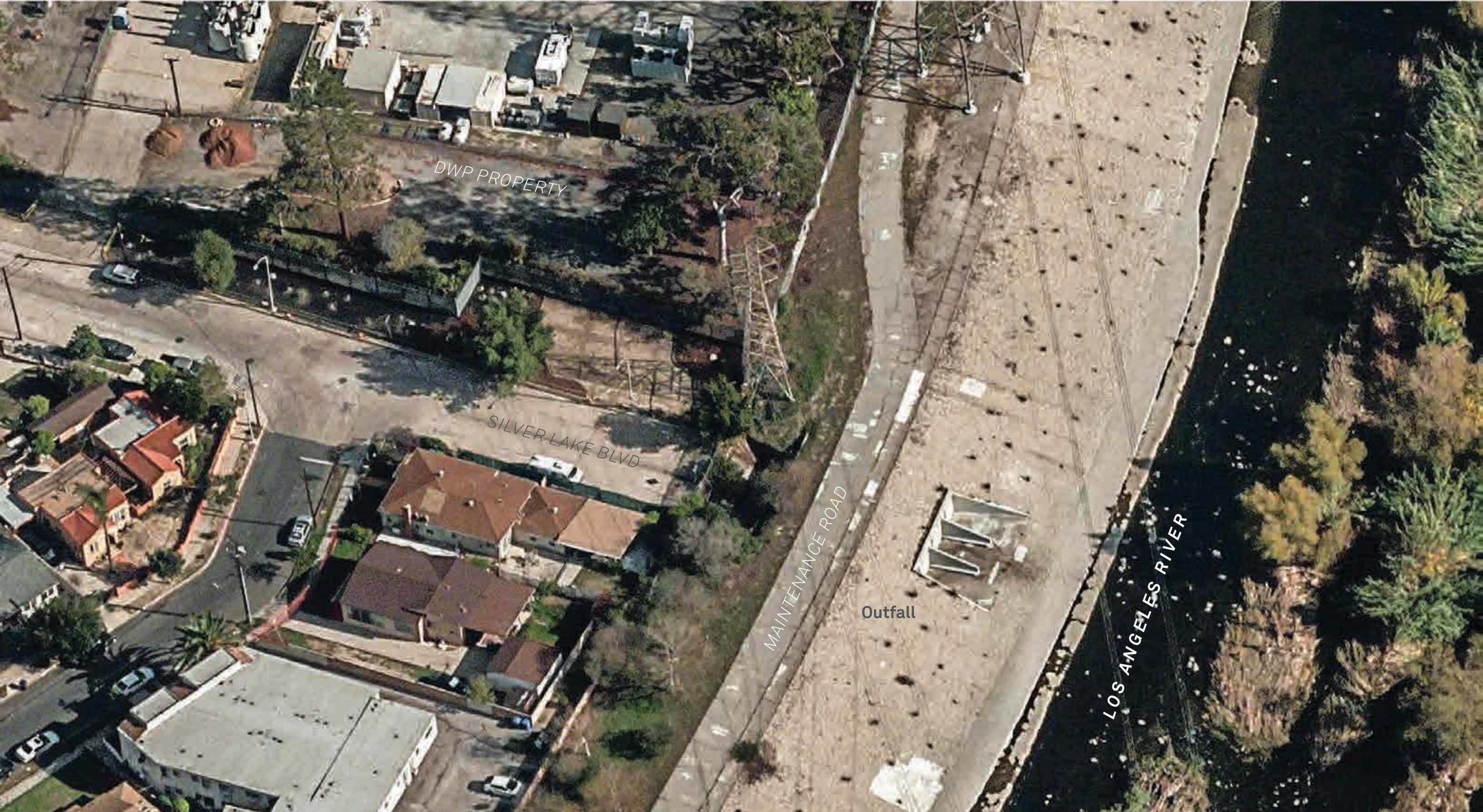
C. Aquaculture Lagoons



D. Aeration Pools

SILVER LAKE BOULEVARD | Existing Conditions

Street End into the LA River







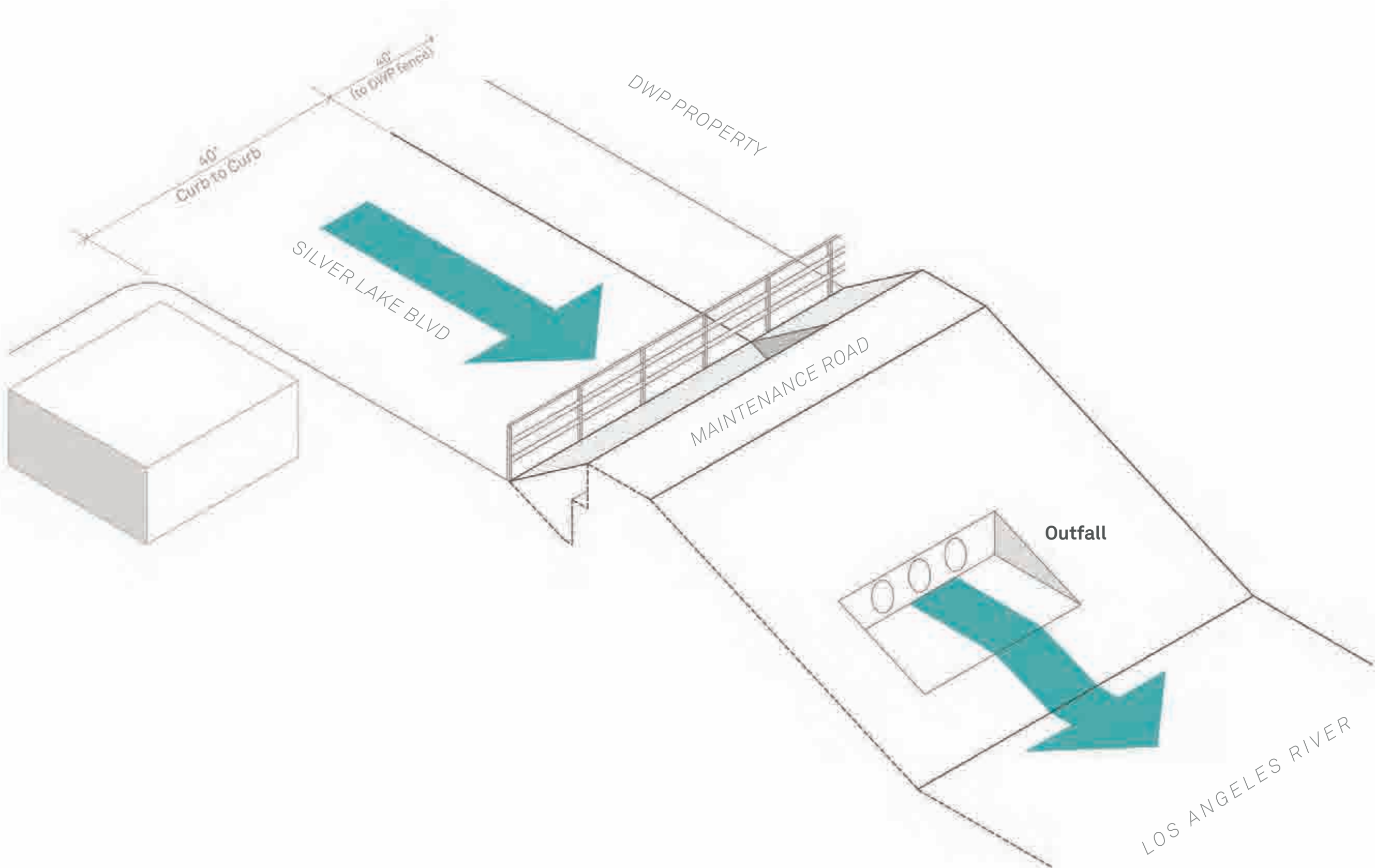


SILVER LAKE BOULEVARD | Existing Conditions



SILVER LAKE BOULEVARD CONCEPT DESIGN | Existing Conditions

Street End into the LA River



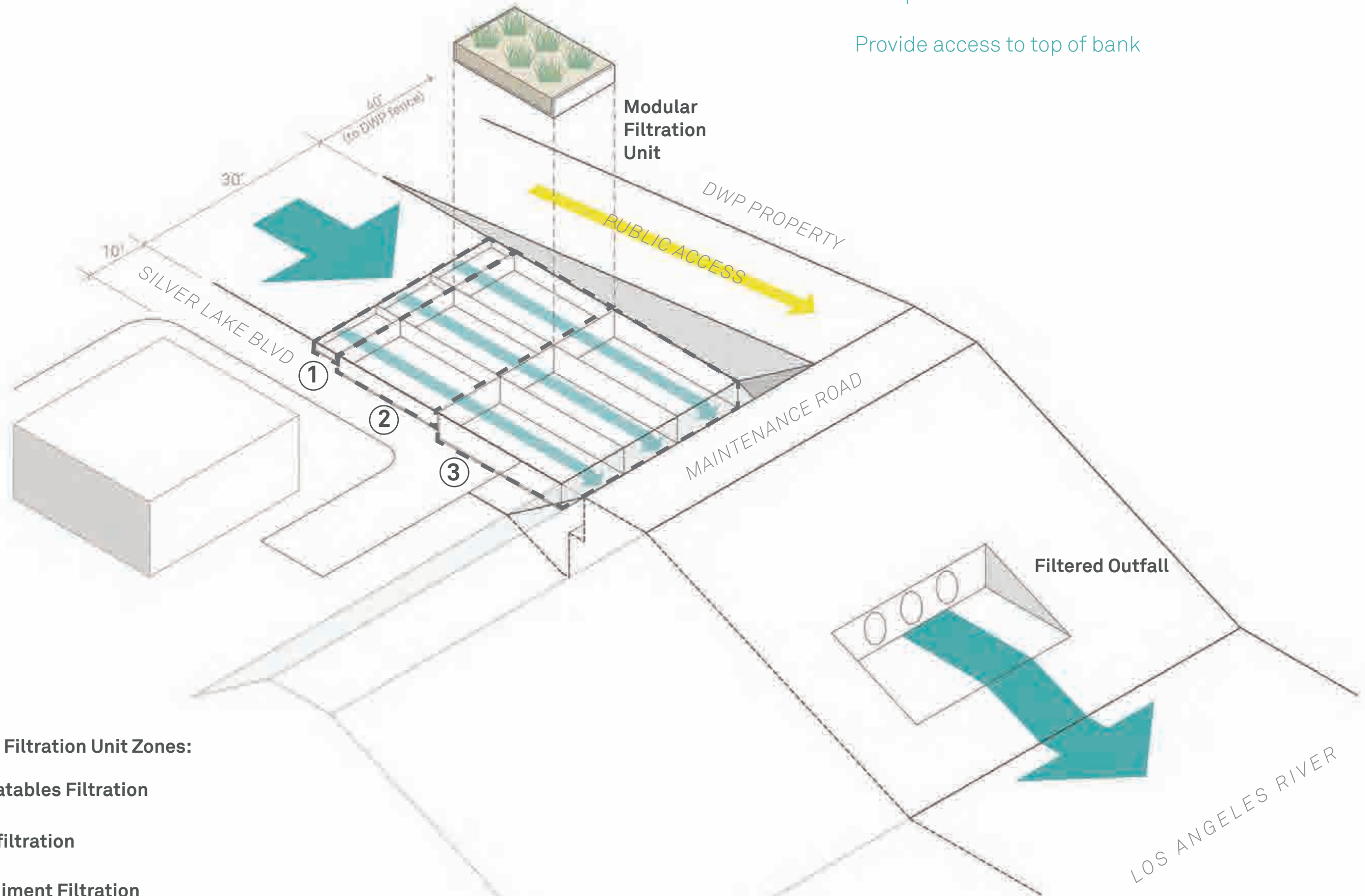
SILVER LAKE BOULEVARD CONCEPT DESIGN | Phase 1

Manage stormwater prior to reaching LA River

Use modular units to filter water from street end

- Filter and Release
- Capture + Reuse?

Provide access to top of bank



Modular Filtration Unit Zones:

- ① Floatables Filtration
- ② Biofiltration
- ③ Sediment Filtration

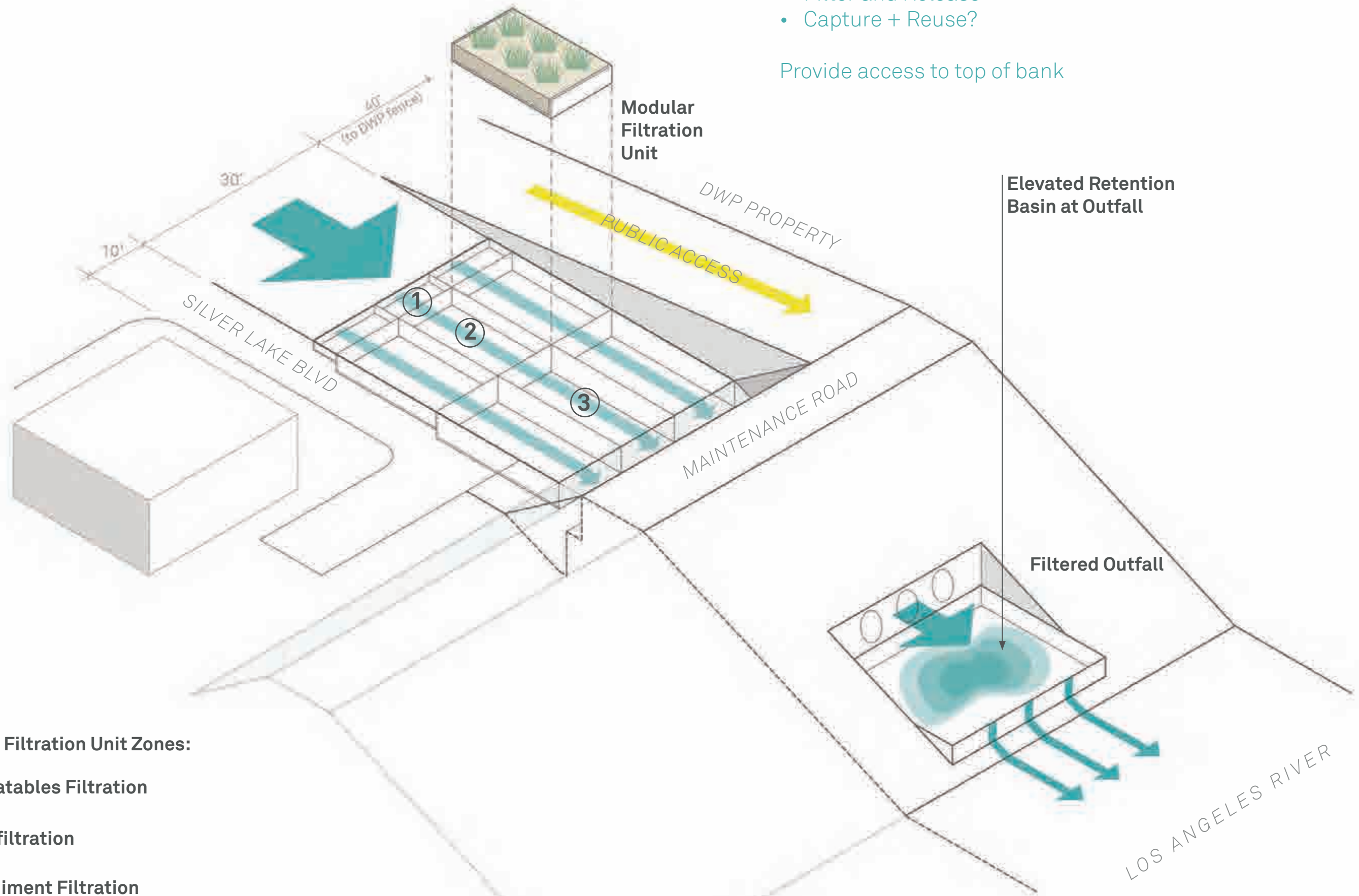
SILVER LAKE BOULEVARD CONCEPT DESIGN | Phase 2

Manage stormwater prior to reaching LA River

Use modular units to filter water from street end
Create elevated retention basin at stormdrain outfall

- Filter and Release
- Capture + Reuse?

Provide access to top of bank



Modular Filtration Unit Zones:

- 1 Floatables Filtration
- 2 Biofiltration
- 3 Sediment Filtration

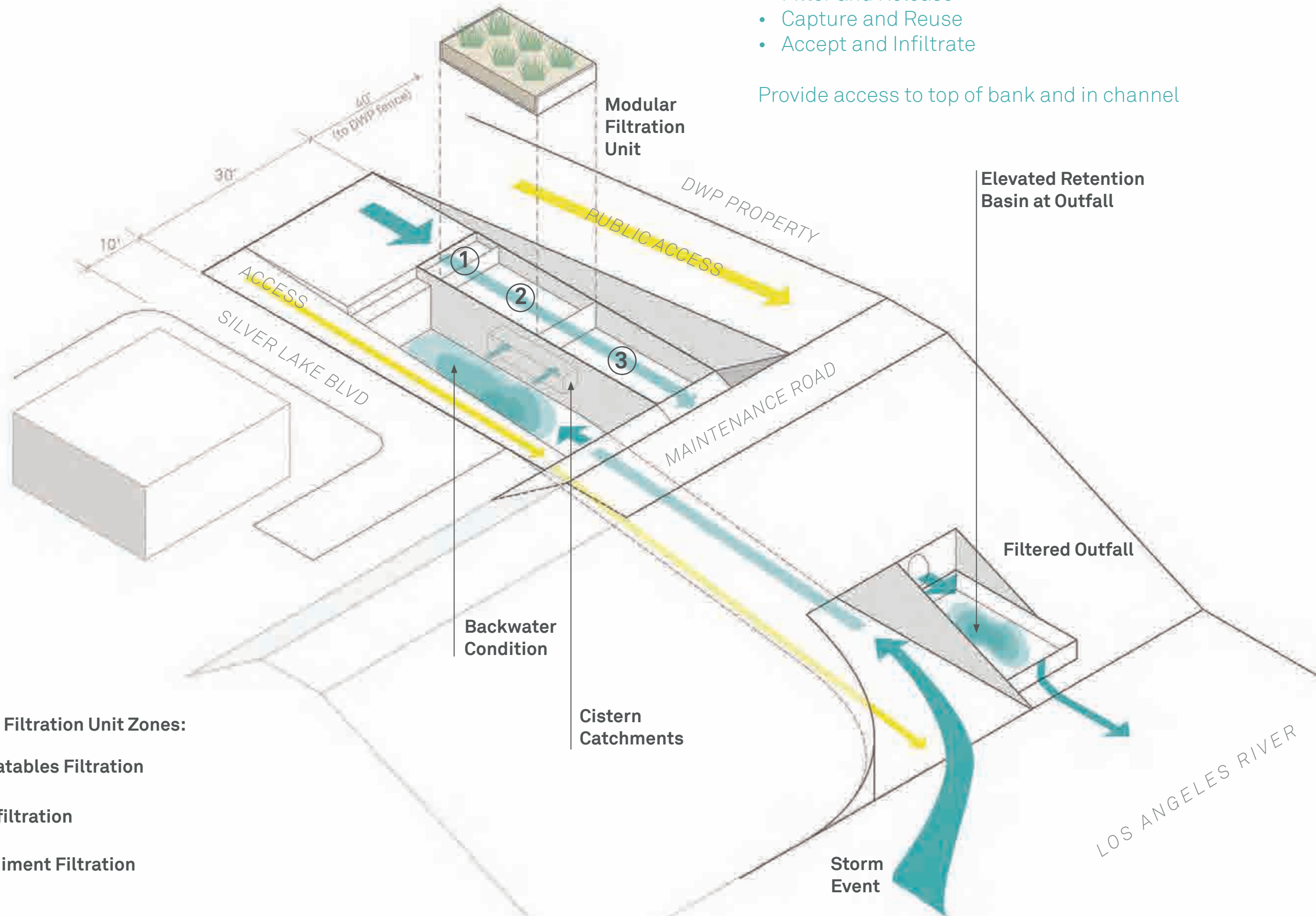
SILVER LAKE BOULEVARD CONCEPT DESIGN | Phase 3

Manage stormwater prior to reaching LA River

Use modular units to filter water from street end
Direct water flow from the River into a backwater condition

- Filter and Release
- Capture and Reuse
- Accept and Infiltrate

Provide access to top of bank and in channel



Modular Filtration Unit Zones:

- ① Floatables Filtration
- ② Biofiltration
- ③ Sediment Filtration





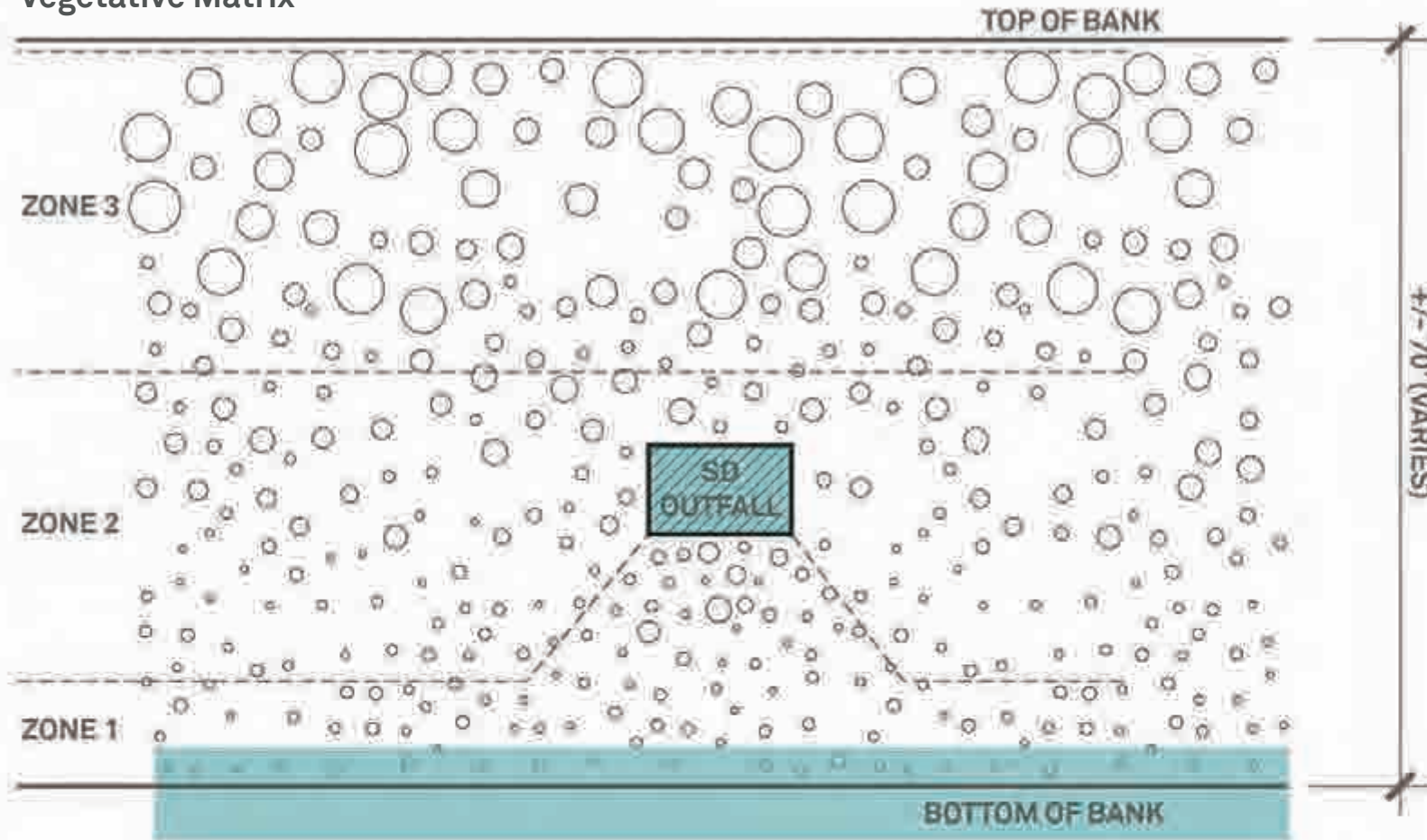






IN CHANNEL CONCEPT DESIGN | Vegetative Matrix

Vegetative Matrix



VARIABLES



ZONE 3:

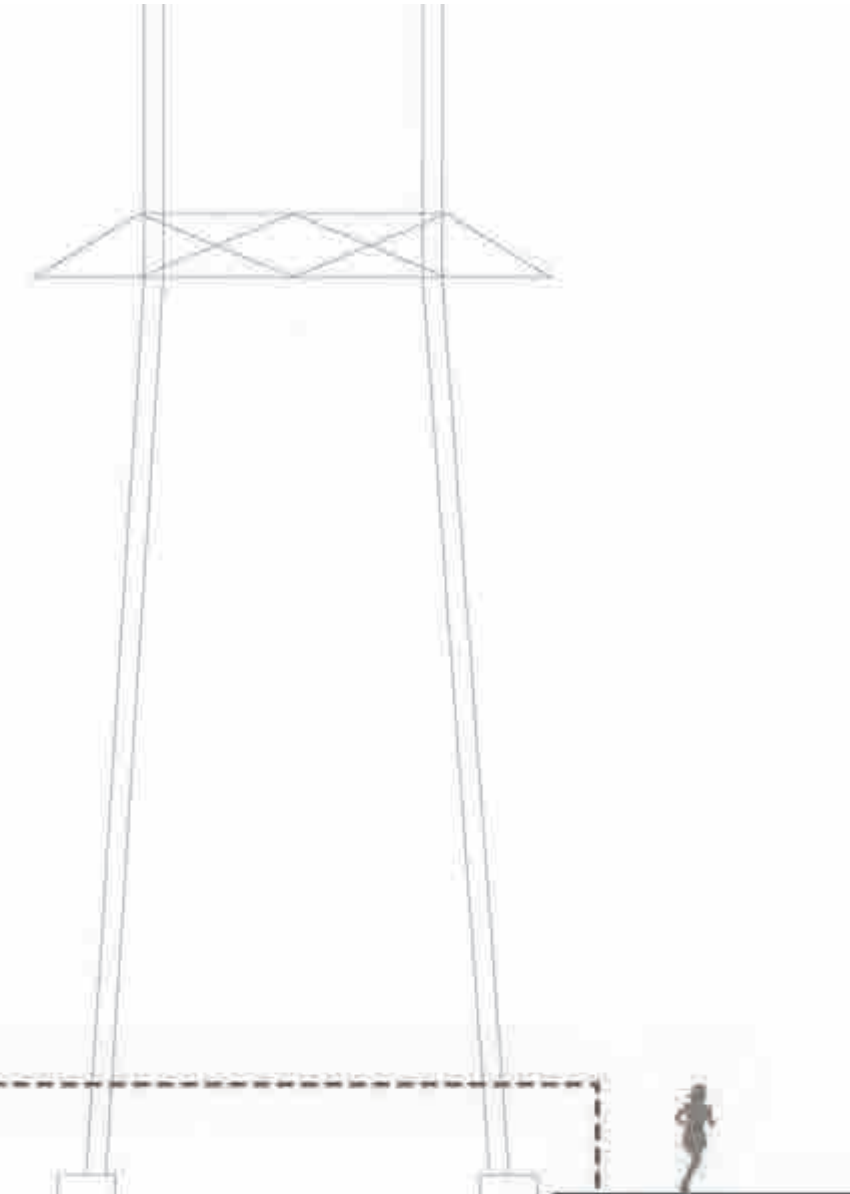
Infrequently flooded, upland habitat

ZONE 2:

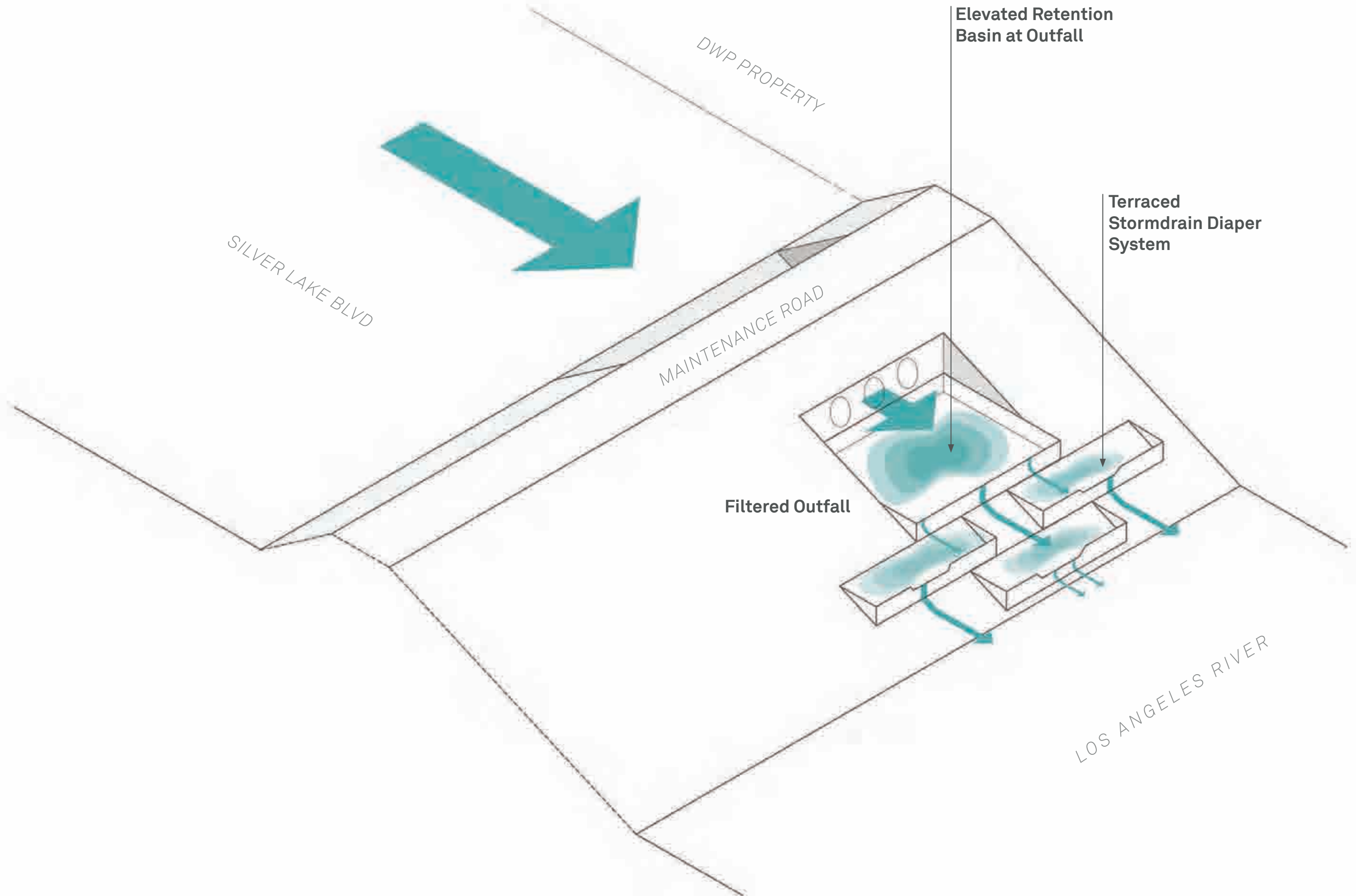
Seasonally flooded, upstope and drier than Zone 1.

ZONE 1:

Water Edge/Frequently Flooded



IN CHANNEL CONCEPT DESIGN | Stormdrain Diaper System



INQUIRIES

Insert group discussion here...

- How do the designs achieve Net 0 impact on flood capacity in the LA River?
- What is the elevation and average slope of stormdrains?
- What land area is needed to manage water flow if daylighting/spreading?