

Meeting with Contra Costa County October 3rd, 2022

An aerial photograph of North Richmond, California. The foreground is dominated by a large body of water, likely Suisun Bay, with a small peninsula in the center. To the right, there's an industrial area with various structures and pipes. The background shows a dense urban area of Richmond, followed by rolling hills and mountains under a clear blue sky.

North Richmond Shoreline Adaptation *Planning & Preliminary Design*

AGENDA

- **Project Scope and Recent Developments**
 - Stakeholder Working Group; 5-Mile Regional Collaborative Plan, WCW Living Levee Prototype
 - Community Engagement / Co-Design Process
 - Key Near-Term Linkages & “Collaboration Clusters” (X2)
 - Living Levee Pilot footprint & alignment study; Related trail and access opportunities
- **Schedule, Funding Approach & Next Steps**
- **Discussion**

North Richmond Shoreline Adaptation Project Boundary

**~5 Mile North Richmond Shoreline Area
(Scope: Collaborative Shoreline Plan)**

Inclusive of critical sub-tidal
habitat, mudflats and aqueous
parcel boundaries

Parchester Village in the North

Pt. San Pablo

Pt. Pinole

Giant Marsh

Dotson
Family Marsh

Richmond
Parkway

San Pablo
Marsh

San Pablo Creek

San Pablo

WCW

Wildcat Creek

**LIVING LEVEE PILOT STUDY
AREA at WCW FACILITY
(Scope: 30% Drawings)**

Wildcat Marsh

North
Richmond

Chevron
Refinery

Richmond

Castro Creek in the South

Area Below 12.96ft NAVD88



- 100-yr Coastal Flood w/ +3.4ft SLR
- MHHW w/ +6.9ft SLR

Area Below 9.56ft NAVD88



- Present Day 100-yr Coastal Flood
- MHHW w/ +3.4ft SLR

Area Below 6.16ft NAVD88

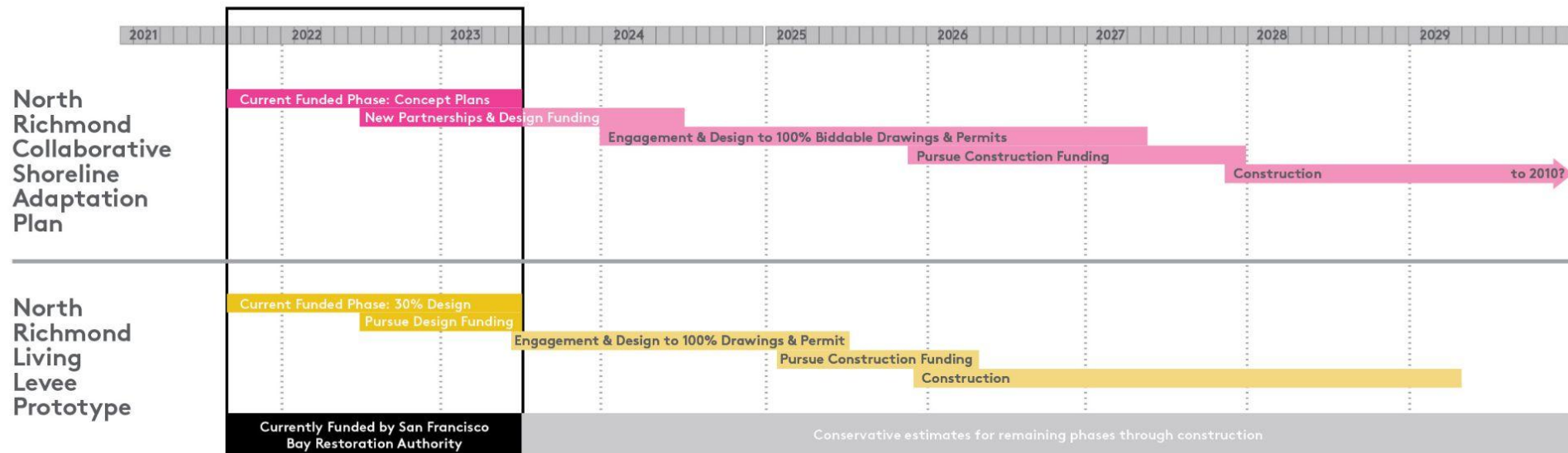
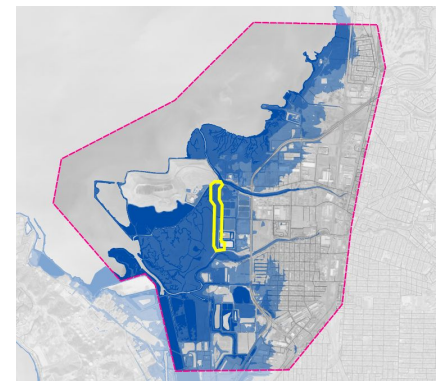


- Present Day MHHW

0 0.25 0.5 1 Miles

Looking Ahead...

- DESIGN DEVELOPMENT FOR PILOT PROJECT AND CONCEPT PLAN FOR COLLABORATIVE SHORELINE ADAPTATION PLAN
- CONTINUED STAKEHOLDER MEETINGS
- COMMUNITY SURVEY REPORTING
- 'COLLABORATION CLUSTERS' DISCUSSIONS & DESIGN OPTIONS
- SECOND BRRIT MEETING IN EARLY 2023
- FINAL REPORT DELIVERED TO SFBRA MAY 2023



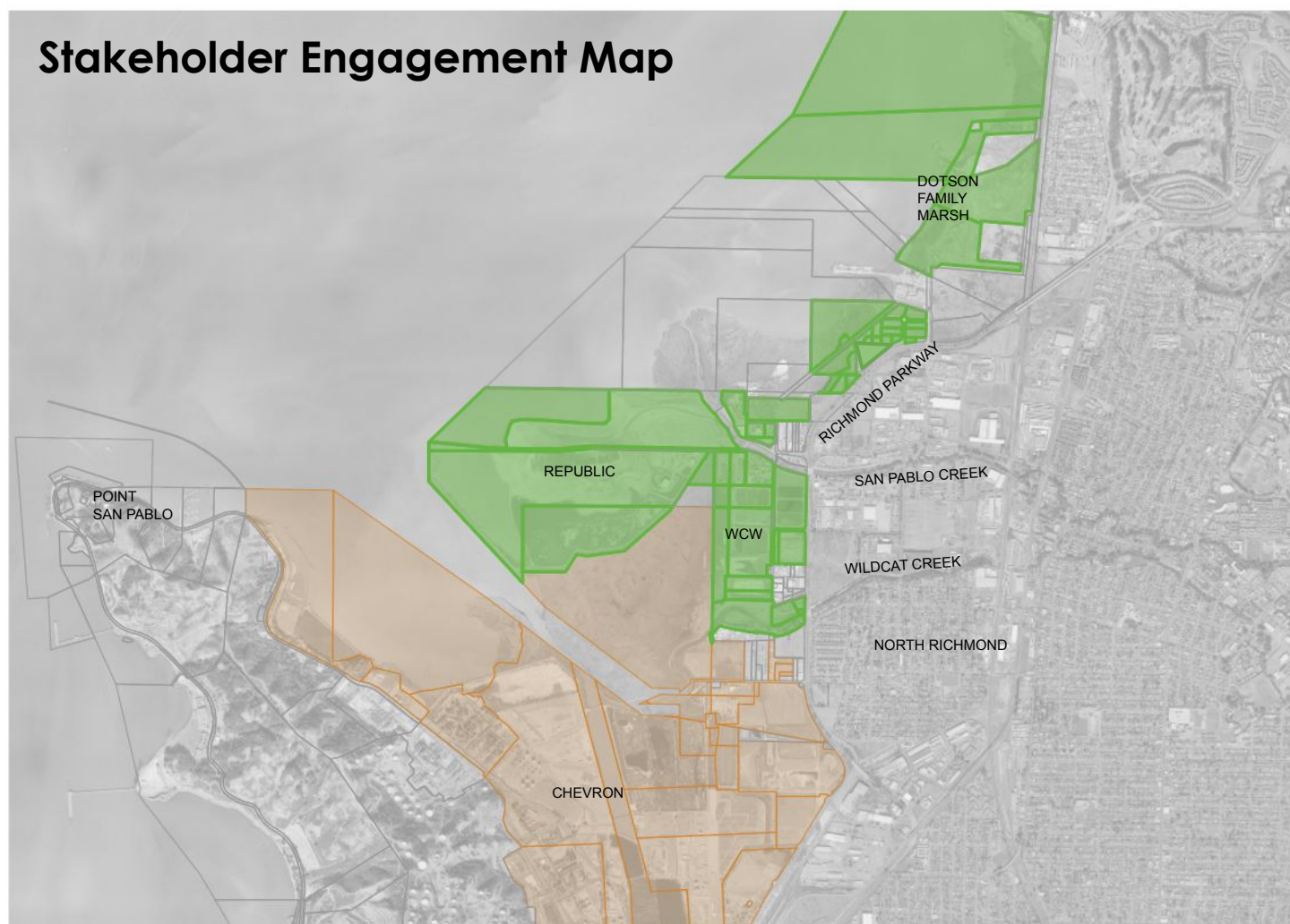
Stakeholder Engagement Map

 Stakeholder
Conversations/
Collaborations

 Chevron Parcels

One-on-One Stakeholder Workshops

- West County Wastewater
- Republic Services
- Parr Acres
- Contra Costa Flood Control
- East Bay Parks
- City of Richmond
- PowerPlant Park
- County Supervisor Gioia
- Contra Costa County Watershed Program
- Trails Richmond Action Committee
- Watershed Council
- San Francisco Estuary Partnership
- BCDC Planning (scheduling)
- CC Mosquito and Vector Control (scheduled)
- West Contra Costa Transportation Advisory Committee (scheduled)



WHAT WE'VE HEARD:

Priorities for Access, Amenities, Activities & Restoration



Live MarkUp:

loops, not just lines!

is there a barge or canal or other besides just levee itself?

prioritize bike and ped, running access

Signage, wayfinding

can wetlands, etc be more accessible, esp for elderly population

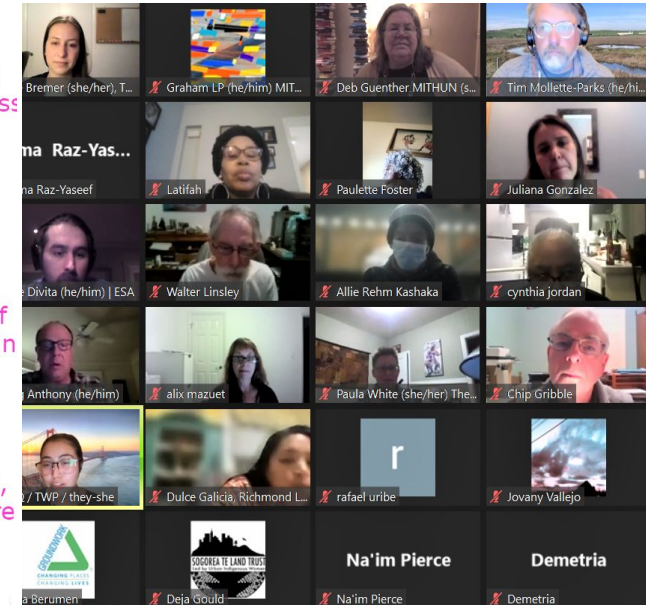
ecology center, arts center
quiet program, yoga, etc - whole & meditation in this area

trash & recycling facilities, esp when leaving the flea market (combined w/ environmental

bridge

clarity of wayfinding

interactive education component - accessible throughout - in different languages, etc (so much wildlife etc) more engaging for youth; history; function of WCW; tribal and indigenous engagement



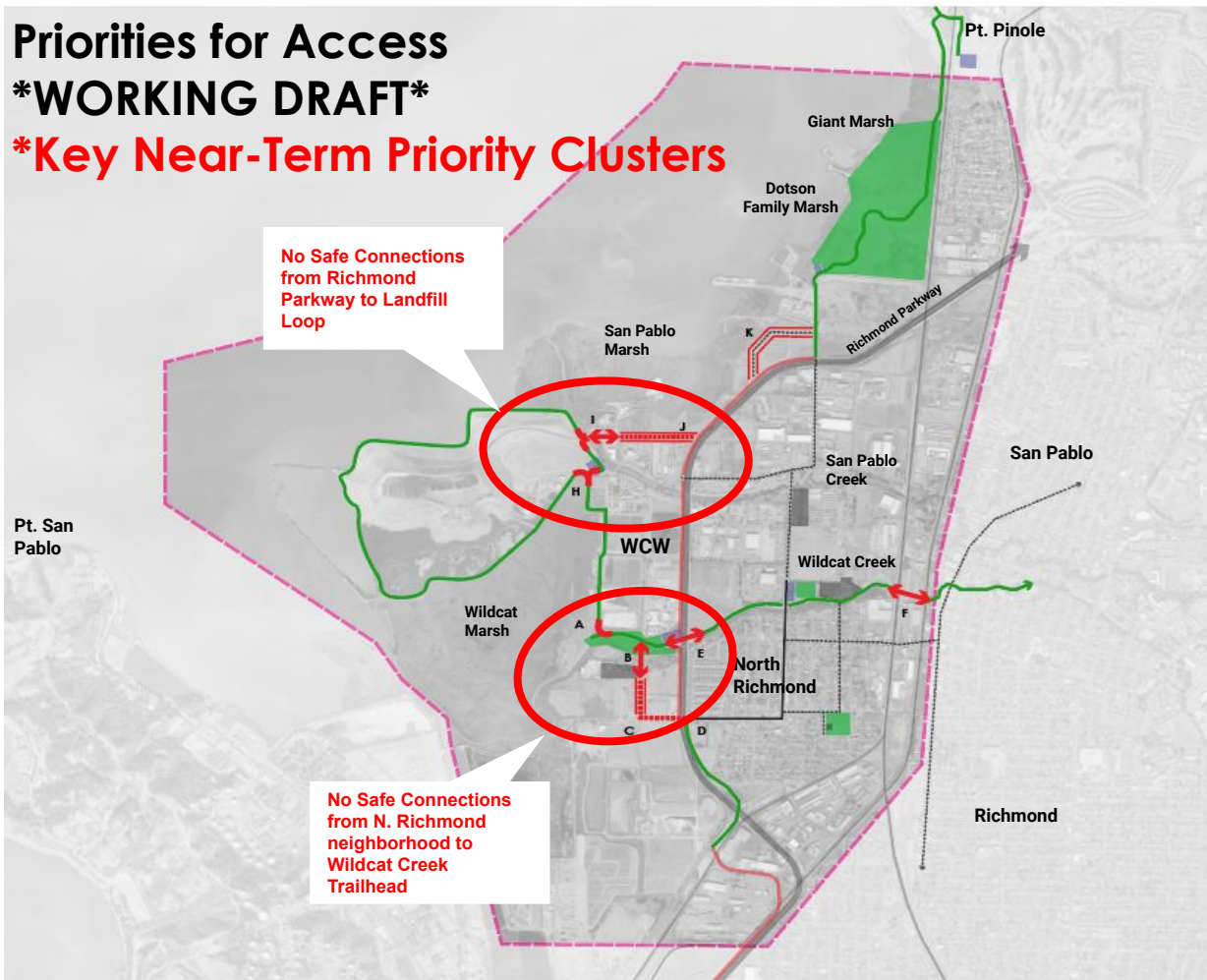
Priorities for Access

WORKING DRAFT

*Key Near-Term Priority Clusters

No Safe Connections
from Richmond
Parkway to Landfill
Loop

No Safe Connections
from N. Richmond
neighborhood to
Wildcat Creek
Trailhead



- KEY PUBLIC ASSETS
- EXISTING PARKS
- EXISTING TRAILHEAD / PARKING LOT
- EXISTING MULTI-USE TRAIL(BIKE + PED)
- EXISTING BIKE LANE
- PRE-EXISTING PROPOSAL PED/BIKE LANE IMPROVEMENTS
- EX. TRAIL OR SIDEWALK REQUIRING IMPROVEMENT
- PROPOSED NEW MULTI-USE TRAIL(BIKE + PED)
- NEW EASEMENT REQUIRED
- MAJOR ACCESS GAPS / PROPOSED IMPROVEMENTS
- ↔ PROPOSED PED BRIDGE / NEW CROSSING

- A. Lockable gate, locked at times
- B. Prop. Ped/Bike bridge crossing from Wildcat Creek Trail to Flea Market
- C. Prop. Ped/Bike path to N. Richmond neighborhood
- D. Unsafe Richmond Parkway crossing at Gertrude Ave
- E. Prop. Ped/Bike bridge crossing; Underpass at Richmond Parkway impassible, full of sediment, generally uninviting spatially. Key opportunity for trail connectivity
- F. No pedestrian way to cross at Railroad along Wildcat trail east of Verde School.
- H. Trail head accessible by auto only. Must drive into Republic Service operation area to get there; Lockable gate, locked at times.
- I. Prop. Ped/Bike bridge crossing from Bay Trail to Landfill Loop; currently requires crossing in front of Republic Services truck operations at gate house.
- J. Prop. new Trail connxn and separated loop to Richmond Parkway, Dotson Marsh
- K. Prop. new Trail connxn and separated loop to Richmond Parkway, Dotson Marsh Trail Extension to Goodrick Ave.

Priority Amenities

Water's Edge



kayak launch



gravel beach

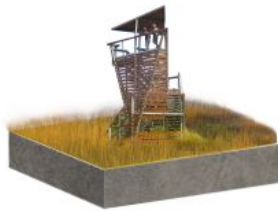


boardwalk



bird blind

Levee



observatory tower



info kiosk / interpretation



boardwalk



park amenities

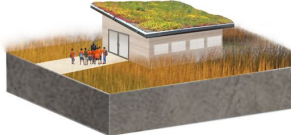
Upland



native plant
nursery



native garden

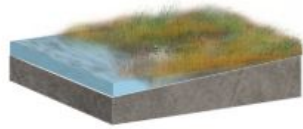


community space



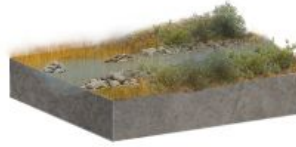
art / research area

Priorities for Restoration: Assessing Feasibility and Location



Tidal Marshes

- Restore tides to diked ponds, remove unneeded historic shoreline fill



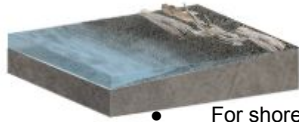
Riparian /
Floodplain Corridors

- Preserve and expand natural corridors along creek channels



Ecotone Slopes

- Create or enhance gently sloped transitions between tidal and riparian habitats and adjacent uplands



Gravel Beach

- For shorelines with larger wave exposure. To reduce erosion of marsh habitats and to protect critical infrastructure



Seasonal Wetlands

- Create wetland habitats in areas where stormwater runoff is concentrated for water quality and habitat benefits



Uplands

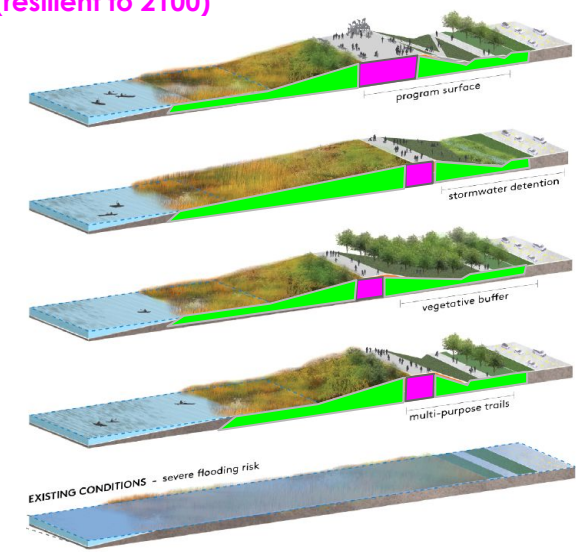
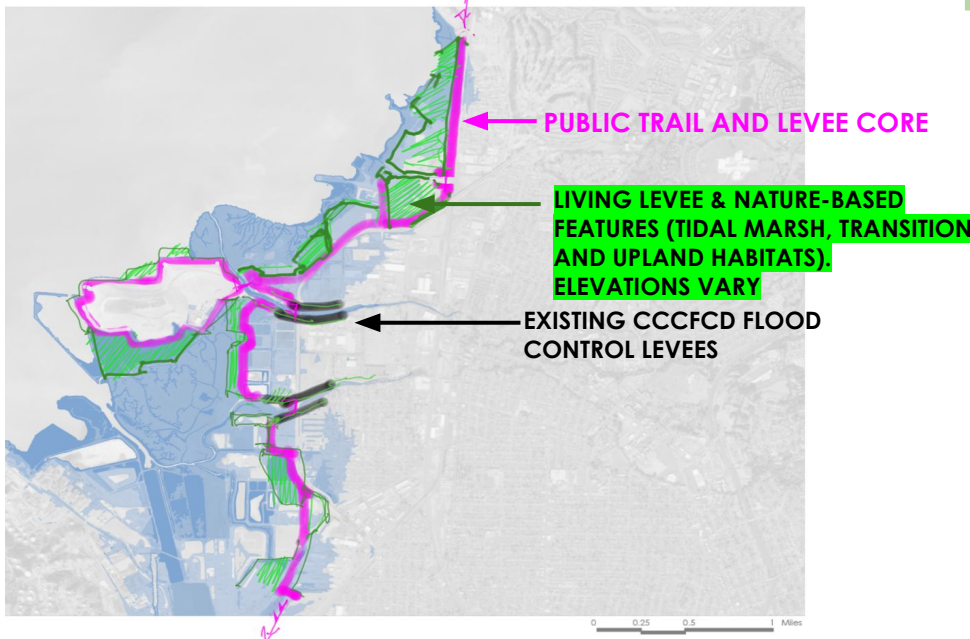
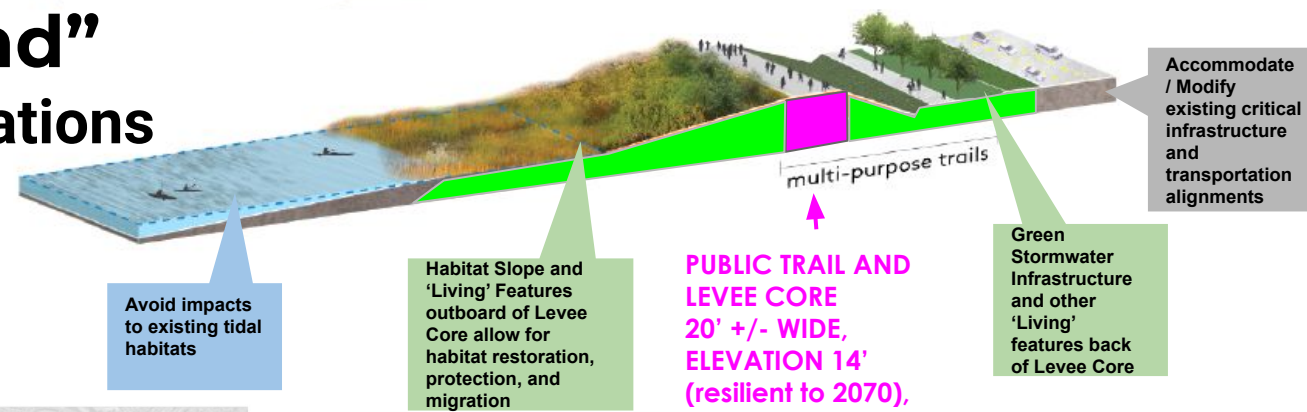
- Protect upland open space and apply ecological enhancements to restore natural habitats.

+Ecological Enhancements

- **Establish native vegetation:** Seeding and planting appropriate native plant species
- **Invasive plant management** and eradication
- **Tidal and stormwater channel improvements** (remove barriers, create new channels as needed)
- **Small-scale Habitat Features:**
 - Natural wood habitat structures
 - Oyster reefs
 - Manufactured habitat elements: Owl burrows, bird/bat boxes, etc.
- **Nature-based water treatment:**
 - Stormwater swales
 - Wetland habitat water treatment ponds
 - Subsurface flow water treatment wetlands ("Horizontal Levee")

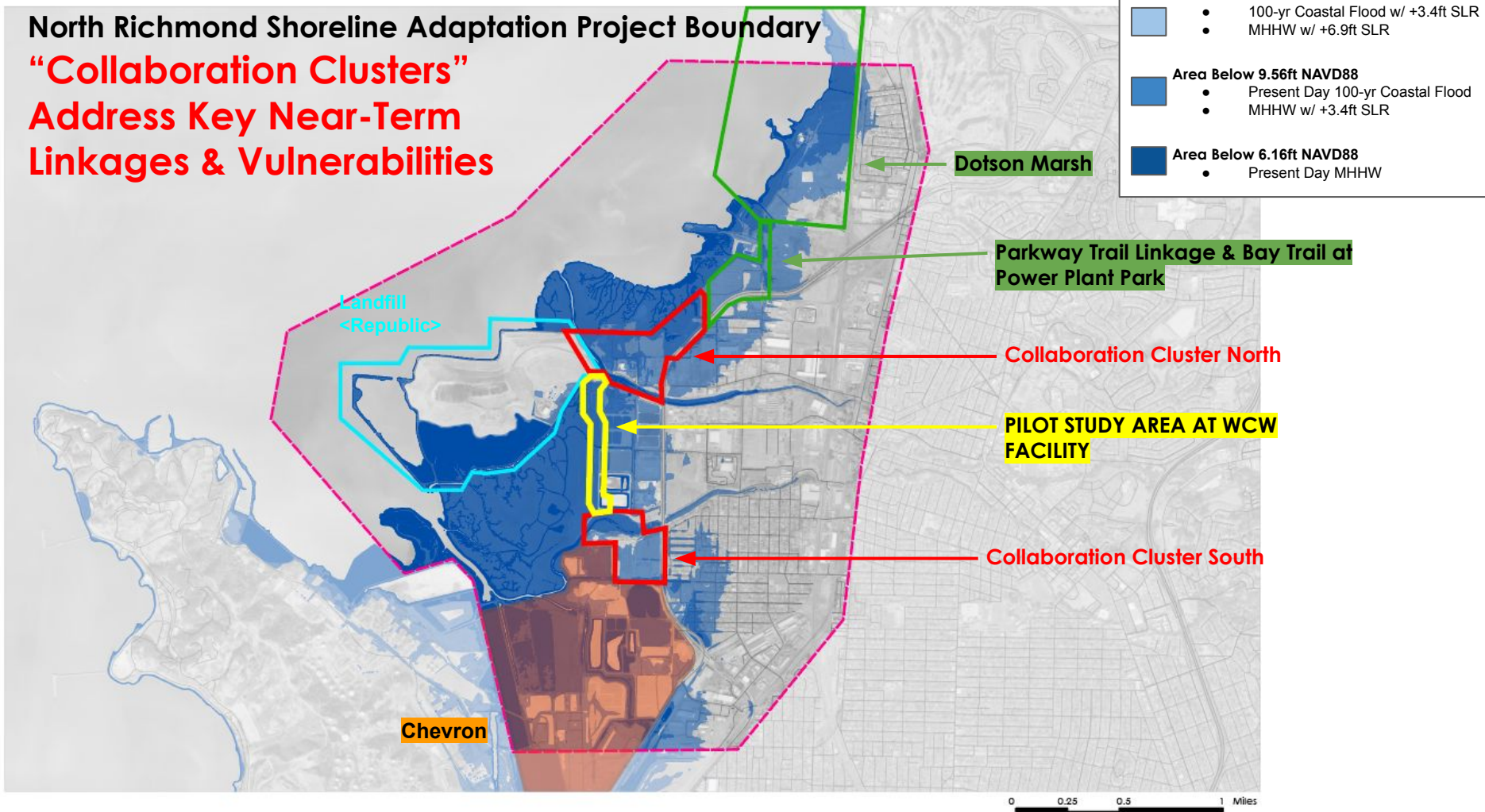
“A Flexible Band”

Multi-Benefit Adaptations



North Richmond Shoreline Adaptation Project Boundary

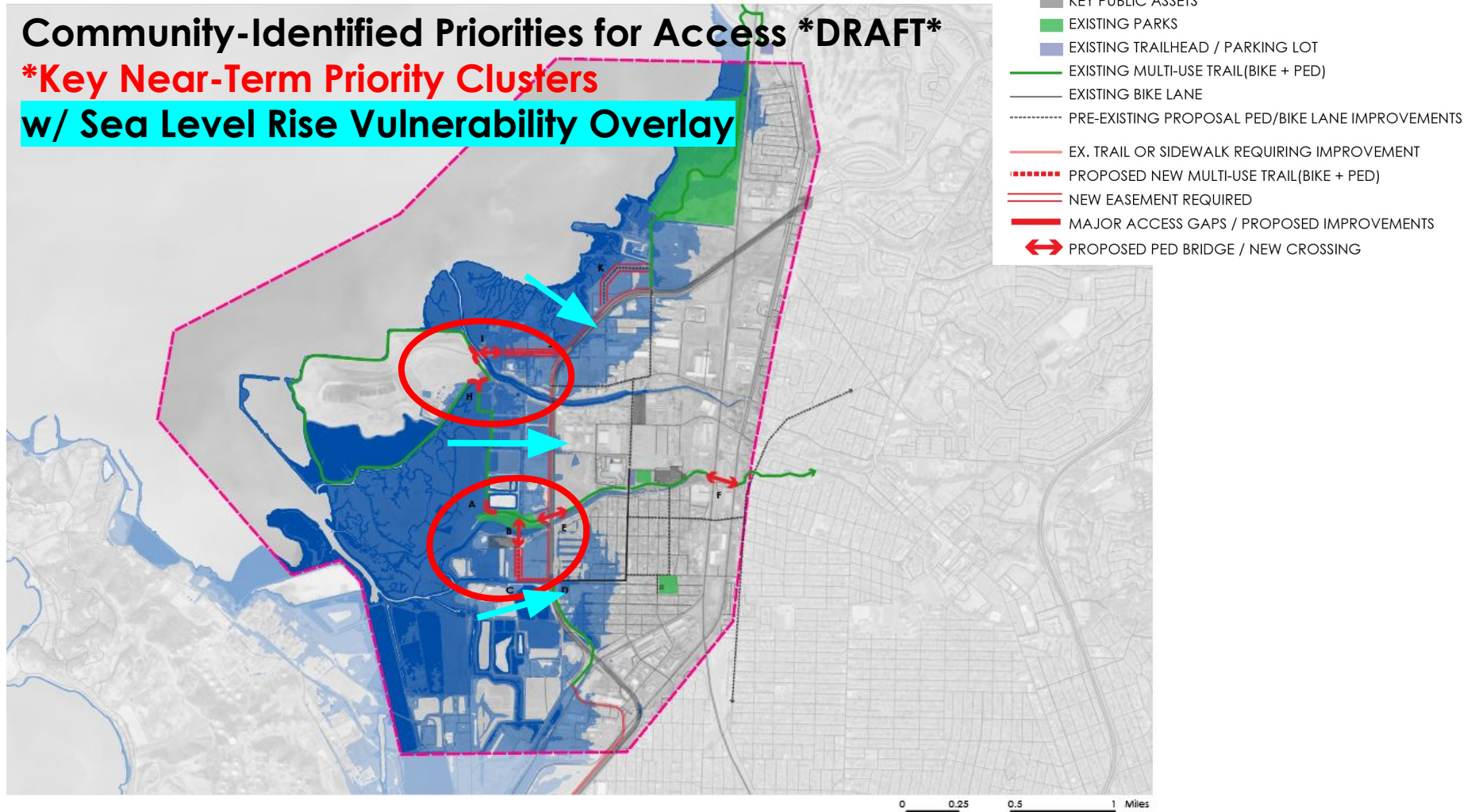
“Collaboration Clusters” Address Key Near-Term Linkages & Vulnerabilities



Community-Identified Priorities for Access *DRAFT*

***Key Near-Term Priority Clusters**

w/ Sea Level Rise Vulnerability Overlay



"Collaboration Clusters" Address Key Near-Term Linkages & Vulnerabilities

*parcels + stakeholders highlighted

Area Below 12.96ft NAVD88

- 100-yr Coastal Flood w/ +3.4ft SLR
- MHHW w/ +6.9ft SLR

Area Below 9.56ft NAVD88

- Present Day 100-yr Coastal Flood
- MHHW w/ +3.4ft SLR

Area Below 6.16ft NAVD88

- Present Day MHHW

Collaboration Cluster North

- City of Richmond
- WCCTAC
- East Bay Parks
- Republic Services
- Contra Costa Flood Control
- Independent:
SRE Richmond
PARR Acres
- *potentially other adjacent

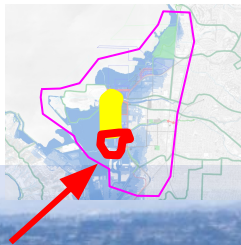
Collaboration Cluster South

- City of Richmond / WCCTAC
- East Bay Parks
- Contra Costa Flood Control
- Independent:
Hammond Construction
SRE Richmond
Fass Diane M Tre
R & S Holdings
- *Chevron

0 0.25 0.5 1 Miles

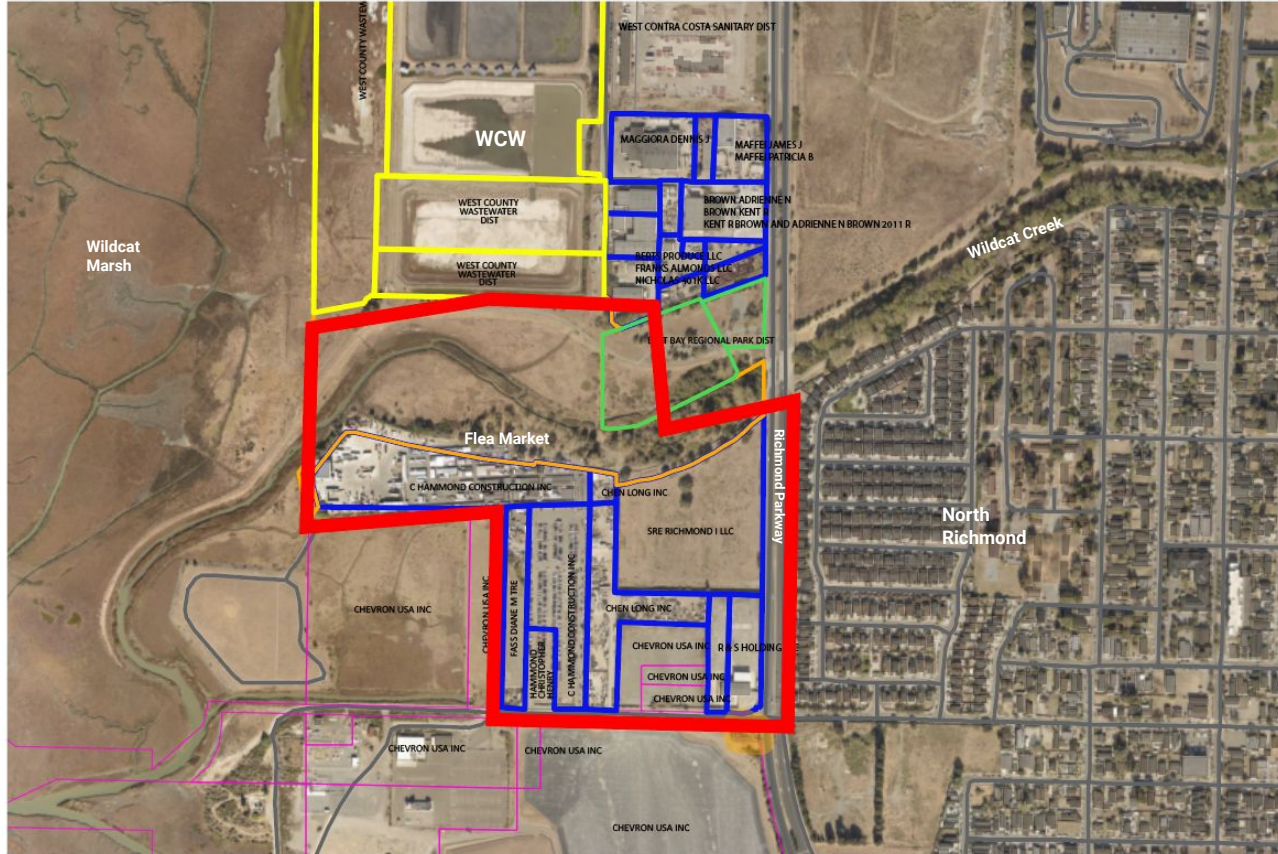
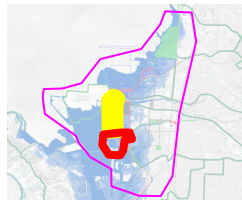
Collaboration Cluster South: Wildcat Creek Reach *DRAFT ONLY*

Aerial View



Collaboration Cluster South *DRAFT ONLY*

Base Plan w/ Parcel info



Collaboration Cluster South

Agencies:

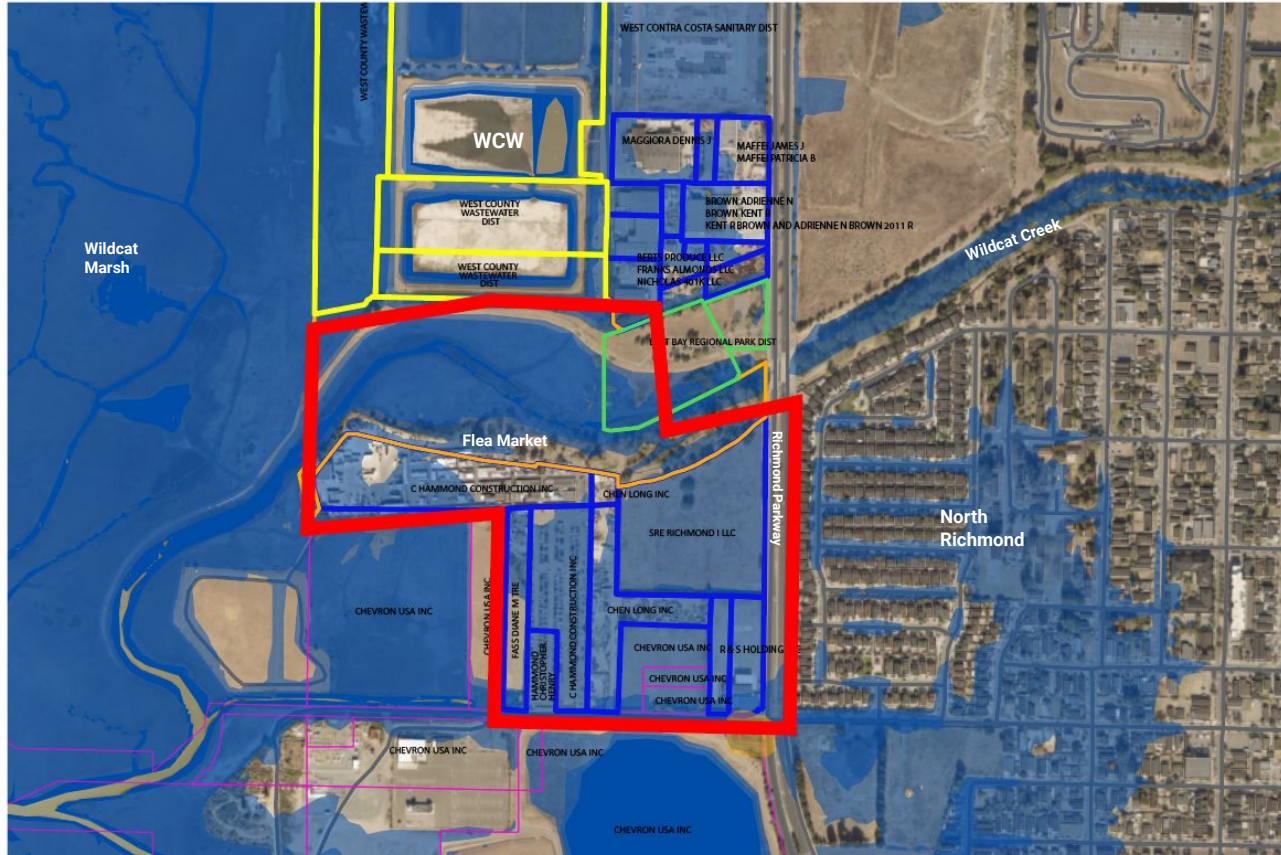
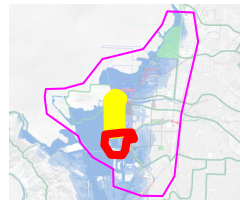
- Contra Costa County District 1
- WCCTAC
- Contra Costa Flood Control District
- City of Richmond
- East Bay Parks
- and?

**Independent Property Owners
Contact Still Needed:**

- C. Hammond Construction Inc
- SRE Richmond I LLC
- Fass Diane M Tre
- Chen Long Inc
- R & S Holdings
- Chevron**

Collaboration Cluster South *DRAFT ONLY*

Base Plan w/ Parcel & Flooding info



Collaboration Cluster #2

- City of Richmond / WCCTAC
- East Bay Parks
- Contra Costa Flood Control
- Independent:
 - Hammond Construction
 - SRE Richmond
 - Fass Diane M Tre
 - R & S Holdings
 - *Chevron
 - *and...?

Area Below 12.96ft NAVD88

- 100-yr Coastal Flood w/ +3.4ft SLR
- MHHW w/ +6.9ft SLR

Area Below 9.56ft NAVD88

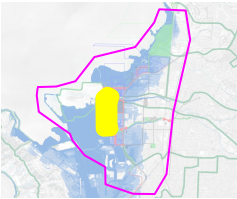
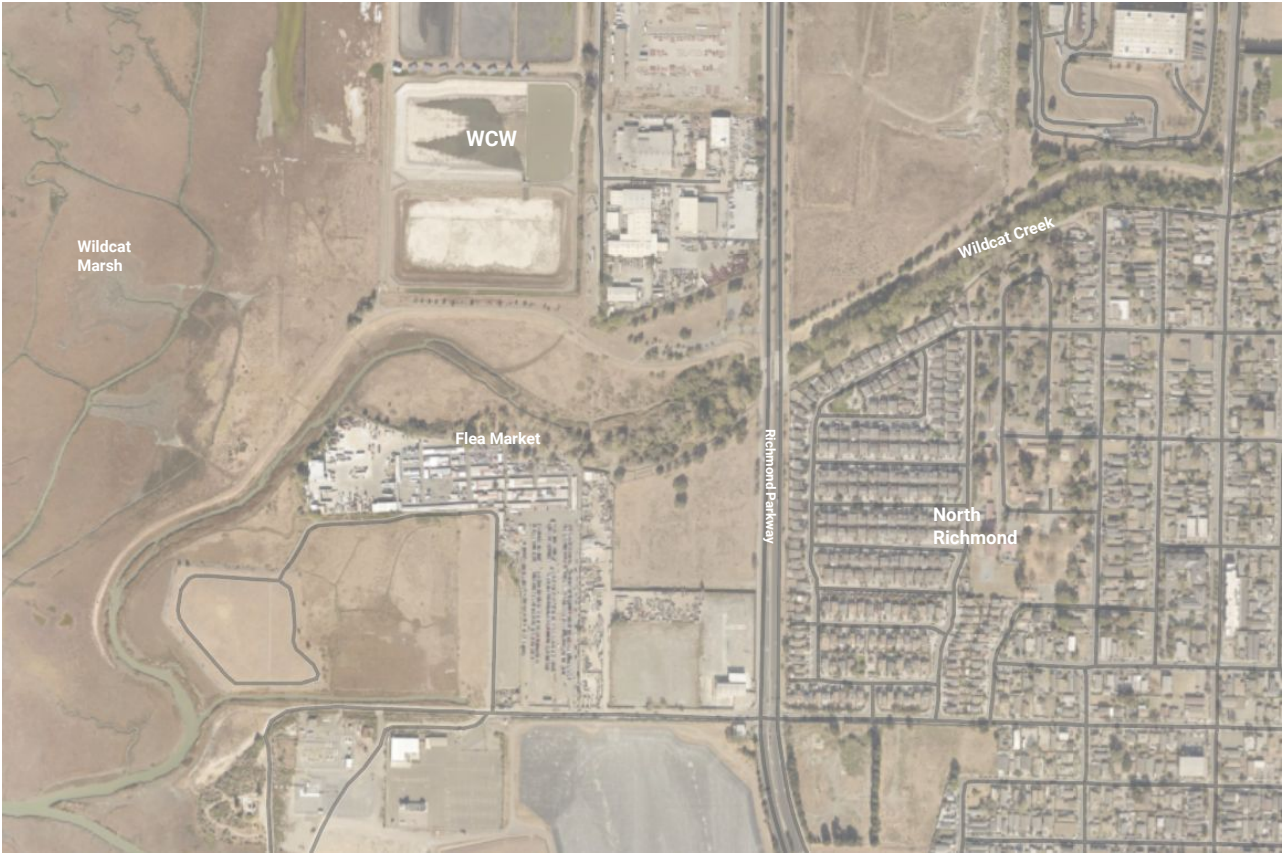
- Present Day 100-yr Coastal Flood
- MHHW w/ +3.4ft SLR

Area Below 6.16ft NAVD88

- Present Day MHHW

Collaboration Cluster South *DRAFT ONLY*

Base Plan w/ Existing Conditions



Levees and Hydraulic Deficiencies Along Wildcat Creek

Levees and Hydraulic Deficiencies Along Wildcat Creek

Map showing the location of Wildcat Creek and surrounding streets (Garden Tr, Richmond, Golden G, Davilla Rd, Ellison Ln, Marcus Ave, Malcolm Dr, Martin Dr, Ruby Ave, W Ruby St, 1st St, 2nd St, Truman St, Chesley Ave, Gertrude Ave, Kelsey St, Chery St, York St, 4th St, 5th St, Glarmita St, 6th St, 7th St, 8th St, 9th St, 10th St, 11th St, 12th St, 13th St, 14th St, 15th St, 16th St, 17th St, 18th St, 19th St, 20th St, 21st St, 22nd St, 23rd St, 24th St, 25th St, 26th St, 27th St, 28th St, 29th St, 30th St, 31st St, 32nd St, 33rd St, 34th St, 35th St, 36th St, 37th St, 38th St, 39th St, 40th St, 41st St, 42nd St, 43rd St, 44th St, 45th St, 46th St, 47th St, 48th St, 49th St, 50th St, 51st St, 52nd St, 53rd St, 54th St, 55th St, 56th St, 57th St, 58th St, 59th St, 60th St, 61st St, 62nd St, 63rd St, 64th St, 65th St, 66th St, 67th St, 68th St, 69th St, 70th St, 71st St, 72nd St, 73rd St, 74th St, 75th St, 76th St, 77th St, 78th St, 79th St, 80th St, 81st St, 82nd St, 83rd St, 84th St, 85th St, 86th St, 87th St, 88th St, 89th St, 90th St, 91st St, 92nd St, 93rd St, 94th St, 95th St, 96th St, 97th St, 98th St, 99th St, 100th St).

Legend:

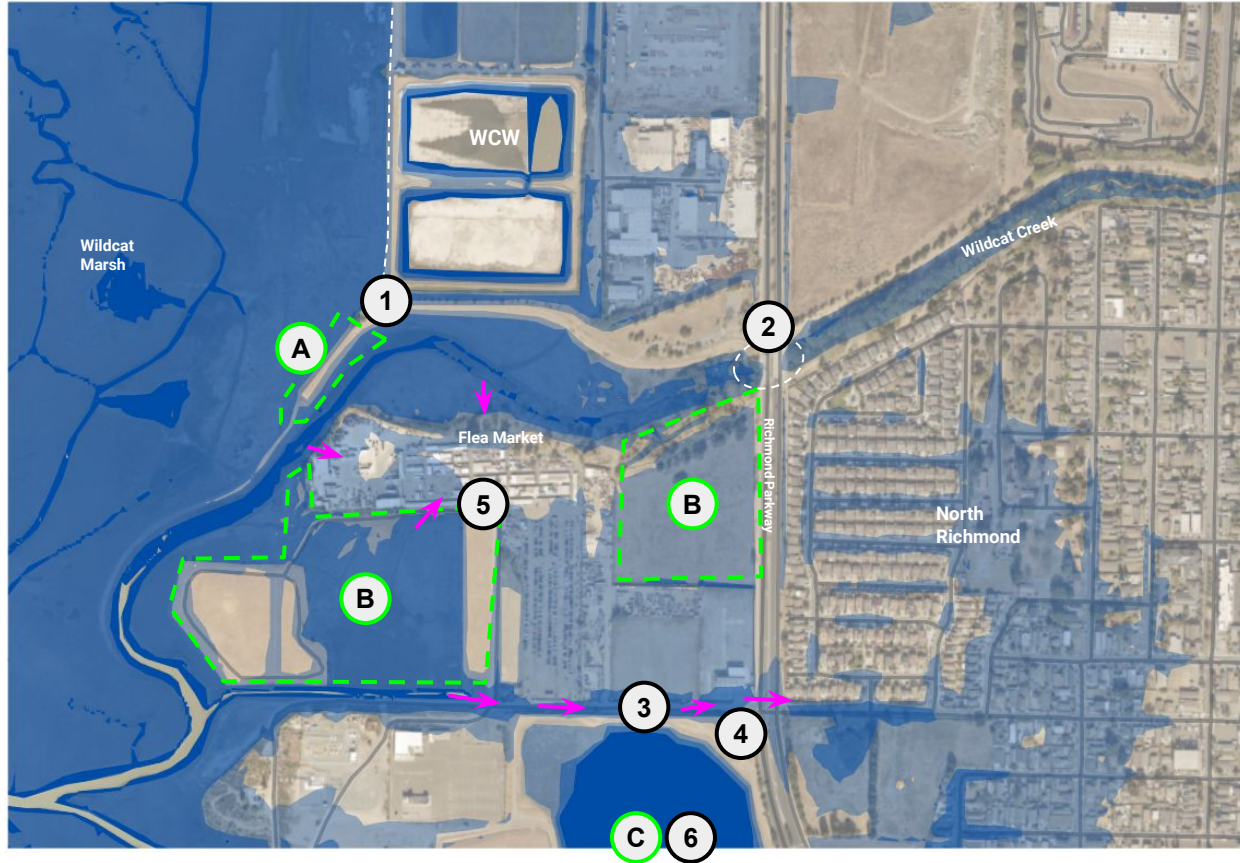
- Fireboard Deficiency - FEMA
- Bulk Type
- Fully Confined In-ground Earth Cut Channel
- Levee Reaches

FOR CURRENT GEOMETRY AND CURRENT CHANNEL ROUGHNESS

Figure 1

Collaboration Cluster South *DRAFT ONLY*

Base Plan w/ Existing Conditions Analysis + Flooding Projection

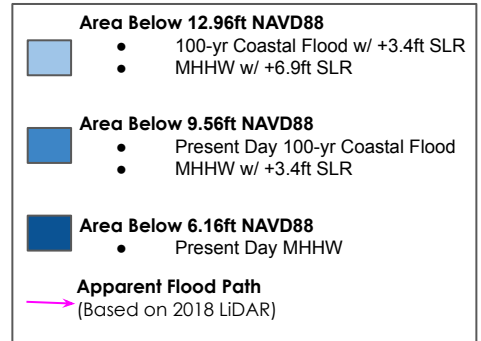


Key Flood Vulnerability

- 1) **Demonstration Project Levee Tie-in**
- 2) **Wildcat Creek Trail** Poor/flooded trail connection to neighborhoods
- 3) **Gertrude Ave & North Richmond Neighborhood**: Vulnerable to present-day coastal flooding, worse with SLR
- 4) **Gertrude Pump Station**: Critical stormwater facility. Access limited during coastal flood.
- 5) **Flea Market**: Vulnerable to coastal flooding w/ 1-2 ft SLR
- 6) **Chevron Ponds** (off screen)

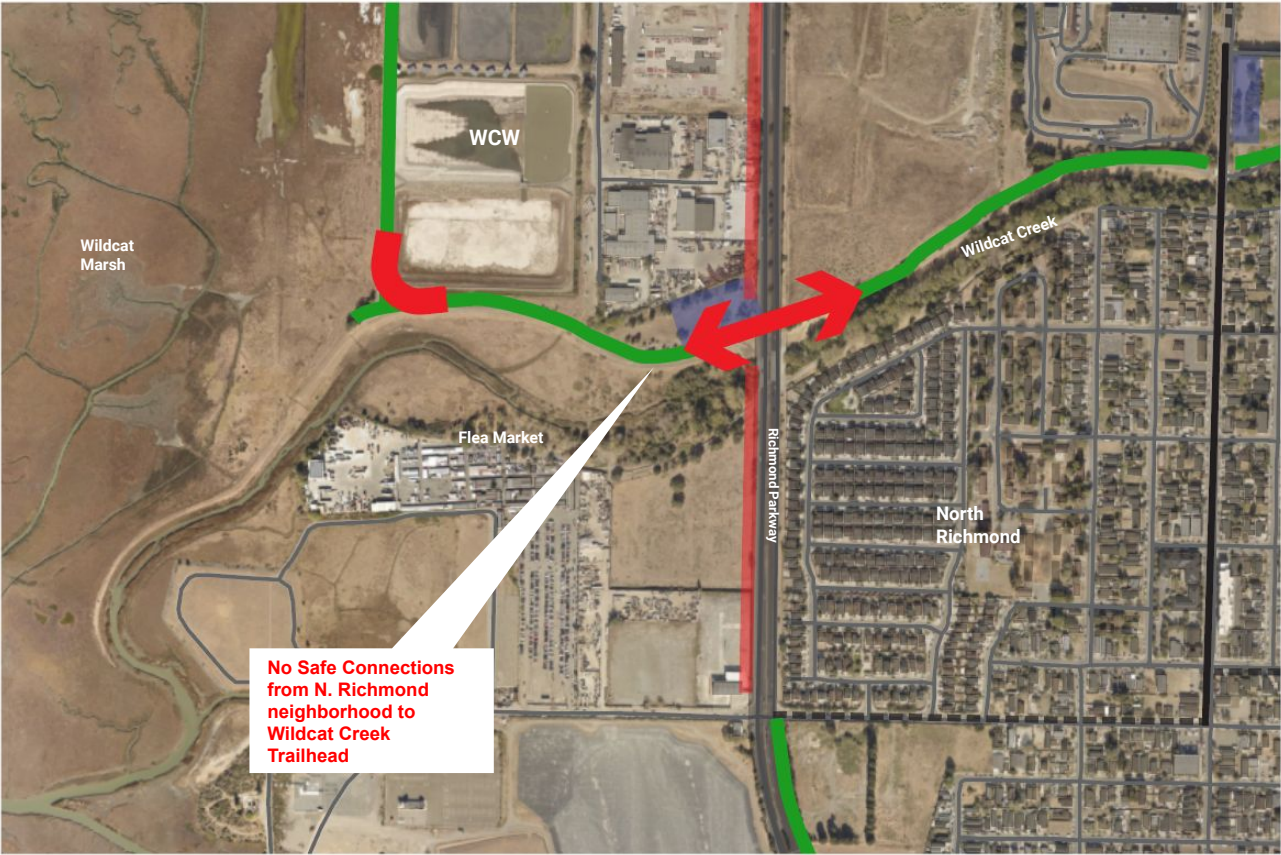
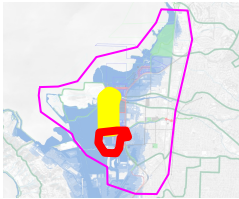
Restoration/Ecological Enhancement

- A. Wildcat Creek Mouth
- B. Preserve/Enhance marsh- and creek- adjacent open space
- C. Pond remediation/restoration (off screen)



Collaboration Cluster South *DRAFT ONLY*

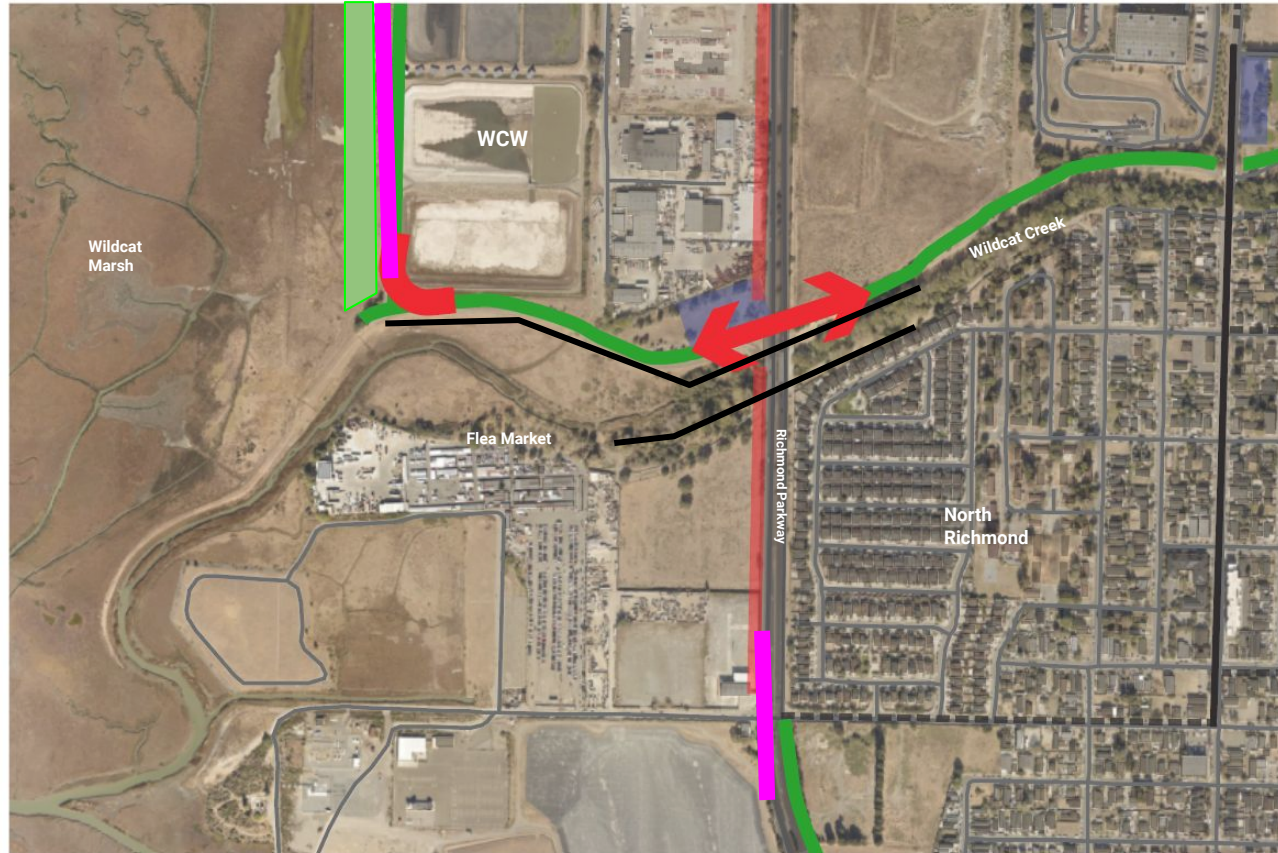
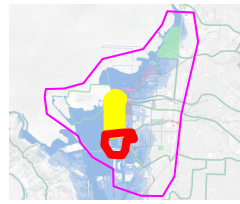
Base Plan w/ Key Access info



- KEY PUBLIC ASSETS
- EXISTING PARKS
- EXISTING TRAILHEAD / PARKING LOT
- EXISTING MULTI-USE TRAIL(BIKE + PED)
- EXISTING BIKE LANE
- PRE-EXISTING PROPOSAL PED/BIKE LANE IMPROVEMENTS
- EX. TRAIL OR SIDEWALK REQUIRING IMPROVEMENT
- PROPOSED NEW MULTI-USE TRAIL(BIKE + PED)
- NEW EASEMENT REQUIRED
- MAJOR ACCESS GAPS / PROPOSED IMPROVEMENTS
- PROPOSED PED BRIDGE / NEW CROSSING

Collaboration Cluster South *DRAFT ONLY*

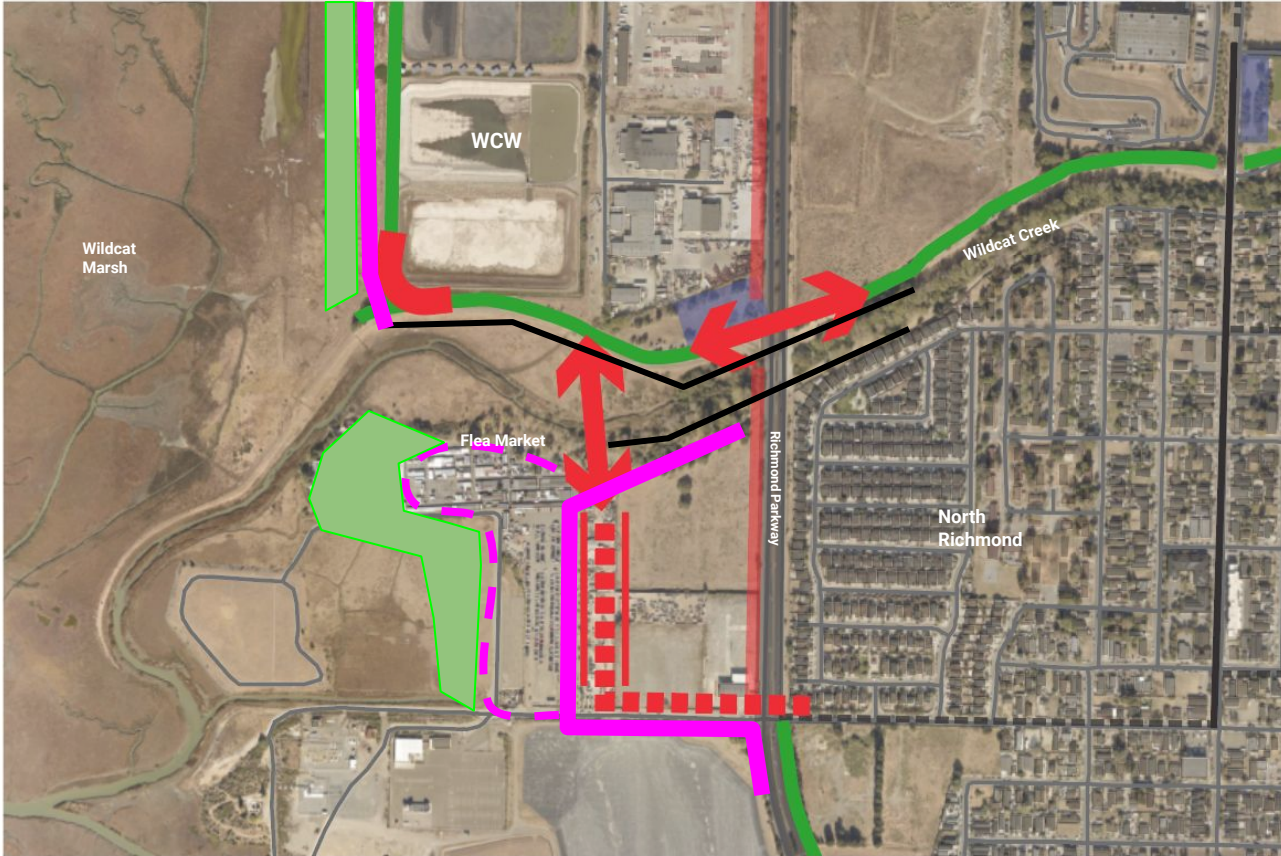
Concept Design Approach 1



- KEY PUBLIC ASSETS
- EXISTING PARKS
- EXISTING TRAILHEAD / PARKING LOT
- EXISTING MULTI-USE TRAIL(BIKE + PED)
- EXISTING BIKE LANE
- PRE-EXISTING PROPOSAL PED/BIKE LANE IMPROVEMENTS
- EX. TRAIL OR SIDEWALK REQUIRING IMPROVEMENT
- PROPOSED NEW MULTI-USE TRAIL(BIKE + PED)
- NEW EASEMENT REQUIRED
- MAJOR ACCESS GAPS / PROPOSED IMPROVEMENTS
- PROPOSED PED BRIDGE / NEW CROSSING
- EX. CC FLOOD CONTROL LEEVE
- LINE OF SLR PROTECTION
- HABITAT SLOPE / NATURE-BASED FEATURE

***does not resolve ped/bike challenge at Richmond Parkway / Wildcat Creek trail**
***doesn't resolve flood risk at properties West of Parkway**
***does not address how pilot levee ties in to ex CCFCD levee at N. bank of Wildcat cr.**

Concept Design Approach 2



- *requires additional agency / multi-stakeholder collaboration.**

Collaboration Cluster South *DRAFT ONLY*



bird blind



native plant nursery



community center



boardwalk

Collaboration Cluster South *DRAFT ONLY*



bird blind



native plant nursery

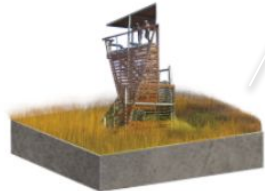


community center



boardwalk

Collaboration Cluster South *DRAFT ONLY*



observatory tower



info kiosk / interpretation



art / research area



native plant nursery

Collaboration Cluster South *DRAFT ONLY*



observatory tower



info kiosk / interpretation

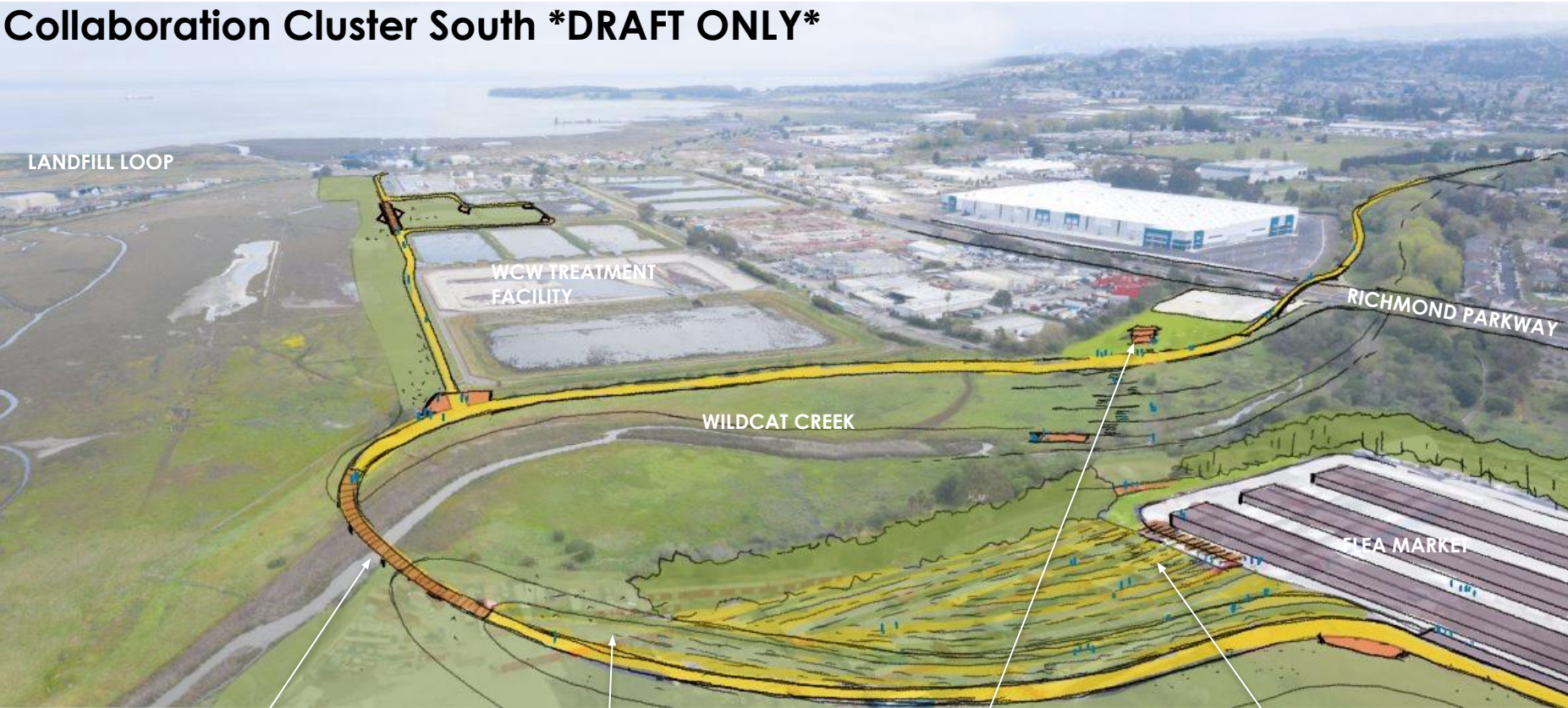


art / research area



native plant nursery

Collaboration Cluster South *DRAFT ONLY*



boardwalk



native garden



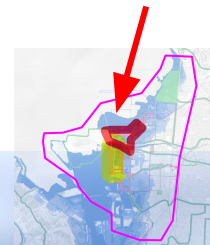
info kiosk / interpretation



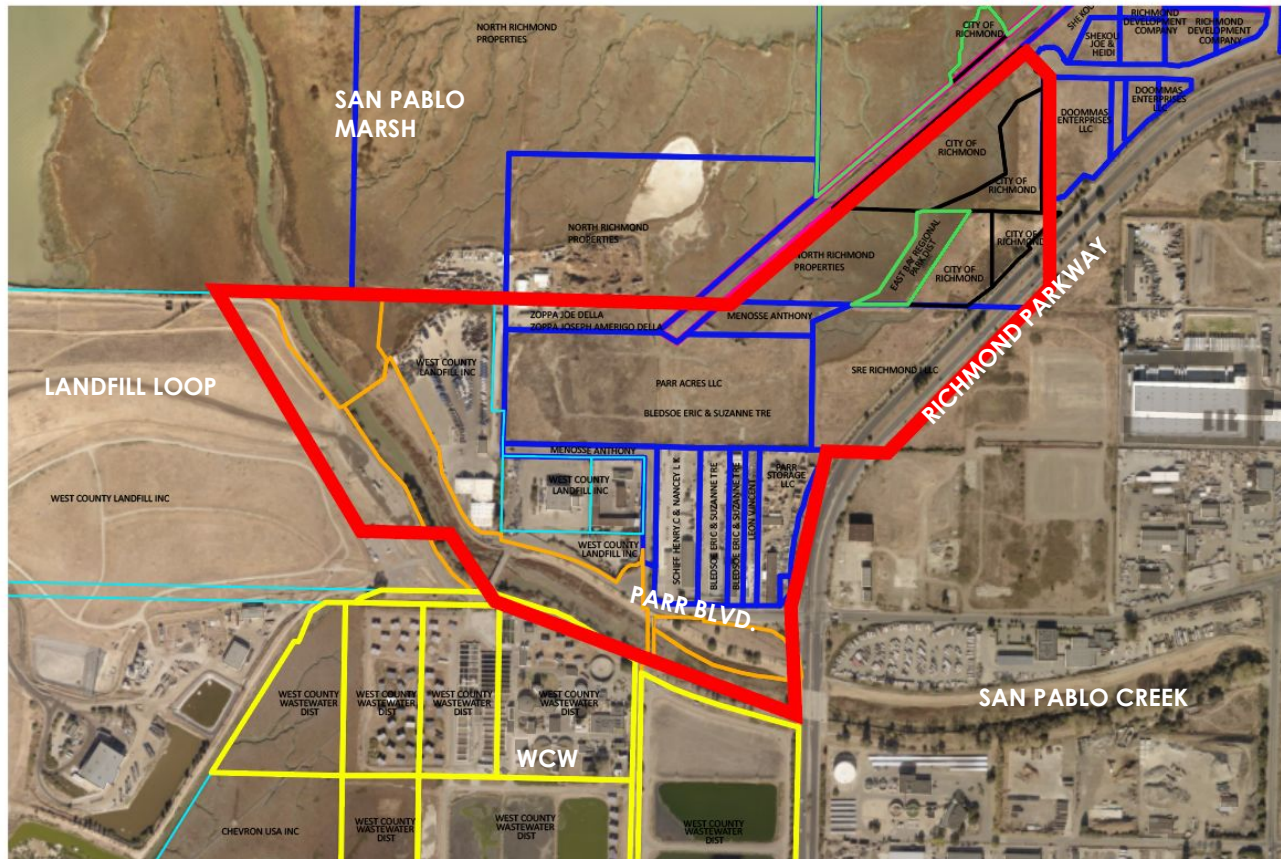
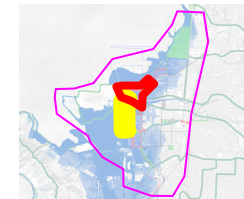
native plant nursery

Collaboration Cluster North *DRAFT ONLY*

Aerial View



Base Plan w/ Parcel info



Agencies:

- Contra Costa County District 1
- WCCTAC
- Contra Costa Flood Control District
- City of Richmond
- East Bay Parks
- and?

Independent:

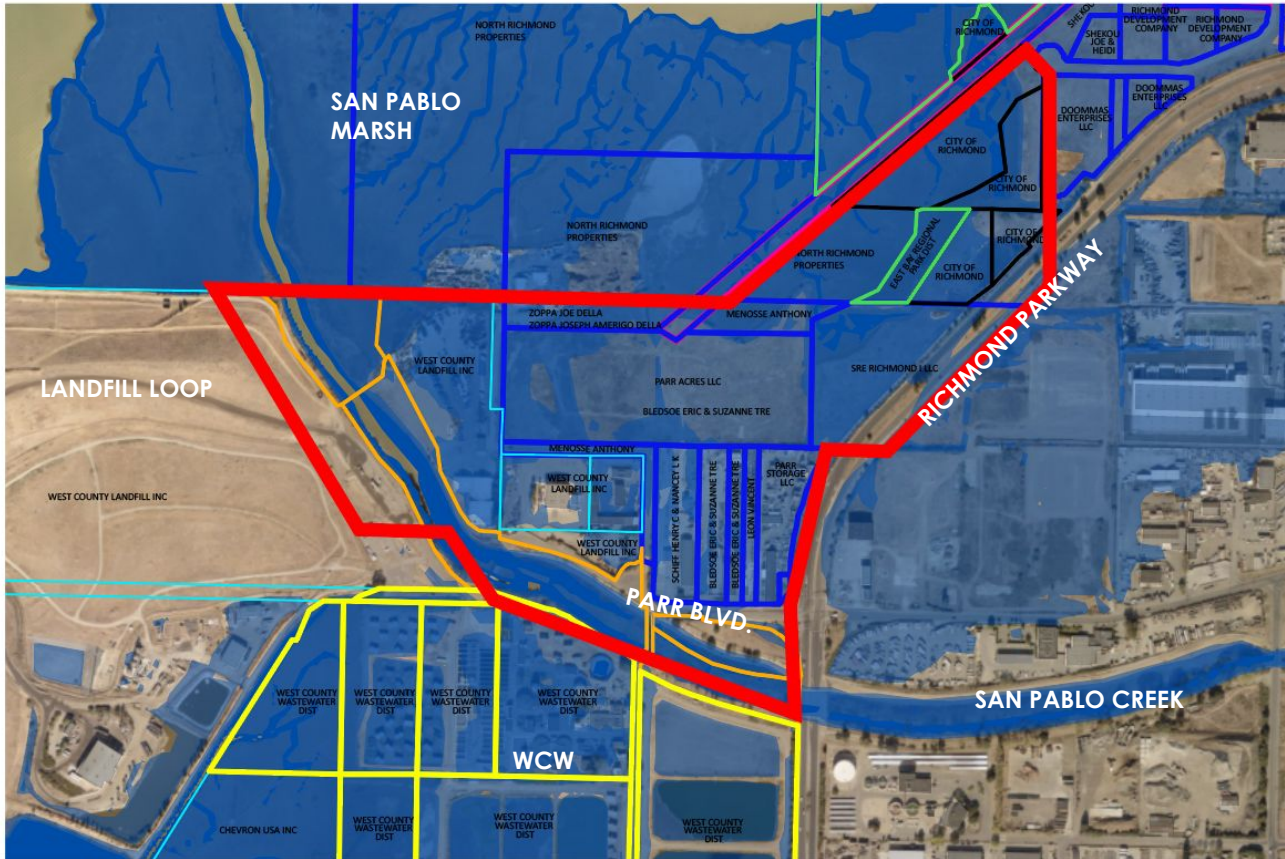
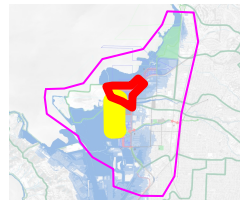
- Republic Services
- Parr Acres LLC

**Independent Property Owners
Contact Still Needed:**

- Menosse Anthony
- SRE Richmond I LLC
- Zoppa Joe Della / Zoppa Joseph Amerigo Della

Collaboration Cluster North *DRAFT*

Base Plan w/ Parcel & Flooding info



Collaboration Cluster #1

- City of Richmond
- WCCTAC
- East Bay Parks
- Republic Services
- Contra Costa Flood Control
- Independent:
SRE Richmond
PARR Acres
--And..?

Area Below 12.96ft NAVD88

- 100-yr Coastal Flood w/ +3.4ft SLR
- MHHW w/ +6.9ft SLR

Area Below 9.56ft NAVD88

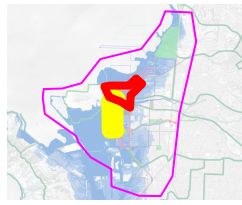
- Present Day 100-yr Coastal Flood
- MHHW w/ +3.4ft SLR

Area Below 6.16ft NAVD88

- Present Day MHHW

Collaboration Cluster North *DRAFT*

Base Plan w/ Existing Conditions

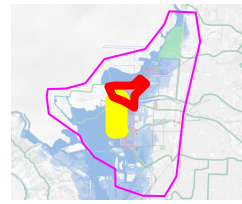
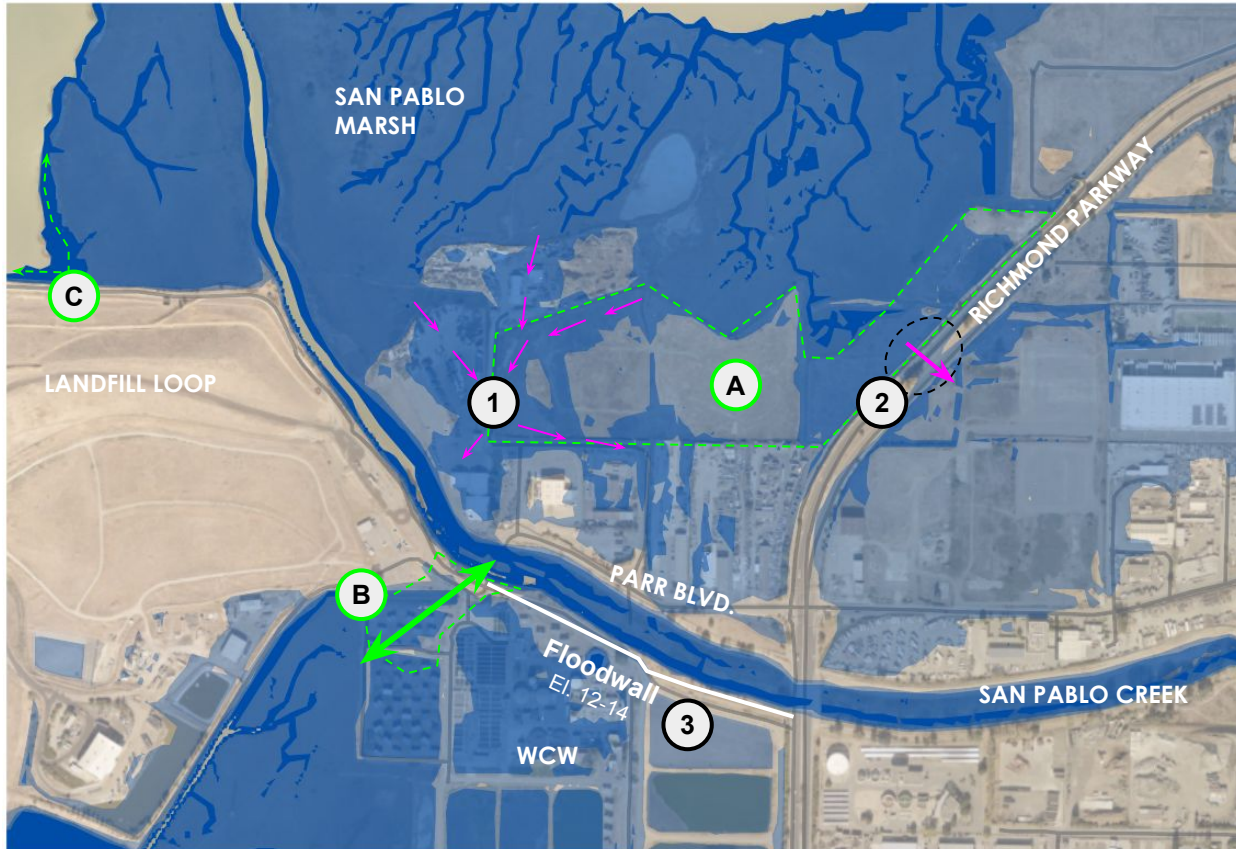


Radiant Ave. 100



Collaboration Cluster North *DRAFT*

Base Plan w/ Existing Conditions Analysis & Flooding Projection

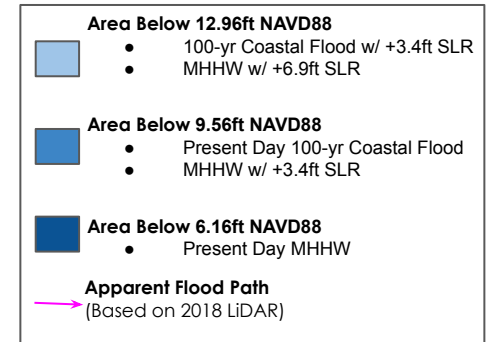


Flood Protection

- 1) **Area north of Parr Blvd:** vulnerable to present-day coastal flooding, worse with SLR
- 2) **Richmond Pkw.:** 100-yr Coastal flood overtops w/ +3.4 ft SLR
- 3) **Floodwall on south bank of San Pablo Creek:** Less freeboard w/ SLR

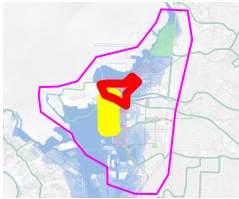
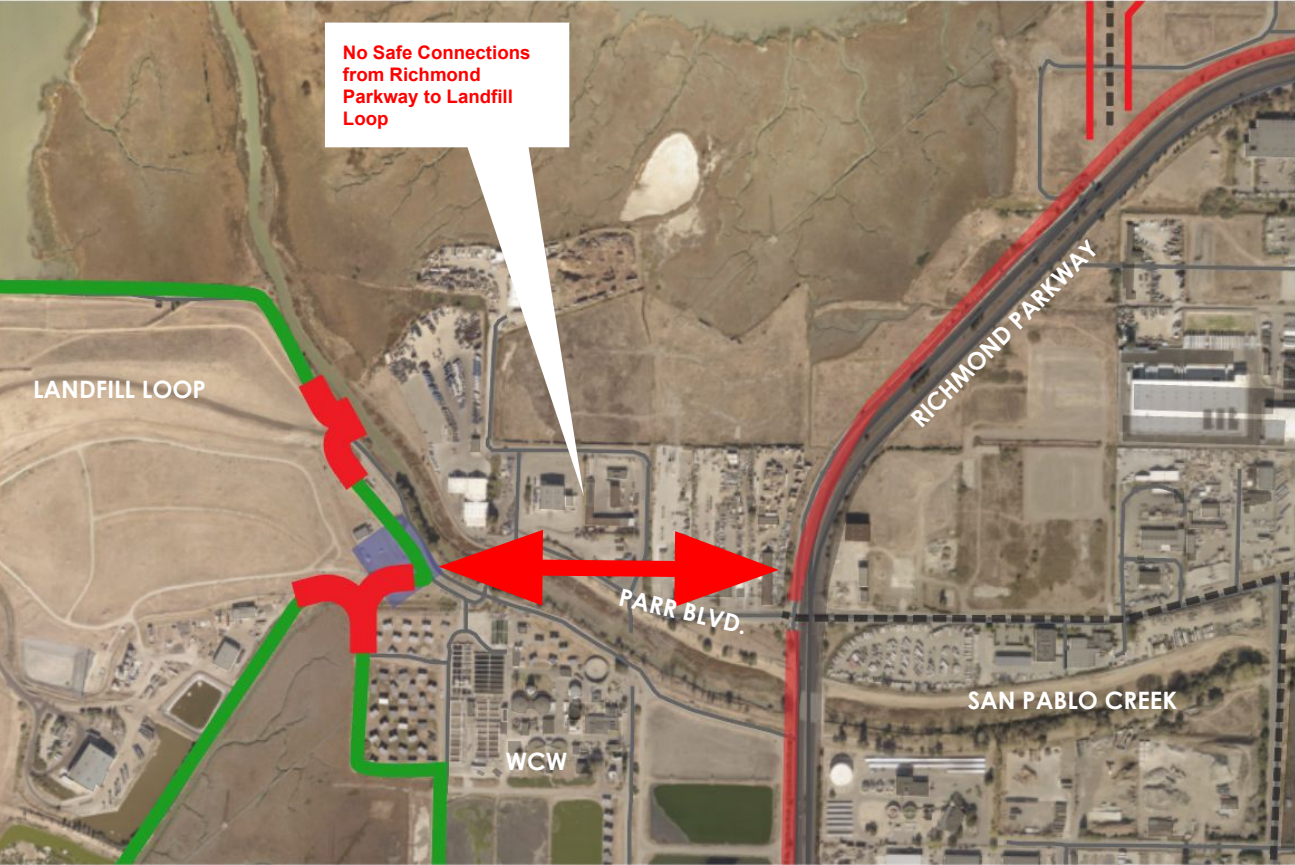
Restoration/Ecological Enhancement

- A. Shoreline openspace north of Parr
- B. San Pablo Ck. connection to Wildcat Marsh
- C. Nature-based erosion management



Collaboration Cluster North *DRAFT ONLY*

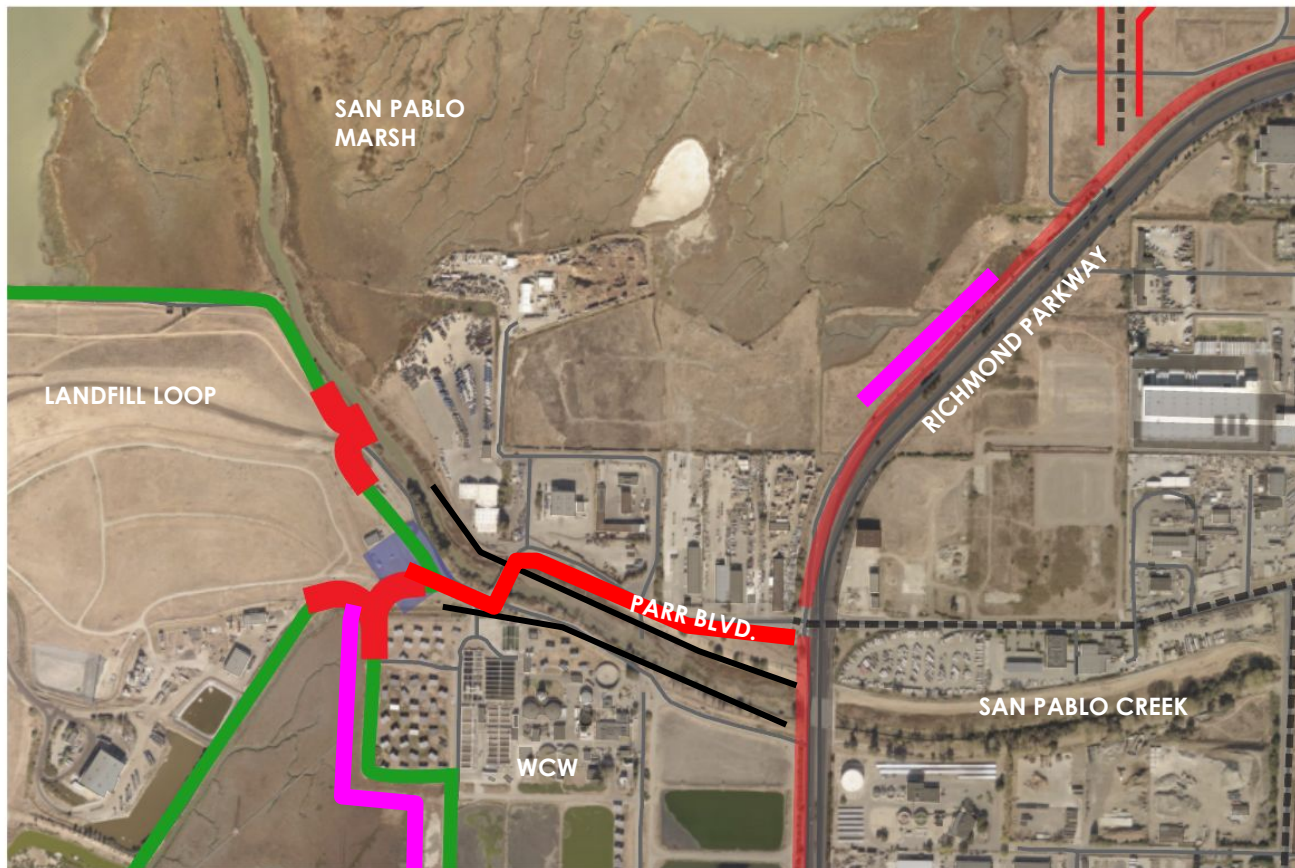
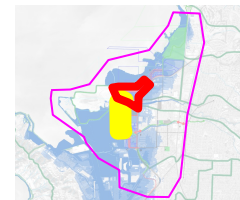
Base Plan w/ Key Access info



- KEY PUBLIC ASSETS
- EXISTING PARKS
- EXISTING TRAILHEAD / PARKING LOT
- EXISTING MULTI-USE TRAIL(BIKE + PED)
- EXISTING BIKE LANE
- PRE-EXISTING PROPOSAL PED/BIKE LANE IMPROVEMENTS
- EX. TRAIL OR SIDEWALK REQUIRING IMPROVEMENT
- PROPOSED NEW MULTI-USE TRAIL(BIKE + PED)
- NEW EASEMENT REQUIRED
- MAJOR ACCESS GAPS / PROPOSED IMPROVEMENTS
- PROPOSED PED BRIDGE / NEW CROSSING

Collaboration Cluster North *DRAFT ONLY*

Concept Design Option 1



- KEY PUBLIC ASSETS
- EXISTING PARKS
- EXISTING TRAILHEAD / PARKING LOT
- EXISTING MULTI-USE TRAIL(BIKE + PED)
- EXISTING BIKE LANE
- PRE-EXISTING PROPOSAL PED/BIKE LANE IMPROVEMENTS
- EX. TRAIL OR SIDEWALK REQUIRING IMPROVEMENT
- PROPOSED NEW MULTI-USE TRAIL(BIKE + PED)
- NEW EASEMENT REQUIRED
- MAJOR ACCESS GAPS / PROPOSED IMPROVEMENTS
- PROPOSED PED BRIDGE / NEW CROSSING
- EX. CC FLOOD CONTROL LEVEE
- PROPOSED LEVEE CORE

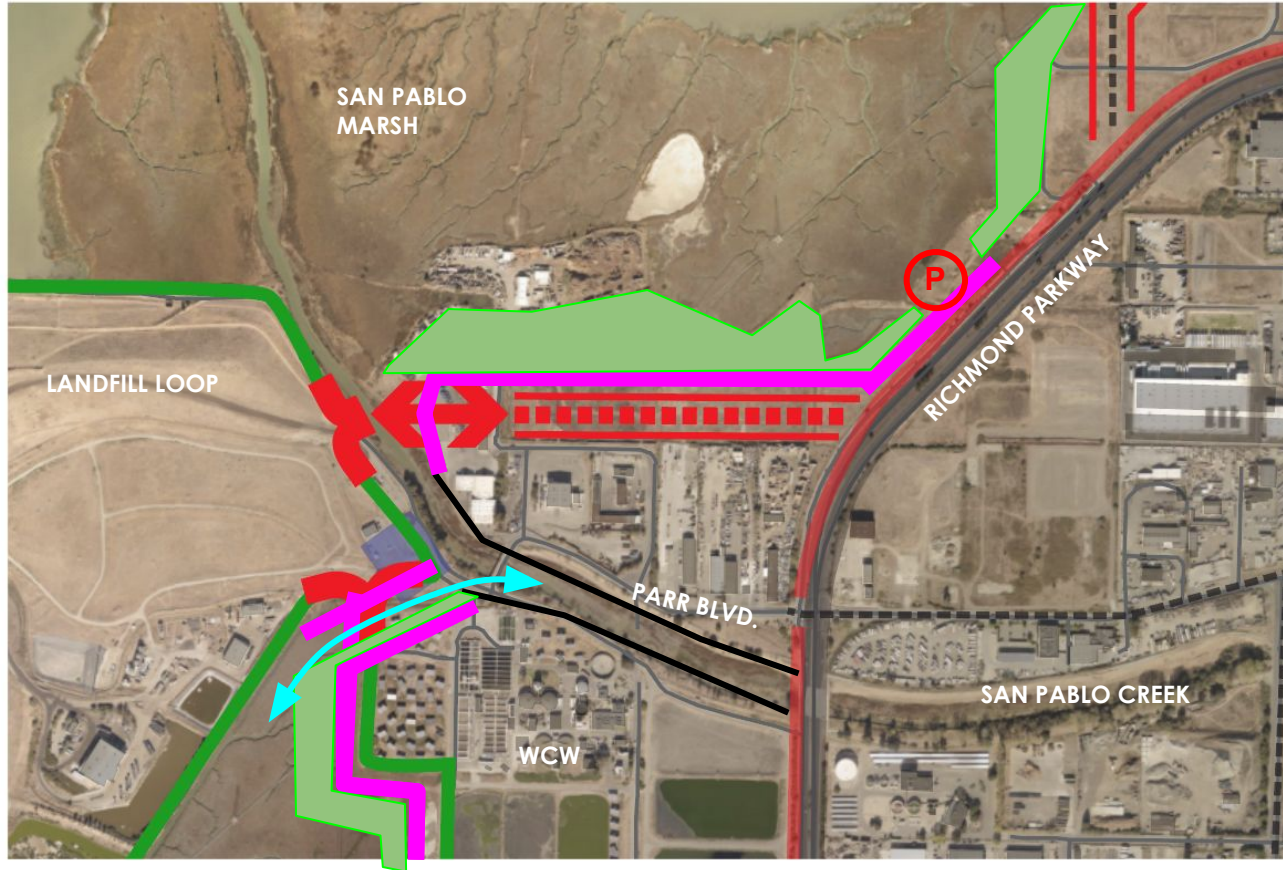
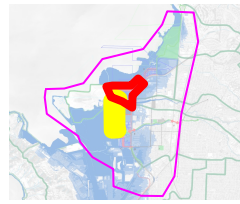
***does not resolve ped/bike challenge at bridge over san pablo cr.**

***doesnt resolve flood risk at peninsular properties**

***does not address how pilot levee ties in to ex CCFCD levee at S. bank of San Pablo cr.**

Collaboration Cluster North *DRAFT ONLY*

Concept Design Option 2



- KEY PUBLIC ASSETS
- EXISTING PARKS
- EXISTING TRAILHEAD / PARKING LOT
- EXISTING MULTI-USE TRAIL(BIKE + PED)
- EXISTING BIKE LANE
- PRE-EXISTING PROPOSAL PED/BIKE LANE IMPROVEMENTS
- EX. TRAIL OR SIDEWALK REQUIRING IMPROVEMENT
- PROPOSED NEW MULTI-USE TRAIL(BIKE + PED)
- NEW EASEMENT REQUIRED
- MAJOR ACCESS GAPS / PROPOSED IMPROVEMENTS
- PROPOSED PED BRIDGE / NEW CROSSING
- EX. CC FLOOD CONTROL LEVEE
- PROPOSED LIVING LEVEE CORE
- HABITAT SLOPE / NATURE-BASED FEATURE

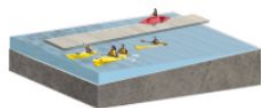
***easement required**
***new ped bridge at San Pablo Cr.**

***San Pablo Creek hydrologically reconnected to Wildcat Marsh**

Collaboration Cluster North *DRAFT ONLY*



boardwalk



boat launch

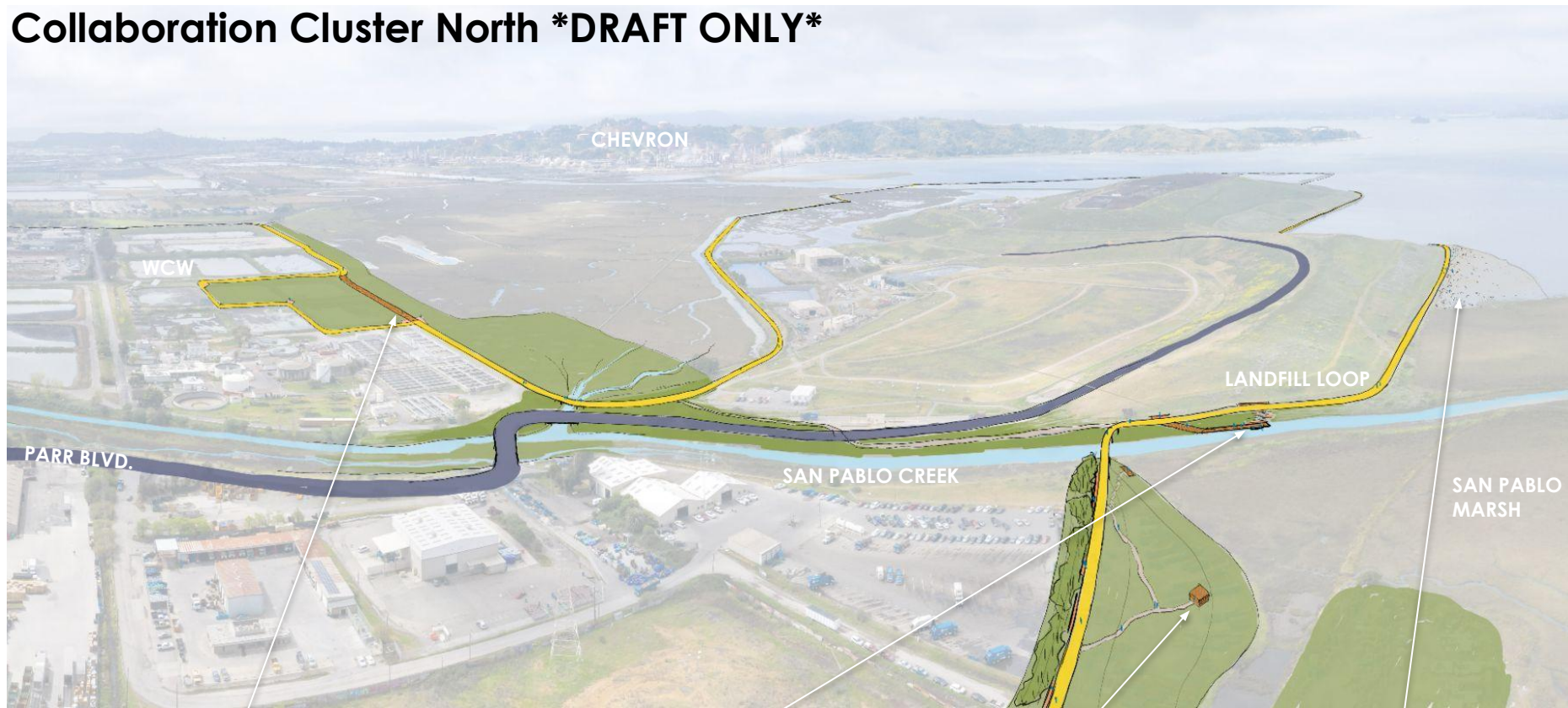


bird blind



gravel beach

Collaboration Cluster North *DRAFT ONLY*



boardwalk



boat launch



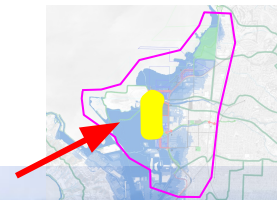
bird blind



gravel beach

Pilot Project: Living Levee + Access + Amenity Opportunities

Aerial View



LANDFILL LOOP

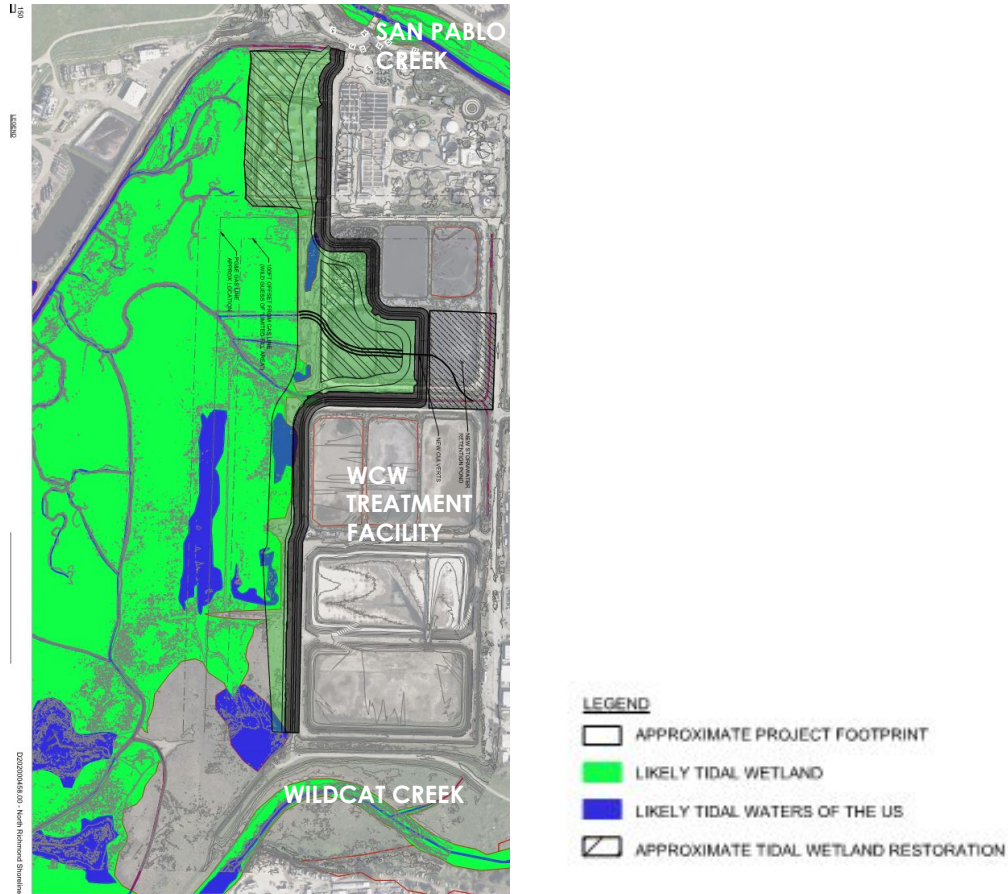
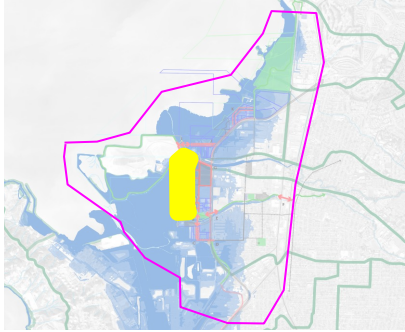
WCW TREATMENT
FACILITY

RICHMOND PARKWAY

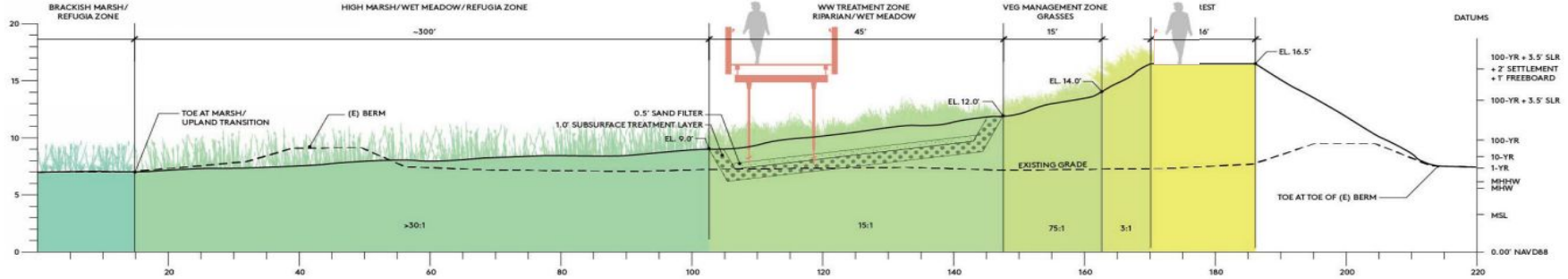
WILDCAT CREEK

FLEA MARKET

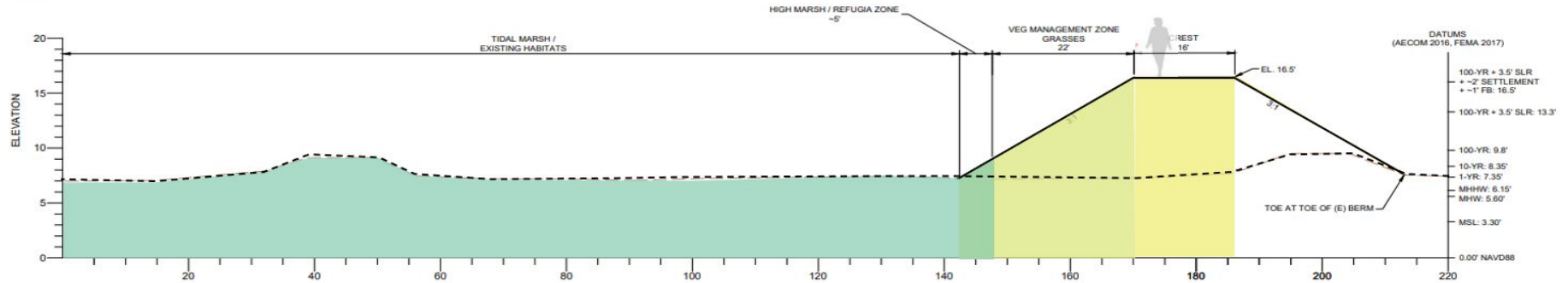
Pilot Project: Living Levee + Access + Amenity Opportunities



Living Levee Sectional Profiles at WCW



Gentle Sloped Habitat Levee (Larger Footprint)



Steep Sloped Flood Protection Levee/Structural Levee Core (Minimum Footprint)

Level Crest Design Elevation: 16.5ft NAVD (100yr coastal flood* +3.5ft SLR**, +2ft Subsidence***, +1ft Freeboard)

- * Present day 100-yr coastal flood elevation is ~10ft NAVD (FEMA FIS #06013CV001C, 2017)
- ** SLR Projection for High Emissions, Med/High Risk Aversion Scenario for the year 2070 (OPC 2018)
- *** Assumed value, geotech study will occur during future phase.

Discussion & Feedback—