



DCA

DELTA CONVEYANCE DESIGN
& CONSTRUCTION AUTHORITY

STAKEHOLDER ENGAGEMENT
COMMITTEE (SEC)

Stakeholder Engagement Committee

January 22, 2020

MEETING OVERVIEW

- Follow-Up & Roundtable on December 11, 2019 SEC Meeting
- DWR's Environmental Process Update (NOP)
- How DCA and the SEC will use the NOP to move forward
- Intakes Overview
- Launch Shaft Siting - An Intro to Logistics Basics

Minutes Review



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December 11, 2019 SEC Meeting Follow-Up & Member Roundtable



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MEMBER FOLLOW-UP AND ROUNDTABLE

- Question Tracking Packet
- Roundtable Discussion
 - ✓ Information Packets
 - ✓ Outreach in Delta Communities
 - ✓ Feedback from Delta Communities



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January
2020

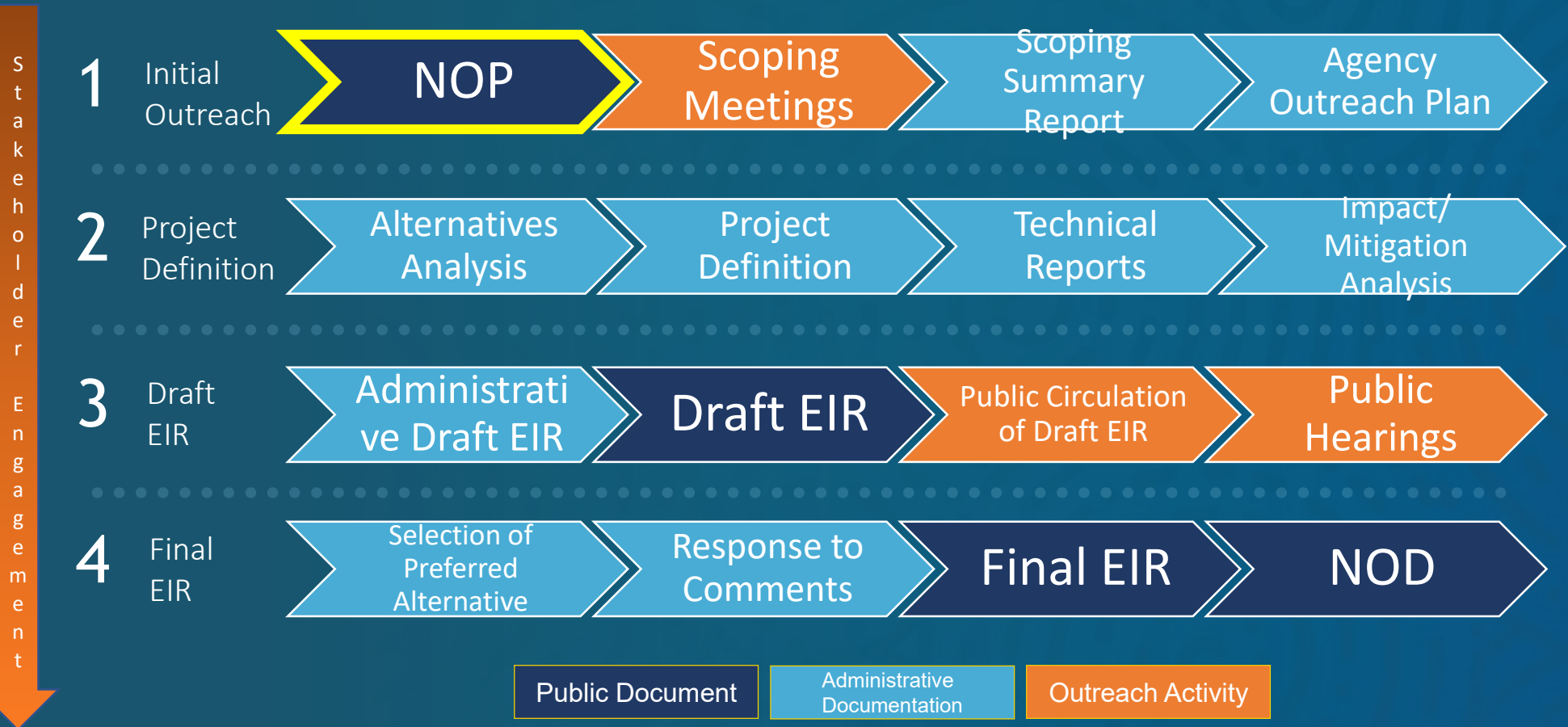
Delta Conveyance Environmental Review Update

Carrie Buckman
Environmental Program
Manager

CALIFORNIA DEPARTMENT OF WATER RESOURCES

Delta Conveyance Environmental Review

Identify, analyze and disclose the potential significant adverse environmental impacts of a proposed project, and provide feasible mitigation measures and alternatives to avoid or reduce such effects.





Notice of Preparation Background

- **July 2017:** DWR approved a two-tunnel conveyance project (California WaterFix).
- **February 2019:** Governor Newsom announced his support for a single tunnel conveyance project.
- **April 2019:** Executive Order issued, directing DWR to assess planning for a single tunnel project.
- **May 2019:** DWR withdrew all California WaterFix approval and environmental compliance documentation.
- **January 2020:** State released draft Water Resilience Portfolio and DWR issued an NOP for a proposed single tunnel project.





Notice of Preparation Purpose

Documents the Intent to Develop an EIR
for Delta conveyance:

- Triggers Start of Scoping
 - *Receive input on the scope and content of the EIR*
- Public Comment Period
 - *Through March 20, 2020*
- Public Meetings
 - *Seven statewide in February 2020*



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Notice of Preparation Contents

The NOP includes:

- Description of Proposed Project
- Proposed Project Objectives
- Proposed Project Area
- Proposed Project Facilities

The NOP is not a decision document.



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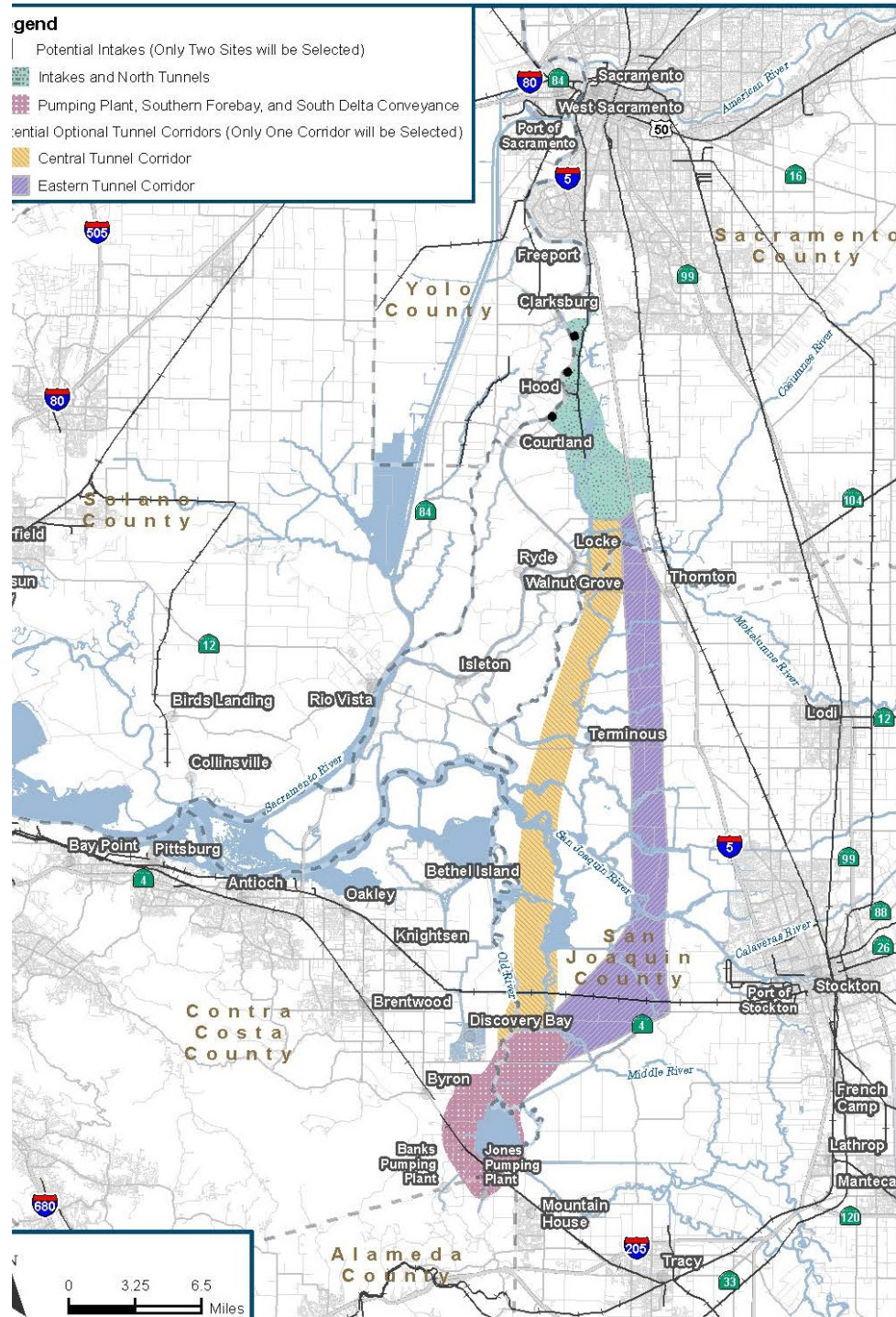
Project Purpose and Objectives

Purpose: Develop new diversion and conveyance facilities in the Delta necessary to restore and protect the reliability of water deliveries in a cost-effective manner, consistent with the State's Water Resilience Portfolio.

Objectives:

- **Address** sea level rise and climate change
- **Minimize** water supply disruption due to seismic risk
- **Protect** water supply reliability
- **Provide** operational flexibility

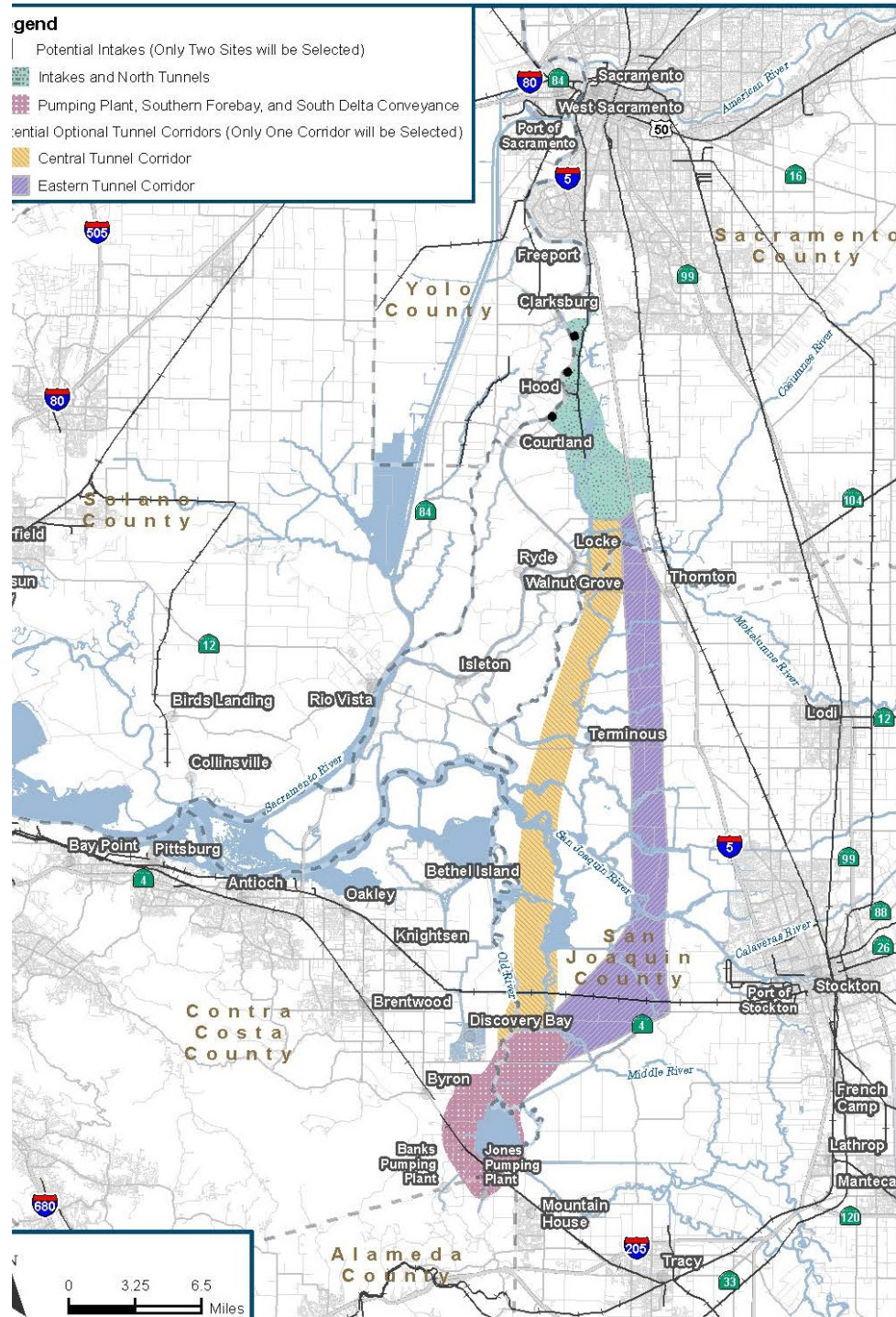




For discussion purposes only and subject to change

Proposed Project Facilities

- Intake facilities on the Sacramento River
- Tunnel reaches and tunnel shafts
- Forebays
- Pumping plant
- South Delta Conveyance Facilities

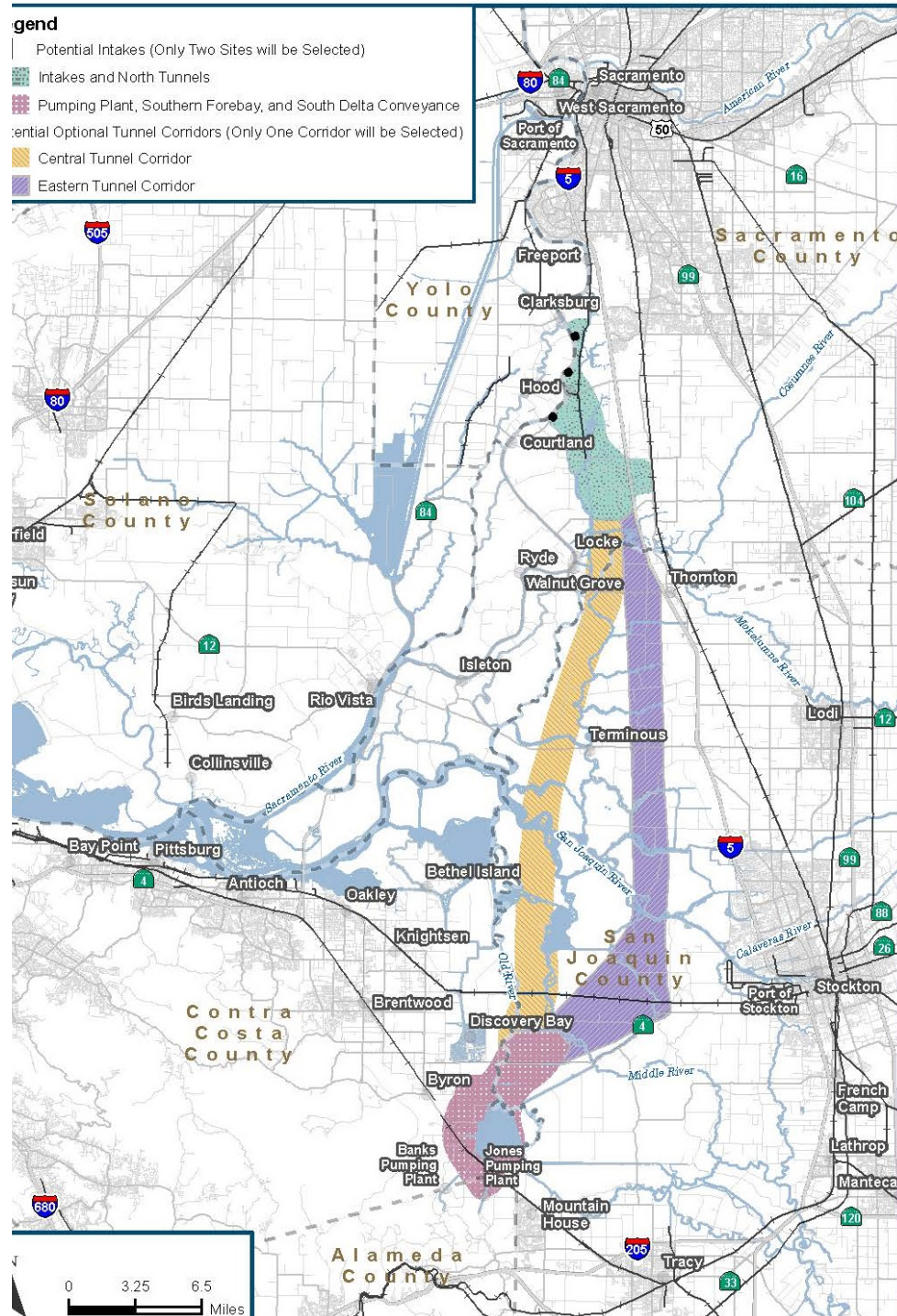


For discussion purposes only and subject to change

Proposed Project Corridors

Options:

- A single tunnel is proposed to follow one of two corridors in the central or eastern portion of the Delta.



Proposed Project Capacity

- 6,000 cubic feet-per-second (cfs) combined between two intakes (3,000 cfs each) located along the Sacramento River between South Sacramento and Walnut Grove.
- Likely alternatives to the proposed project capacity will likely be considered within the range of 3,000 cfs – 7,500 cfs.



Alternatives Development

- DWR will select a reasonable range of potentially feasible alternatives that meet project objectives and present opportunities to reduce impacts.
- The scoping period provides an opportunity for the public to comment on alternatives.
- Following scoping, DWR will publicize the alternatives it intends to include for detailed evaluation in the Draft EIR.

The SEC does not have a direct role in alternatives development.





DCA Role

- DWR has directed the DCA to develop conceptual designs for the two corridor options in the Proposed Project.
- We have asked the DCA to consider capacities of 3,000 cfs, 4,500 cfs, 6,000 cfs, and 7,500 cfs because it is more efficient to consider these designs at the same time as the Proposed Project.
- This does not represent a decision on the alternatives; the alternatives will not be finalized until after scoping.





SEC Role

- Develop understanding of Delta conveyance components and siting drivers.
- Review material on facility layouts, site selections and efforts to address construction effects such as traffic volume, noise, site run-off and air emissions and provide advice to the DCA.

Comments for CEQA must be made through the DWR CEQA process.



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How to Comment

Comments due by March 20, 2020



EMAIL:

DeltaConveyanceScoping@water.ca.gov



MAIL:

Delta Conveyance Scoping Comments
Attn: Renee Rodriguez, Department of Water Resources
P.O. Box 942836
Sacramento CA 94236



AT A PUBLIC MEETING:

Several public scoping meetings will be held throughout the state as an opportunity to get information, ask questions and submit comments on the scope of the EIR



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Attend a Public Meeting

SACRAMENTO

Monday, February 3, 2020
1 p.m. – 3 p.m.

LOS ANGELES

Wednesday, February 5, 2020
6 p.m. – 8 p.m.

WALNUT GROVE

Monday, February 10, 2020
6 p.m. – 8 p.m.

SAN JOSE

Wednesday, February 12, 2020
6 p.m. – 8 p.m.

STOCKTON

Thursday, February 13, 2020
6 p.m. – 8 p.m.

CLARKSBURG

Wednesday, February 19, 2020
6 p.m. – 8 p.m.

BRENTWOOD

Thursday, February 20, 2020
6 p.m. – 8 p.m.



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Key Milestones

Environmental Compliance Schedule

CEQA

Public scoping
 Proposed Project Preliminary Design
 Alternative Identification and Design
 Impact Analysis
 Draft EIR
 Public Review
 Comment Responses
 Final EIR
 Notice of Determination

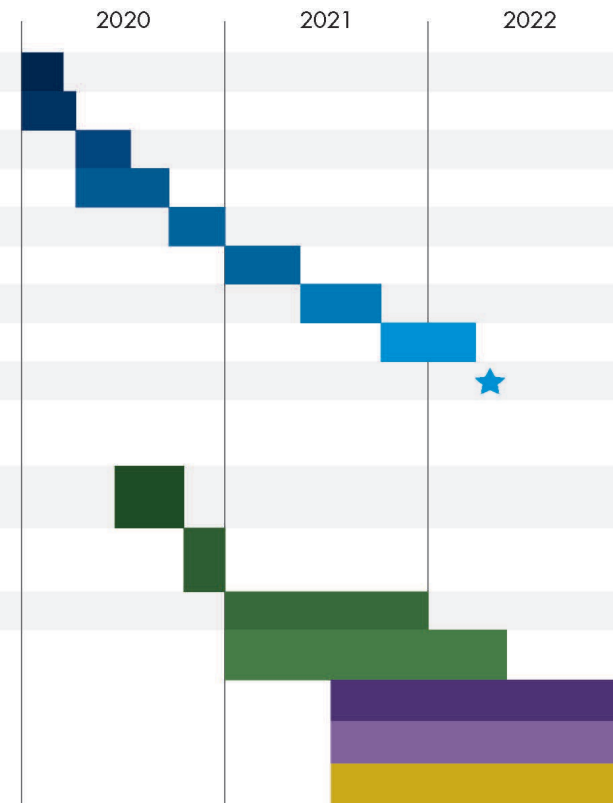
ESA/CESA

Draft Biological Assessment and
 Incidental Take Permit Application
 Final Biological Assessment and
 Incidental Take Permit Application
 Biological Opinion
 Incidental Take Permit

Water Rights

Delta Plan Consistency

Other Environmental Permits



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Ways to Stay Informed

Learn more on the DWR website and stay up to date with news and other information on social media.



DWR Website

<https://water.ca.gov/Programs/State-Water-Project/Delta-Conveyance>



Project Hotline

866.924.9955



Twitter

@CA_DWR



Project Email

DeltaConveyance@water.ca.gov



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January 2020

Clarifications?

10-Minute Break



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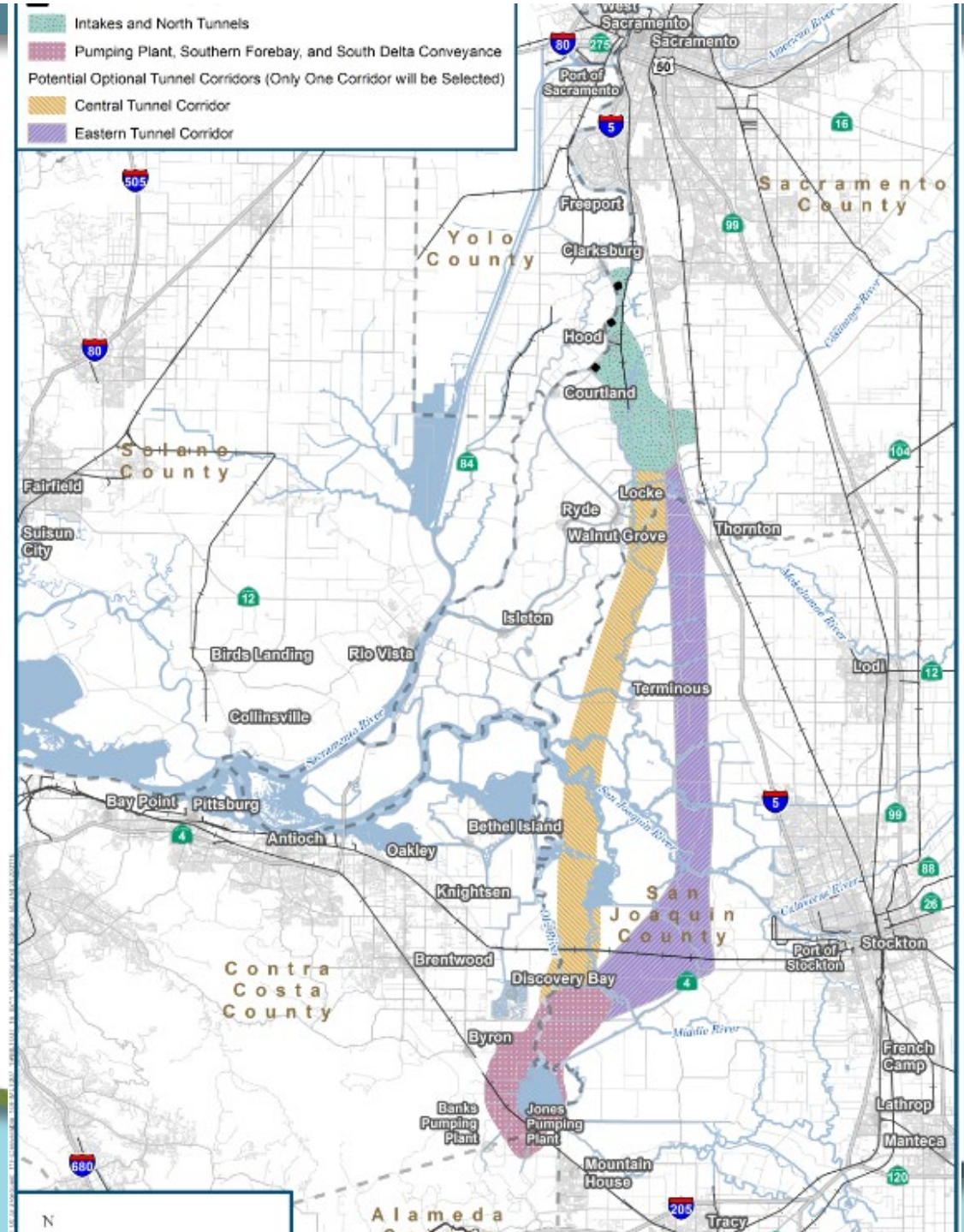
DCA & SEC MOVING FORWARD



1. The DCA is committed to sharing all pertinent information related to our design studies with the SEC. We strive for an engaging and interactive dialogue with the Committee Members.
2. All technical information represents the findings of our current work products and as with most early engineering work, sometimes continued study leads to refined recommendations or solutions.
3. Assuming this forum continues, we will always circle back with the committee with new or changed ideas.
4. Ultimately, DWR is the final arbiter of the engineering plans put forward in the CEQA process. Their active participation in this process demonstrates their commitment to fully understanding the public issues surrounding the design and construction of this project.

1. Facilities that comprise the proposed Delta Conveyance Project
2. Delta Corridor Map for Tunnel Alignments and Facility Siting
3. Range of Flows for Study

1. Facilities that comprise the proposed Delta Conveyance Project
2. Delta Corridor Map for Tunnel Alignments and Facility Siting
3. Range of Flows for Study



Work Products

- Two Engineering Project Reports (EPRs)
 - Central Alignment
 - Eastern Alignment
 - Additional alignments may arise as a result of scoping
- Alternative Sizing for 4 Different Flows
- Engineering Report Includes:
 - Narrative Report
 - Drawing Book
 - Map Book
- Design work will be routed through the Committee for input and feedback
- Draft Reports due to DWR in mid July



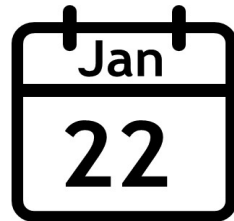
DCA Focus with Committee over Next 6 Months

- Siting Facilities Along Identified Corridors
- Preparing Facility Drawings to Illustrate Project Components
- Preparing Site Layouts to construct facilities
- Describing and Quantifying Construction Activities (e.g. Schedule, Pile Driving, Truck Traffic, RTM Production)
- Identifying Design Solutions to Reduce Construction Effects
- Identify Potential Dual Benefits Where Possible

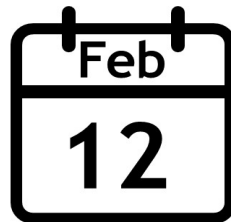


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LOOKING AHEAD



- December 11th Meeting Roundtable
- Intakes
- Introduction to Launch Shafts



- Jan 22 Meeting Roundtable
- Intermediate Forebay/Launch Shaft
- Launch Shaft



- Feb 12 Meeting Roundtable
- Maintenance/Retrieval Shafts
- RTM Management



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Clarifications?

Introduction



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Introduction to Intakes

Siting, Type, Sizing, Construction, and Flow Control

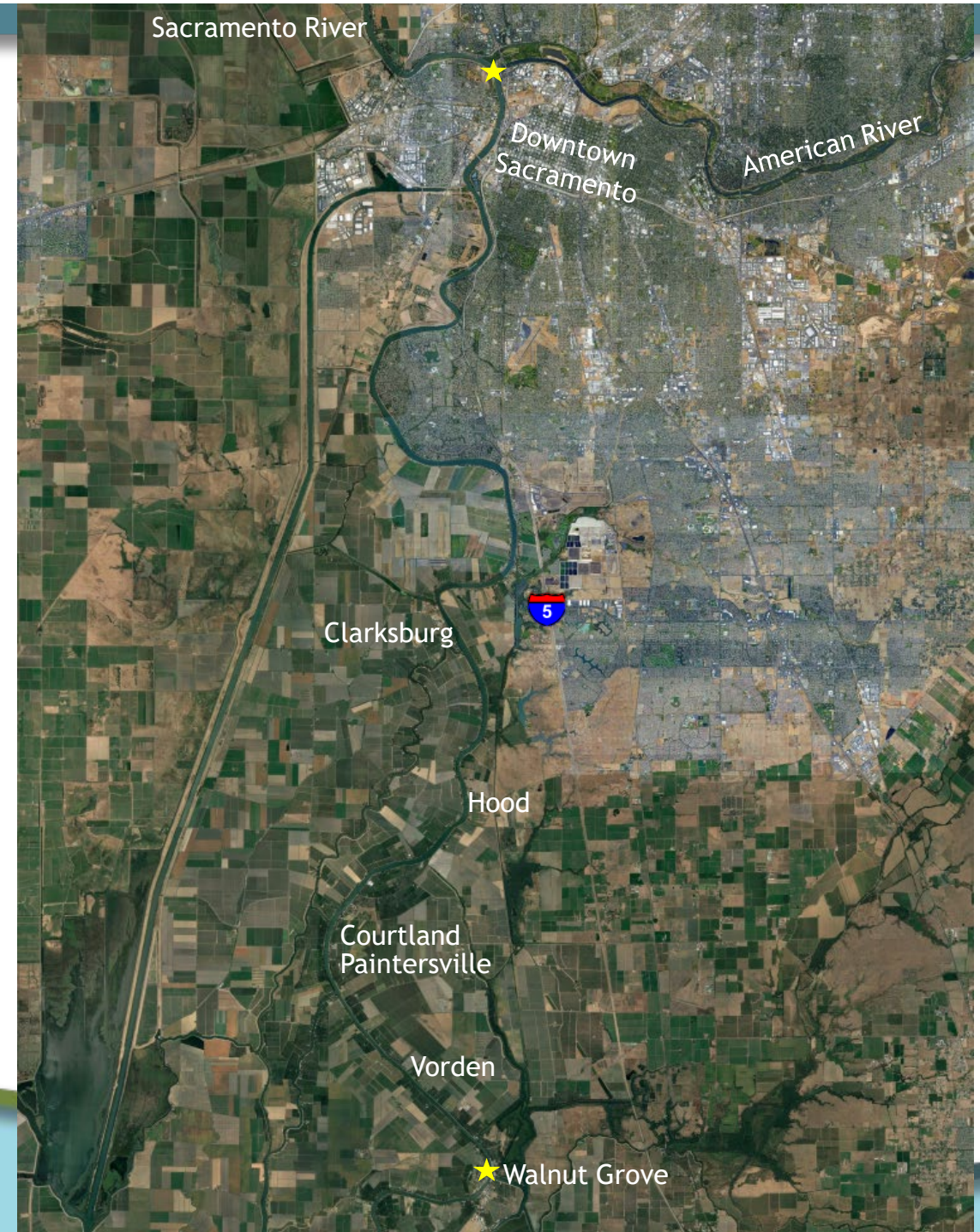
Intake Siting

- Siting study area is from the American River to Sutter Slough
- Sites on the east bank viable with the NOP corridors
 - West bank not viable due to poor access
- 1 to 3 intake sites required for likely alternatives

Capacity	Number of Intakes
3000 cfs	1 intake
4500 cfs	2 intakes
6000 cfs	2 intakes
7500 cfs	3 intakes



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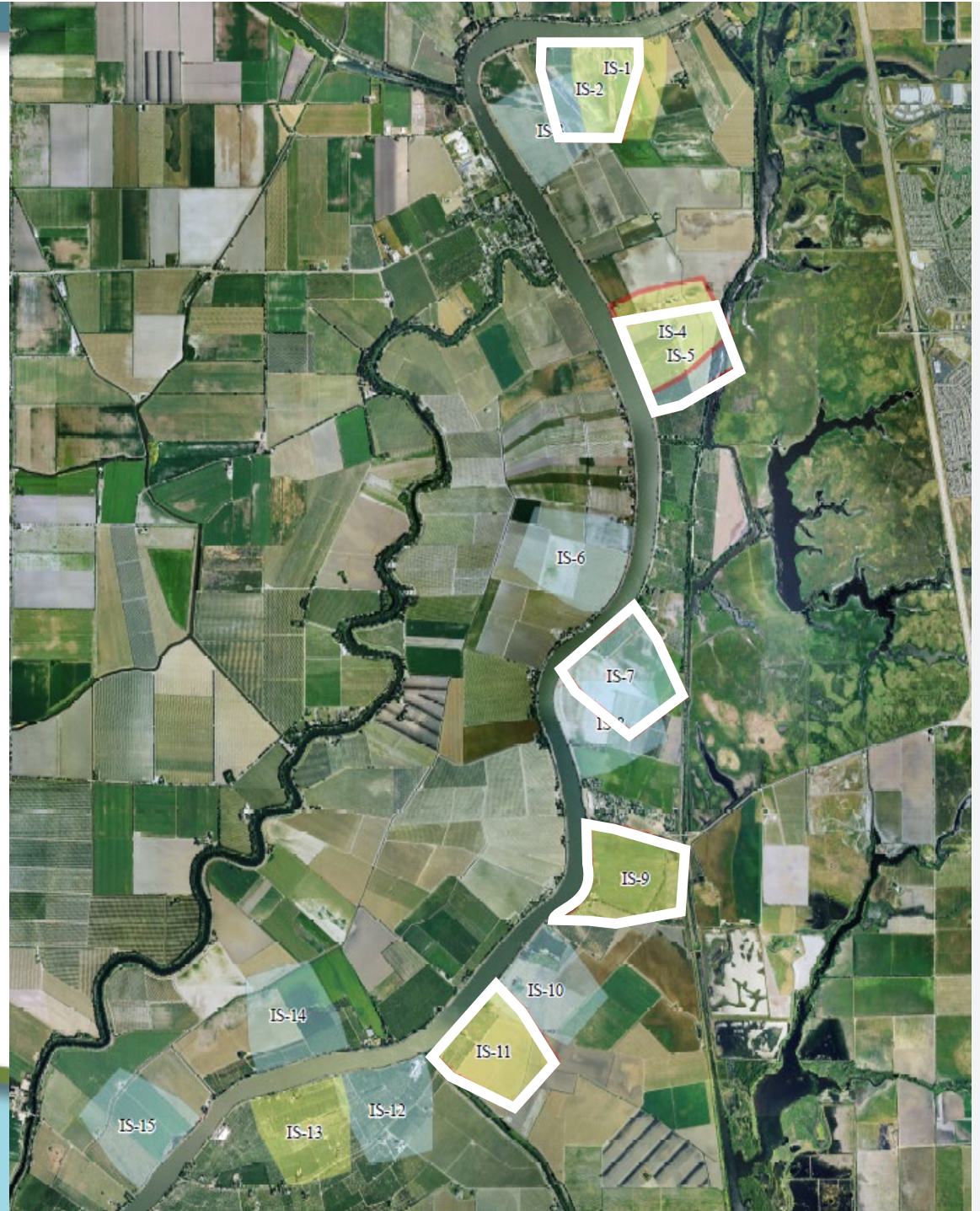
Intake Site Investigation

Potential siting informed by Fish Facility Technical Team (FFTT) as well as subsequent efforts

- Outside of bends best
 - Deeper is better (12 feet min)
 - 1 mile spacing
 - Non-shoaling (no sediment accumulation)
 - Adequate straight length for structure
 - Negligible effect on flood levels
- Landside Effects
 - Property effects
 - Proximity to existing development
 - Built environment effects
- Geotechnical Concerns
- Environmental and Habitat Disruption
- Access
 - Roads and traffic effects

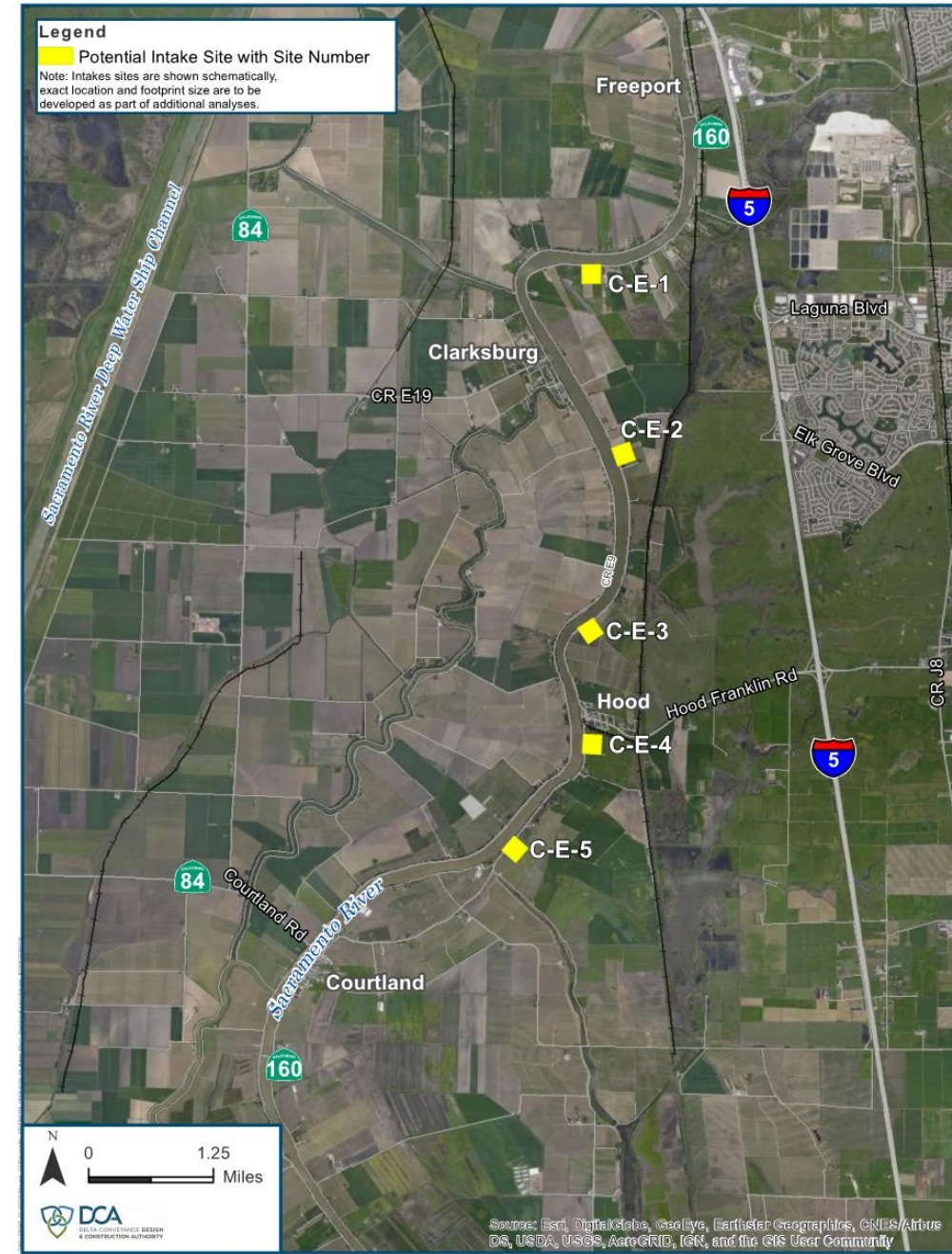


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Candidate Sites

- Reach of river has been exhaustively studied
 - Same sites as previously identified
 - Studied new land use, flows, and river bathymetry
 - No additional viable sites on the east side of the river
 - West side is not logistically feasible
- Conceptual position developed at each site as basis for comparison
- Intake sites are feasible for either Central or Eastern Corridors



Evaluation Results

Sites C-E-1 and C-E-4 ranked as least favorable and not recommended for use unless other 3 sites not implementable

- Land use
- Proximity to existing development
- Geotechnical issues

Site C-E-3 is apparent best site

- Lowest effects on existing property and features
- Excellent river conditions

Site C-E-5

- Low effects on existing property and features
- Good river conditions

Site C-E-2

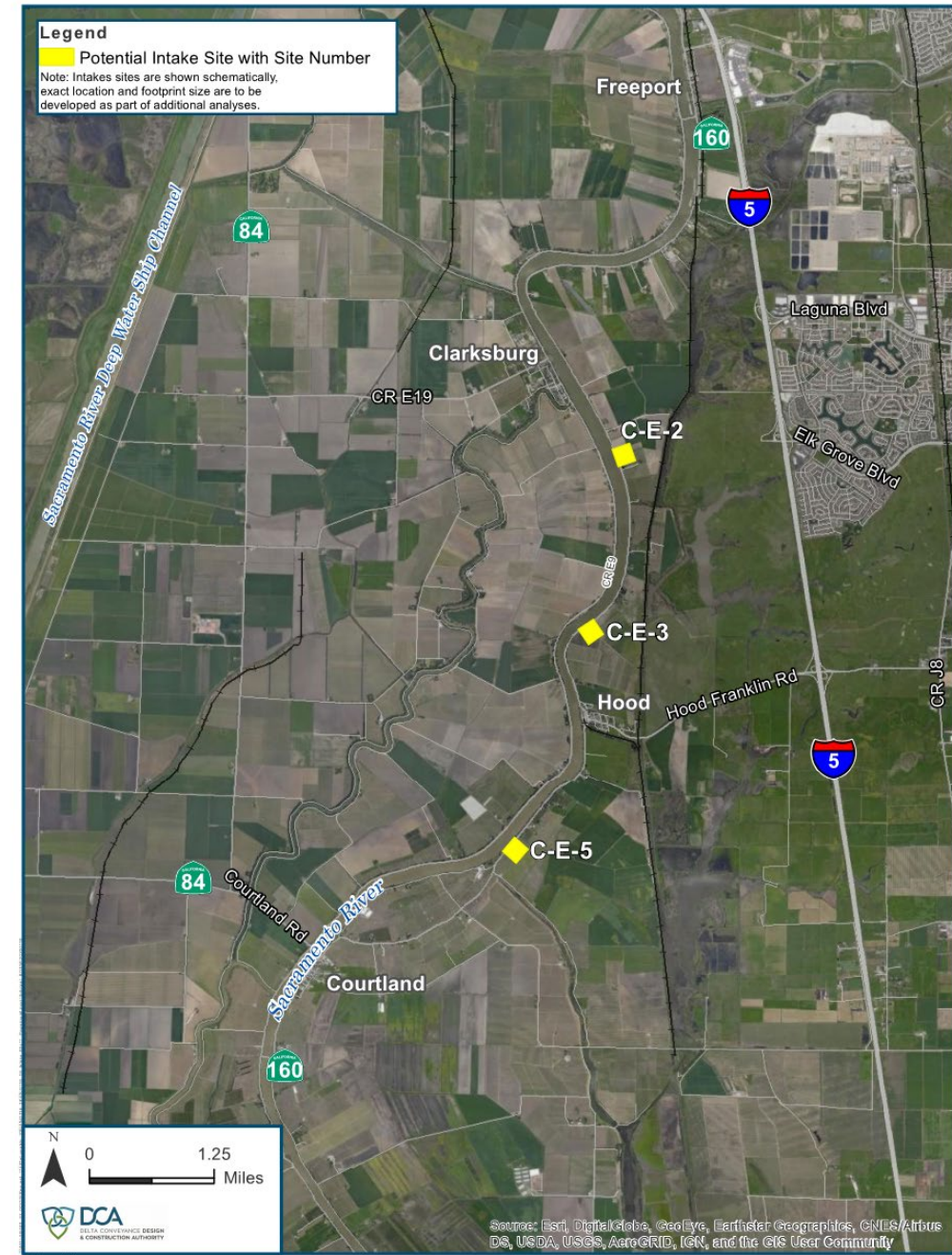
- Longest intake structure
- More substantial property effects
- Adequate river conditions



Evaluation Results

Path Forward

- Select intake sites as part of environmental documentation process
- Conceptual development of footprint and Engineering Project Report with information for selected sites



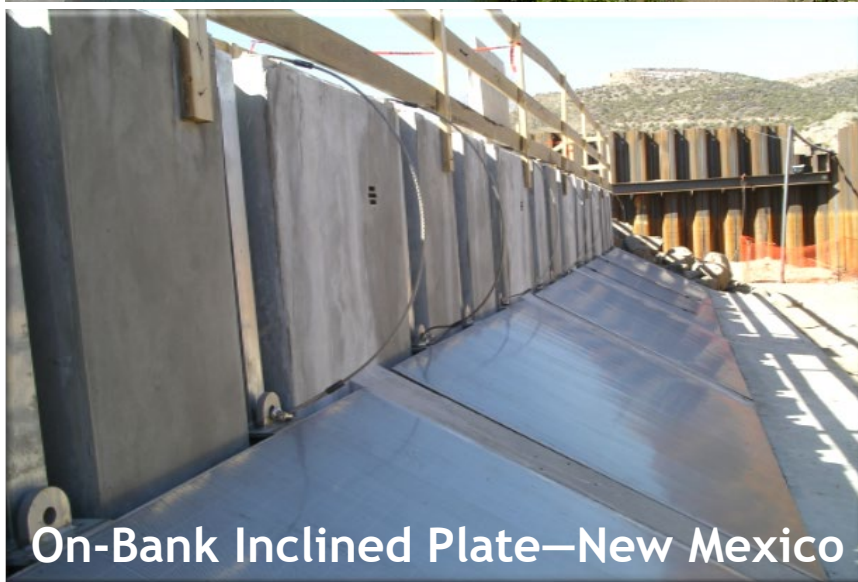
Intake Structures Types - Plate



In Channel (Vee Type)—ACID



In River - City of Sacramento



On-Bank Inclined Plate—New Mexico



On-Bank—FRWA

Intake Structure Types - Cylindrical tee



Vertical - Montana



Inclined - Alameda County

Intake Structure Types



Vertical Cylindrical Tee On-Bank



Vertical Plate On-Bank

Current Focus:

- Vertical Cylindrical Tee with On-Bank Structure
- Vertical Plate with On-Bank Structure

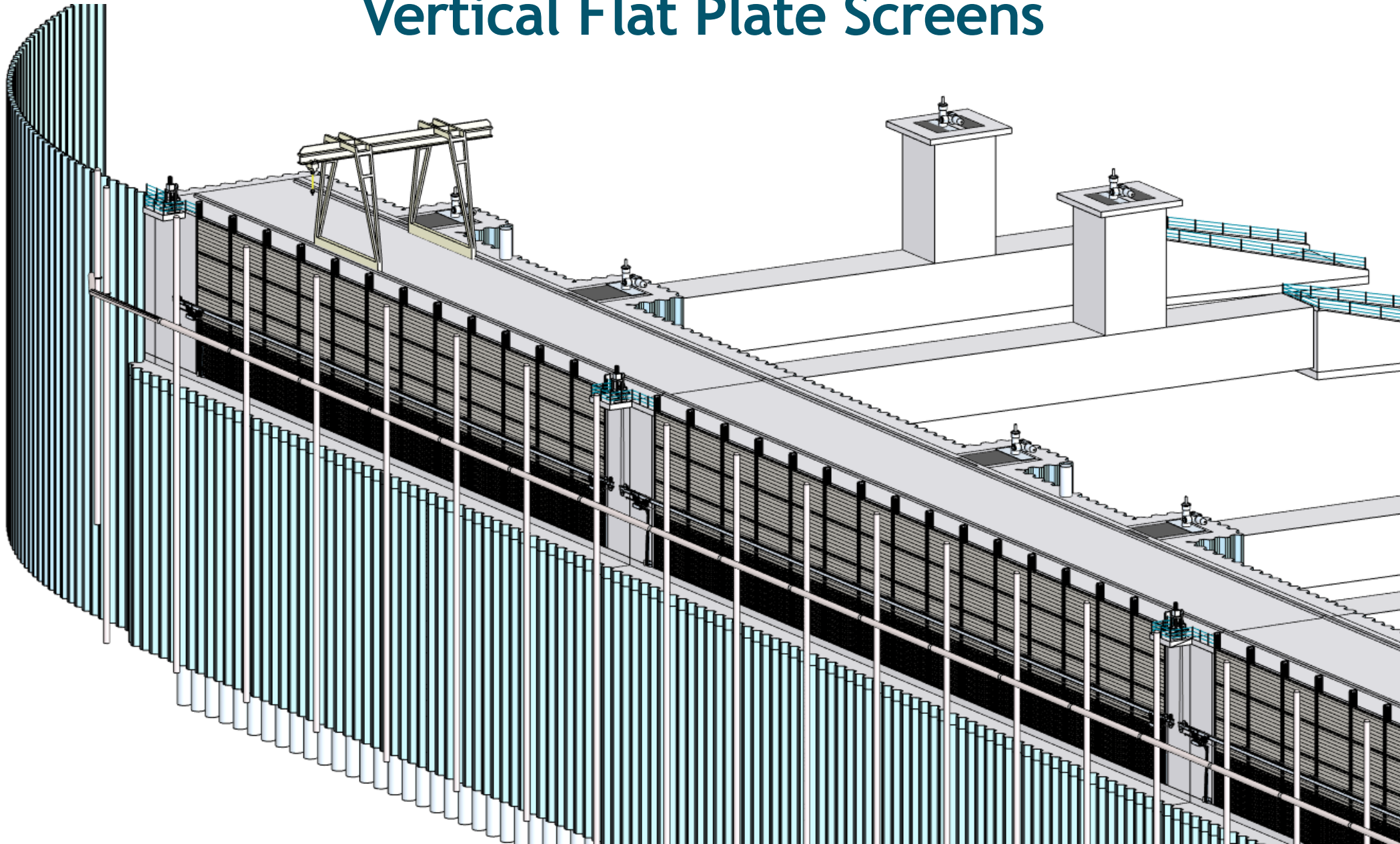
Fish Screens

- Target species
 - Juvenile salmon/steelhead
 - Juvenile Delta fish species (Delta smelt)
- Approach velocity
 - 0.33 fps salmonids
 - 0.2 fps Delta smelt
 - Sets screen length (w/flow & depth)
- Screen System
 - Fish screen
 - Baffle system (velocity uniformity)
 - Screen cleaner

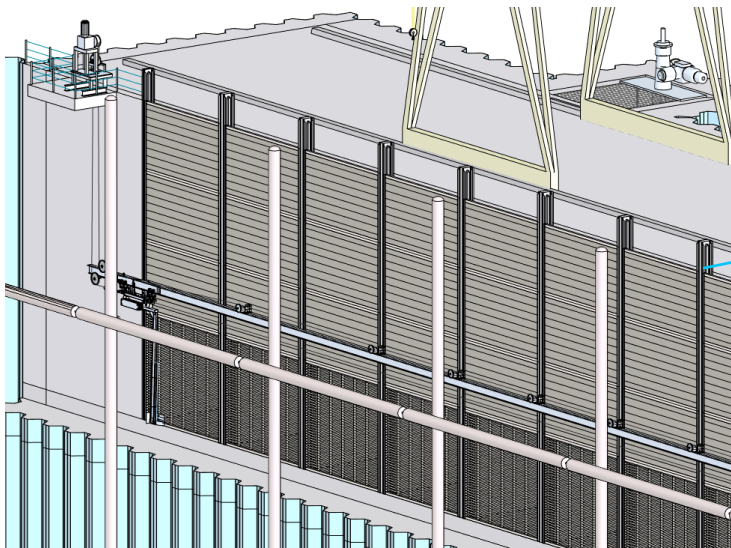


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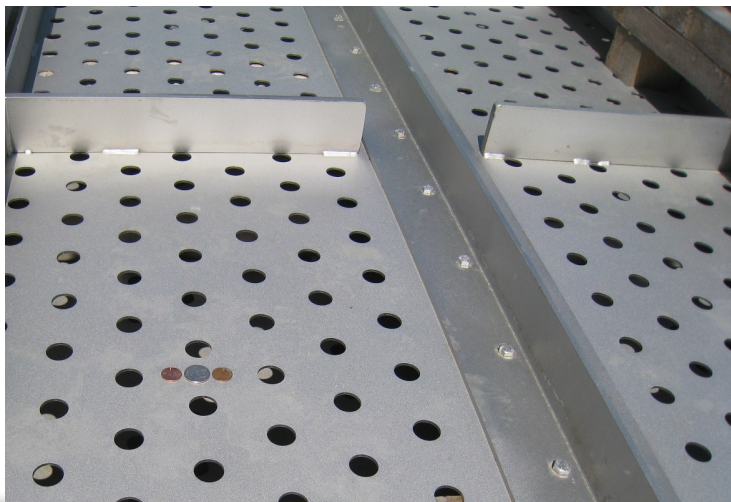
Vertical Flat Plate Screens



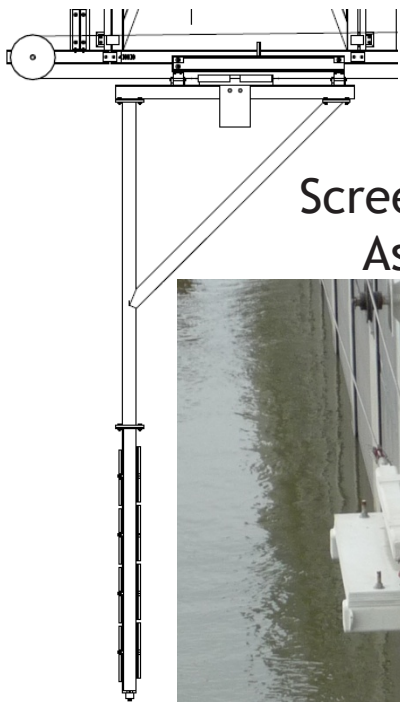
Intake Screens and Screen Cleaners



Flow Baffle Panel



Cleaner Brush



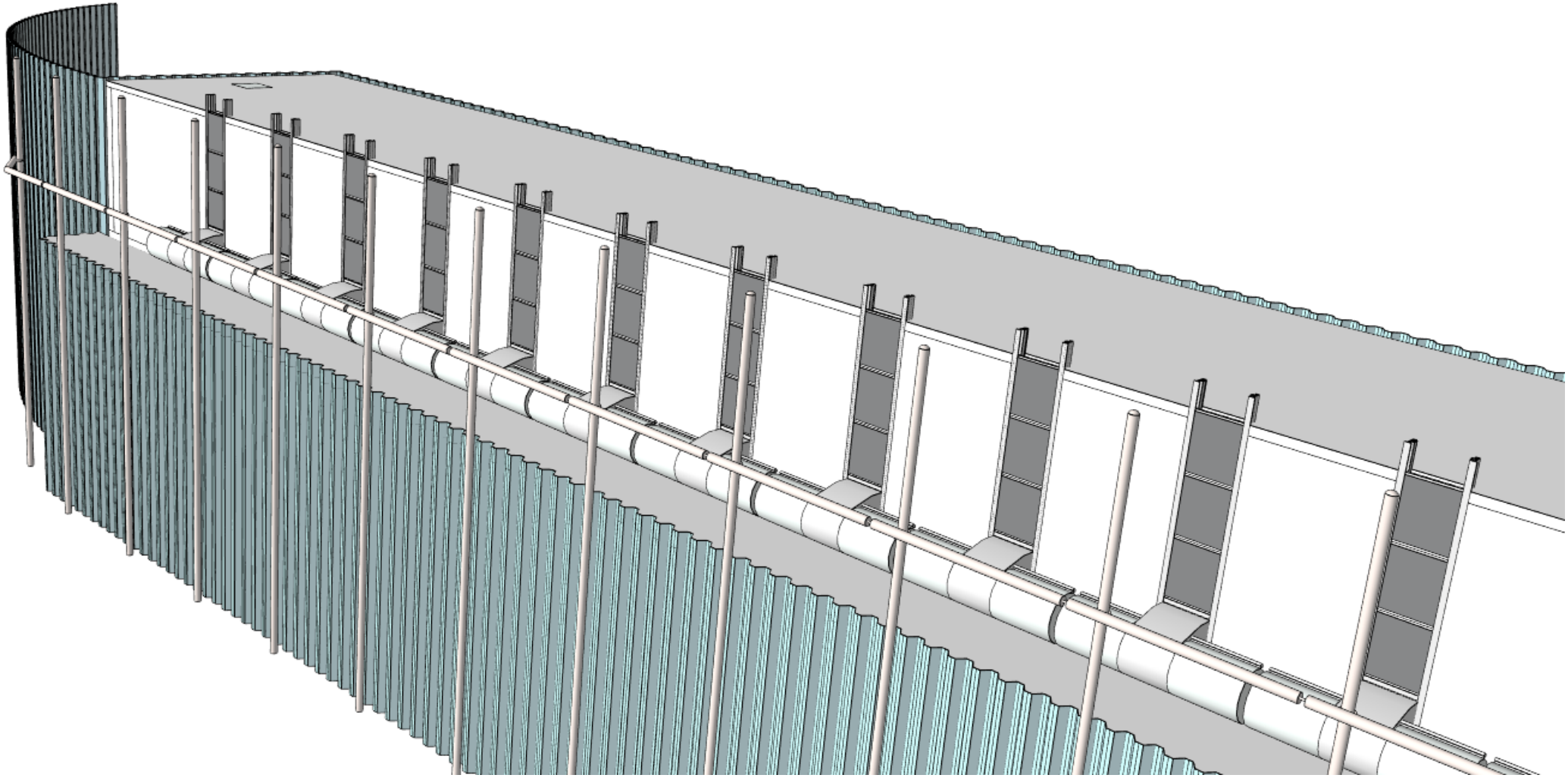
Screen Cleaner Assembly



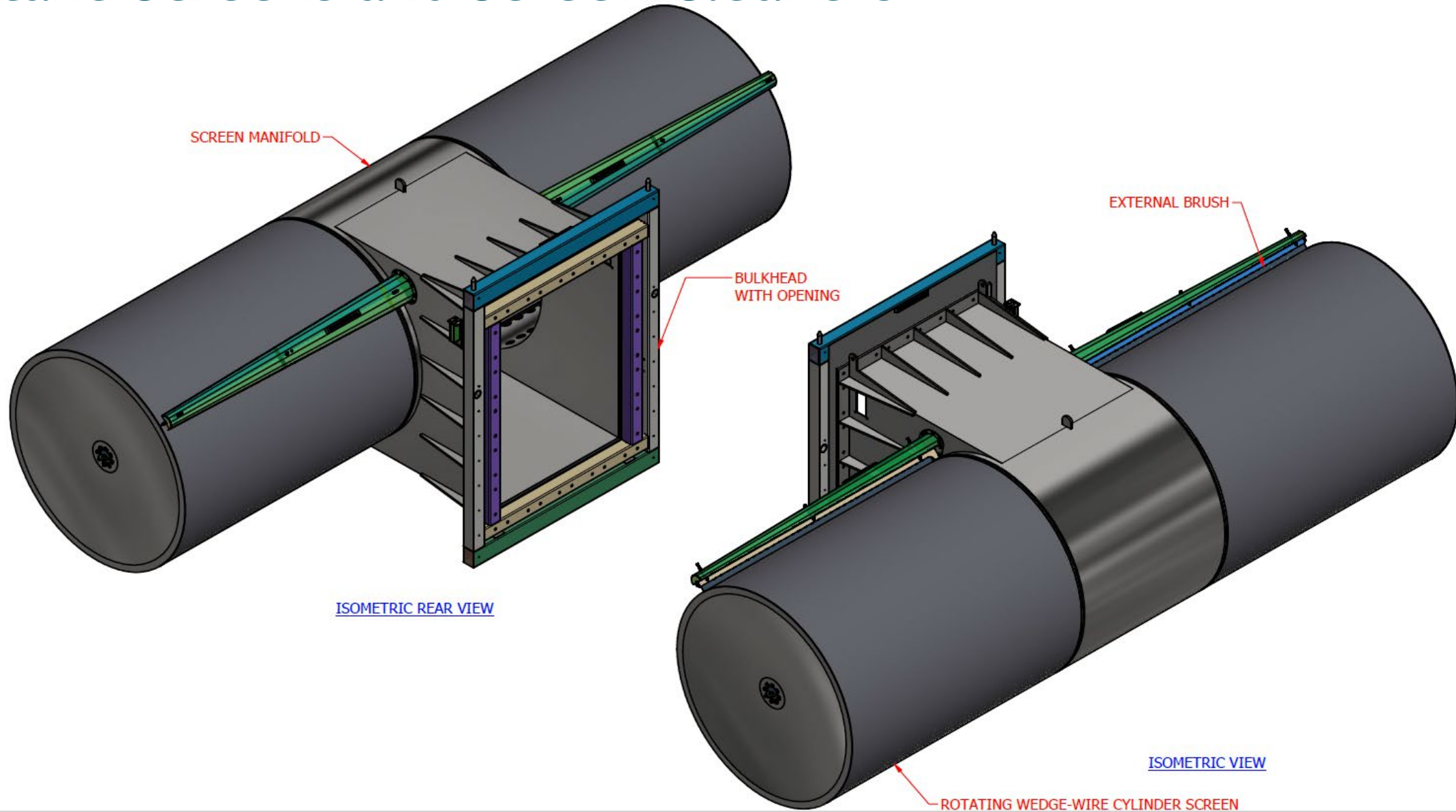
ANIMATION: VERTICAL PLATE SCREEN CLEANING

File available at dcdca.org

Cylindrical Tee Screens



Intake Screens and Screen Cleaners

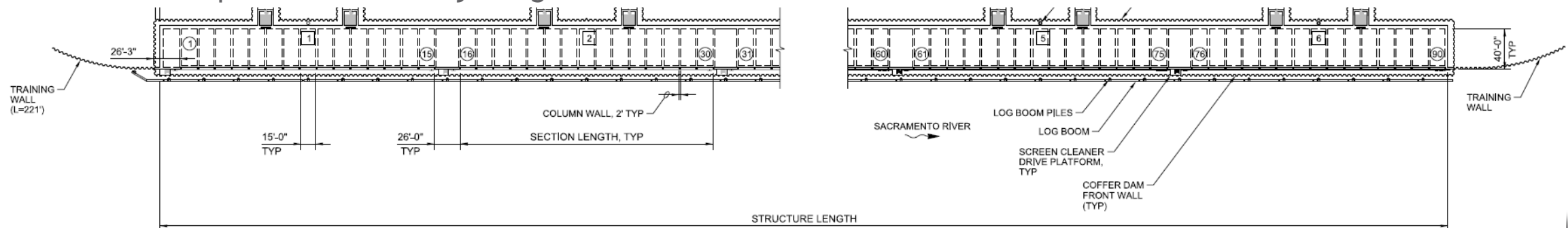


ANIMATION: CYLINDRICAL TEE SCREEN CLEANING

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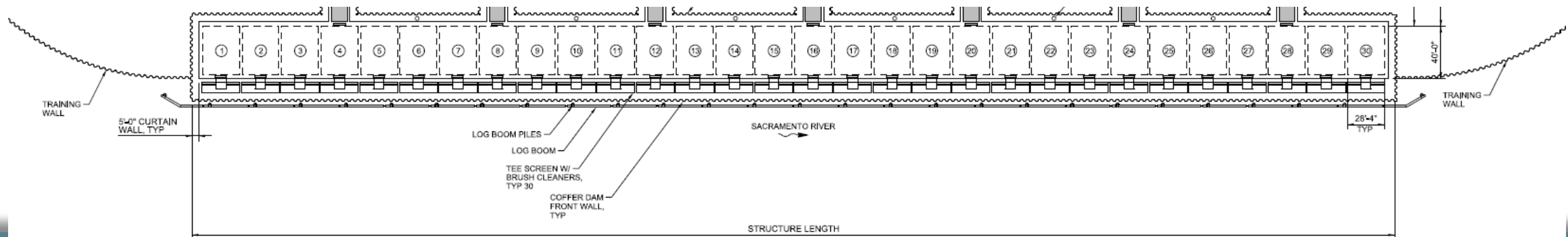
Vertical Flat Plate Screen - Conceptual Screen/Structure Sizing (3000 cfs)

- Screen panels 15 feet wide by 12 to 20 feet tall
 - Depends on river depth at intake site
 - Include 2 feet between screen panels
- Total intake structure length
 - 1175 to 1575 feet (overall concrete structure length)
 - Includes 6 sections at 500 cfs per section
 - 26 foot cleaner landing in each section
- Intake structure width—40 feet
 - Wet pit with sediment jetting

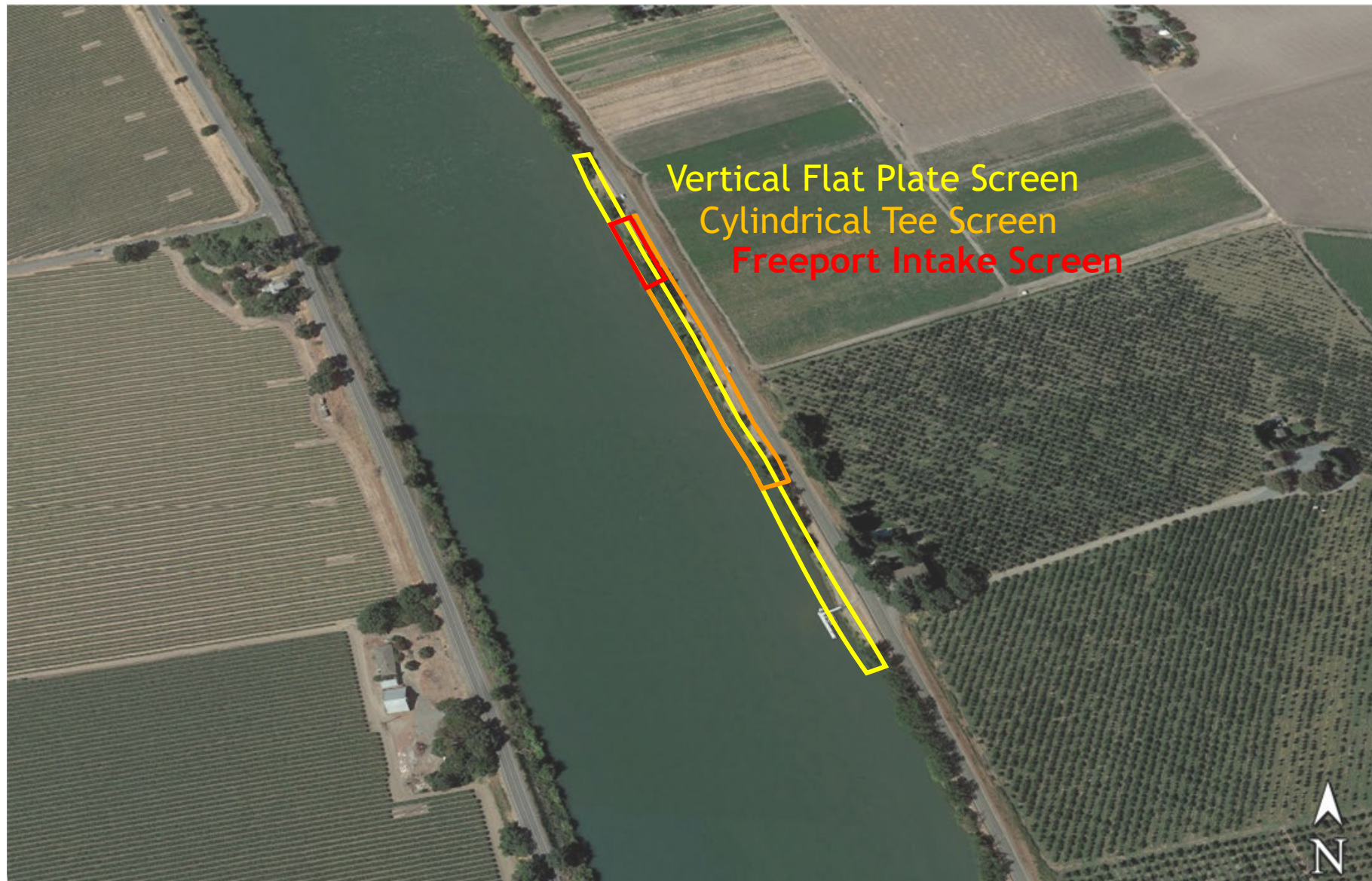


Cylindrical Tee Screen - Conceptual Screen/Structure Sizing (3000 cfs)

- Screen units 8-foot diameter by ~30 feet wide
 - Same for all intake sites
 - Include 1 foot between screens
- Total intake structure length
 - 965 feet (overall concrete structure length)
 - Includes 30 screen units at 100 cfs each
- Intake structure width—~65 feet (preliminary)
 - Dry pit housing valves and meters



Intake Type and Sizing - Comparison



Intake Type and Sizing - Comparison

Cylindrical Tee Screens

- Substantially shorter structure
- Better screen cleaning
- Better flow control
- More predator holding areas
- Refugia possible along structure face, but does not add length
- Possibly more debris collection
- One supplier

Vertical Flat Plate Screens

- Longer structure
- Less effective screen cleaning
- Effective flow control
- Minimal predator holding areas
- Refugia adds length (and cost)
- Screen cleaner susceptible to debris damage
- Known regulatory acceptance



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TYPICAL COMPONENTS OF AN INTAKE FACILITY

ANIMATION:

File available at dcdca.org

ANIMATION:
TYPICAL FOOTPRINT OF A TEE SCREEN INTAKE FACILITY
File available at dcdca.org

ANIMATION: INTAKE FACILITY CONSTRUCTION SEQUENCING

File available at dcdca.org

ANIMATION: INTAKE FACILITY CROSS-SECTION

File available at dcdca.org

ANIMATION: INTAKE FACILITY FLOW REGULATION

File available at dcdca.org

Site Access

- Rail
 - Existing line near I-5
 - No direct site access
 - Possible use of central material staging near rail line

- Rail
 - Existing line near I-5
 - No direct site access
 - Possible use of central material staging near rail line



Truck Traffic Control

- Truck Traffic Effects from Construction
 - Truck traffic to each construction site on two-lane roads after freeway
 - Potential for disrupting local transportation of residents', workers', commercial, and visitors' vehicles
- Measures to Reduce Effects
 - Create new/parallel roads for construction traffic only
 - Improve existing road systems to accommodate additional traffic volumes and loads
 - Store construction vehicles onsite to minimize volume of large trucks
 - Batch plant onsite to reduce concrete truck traffic

	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Year 7			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
200 to 250																												
150 to 200																												
100 to 150																												
75 to 100																												
50 to 75																												
25 to 50																												
0 to 25																												

Estimated Truck Trips/Day at an Intake without Reduction Measures

Worker Traffic Control

- Potential Measures to Reduce Worker Traffic
 - Park-and-Ride locations (Staging Centers)
 - Use electric buses/vans to drive to construction site
 - Place at locations with less effects
 - Could be converted for public use after construction
 - Stagger shifts at construction site
 - Use food trucks to minimize lunch traffic

	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Year 7			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
200 to 250																												
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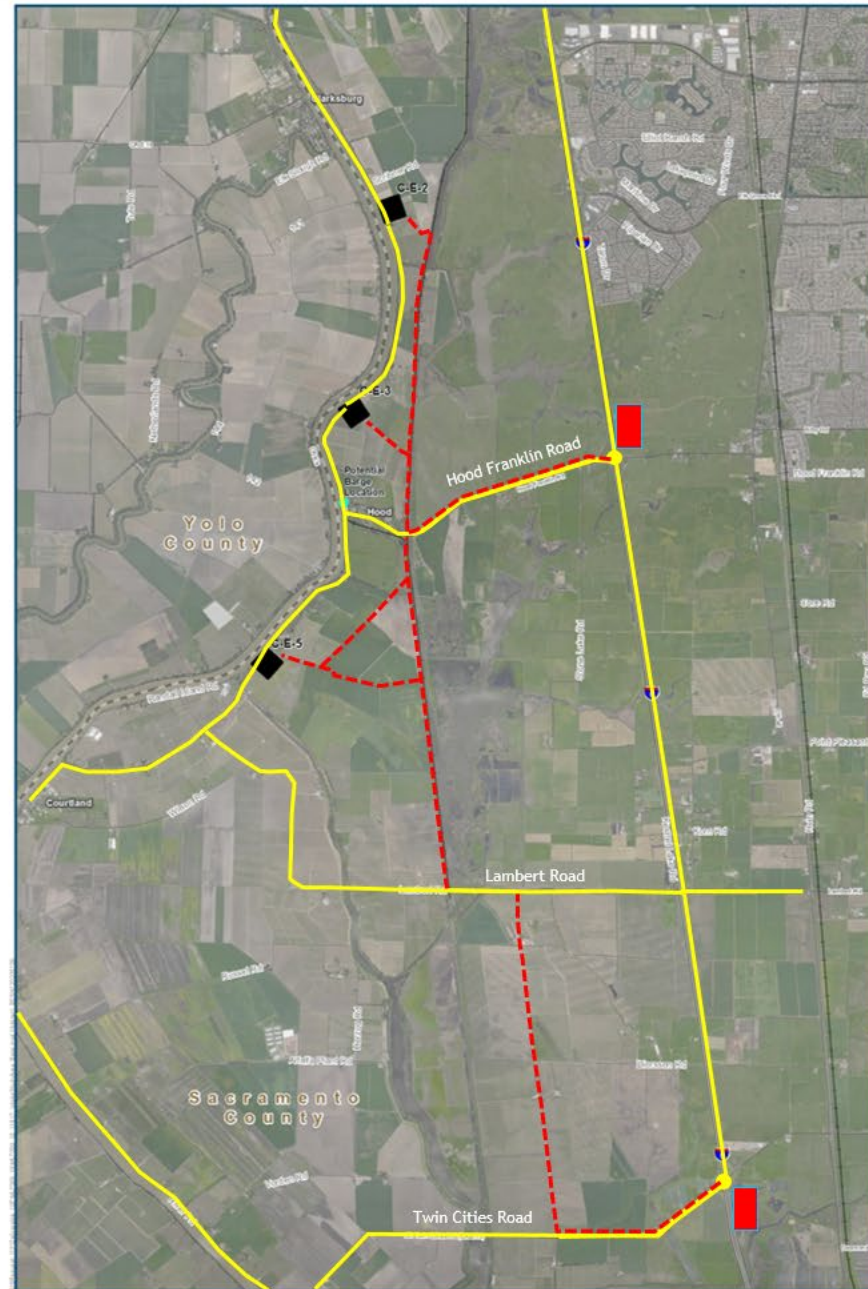
Estimated Worker Trips/Day at an Intake without Reduction Measures

- Site Access
- Roads



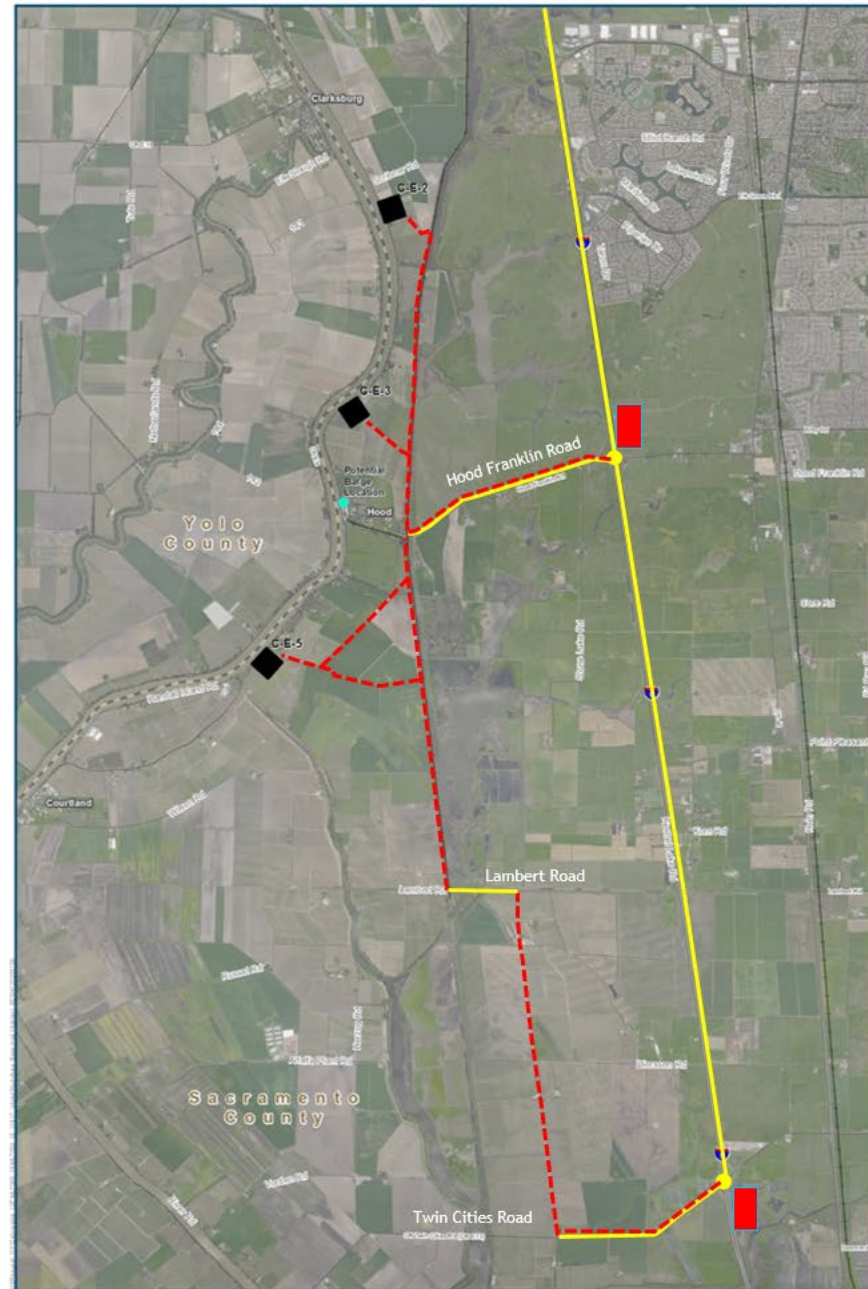
Site Access

- Roads
 - Use of haul roads and staging centers will reduce dependence on portions of existing roads



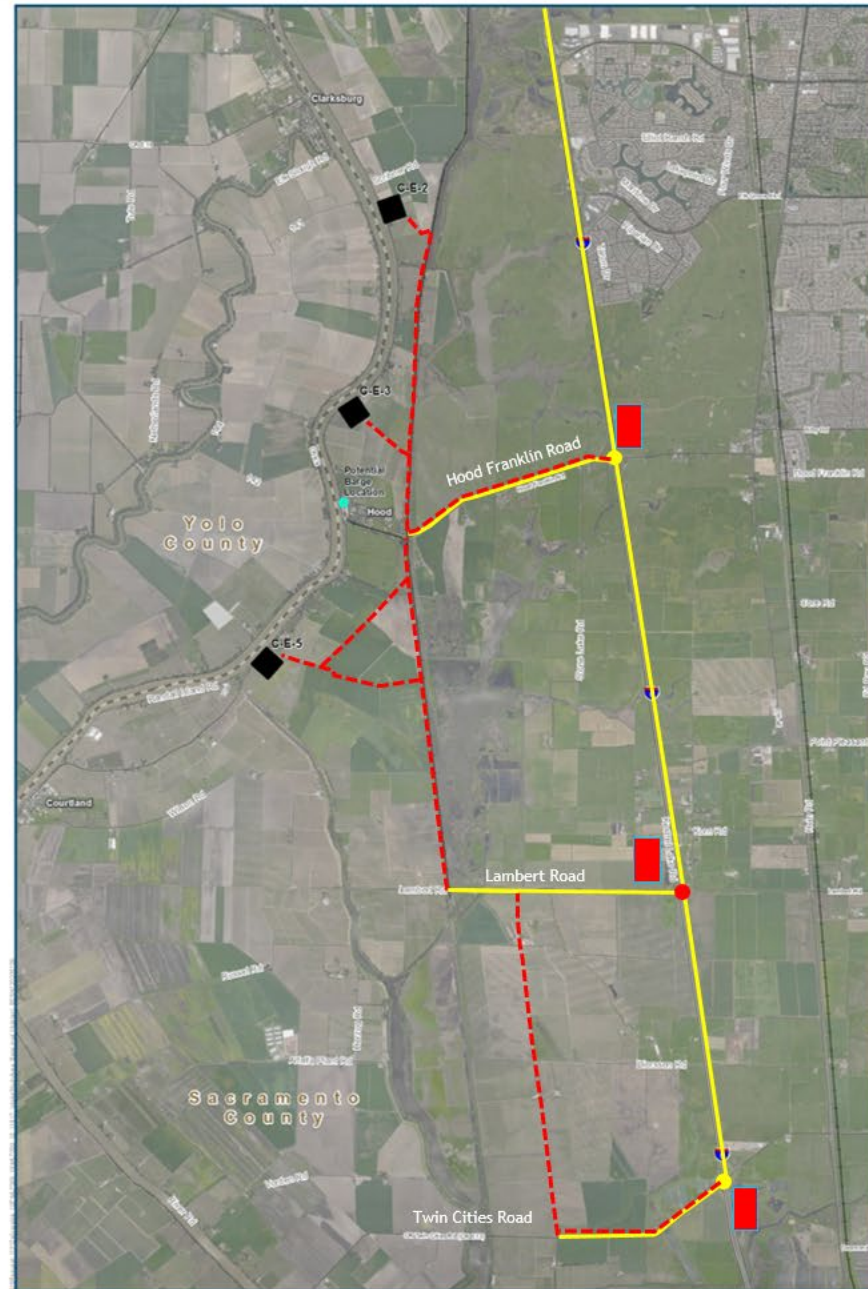
Site Access

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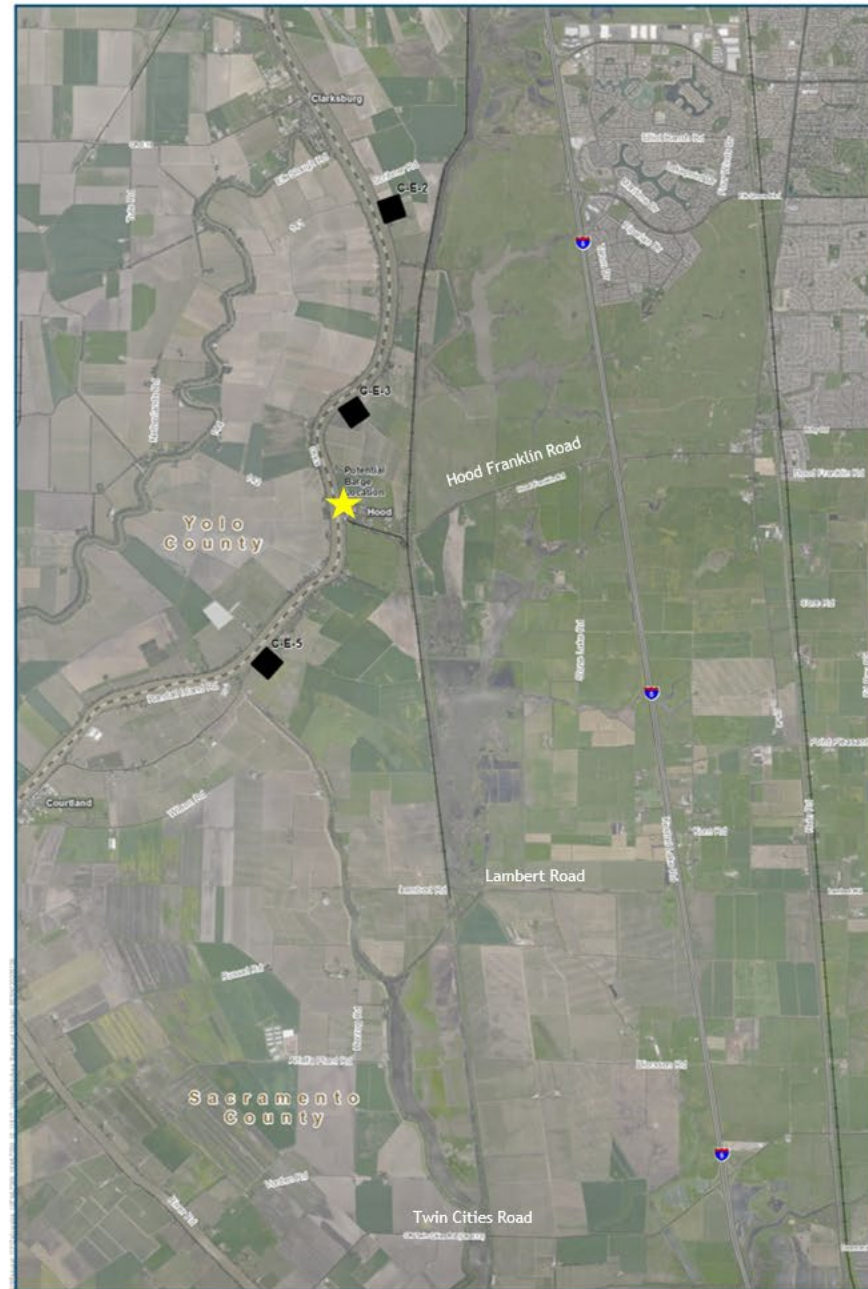
Site Access

- Roads
 - In addition to Twin Cities Road a new interchange near Lambert Rd may be beneficial



Site Access

- Barge
 - Existing barge landing at Hood
 - Requires use of Hwy 160
 - Can create barge landings at intake sites



Site Access

- Barge
 - Existing barge landing at Hood
 - Requires use of Hwy 160
 - Can create barge landings at intake sites



Logistics Alternatives

- Modes of Transportation
 - Rail
 - Trucking/Roads
 - Barge
- Trucking/Roads
 - Force traffic to use I-5
 - Avoid 160 and the River Road using new Haul Roads.
 - Possible new Highway interchange near Lambert Rd.
 - Possible staging center for consolidation and/or employee parking
- Barge
 - Potential barge landings at Hood or at/near intake sites
- Rail
 - Possible rail staging area and consolidation center off tracks near I-5

Noise Control

Typical Pile Driving Noise Levels

Table 1. Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level Scale (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

Source: Caltrans 2009.

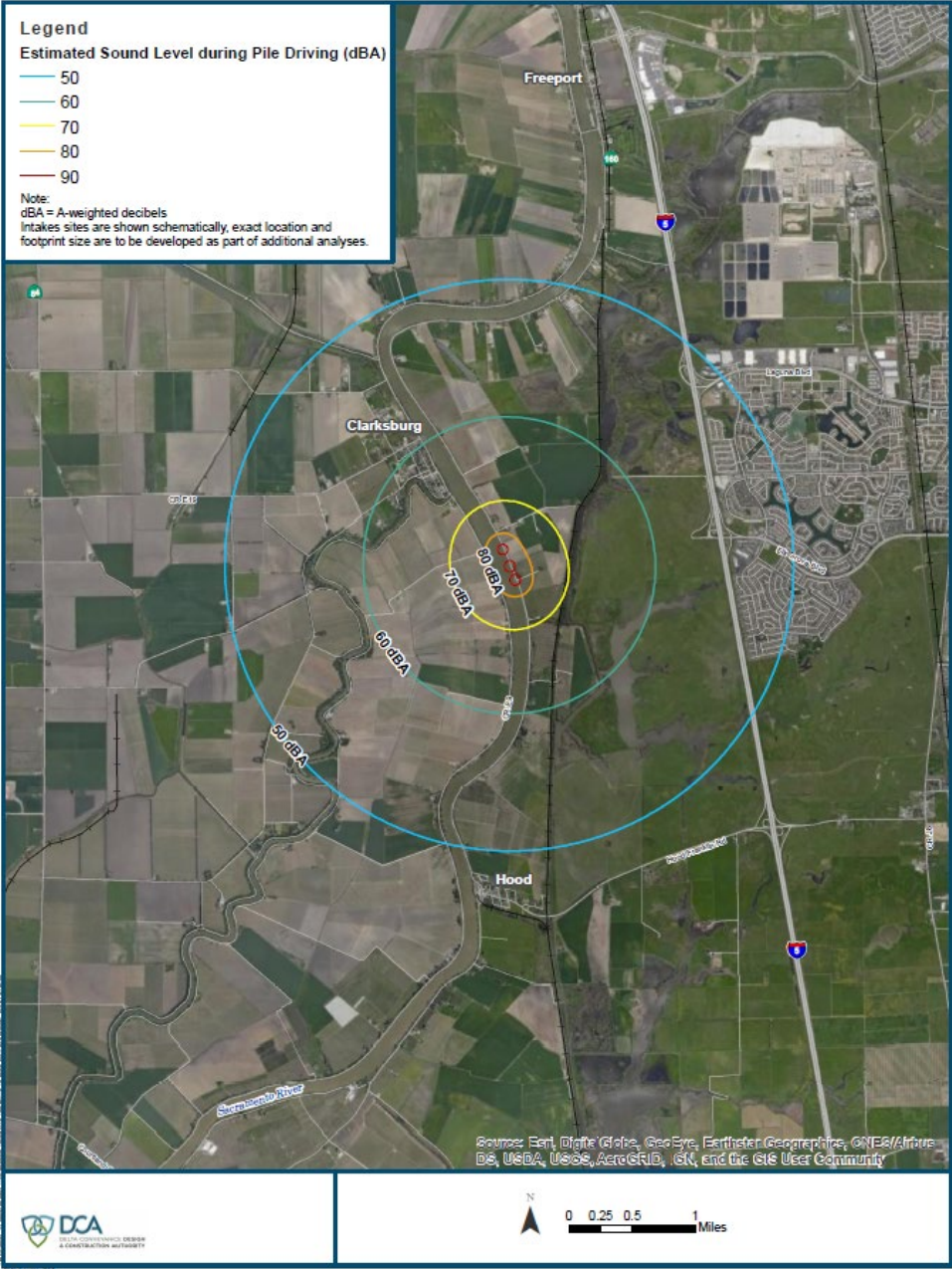


Pile Driver without Noise Reduction Equipment
Source: Carpenters Training Institute



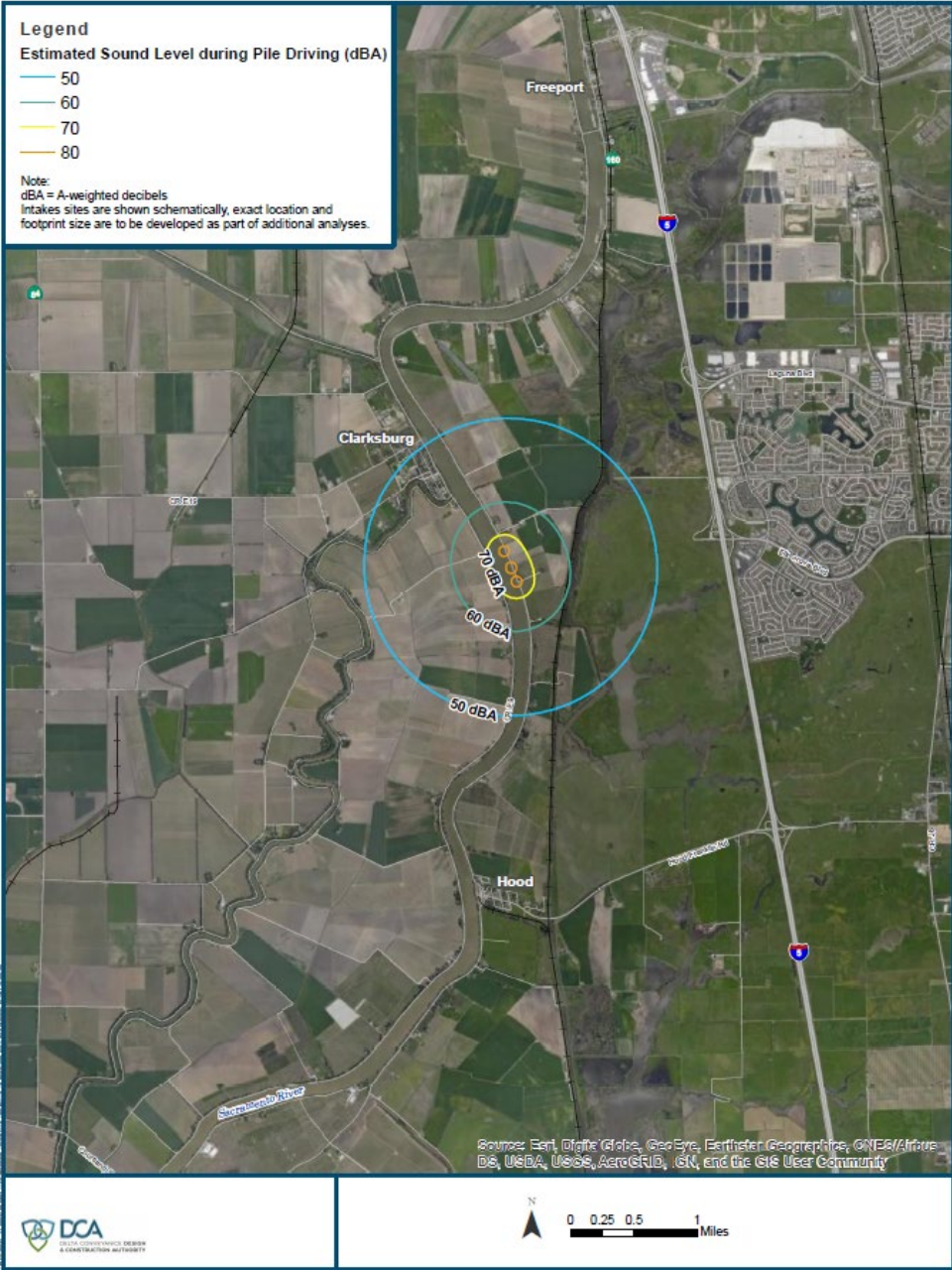
Noise Reduction Equipment - Shroud

Noise Control



Typical Pile Driving Noise Without Noise Reduction Equipment

Noise Control



Typical Pile Driving with Noise Reduction Equipment

Site Runoff Control

Protecting Surface Waters at Construction Sites

Sources of Potential Water Discharges from Construction Sites

- Runoff from off-site and on-site (including dust control watering)
- Dewatering flows
- Construction-water flows

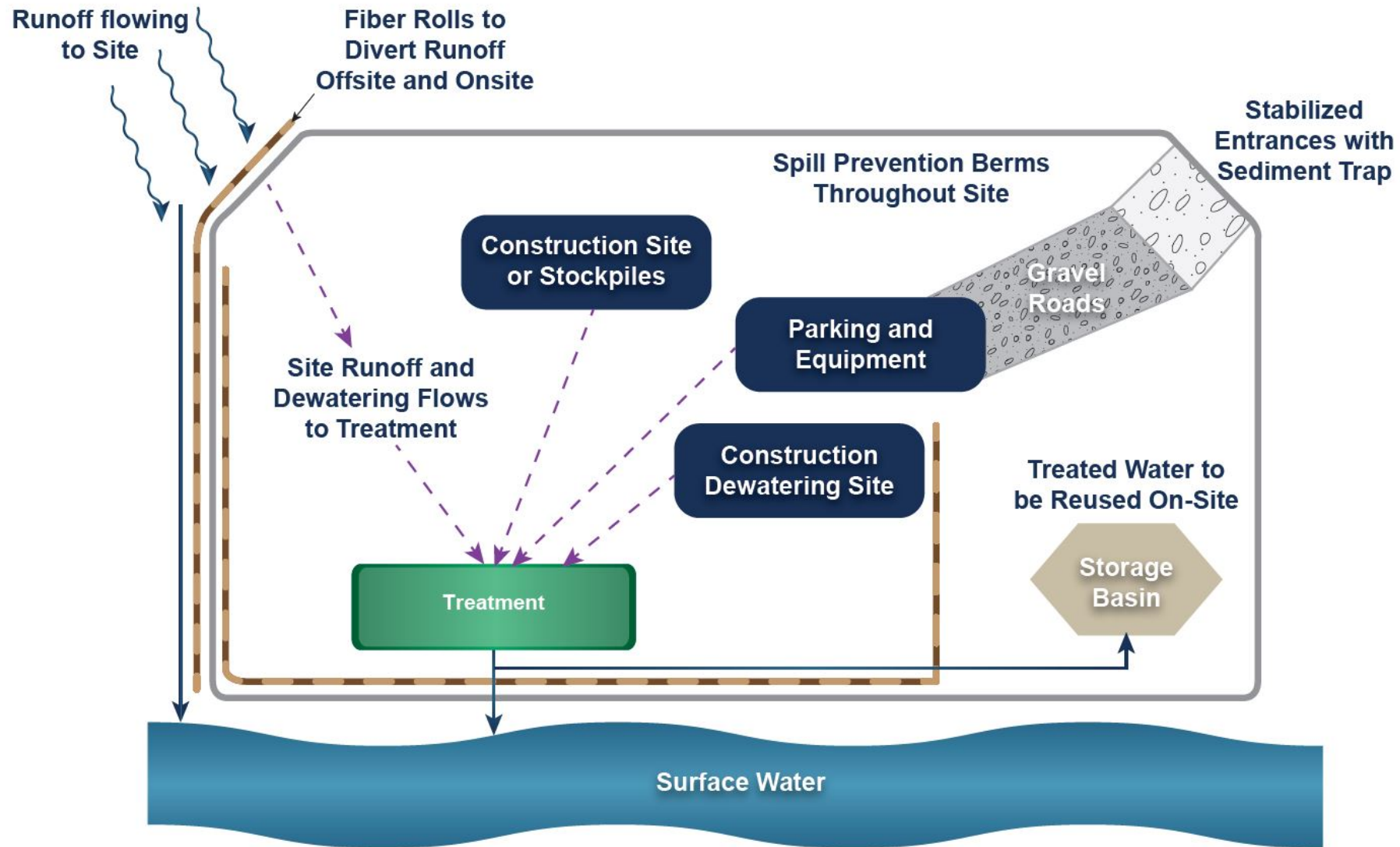
On-Site Monitoring and Treatment Facilities

- Treatment to remove sediment, oil and grease, metals, and/or organic material
- Must meet State Water Resources Control Board (SWRCB) Criteria
- Hazardous materials segregated and stored separately for subsequent removal

Criteria for Discharge of On-Site Water

- Discharge to surface water or drainage channels only if available capacity and suitable quality
- Must have SWRCB permit (NPDES)
- Cannot cause seepage or groundwater reduction on other properties
- Cannot degrade water quality

Protecting Surface Waters Near Construction Site



Air Quality & Greenhouse Gas Emissions

Reduction of Air Quality Emissions from Construction Activities

Typical Sources for Intake Construction

- Water trucks- operate 8-10 hrs./day
- Cranes - operate 8-10 hrs./day
- Dozers/tractors/scrapers/graders/compactors
- Concrete trucks
- Large portable diesel generators

Measures to Reduce Total Emissions

- Use “Tier 4” diesel engines
- Use equipment with hybrid or electrical engines
- Irrigation for dust control
- Provide surfacing
- Onsite batch plant
- Consolidation center



Example: Hybrid Dozer

Dust Control

- Typical Sources of Dust for Intake Construction Activities
 - Wind erosion of exposed soils, including unpaved roads and storage piles on construction site
 - Removing existing structures and vegetation
 - Graders
 - Finishing of concrete surfaces
 - Soil particles from construction vehicle tires fall onto surrounding roads. The wind and other vehicle tires move the soil into dust.
- Methods to Reduce Dust Related to Construction
 - Build gravel or paved roads on site
 - Use tackifiers (soil binder) or covers on soil piles



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COMMITTEE (SEC)



DCA

DELTA CONVEYANCE DESIGN
& CONSTRUCTION AUTHORITY

STAKEHOLDER ENGAGEMENT
COMMITTEE (SEC)



Clarifications?

Public Comment --- Agendized Items



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Public Comment

Non-Agendized Items



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STAKEHOLDER ENGAGEMENT
COMMITTEE (SEC)

NEXT SEC MEETING

DATE: February 12, 2020

TIME: 3-6 PM (2-3 hours)

LOCATION: The Willow Ballroom, 10724 CA-160, Hood, CA 95639

TOPICS*:

- Follow-up SEC MEETING #3 & Member Roundtable
- Intermediate Forebay
- Launch Shaft 2 Siting for both corridors

**Subject to change*

