SAN FRANCISCO ESTUARY PARTNERSHIP

San Pablo Avenue Green Stormwater Spine Project

Contra Costa Watershed Forum

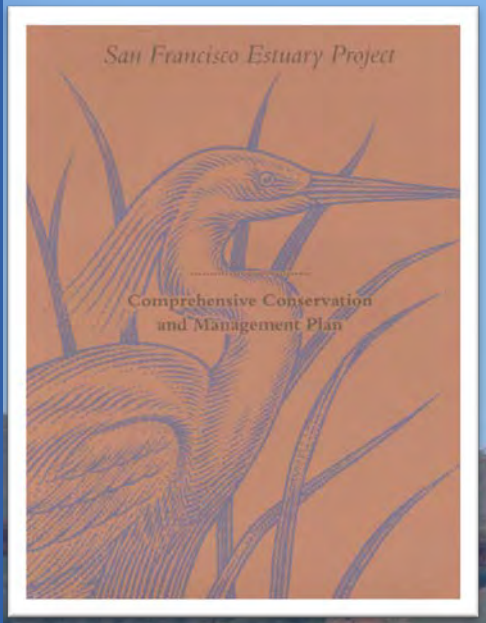
Josh Bradt, Project Manager, SF Estuary Partnership

May 13, 2015






San Francisco Estuary Partnership



- Collaborative, Non-regulatory Public Agency
- Protect, restore, and enhance water quality and habitat
- *Comprehensive Conservation & Management Plan*

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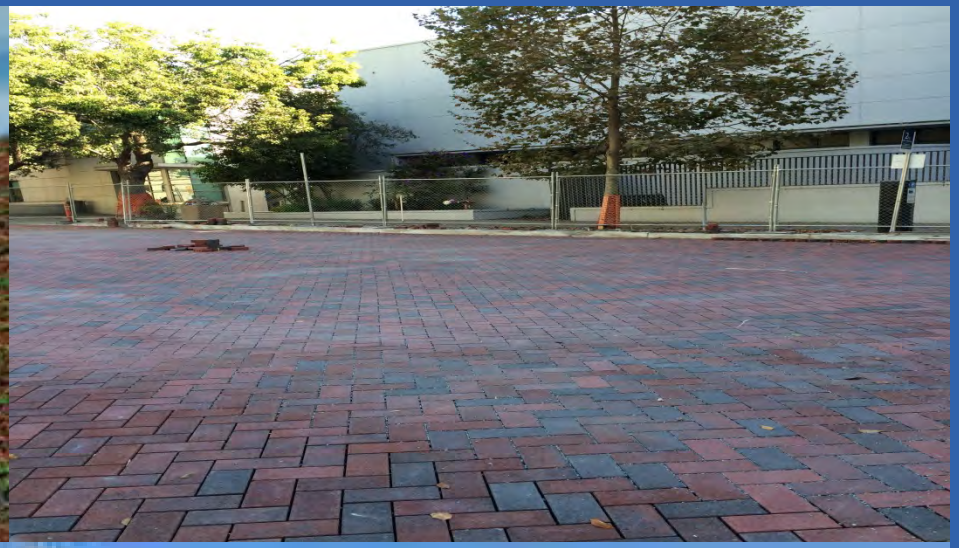
Low Impact Development

Credit: Todd Eberle, *Vanity Fair*



Credit: Treadwell & Rollo, website

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Serramonte Library Stormwater Treatment Gardens, Daly City

Credit: CMG Landscape Architecture, website

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Adeline Street Curb Extension, Emeryville

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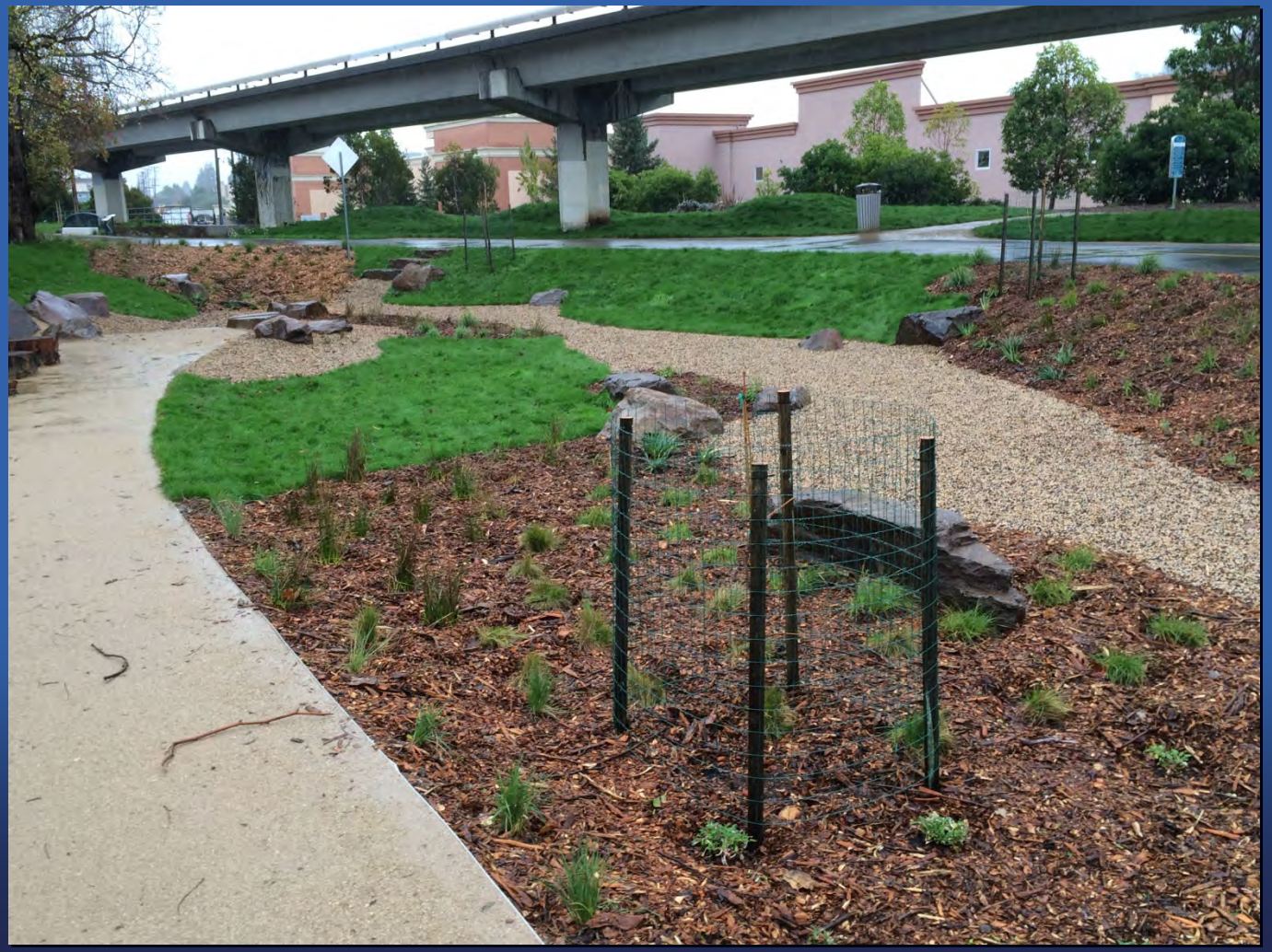
EL Cerrito Rain Garden – Ohlone Greenway



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EL CERRITO RAIN GARDENS

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San Pablo Ave Green Stormwater Spine

- Oakland
- Emeryville
- Berkeley
- Albany
- El Cerrito
- Richmond
- San Pablo
- Caltrans

SAN FRANCISCO ESTUARY PARTNERSHIP

Primary Tasks	Funder	Amount
Design & Engineering	US EPA	$300K
Coord, Outreach, Constr. Mgmt, Monitoring, Plant Est.	DWR - IRWMP	$2M
Construction	Caltrans	$1.8M
Stand-alone El Cerrito Project	Strategic Growth Council	$720K
	TOTAL	$4.82M

Project Team

Task	Agency
Project Mgmt. & Coordination	San Francisco Estuary Partnership
Plans, Specs, Engineering, Interpretive Signage	Wilsey-Ham (civil engineering) Quadriga (landscape design) Kevin Robert Perry (visioning)
Bay Friendly Landscape Rater	Gates and Associates
Monitoring	San Francisco Estuary Institute
Bid Package, Construction Mgmt.	Harris and Associates
Labor Compliance oversight	Labor Consultants of California

Project Status

- 100% Plan Sets – February 2015
- Release Bid Advertisement – June 2015
- Begin Construction – August 2015

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PLANNING & DESIGN

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Oakland Site – Existing Conditions

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OAKLAND

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Stormwater Improvement Concept Plan

Scale: 1"=20'
January 2013

1. Existing median is removed and travel lanes remain as asphalt.
2. New painted bike lanes are proposed on both sides of the street (by others)
3. Stormwater planters and street trees accept runoff from both San Pablo Avenue and adjacent private property.
4. Boardwalks allow pedestrians to access parking and sidewalks.
5. Parallel parking configuration allows for greater space efficiency along the street.
6. A 4.5' egress zone allows pedestrians to safely exit their vehicles and pay parking meters.
   The existing ADA marked parking stall is retained at this location.
7. The east side of San Pablo Avenue could be converted to mirror west side improvements in the future.

San Pablo Avenue Green Stormwater Spine Project

City of Oakland, California

Nevue Ngan Associates

QUADRIGA landscape architecture and planning, inc.

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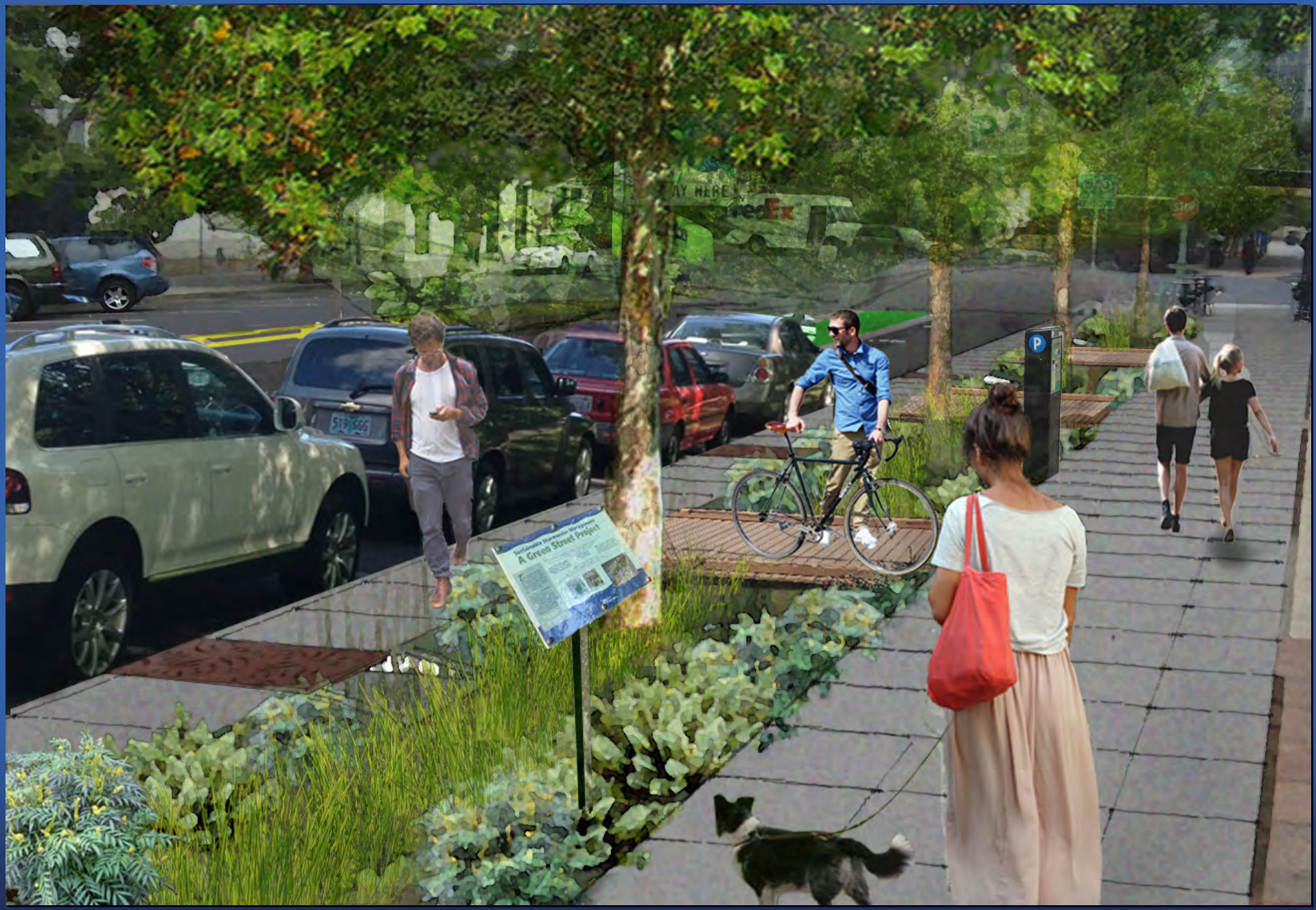
A Green Street Project

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Emeryville – Existing Conditions

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Emeryville Site

Apgar Street and San Pablo Avenue

[nev-ū-non]

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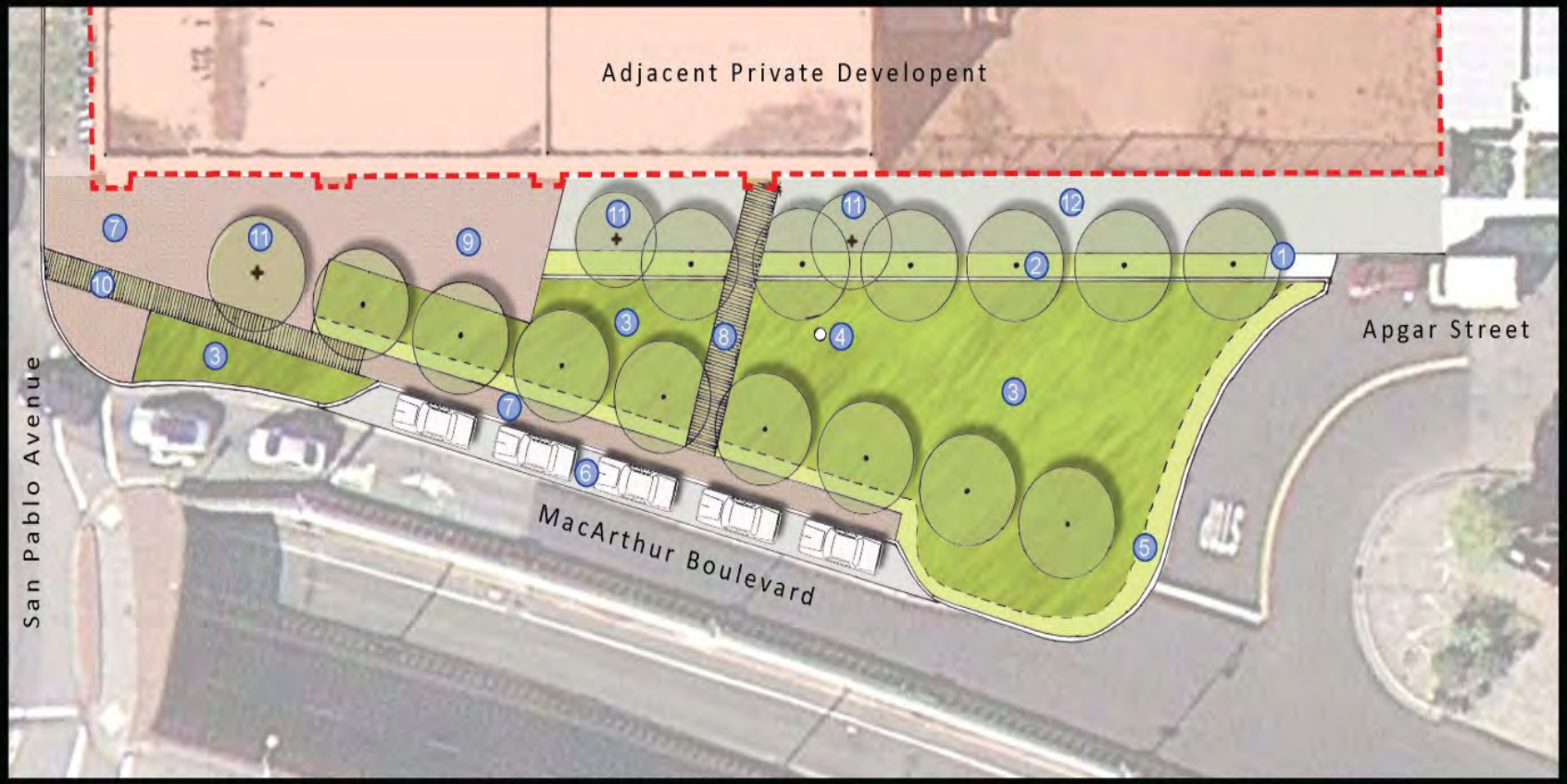

Stormwater Improvement Concept Plan

Scale: 1"=20'
January 2013

1. Entry point of stormwater flow from Apgar Street.
2. Low-flow green gutter. Higher flows spill over a small retaining wall into larger adjacent rain garden.
3. Rain garden landscape area.
4. Existing sewer manhole location.
5. Side slope landscape transitions grade from street level to the basin's finished elevations.
6. On-street asphalt parking zone (Capacity is for five vehicles)
7. New sidewalk paving to match existing brick paving along San Pablo Avenue (by private development?)
8. Pedestrian boardwalk crossing over rain garden system.
9. Expanded sidewalk area overlooks rain garden cells and allow for addition space for cafe/plaza seating.
10. Overflow from rain garden system.
11. Existing street trees to remain.
12. Sidewalk zone to be paved with standard scored concrete.

San Pablo Avenue Green Stormwater Spine Project

City of Emeryville, California

[ney-Ū-non] Nevue Ngan Associates

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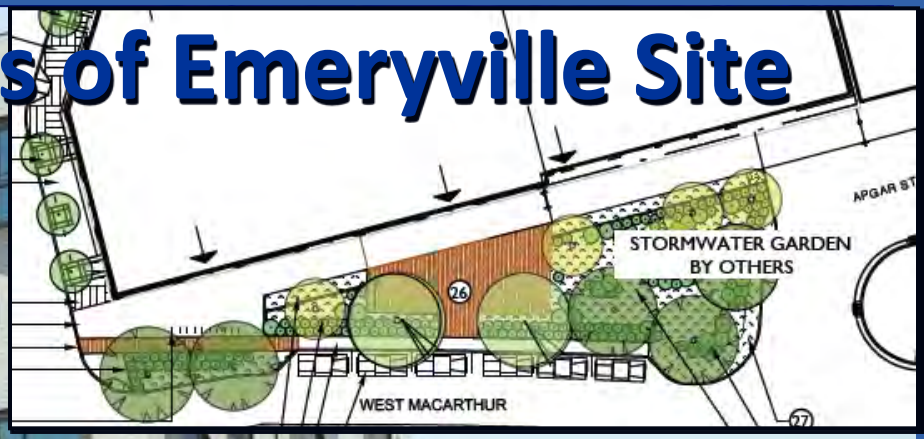
Developer Renderings of Emeryville Site



David Baker & Associates

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Berkeley – Existing Conditions

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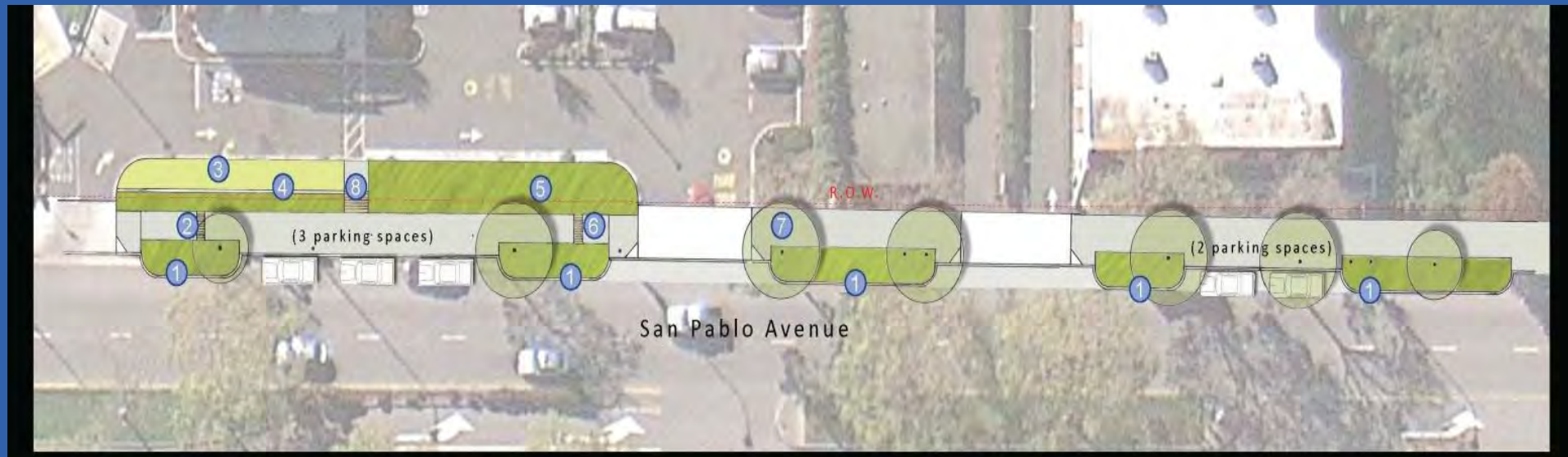

Stormwater Improvement Concept Plan

Scale: 1"=25'
January 2013

1. Stormwater curb extensions capture runoff from San Pablo Avenue.
2. Grated trench drains allow stormwater to flow into adjacent sidewalk planter.
3. Existing private landscaping/signage/utilities are retained.
4. Sidewalk planter accepts stormwater from San Pablo Avenue. A small concrete curb wall helps provide grade separation and protection of existing signs and utilities. This will require acceptance and coordination of improvements with private owner.
5. An existing vegetated swale is modified to capture stormwater from both San Pablo Avenue and McDonald's parking lot. This will require acceptance and coordination of improvements with private owner.
6. Grated trench drains allow stormwater overflow to flow into a stormwater curb extension in San Pablo Avenue.
7. All existing trees are retained with streetscape improvements.
8. Boardwalk allows stormwater to follow under pedestrian pathway.

San Pablo Avenue Green Stormwater Spine Project

City of Berkeley, California

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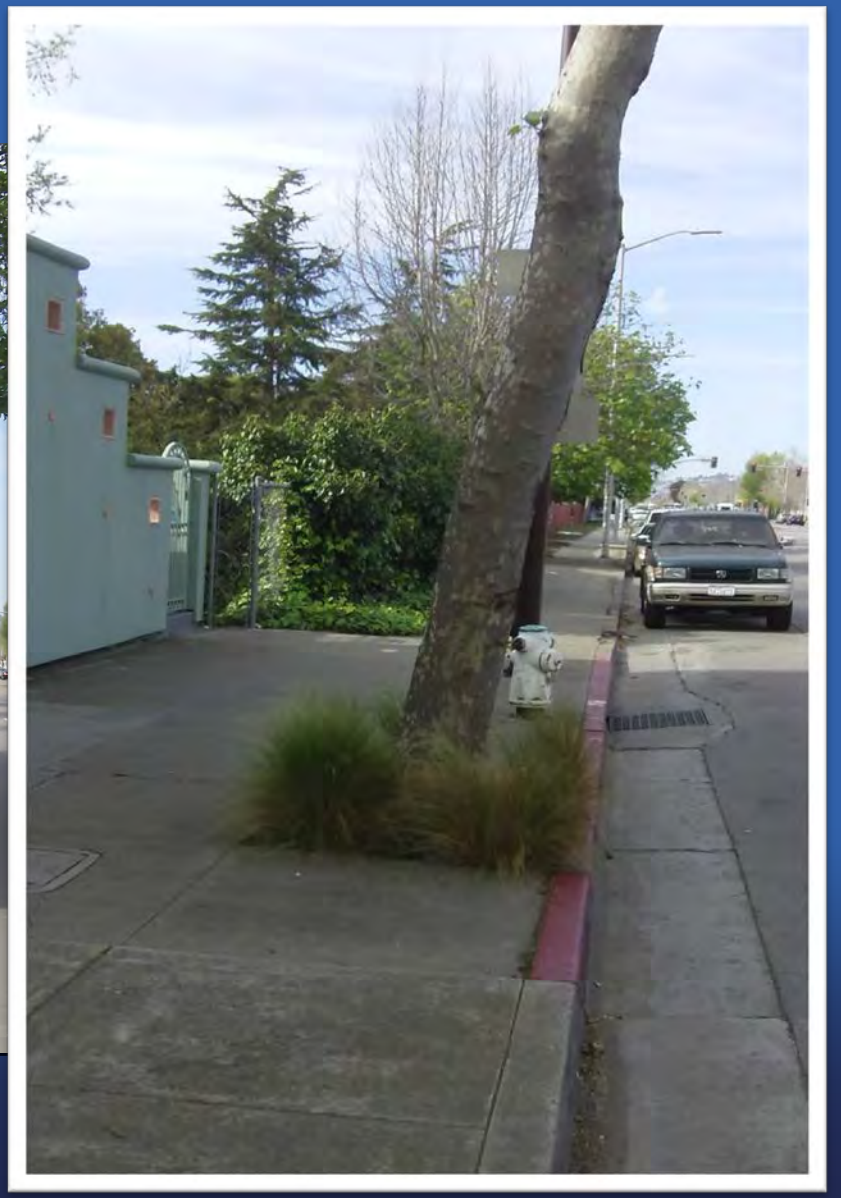

SAN FRANCISCO ESTUARY PARTNERSHIP

1

LOCATION

Monroe Street & San Pablo Ave

Opportunities:

- Could potentially manage private stormwater along San Pablo frontage
- Adjacent to existing major pedestrian crossing and development site
- Strong potential to enhance the aesthetics of the area with increased landscaping

Constraints:

- Existing mature tree near cross walk may need to be removed
- There needs to be agreement and coordination with private owner to manage stormwater along frontage
- Limited stormwater infrastructure to connect overflow

Recommendation:

- This is the design team's first choice for a demonstration project site due to it's low parking demand along San Pablo Avenue, the potential to manage private stormwater along the San Pablo Avenue frontage, and the proximity to a major pedestrian crossing and development parcel

San Pablo Avenue Green Stormwater Spine Project

City of Albany, California

SAN FRANCISCO ESTUARY PARTNERSHIP

Albany Site #1

Monroe Street and San Pablo Avenue

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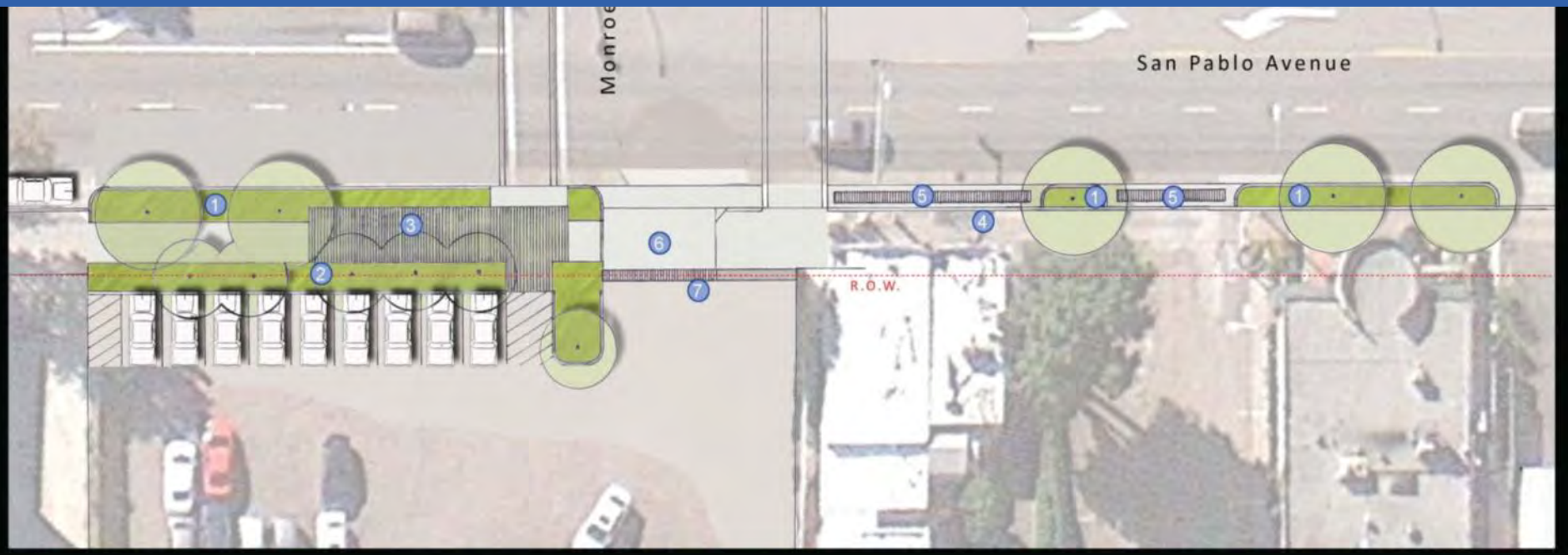

Stormwater Improvement Concept Plan

Scale: 1"=20'
January 2013

1. Stormwater curb extensions capture runoff from San Pablo Avenue.
2. Sidewalk planters capture stormwater from private parking lot. This will require acceptance and coordination of improvements with private owner.
3. A boardwalk allows stormwater to be stored under sidewalk zone using Silva Cell technology.
4. Existing bus stop remains in current location.
5. Stormwater overflow from stormwater curb extensions is captured within a series of grated green gutters within parking zones/ driveway zones.
6. Existing driveway is modified.
7. Combination speed bump and trench drain system conveys runoff into sidewalk stormwater planter.

San Pablo Avenue Green Stormwater Spine Project

City of Albany, California

[nev-ā-on] Nevue Ngan Associates

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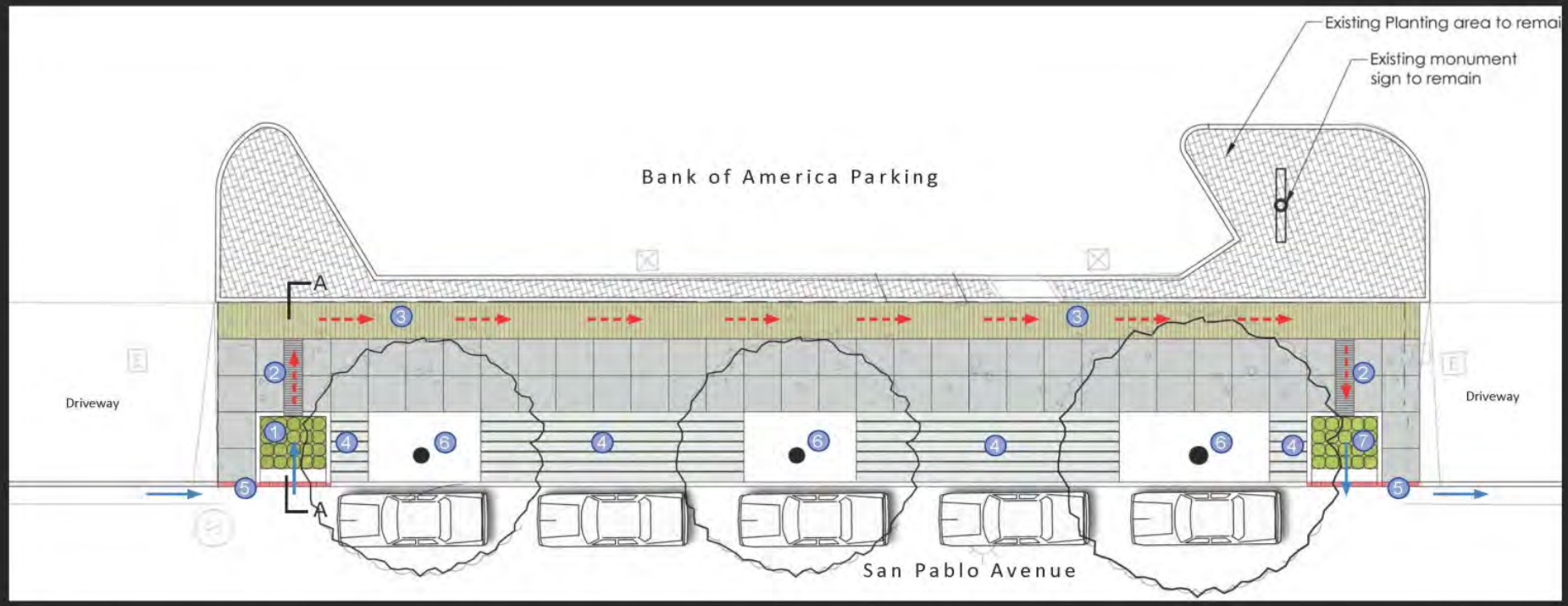

Stormwater Improvement Concept Plan

Scale: 1"=10'
November 2013

1. Stormwater planter captures runoff from San Pablo Avenue. This planter is to be recessed 4" below gutter grade.
2. Trench drains connects stormwater flow from the stormwater planter to sidewalk boardwalk zone.
3. A 4' wide boardwalk allows for continuous stormwater planter along street frontage. It is anticipated that the excavation for the stormwater planter will be outside of the existing tree root zone
4. Existing concrete sidewalk adjacent to street trees to be converted to a pervious paving system.
5. Curb frontage at stormwater planter locations are to be painted as a red zone (However, 5 spaces for on-street parking are retained).
6. Existing trees are preserved and protected.
7. Stormwater planter captures runoff from San Pablo Avenue and overflow from boardwalk planter. Any overflow from planter is allowed to exit along San Pablo Avenue.

San Pablo Avenue Green Stormwater Spine
City of El Cerrito, California

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1

LOCATION

Moeser Lane & San Pablo Ave

Opportunities:

- Could potentially manage private stormwater along San Pablo frontage
- Wide sidewalks and relatively low parking demand along San Pablo Avenue
- Project site could potentially demonstrate multiple stormwater technologies for managing parking lot and street runoff

Constraints:

- Existing mature trees may limit the size and shape of stormwater planters
- There needs to be agreement and coordination with private developer to manage stormwater along frontage
- May need to remove upstream inlets in order to direct more stormwater to project site

Recommendation:

- The design team recommends this site in conjunction with Site # 2 due to low parking demand along San Pablo Avenue, the potential to manage private stormwater along the San Pablo Avenue frontage, and the potential to demonstrate multiple technologies for managing parking lot and street runoff

San Pablo Avenue Green Stormwater Spine Project

City of El Cerrito, California (Urban Greening Site)

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El Cerrito (Urban Greening Site)

Moeser Lane and San Pablo Avenue

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Stormwater Improvement Concept Plan


PARKING AT REAR
Super COIN LAUNDRY
ANDERSON APPLIANCE
SMOG and GO
SMOG CHECK
IN BACK
BIKE ROUTE
I-80 BIKEWAY
EL CERRITO
ANDERSON APPLIANCE
Super COIN-OP Laundry
TAQUERIA
PUPUSAS

RICHMOND

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RICHMOND

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Stormwater Improvement Concept Plan

Scale: 1"=25'
May 2013

1. Stormwater curb extensions capture runoff from San Pablo Avenue, Andrade Avenue, and McBryde Avenue.
2. A new rain gardens capture stormwater from private parking lot. This will require acceptance and coordination of improvements with private owner.
3. Boardwalks allow stormwater to be connected between the curb extensions and rain garden.
4. Existing parking spaces are modified to allow for only parallel parking, however, additional parallel parking is allowed on McBryde Avenue
5. A new bus stop canopy conveys stormwater to adjacent rain garden (by others).
6. Trench drains used for stormwater conveyance.
7. A new corner plaza for placemaking opportunity (art, pedestrian seating, other amenities by others).
8. Boardwalk allows for additional stormwater storage adjacent to stormwater curb extension.
9. Existing private signage/utilities are to be protected within rain garden.
10. Optional new bike racks (by others)

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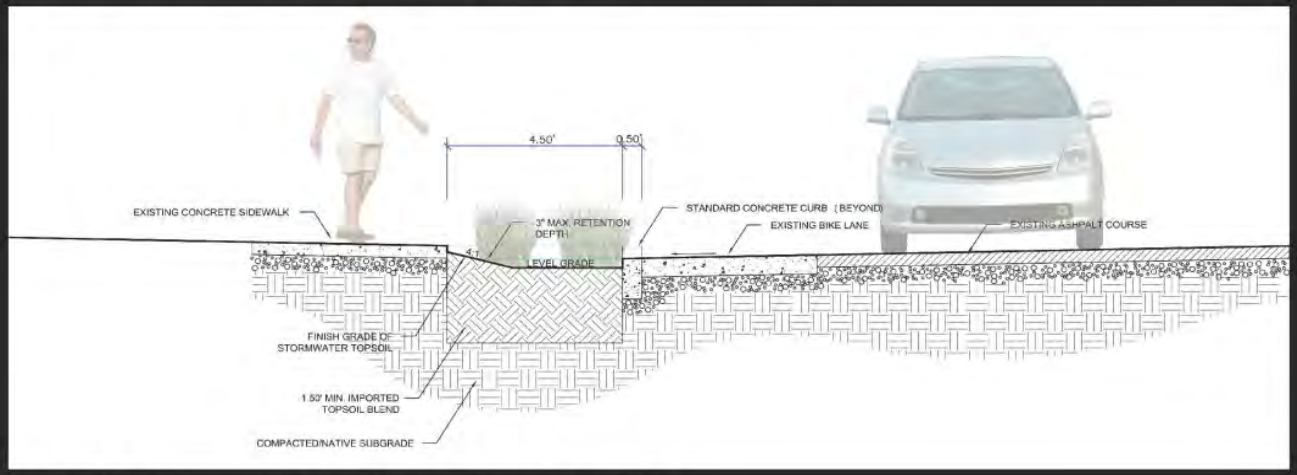
Stormwater Improvement Concept Plan

Scale: 1"=40'
January 2014



Typical Stormwater Plan Cross Section

Not To Scale

1. Stormwater planters capture runoff from San Pablo Avenue. Each planter has a flush curb condition next to bike lane for sheet flow of stormwater.
2. Existing street tree is retained and new landscape area is created at base of tree.
3. Existing bike lane is retained.

San Pablo Avenue Green Stormwater Spine Project
City of San Pablo, California

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36″

22″

GREEN STREETS

BLUE BAY

GREEN STREETS CLEAN POLLUTED WATER BEFORE IT DRAINS TO THE BAY

WHAT ARE GREEN STREETS?

When it rains, stormwater races off roof tops, sidewalks, and streets, picking up pollutants such as motor oil, heavy metals, pesticides, trash, and pet waste. The contaminated water typically flows untreated into storm drains, creeks, and ultimately into the San Francisco Bay.

Green Streets **collect** stormwater in specially designed basins, filled with carefully selected plants and soils. The plants and soil organisms **clean** the water by filtering and breaking down various pollutants. The cleansed stormwater **returns** to the storm drain system or soaks into the native soil (replenishing groundwater).

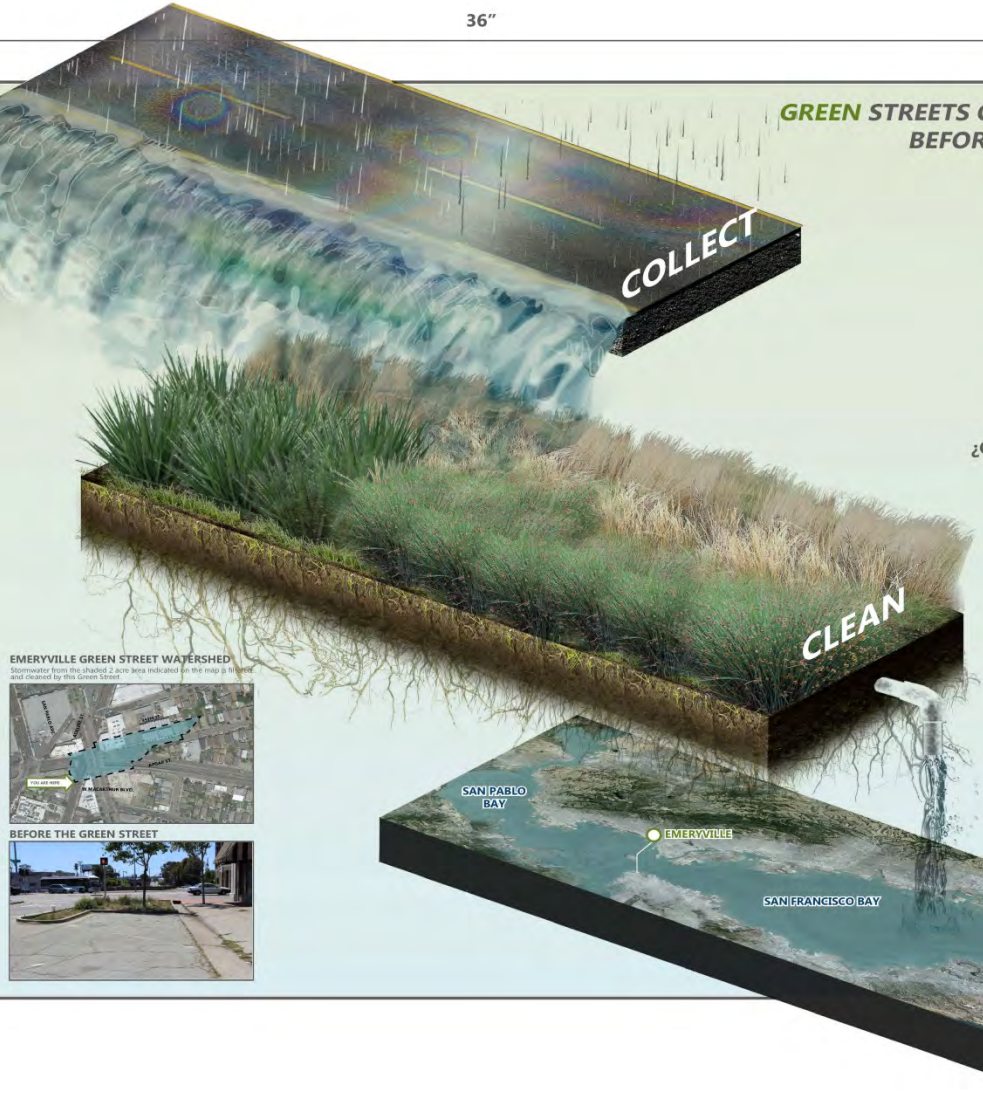
In addition to cleaning the water, Green Streets beautify the community, provide bird and insect habitat, and reduce localized flooding.

¿CUÁLES SON LAS CALLES VERDE?

Cuando llueve, las carreras de aguas pluviales fuera tejados, aceras y calles recogiendo contaminantes, tales como: aceite de motor, metales pesados, pesticidas, basura y desechos de mascotas. Esta agua contaminada normalmente fluye sin tratar en las alcantarillas, arroyos, y en última instancia en San Francisco Bay.

Calles Verdes **recoger** las aguas pluviales en las cuencas diseñadas especialmente llenos de plantas y suelos cuidadosamente seleccionadas. Las plantas y los organismos del suelo **limpian** el agua por filtración y romper varios contaminantes. El agua de lluvia limpia **vuelve** al sistema colector de aguas pluviales o empapa en los suelos naturales (agua subterráneas reposición).

Además de limpiar el agua, las Calles Verdes embellecer la comunidad, proveen hábitat de aves y de insectos, y reducir inundaciones localizadas.



EMERYVILLE GREEN STREET WATERSHED

Stormwater from this shaded 2 acre area indicated on the map is filtered and cleaned by this Green Street

BEFORE THE GREEN STREET

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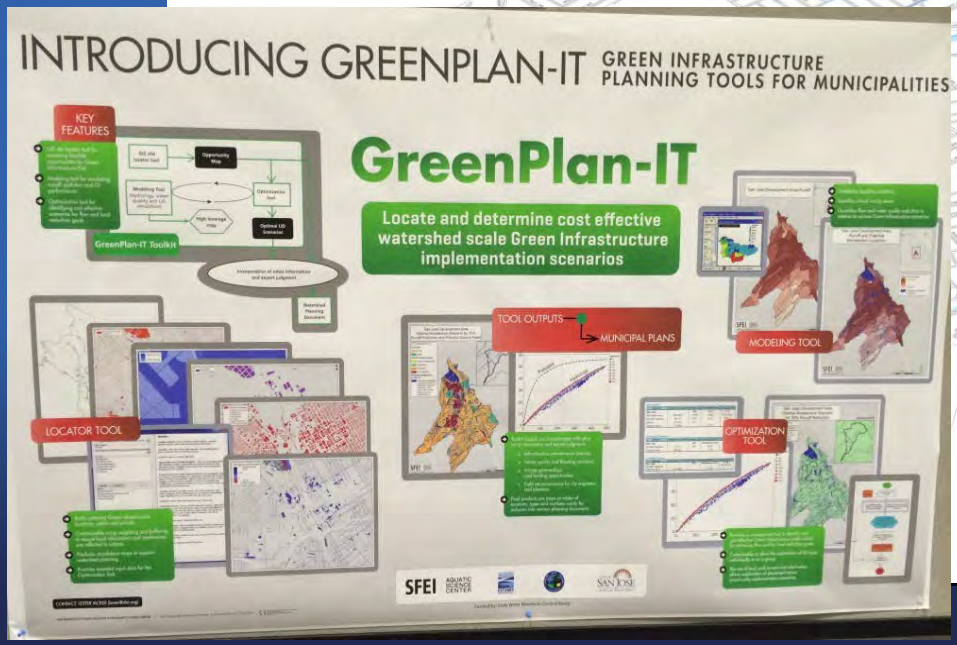
GREEN STREET PLANNING TOOLS



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San Francisco Estuary Partnership
www.sfestuary.org