

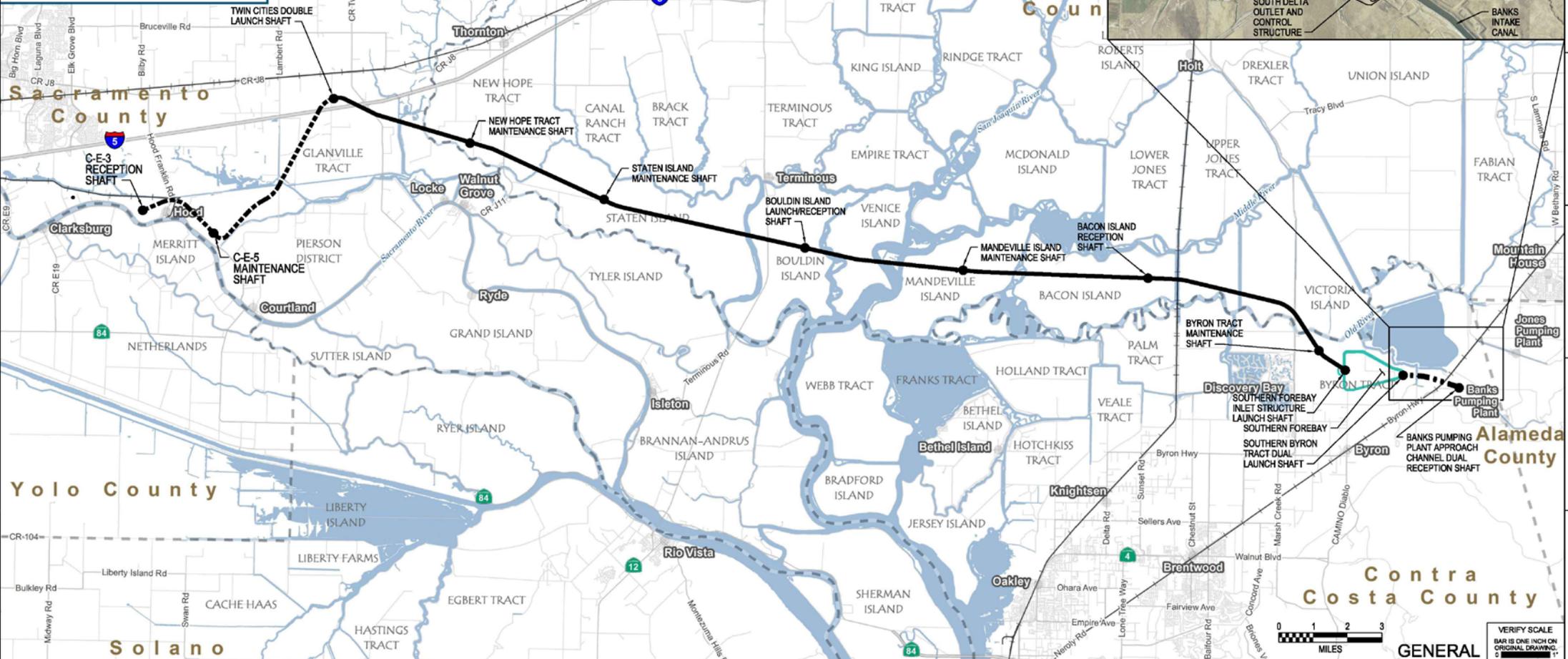


DELTA CONVEYANCE PROJECT AND FACILITY SITING OVERVIEW

July 15, 2020

- Legend**
- Proposed Launch Shaft
 - Proposed Launch/Reception Shaft
 - Proposed Maintenance Shaft
 - Proposed Reception Shaft
 - Southern Forebay

- Tunnel**
- Central
 - - - North Tunnel
 - · - Dual Southern Tunnels



GENERAL

VERIFY SCALE
BAR IS ONE INCH ON
ORIGINAL DRAWING.
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CONFIDENTIAL ATTORNEY-CLIENT
PRIVILEGED DISCUSSION DRAFT

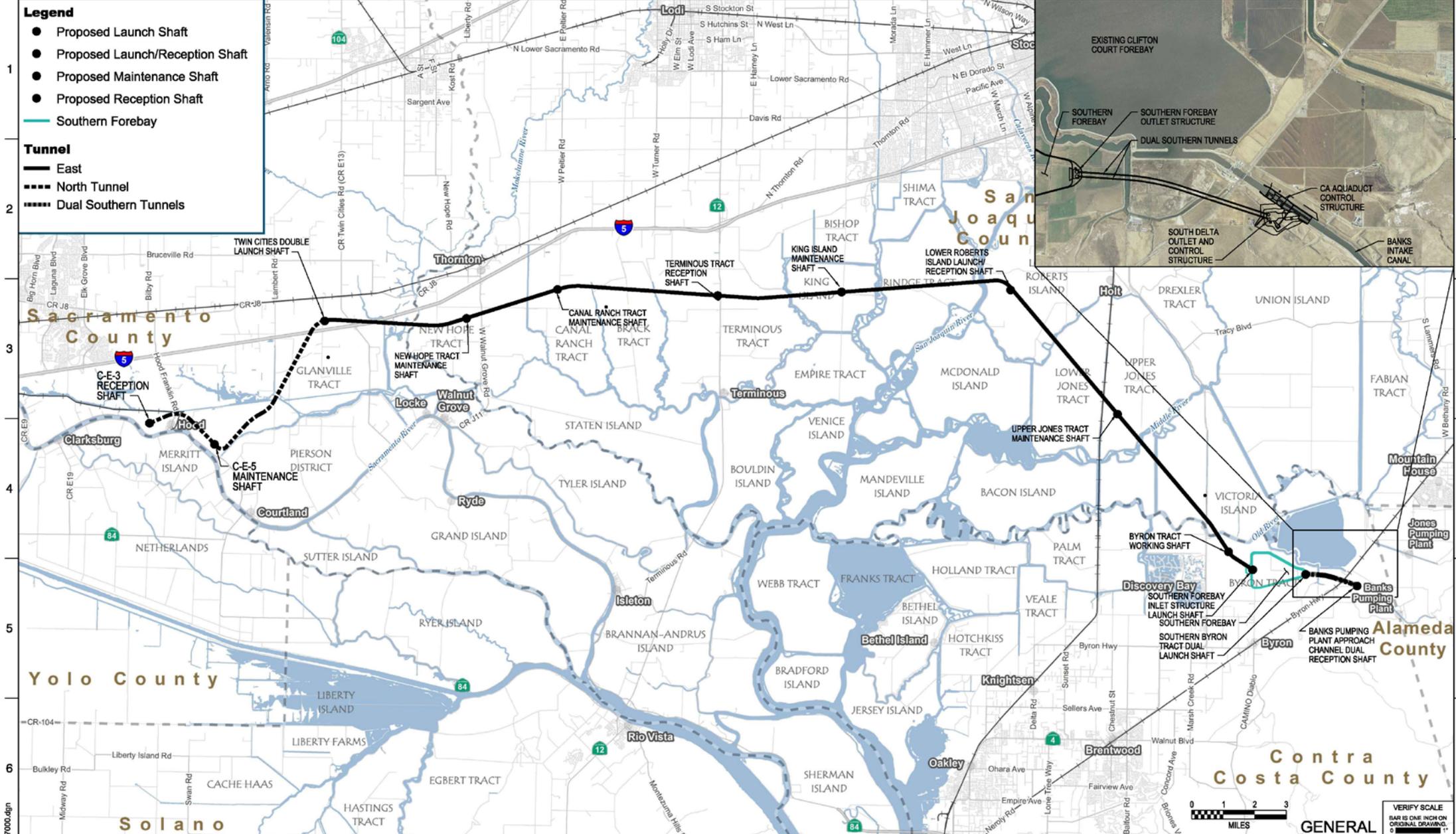
DESIGNED	APPROVAL RECOMMENDED			
DRAWN	APPROVAL BY			
CHECKED				
REV	DATE	DESCRIPTION	SUB	APPRO



ENGINEERING PROJECT REPORT
DELTA CONVEYANCE PROJECT
SINGLE TUNNEL - CENTRAL CORRIDOR
CONVEYANCE OVERVIEW - OPTION 1
6,000 CFS AT INTAKES C-E-3 AND C-E-5

PROJECT NO.	WBX97000
SHEET NO.	STC-G-0050GN
REV	BIQRCHNG NO.

- Legend**
- Proposed Launch Shaft
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- East
 - - - North Tunnel
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<div style="border: 1px solid black; padding: 5px; display: inline-block;">CONFIDENTIAL ATTORNEY-CLIENT PRIVILEGED DISCUSSION DRAFT</div>		DESIGNED	APPROVAL RECOMMENDED	<p>DCA DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY</p>	ENGINEERING PROJECT REPORT DELTA CONVEYANCE PROJECT SINGLE TUNNEL - EAST CORRIDOR		PRODUCT NO. WBX97000	
		DRAWN	APPROVAL BY		CONVEYANCE OVERVIEW - OPTION 2 6,000 CFS AT INTAKES C-E-3 AND C-E-5		SHEET NO. STE-G-0050GN	
		CHECKED					REV	SEQUENCE NO.
		REV	DATE		DESCRIPTION			

STE-G-0050GN_WBX97000.dgn | PLOT DATE: 2020/07/13 | PLOT TIME: 4:14:18 PM | GENERAL | VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.

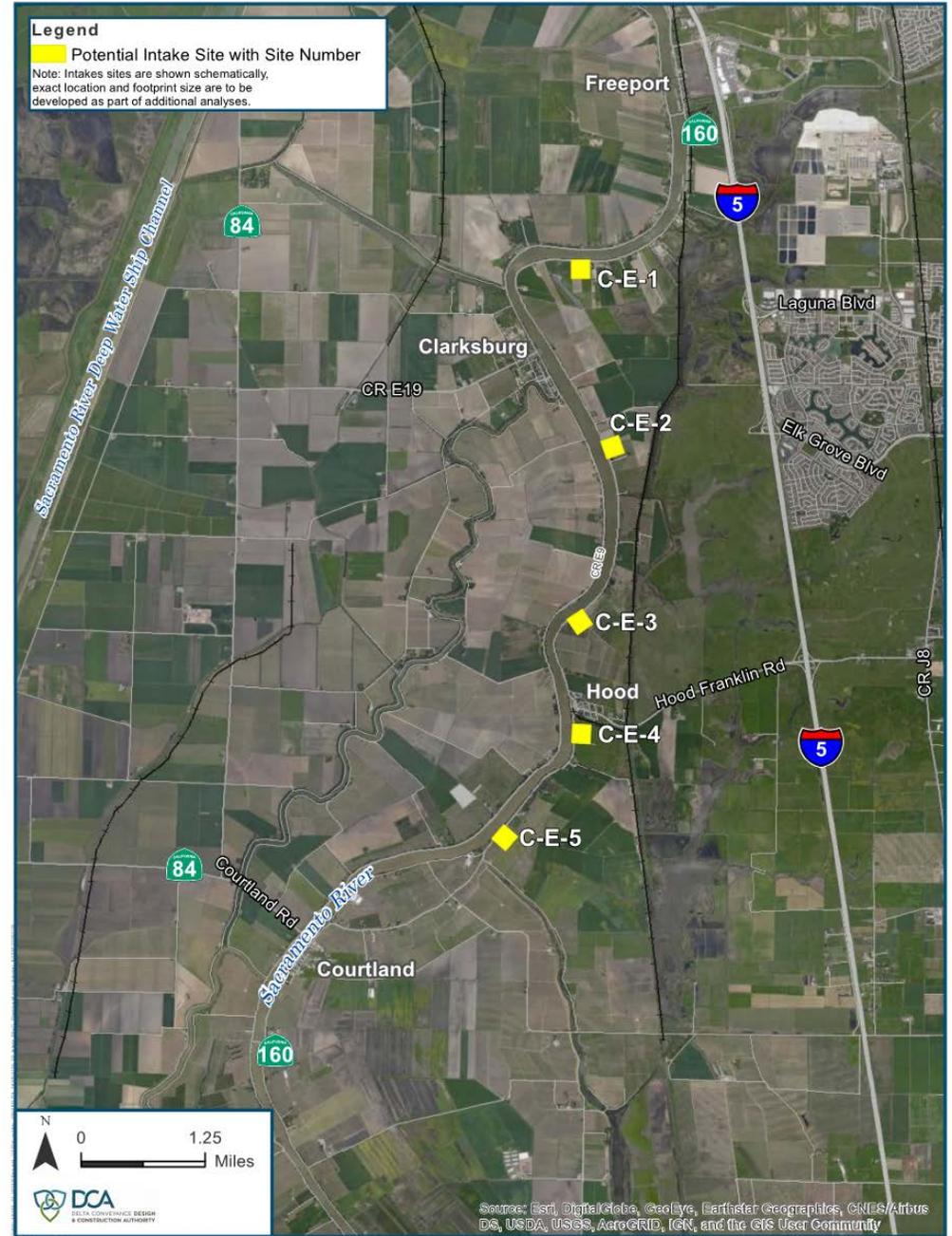




INTAKE SITING

- 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



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

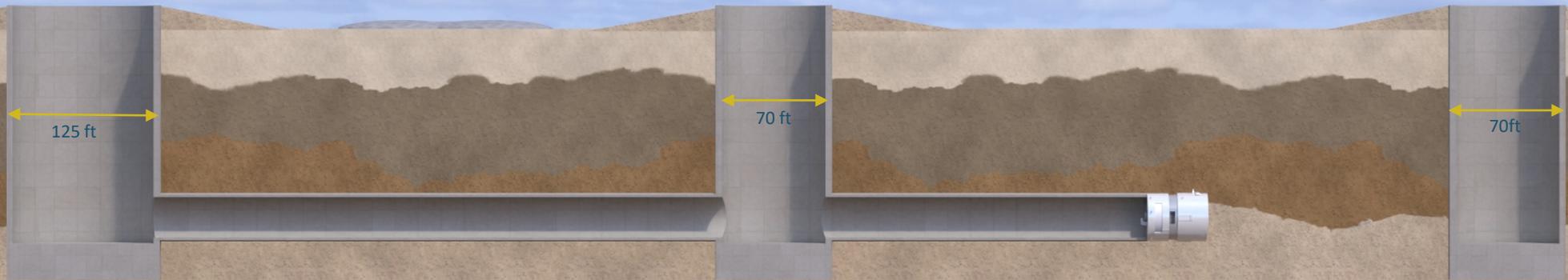
EVALUATION RESULTS

- Sites C-E-1 and C-E-4 ranked as least favorable and not recommended for use
 - Land use
 - Proximity to existing development
 - Geotechnical issues
- Site C-E-3 is apparent best site
 - Lowest effects on existing property and features
 - Best river depth
- Site C-E-5
 - Low effects on existing property and features
 - Good river depth to limit screen length
- Site C-E-2
 - Adequate river depth, but longest intake structure
 - More substantial property effects



Key Components of a Tunnel Drive

10 to 15 mile tunnel drive lengths acceptable based on Delta soil conditions



Launch Shaft

Where the tunnel boring machine (TBM) is lowered into the tunnel. Where the concrete liners are transported into the tunnel. Where the excavated material (RTM) is removed.

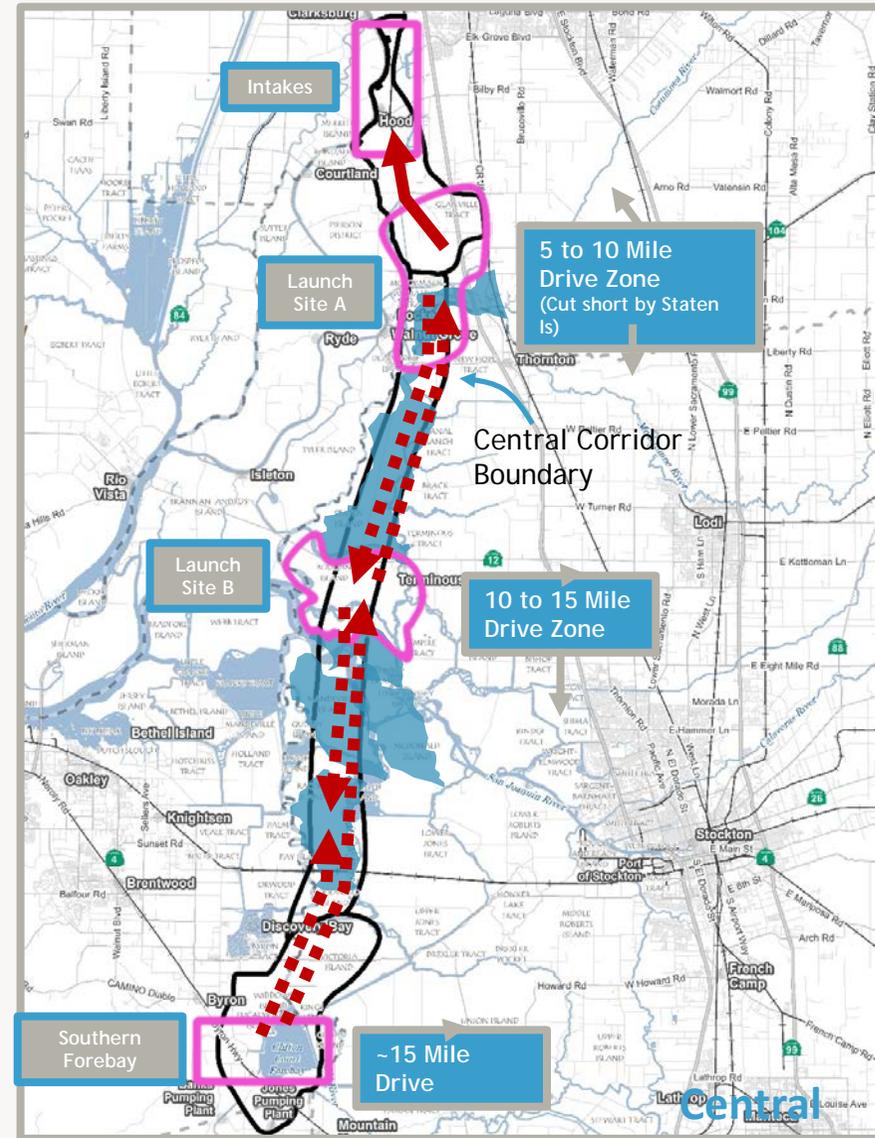
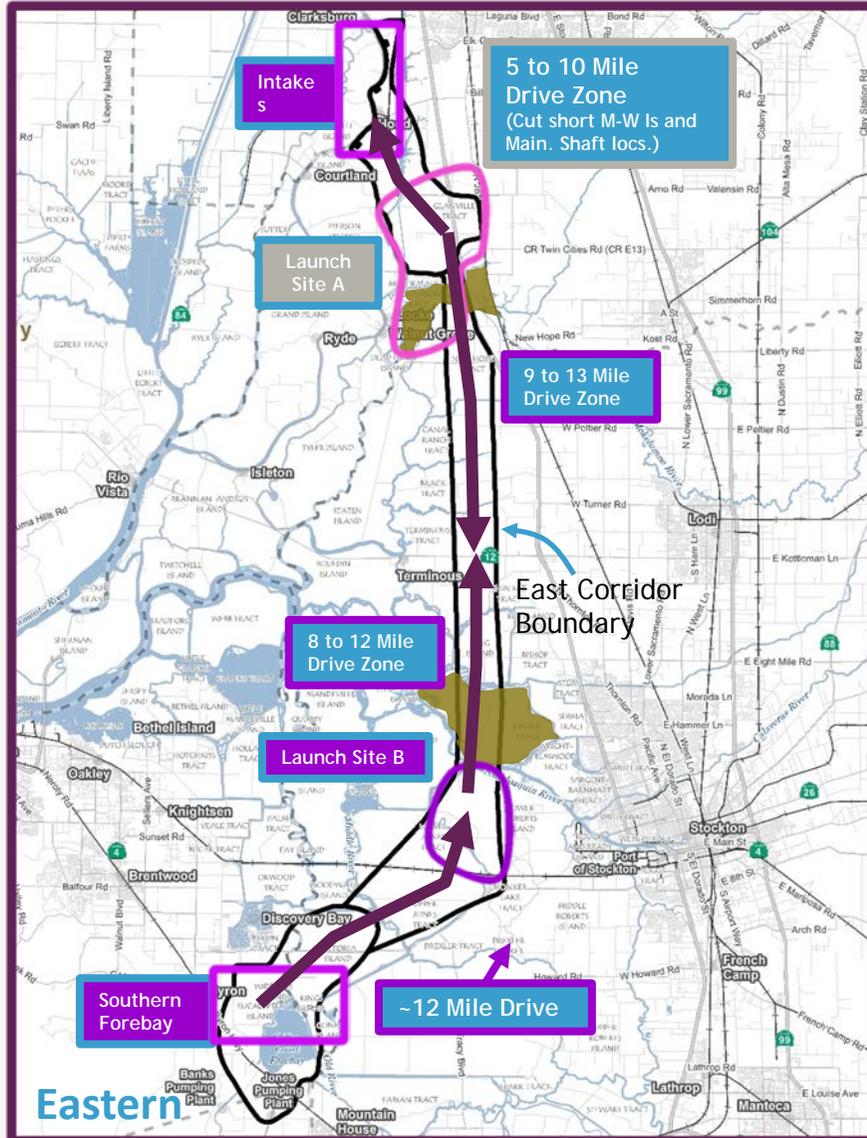
Maintenance Shaft

Provides direct access to the TBM for routine maintenance work. Needed approximately every 4 to 6 miles.

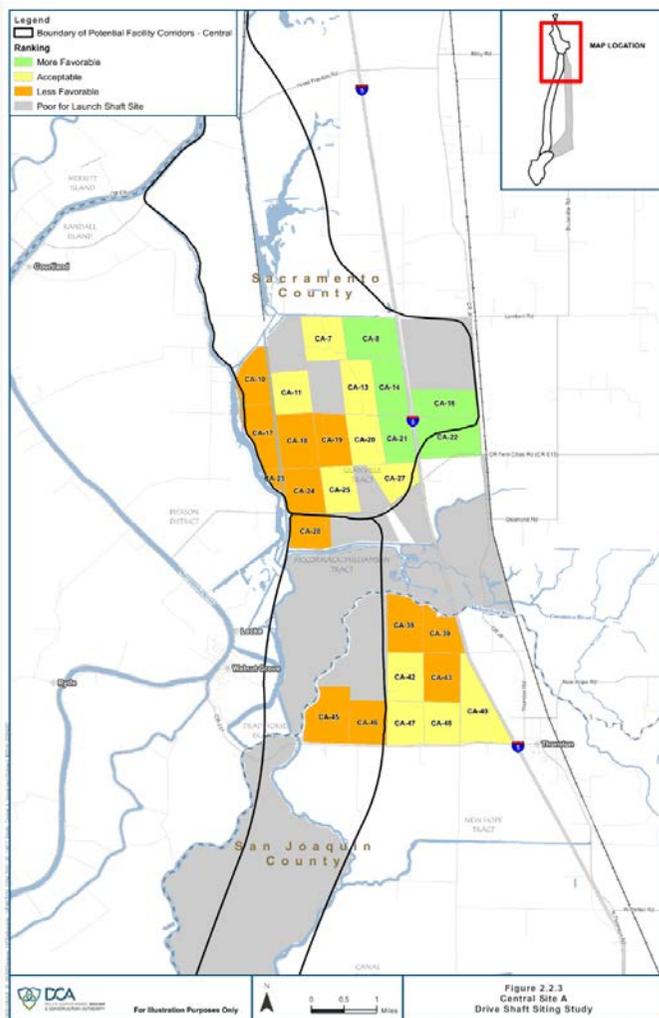
Retrieval Shaft

Termination point of tunnel drive. Where TBM is disassembled and lifted out of the tunnel.

TUNNEL LAUNCH SHAFT SITING



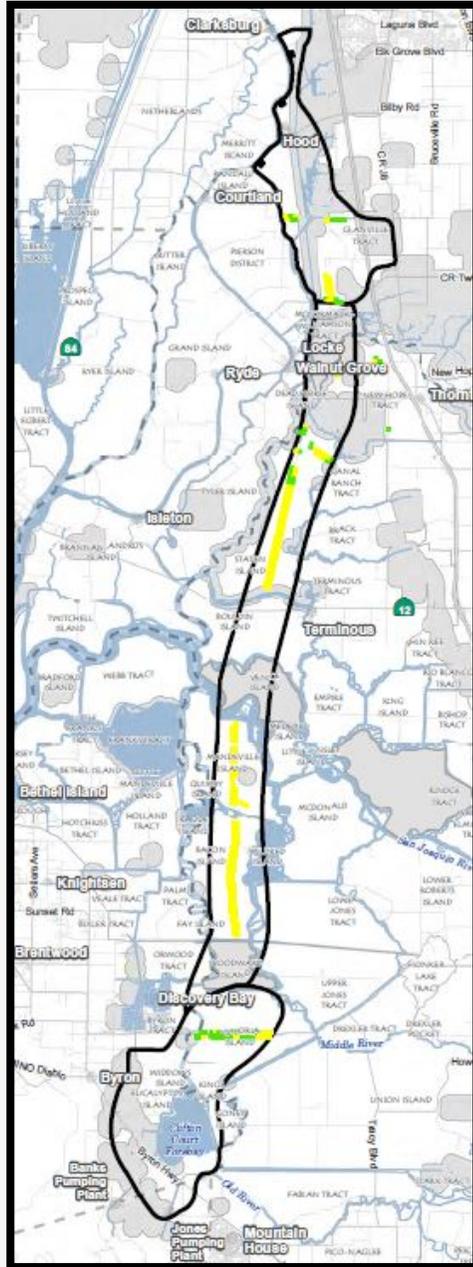
Example: Central Alignment –Launch Site A



Criterion	Importance Factor (I)	Sub-Criterion	Central A																																																
			CA1	CA2	CA3	CA4	CA5	CA6	CA7	CA8	CA9	CA10	CA11	CA12	CA13	CA14	CA15	CA16	CA17	CA18	CA19	CA20	CA21	CA22	CA23	CA24	CA25	CA26	CA27	CA28	CA29	CA30	CA31	CA32	CA33	CA34	CA35	CA36	CA37	CA38	CA39	CA40	CA41	CA42	CA43	CA44	CA45	CA46	CA47	CA48	CA49
Construction Considerations	NA	Access Suitability for Driveshaft Construction	[Color-coded cells]																																																
	5	Proximity to Existing or New/Improved Roads	[Color-coded cells]																																																
	5	Proximity to Existing Railroad	[Color-coded cells]																																																
	5	Proximity to Barge Routes	[Color-coded cells]																																																
	4	Proximity to Existing High Voltage Substation and/or Existing High Voltage Transmission Line	[Color-coded cells]																																																
	4	Condition of Existing Levees	[Color-coded cells]																																																
Geotechnical/ Geological	5	Geologic Unit	[Color-coded cells]																																																
	5	Peat Thickness	[Color-coded cells]																																																
Property and Land Use	2	Number of Landowners	[Color-coded cells]																																																
	3	Future Development	[Color-coded cells]																																																
	4	Farmland Designation	[Color-coded cells]																																																
	5	Conservation Land, Refuges, Preserves, and Vernal Pool Critical Habitat	[Color-coded cells]																																																
Existing Infrastructure	3	Existing Linear Infrastructure (Aqueducts, Electrical Transmission Gas Pipelines, Aqueducts)	[Color-coded cells]																																																
	2	Existing Water Supply Wells	[Color-coded cells]																																																
	3	Existing Structures/Properties (Houses, Barns, Cemetery, Airports, Landfills, Solar, Communication Towers, etc)	[Color-coded cells]																																																
	3	Gas Wells or Gas Oil Production Fields	[Color-coded cells]																																																

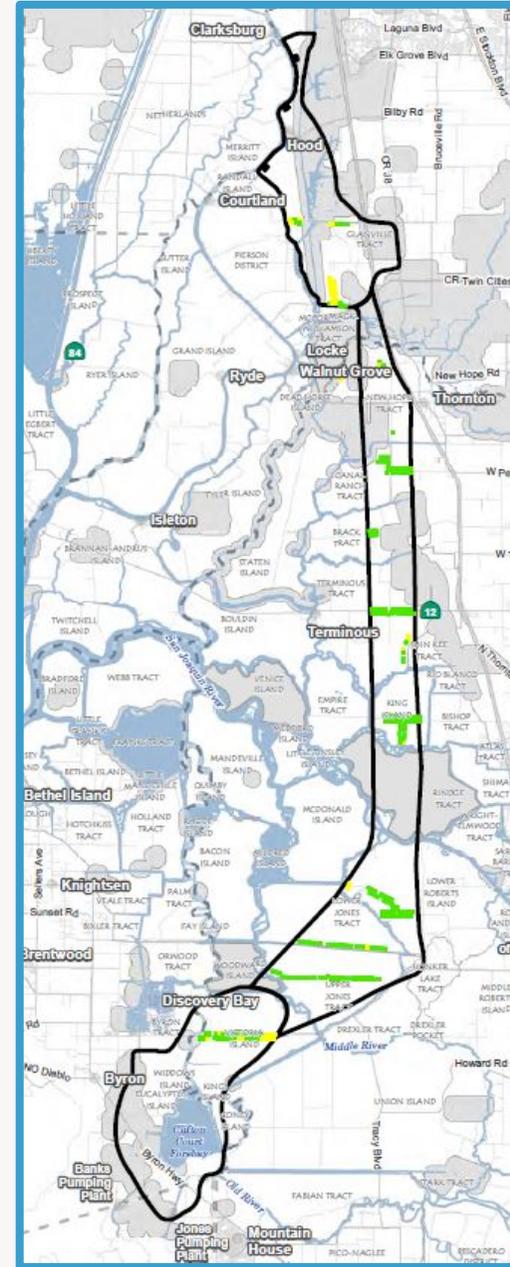
More Favorable (4-5)
 Acceptable (3)
 Less Favorable (1-2)

Maintenance & Reception Shaft Siting



Central
Corridor

Eastern
Corridor



SOUTH DELTA FACILITIES – SITE PLAN



South Delta Pumping Plant

Southern Forebay

Byron Highway

Southern Conveyance Tunnels

Clifton Court Forebay

South Delta Outlet and Control Structure

California Aqueduct

CA Aqueduct Control Structure

Byron Highway

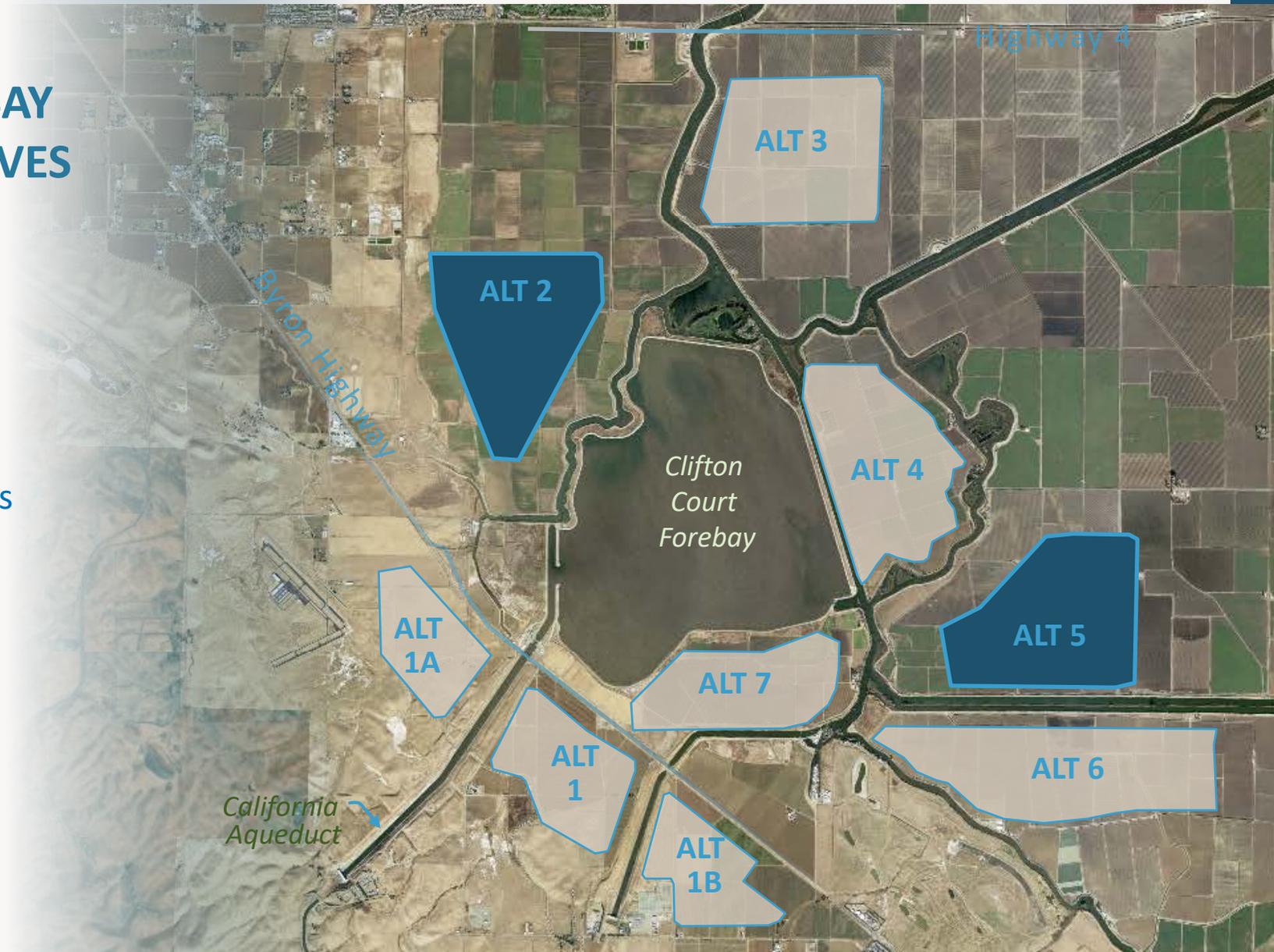
SOUTHERN FOREBAY SITING ALTERNATIVES

7 Sites Identified

Sites 1, 3, 4, 6 & 7

Eliminated:

- Too Small
- Environmental Site Effects
- Poor Access





DCA

SITING CRITERIA FOR FINAL ANALYSIS

Criteria

System Operational Compatibility

Property and Land Use

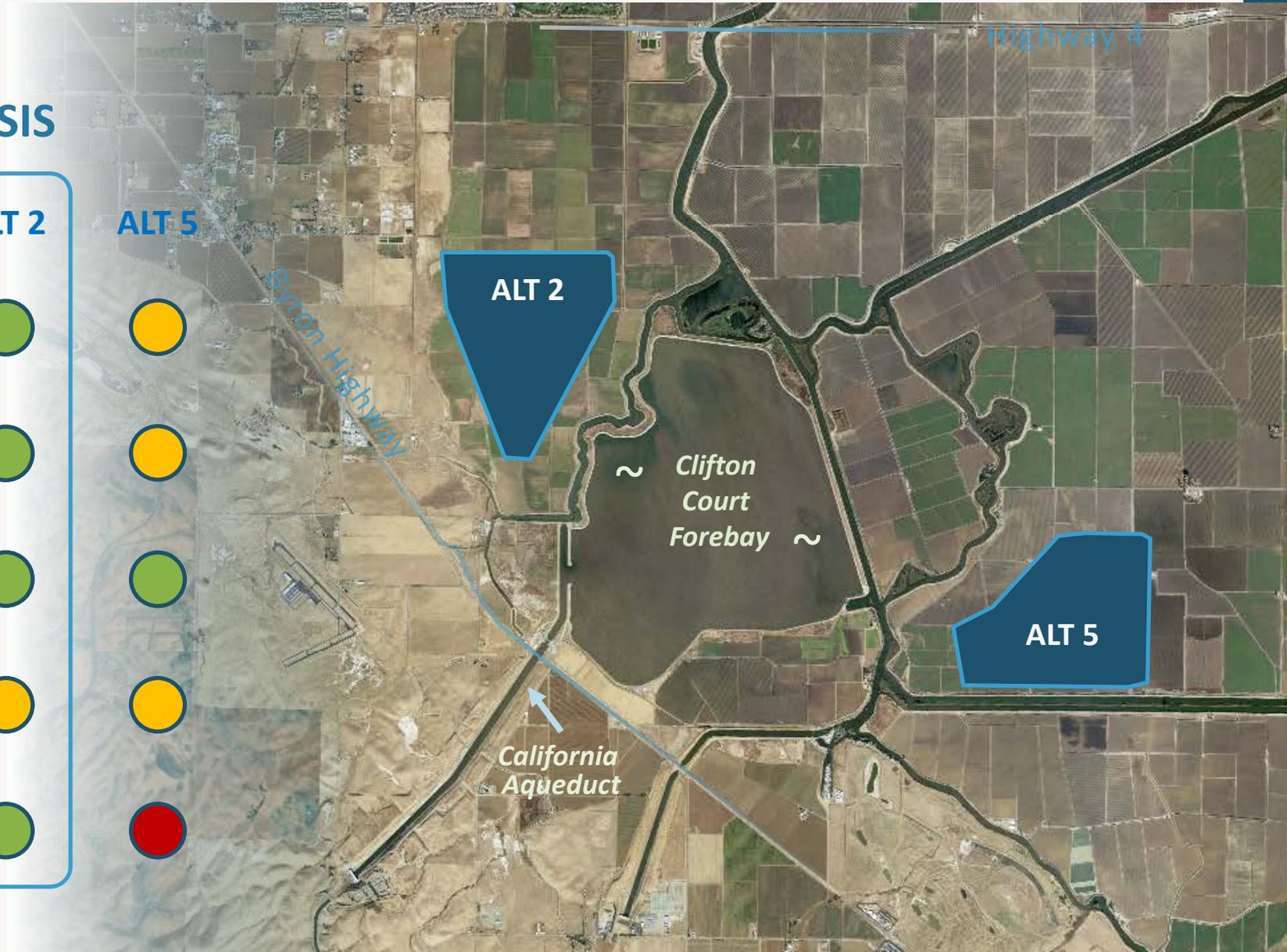
Existing Infrastructure

Geotechnical Conditions

Logistics

ALT 2

ALT 5



SUMMARY OF KEY SITING CHANGES

- 1 Shift Glanville Shaft onto Twin Cities Materials Depot Site
- 2 Final Logistics Plan for Intakes
- 3 Eliminate Barge Landing on Bouldin Island
- 4 Shift Brack Tract Maintenance Shaft North to Canal Ranch Tract
- 5 Eliminate Barge Landing on Lower Roberts Island
- 6 Shift Southern Complex Launch Shaft North
- 7 Eliminate Byron Tract Maintenance Shaft
- 8 Eliminate Victoria Island Maintenance Shaft



CLARIFICATIONS?