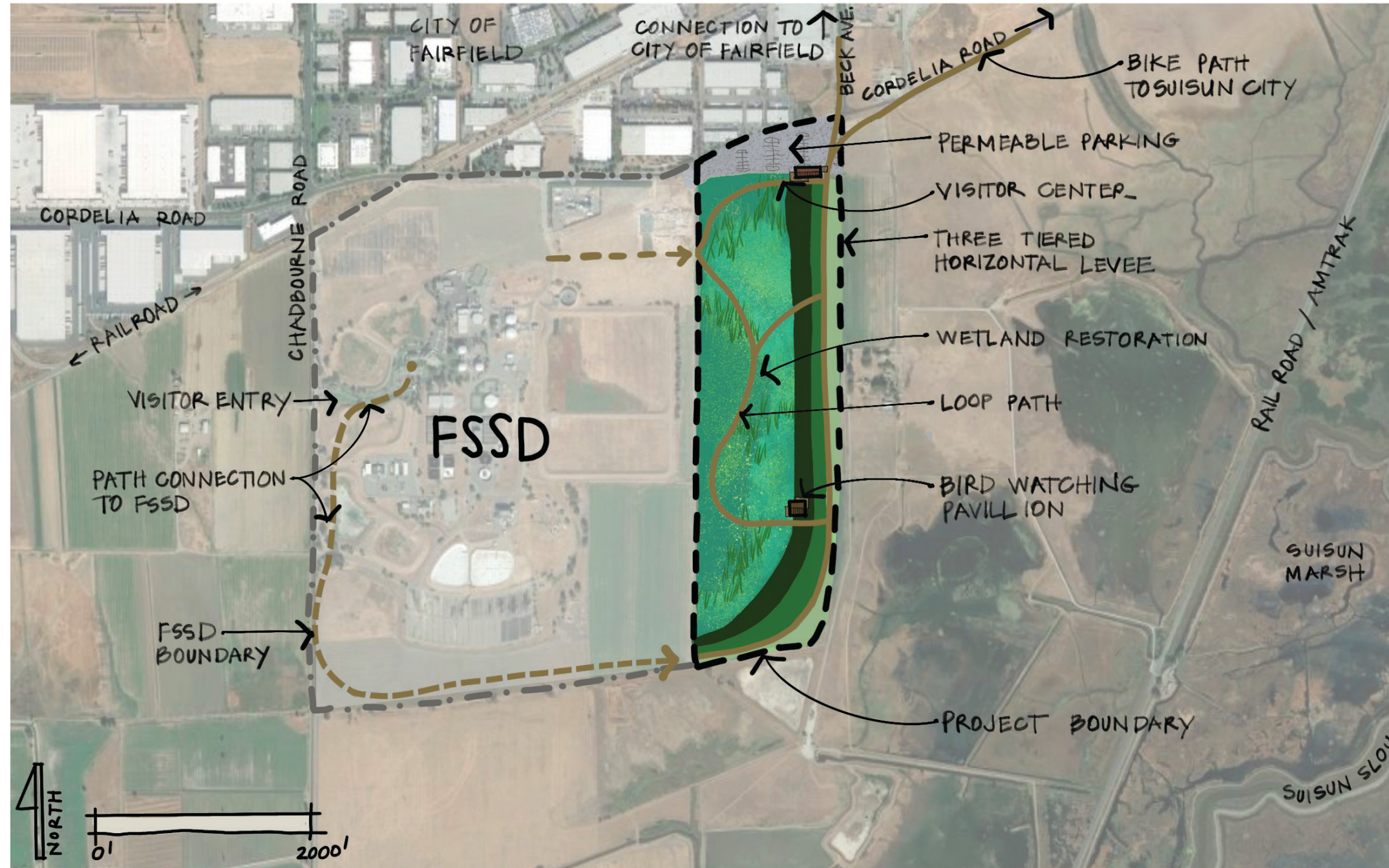


#9 - COMMUNITY TREATMENT WETLAND AND CLIMATE RESILIENCY

PROJECT SUMMARY

The Fairfield-Suisun Sewer District Community Treatment Wetland and Climate Resiliency Project will create a nature-based solution that integrates a freshwater treatment wetland and horizontal levee within an approximately 100-acre area, located in Central Solano County, California.



Project Goals

- Collaborate with adjacent landowners and stakeholders to develop a project that equitably engages and benefits a disadvantaged community;
- Fund, design, build, and maintain a nature-based solution to reduce nitrogen discharge from a community of 150,000 residents, enhance native habitat in the Suisun Marsh, and address future conditions that models a scalable solution for the City, County, and Bay Area; and
- Benefit thousands of residents and businesses in Solano County by integrating public access with walking trails and educational opportunities.

Why? What Vulnerability Addressed?

- Equitable access to open space and walking trails
- Nutrient management from wastewater flows
- Sea-level rise adaptation and resilience for FSSD and surrounding properties (flood protection)

Project Benefits

- Recreation & education opportunities for the 5,549 residents living within the SB 535 Disadvantaged Community where the FSSD treatment facility is located;
- Demonstrate within Solano County the multi-benefit function of nature-based solutions to:
 - Enhance habitat quality and quantity by creating a 100-acre fresh-to-brackish water marsh;
 - Manage nutrients from wastewater flows by removing approximately 70% of daily nitrogen loads during the dry season;
 - Enable sea-level rise adaptation and resilience for the wastewater treatment plant and surrounding properties;
 - Incorporate public access with approximately 5 kilometers of new walking and running trails that also provide educational opportunities about, for example, the history and culture of the County, nature-based solutions and climate resiliency, indigenous peoples, and natural treatment systems.



RESILIENT & GREEN MASTER PLAN



#9 - COMMUNITY TREATMENT WETLAND AND CLIMATE RESILIENCY

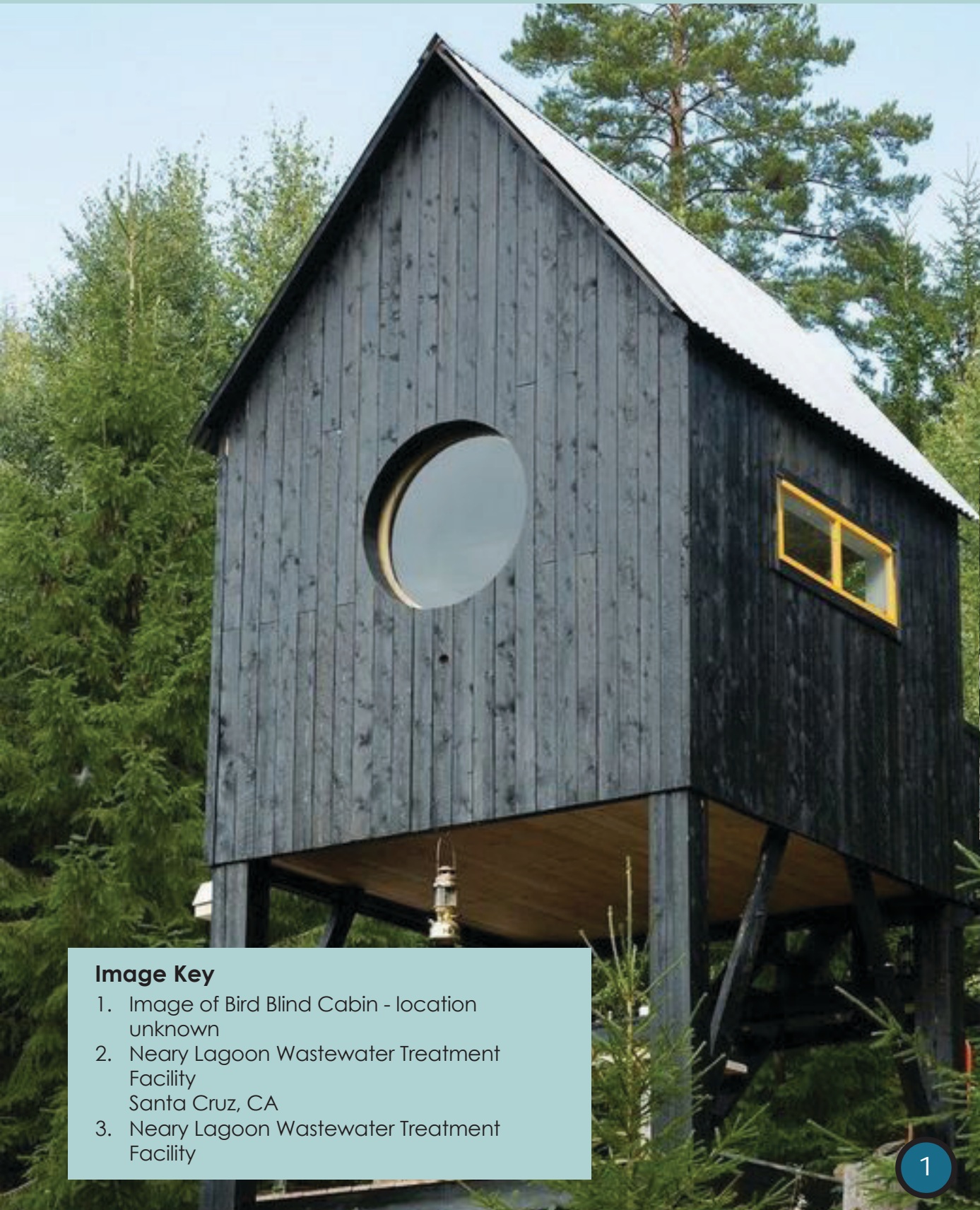


Image Key

1. Image of Bird Blind Cabin - location unknown
2. Neary Lagoon Wastewater Treatment Facility Santa Cruz, CA
3. Neary Lagoon Wastewater Treatment Facility

Climate - Mitigation & Adaptation - Potential

- MITIGATION: Carbon Capture potential from accumulated organic matter (peat)
- ADAPTATION: Integrate with the design of future flood risk management infrastructure to protect the plant.

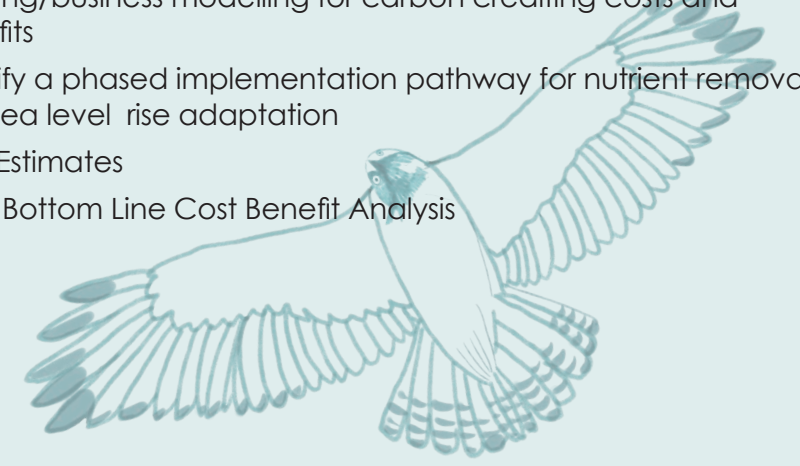
Regulatory Considerations

- Facility-specific Permits - FSSD-owned property, with low-likelihood of existing wetland impacts
- Local Ordinances
- SFRWQCB provides guidance and sets precedent for permitted discharges of treated effluent from nature-based solution projects in the region
- Likely to require -
Mitigation and monitoring requirements, desired treatment performance, quantification of ancillary benefits (e.g., habitat enhancement, water reclamation, and community benefits).

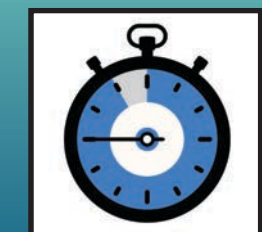
Next Steps (to Implement) Major Tasks and Timeline

Major Tasks and Timelines Planning Level Design

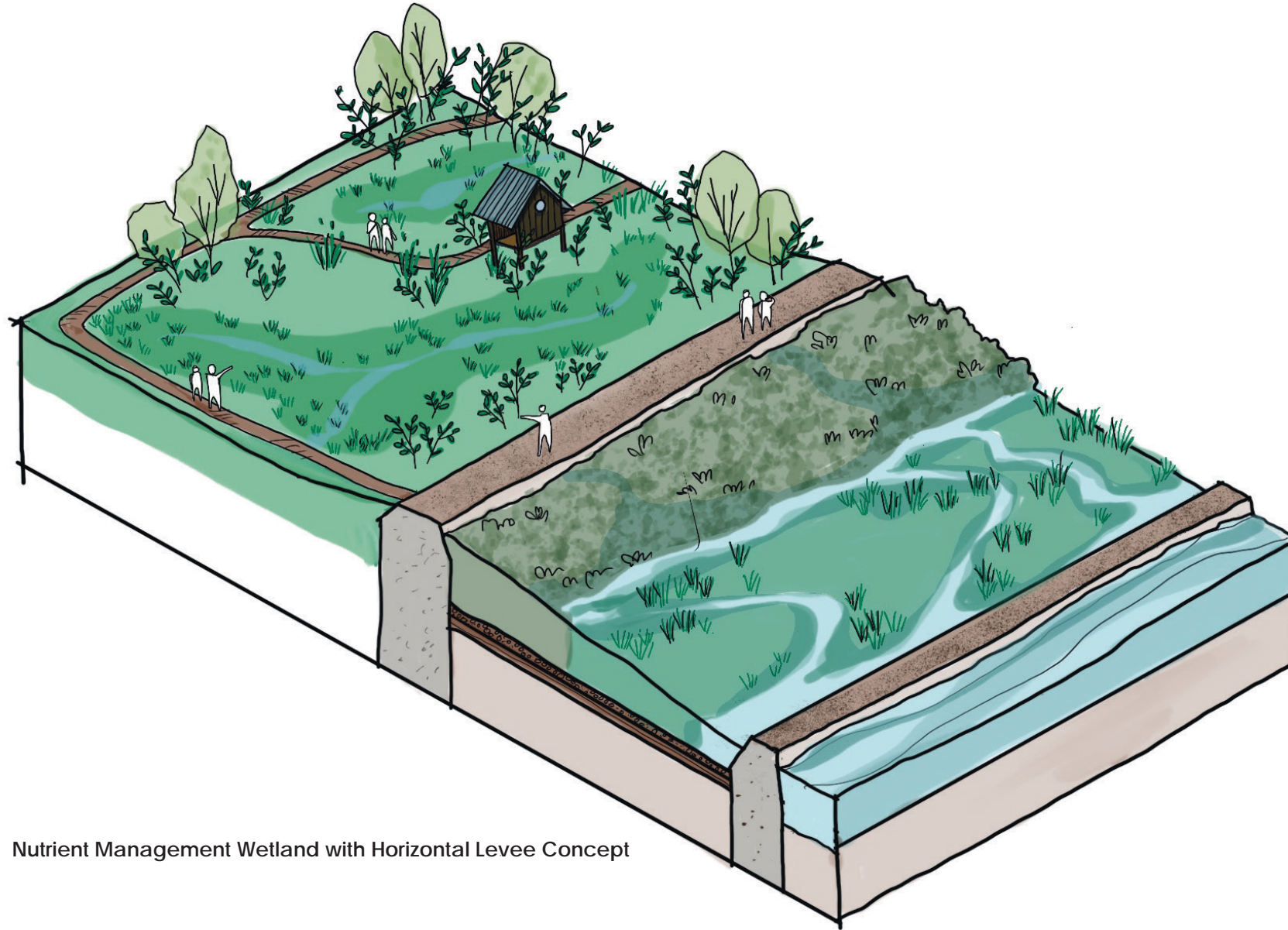
- Identification of Regulatory or Land Use Conflicts
 - what is net benefit/change of recycled water for alfalfa fields vs. treatment wetland? Possible to determine highest/best use?
 - what is estimated nutrient removal amount?
- Scoping/business modelling for carbon crediting costs and benefits
- Identify a phased implementation pathway for nutrient removal and sea level rise adaptation
- Cost Estimates
- Triple Bottom Line Cost Benefit Analysis



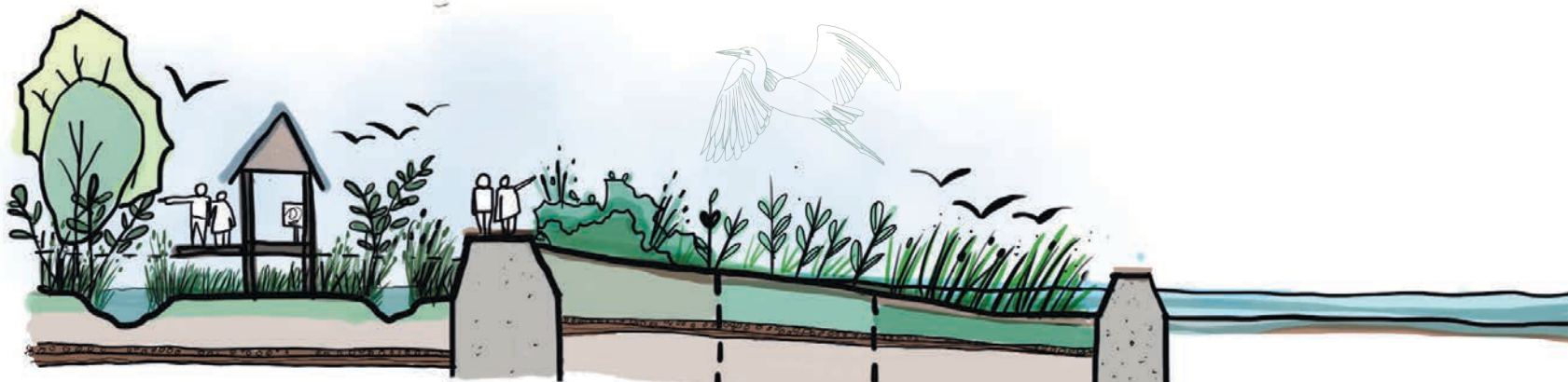
RESILIENT & GREEN MASTER PLAN



#9 - COMMUNITY TREATMENT WETLAND AND CLIMATE RESILIENCY



Nutrient Management Wetland with Horizontal Levee Concept



Site Section - NTS

Long-term O&M Considerations

- Need to identify key performance indicators, assessment, and measurements methods and their long-term implementation and funding strategy.
- The project maintenance, monitoring, and adaptive management plan should be ecologically and performance oriented and reflect the restoration objectives.
- Enabling maintenance as part of the design ensuring adequate staffing levels and expertise of maintenance staff is essential for project success.

Planning Level Cost Estimate

1. Capital Cost = \$100k - 200k/ac x 100acres = \$10-20M (Crooks, Jan 2002)
2. Operations & Maintenance = ~\$500,000/year (~3% of Capital Costs)

Grant Funding Potential / Ideas

- EPA Water Quality Improvement Fund
- Bipartisan Infrastructure Law, SRF
- State Coastal Conservancy
- Governor's Office of Planning & Research - Integrated Climate Adaptation & Resiliency Program (ICARP)
- Measure AA
- Ocean Protection Council
- FEMA BRIC Funding

Potential Project Partners

- Sustainable Solano
- Suisun Resource Conservation District
- Solano Resource Conservation District
- UC Davis - measure/monitor carbon capture specific to treatment wetlands
- Solano Committee of Land and People (Solano Land Trust)
- UC Davis Center for Community and Citizen Science
- City of Fairfield Youth Commission & City of Suisun Youth Commission
- Suisun City Climate & Environmental Committee
- Ducks Unlimited
- Pacific Flyway
- Solano Transportation Authority



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