An Aechmophorus grebe, (Clark's and Western grebe) explores the Sacramento-San Joaquin Delta in Northern California on April 18, 2008. Photo: Dale Kolke / California Department of Water Resources

DCA
DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

SEPTEMBER 22, 2021

Stakeholder Engagement Committee Meeting

Meeting Agenda

1	**Welcome/ Call To Order**
2	***Roll Call***
3	***Minutes Review: June 23, 2021 Regular SEC Meeting***
4	***Updates & Committee Discussion***
	4a. DCA Review and Updates
	4b. DWR CEQA Status Update
	4c. SEC Questions or Comments on June 23rd Meeting Presentation
	4d. Public Comment on Item 4
5	***Presentations & Committee Discussion***
	5a. Air Quality Analysis Methods
	5b. Ongoing Outreach Efforts
	5c. Engineering Updates
	5d. Public Comment on Item 5
6	**Future Agenda Items & Next Meeting**
7	***Non-Agendized SEC Questions or Comments***
8	***Public Comment on Non-Agendized Items***

Item 3.

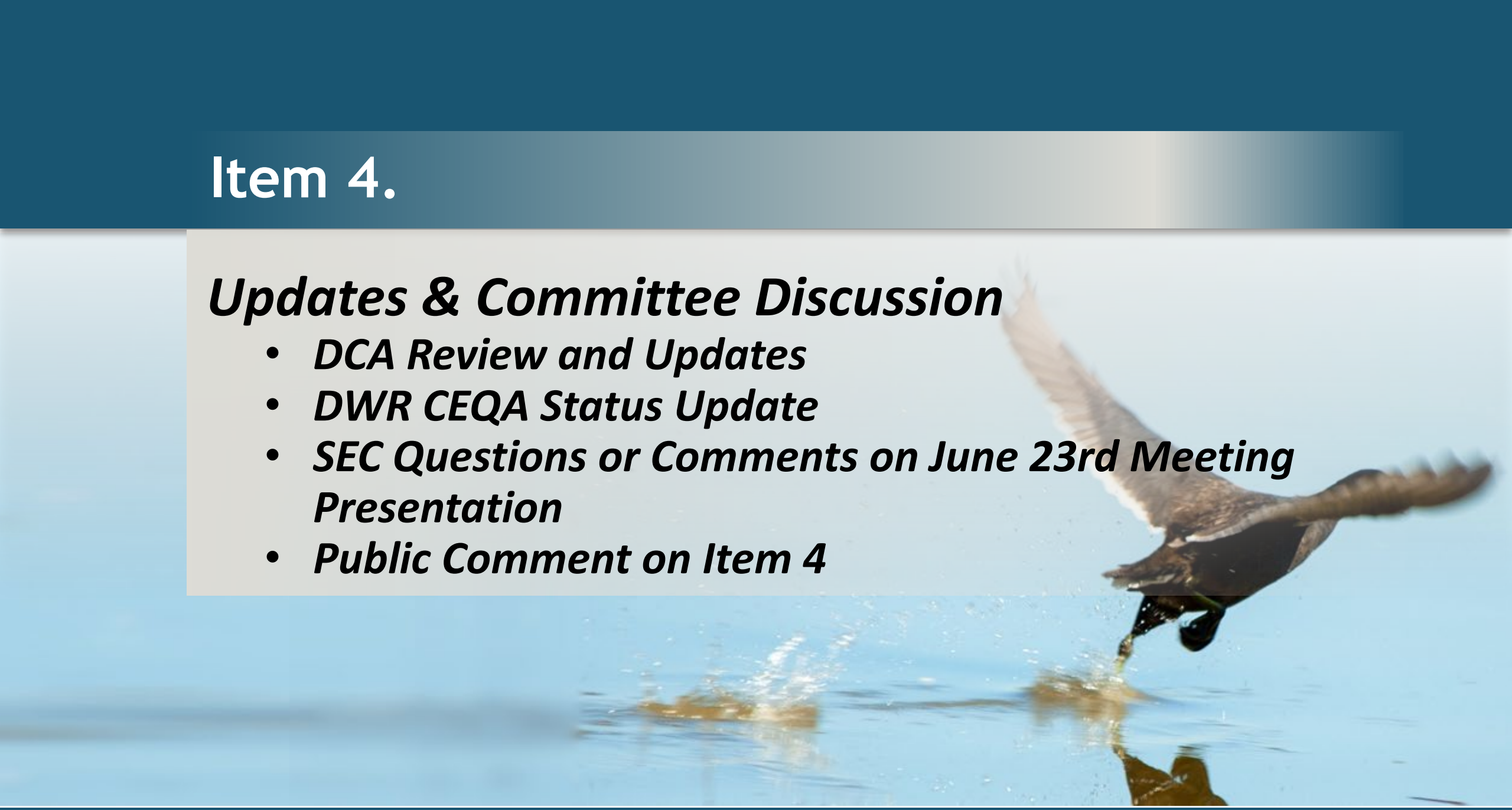
Minutes Review:

June 23, 2021
Regular SEC Meeting

Item 4.

Updates & Committee Discussion

- *DCA Review and Updates*
- *DWR CEQA Status Update*
- *SEC Questions or Comments on June 23rd Meeting Presentation*
- *Public Comment on Item 4*



Item 4a.

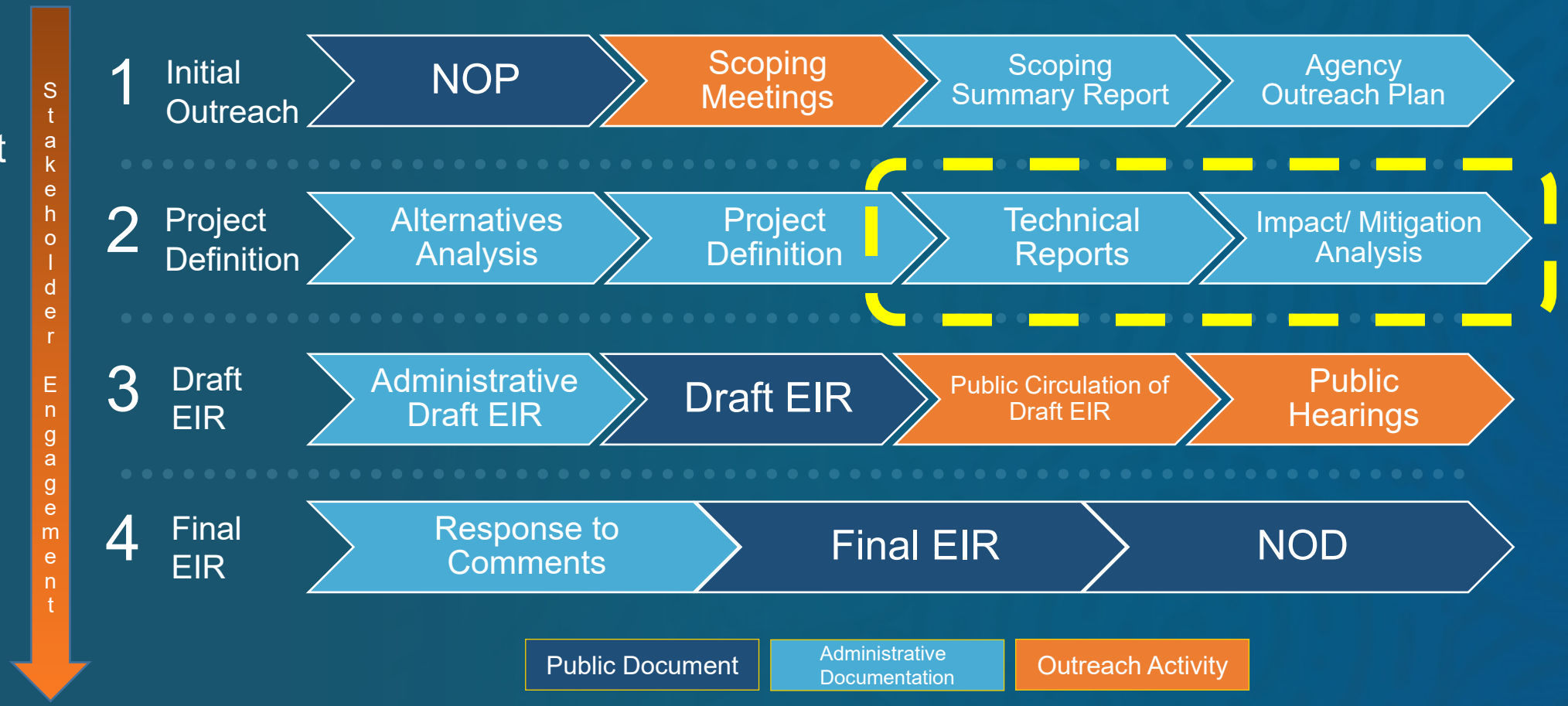
DCA Review and Updates

Item 4b.

DWR CEQA Status Update

Environmental Review Process

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.



Environmental Planning Update

- California Environmental Quality Act (CEQA): technical studies and impact analysis
- National Environmental Policy Act (NEPA): United States Army Corps of Engineers proceeding to develop EIS
- Soil Investigations: field work under Initial Study/Mitigated Negative Declaration had a short break in July and August and is resuming in September
  - Two-week look-ahead available at https://water.ca.gov/Programs/State-Water-Project/Delta-Conveyance/Public-Information

Ways to Stay Informed

water.ca.gov

- Programs
  - State Water Project
    - Delta Conveyance

Project Hotline

866.924.9955

Twitter

@CA_DWR

Project Email

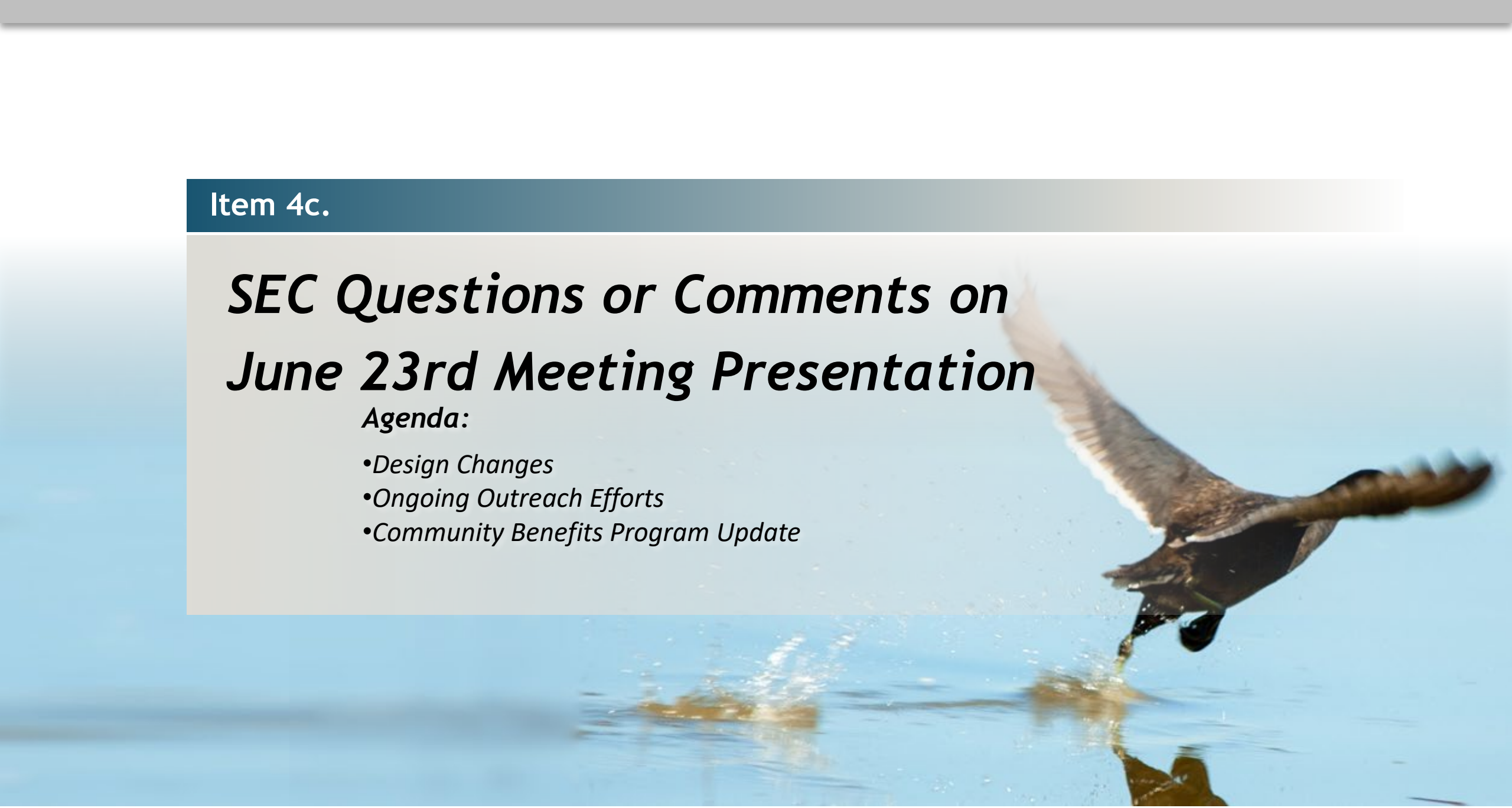
DeltaConveyance@water.ca.gov

Item 4c.

SEC Questions or Comments on June 23rd Meeting Presentation

Agenda:

- *Design Changes*
- *Ongoing Outreach Efforts*
- *Community Benefits Program Update*



Item 4d.

Public Comment on Item 4

Item 5.

Updates & Committee Discussion

- ***Air Quality Analysis Methods***
- ***Ongoing Outreach Efforts***
- ***Design Change Updates***

Item 5a.

Air Quality Analysis Methods

September 22, 2021

Delta Conveyance Project

Air Quality and Greenhouse Gases

Laura Yoon
ICF
Managing Director, Air Quality and Climate Change

Edward Carr
ICF
Managing Director, Air Quality and Health Risk

Presentation Overview

Presentation

- Overview of the CEQA air quality analysis
- Summary of analysis methods
- Review of preliminary analysis results and mitigation
- SEC Q&A

Overview of the CEQA Air Quality Analysis

Mass Emissions	Ambient Air Quality	Human Health Risks	Additional
• Regional ozone precursors and criteria pollutants • Greenhouse gases	• Localized criteria pollutant concentrations	• Cancer and non-cancer health hazards • Community health incidence	• Valley fever and asbestos • Lead-based paint • Odors

Focus of today's presentation

Summary of Analysis Method

Process and Coordination

Engineering Plans

Develop conceptual designs and construction schedules.

Air Quality Inputs

Translate engineering plans to material quantities and equipment and vehicle inventories. Identify emissions controls.

Initial Analysis

Complete initial modeling based on air quality inputs.

Refined Inputs

Identify and review impact drivers. Where feasible, refine inputs. Consider additional controls.

Revised Analysis

Complete revised modeling based on refined air quality inputs (preliminary results).

Summary of Analysis Method

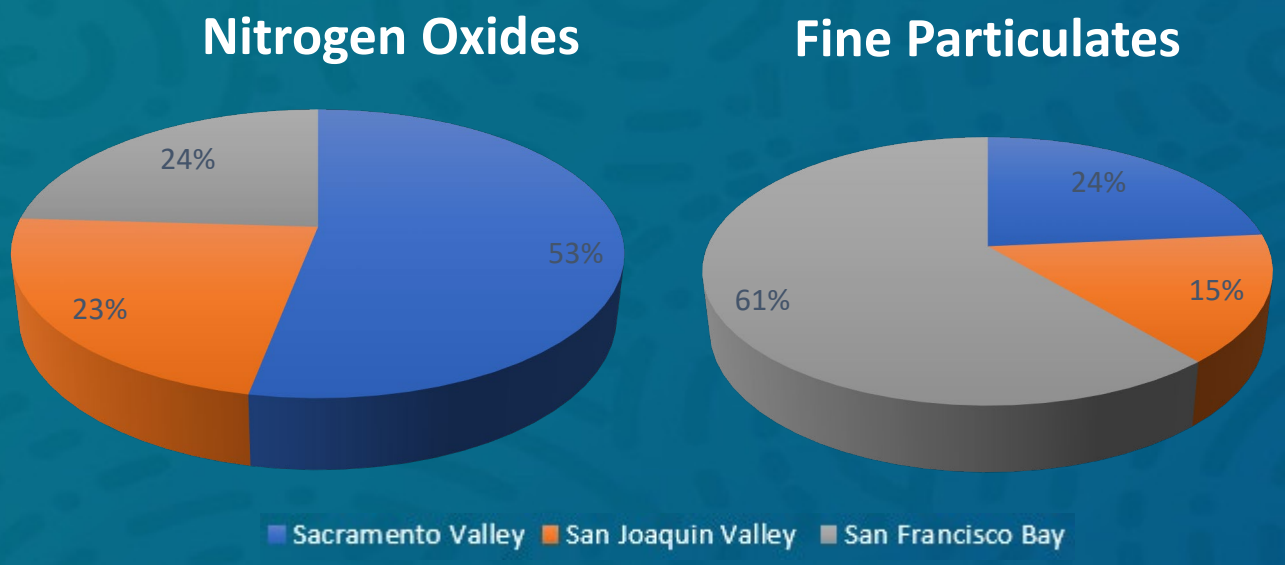
Technical Approach and Models

- Identify and quantify mass emissions from all emissions generating sources
- Use agency-approved quantification methods and models
  - California Emissions Estimator Model
  - EMFAC and CT-EMFAC
  - USEPA's AP-42
- Account for environmental commitments
- Translate mass emissions to pollutant concentrations using USEPA's AERMOD dispersion model

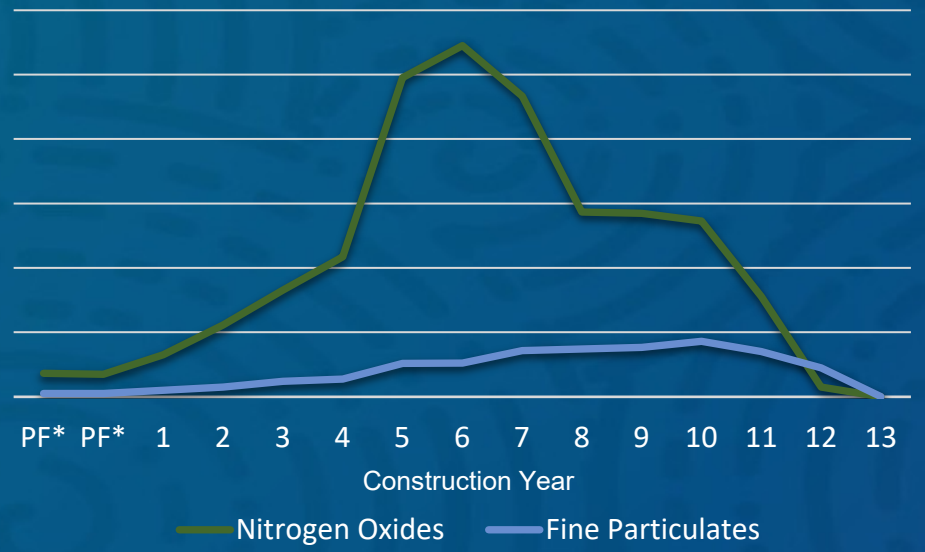
Source	Emissions Generating Process
Heavy equipment	Equipment fuel combustion
Motor vehicles	Vehicle fuel combustion
	Tirewear and brakewear
	Vehicle travel
	Air conditioner losses
Locomotives	Locomotive fuel combustion
Marine	Vessel fuel combustion
Electricity consumption	Generation and transmission
Circuit breakers	Fugitive losses
Striping	Painting of parking lots and roads
Paving	Application of asphalt
Demolition	Mechanical dismemberment
	Debris loading
Land clearing	Scraping
	Bulldozing
	Truck loading
	Sequestration/carbon storage
Dredged and reusable tunnel materials	Conveyance transfer
	Stockpile wind erosion
	Truck and rail car loading
Concrete batching	Material processing
	Stockpile wind erosion
	Upstream (lifecycle) activities
Wastewater treatment	Anaerobic decomposition
Helicopters	Vehicle fuel combustion

Review of Preliminary Results and Mitigation

Regional Criteria Pollutants



Regional Distribution of Total Construction NOx and PM2.5 by Air Basin (6,000 cfs)



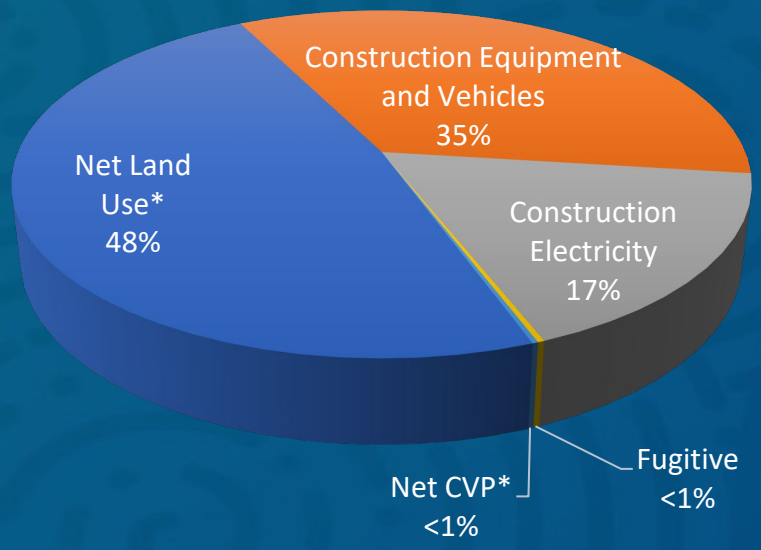
Temporal Distribution of Total NOx and PM2.5 by Air Basin (6,000 cfs)

* Preliminary field investigations

Review of Preliminary Results and Mitigation

Greenhouse Gases

- Long-term maintenance and operational SWP pumping activities consistent with DWR's climate action plan
- Construction (including land use change) and changes in CVP pumping activities are quantified annually over 30 operational years



Total Construction and Operational CO_2e (6,000 cfs)

* Includes emissions through full build and over 30 operational years

Review of Preliminary Results and Mitigation

Regional Criteria Pollutants and Greenhouse Gases

- Emission estimates include all feasible on-site environmental controls
  - Advanced and newer engines
  - Fugitive dust plan
  - DWR best management practices
- CEQA mitigation requires regional offsets for criteria pollutants above local air district thresholds
  - Achieved in partnerships with local air districts
- CEQA mitigation requires development and implementation of a GHG mitigation program to reduce construction and operational CVP emissions to net zero
  - Achieved through a combination of on-site construction strategies, off-site strategies, and carbon credits

Review of Preliminary Results and Mitigation

Ambient Air Quality Analysis

- Use of maximum daily or maximum annual emissions
- Fenceline concentrations (highest exposure)
- Comparison with national and California air quality standards
  - No exceedances for carbon monoxide or sulfur dioxide
  - One location exceeds 1-hour nitrogen dioxide
  - 24-hour PM10 (coarse size particles) most project alternatives and air districts showing exceedances but not all
  - Annual PM10 similar to 24-hour but fewer locations showing exceedance
  - 24-hour PM2.5 (fine particles) most locations above standard or significant impact level
  - Annual PM2.5 problematic in San Joaquin Valley and Bay Area Air District

Review of Preliminary Results and Mitigation

Ambient Air Quality Analysis

- Potential mitigation measure under consideration to reduce exposure for locations with possible exceedances – tiered approach
  1. Conduct additional studies using site-specific background concentrations and for particulate matter collect on-site silt loading measurement
  2. Conduct real-time air quality monitoring during construction
     - If monitoring shows value within 80% of threshold corrective actions taken - possible actions.
       - Relocate construction activity during the adverse period.
       - Take additional corrective measures to limit emissions (e.g., temporary covering of portions of the storage piles).
       - Curtailing construction activity at the site.

Review of Preliminary Results and Mitigation

Ambient Air Quality Analysis

- Consultation with design engineers resulted in more accurate AQ analysis
  - Near one of the intakes preliminary modeling showed high PM concentrations just offsite of the construction area
    - Emissions were assumed to be initially distributed over the intake construction area footprint (hundreds of acres)
    - Review and discussion with design engineers identified that most of the area near the fence would be staging areas with limited emissions – most emissions are associated with earth movement or high-levels vehicle activity
    - ICF refined the spatial distribution of emissions and revised the AQ modeling
      - Resulted in more accurate prediction of concentration and lower fenceline concentrations
  - Similar review and analyses undertaken at other major sites (e.g., stockpile, shaft construction)
    - In some locations this resulted in moving equipment staging areas or design layout

SEC Questions and Answers

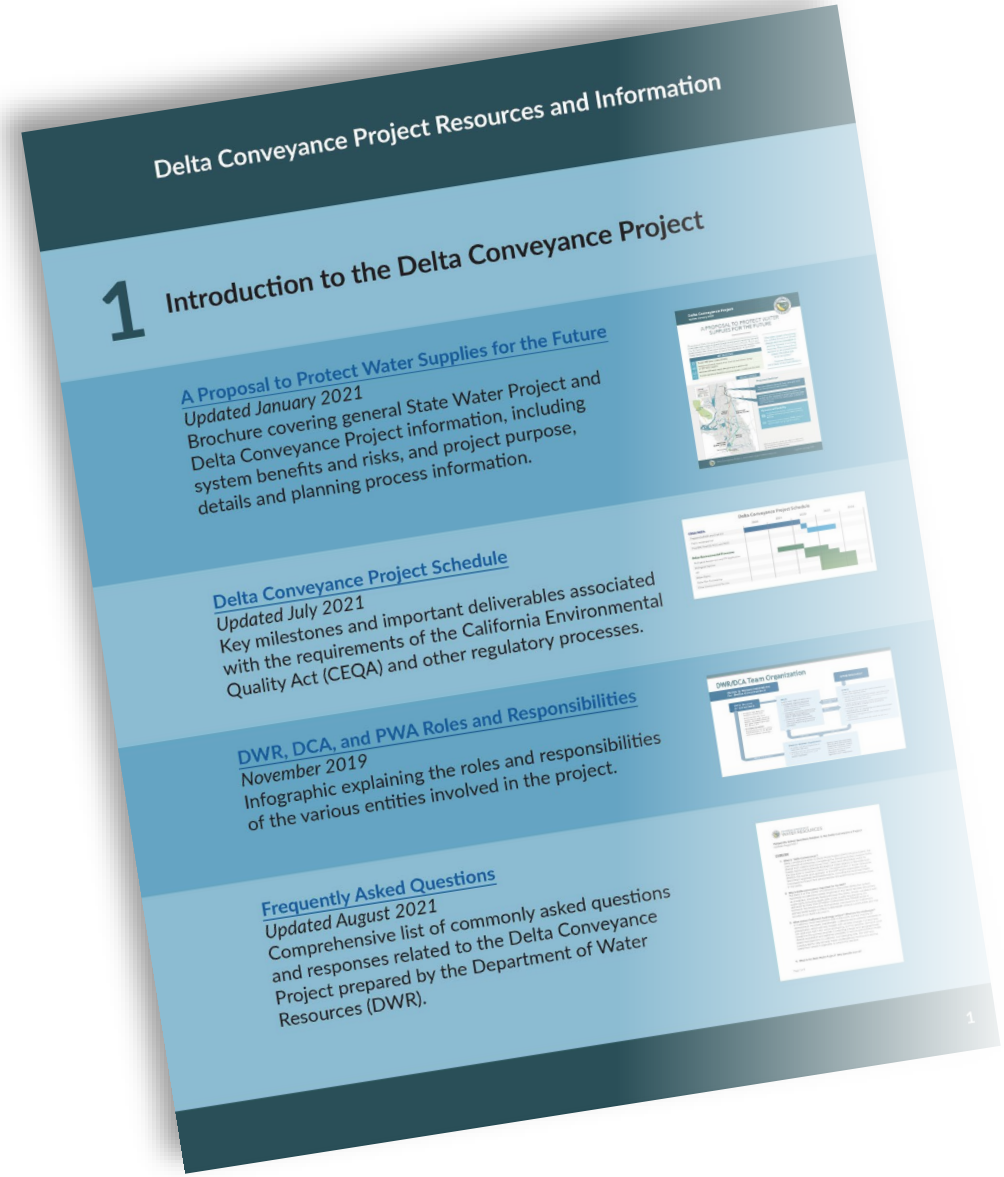
Item 5b.

Ongoing Outreach Efforts

Ongoing Outreach Efforts

- Virtual Tours in Spanish and Cantonese
- Library Materials Distribution
- Community Engineering Briefings

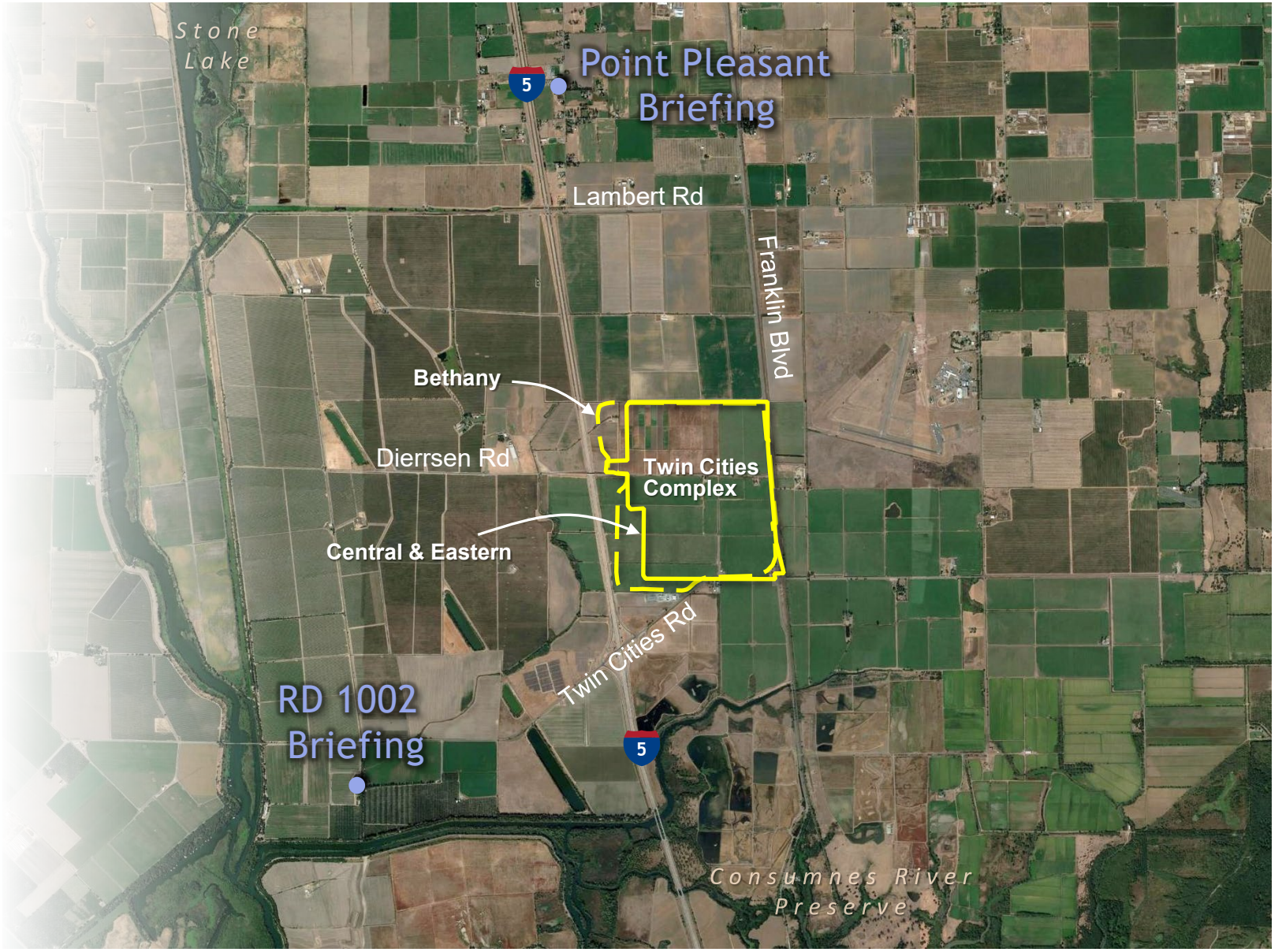
Library Materials Distribution



- **20 Delta area libraries have updated mapbooks, flash drives with videos and print materials from DWR & DCA for reference**
- **Provides a one stop shop for materials for those who have trouble accessing computers or internet connections**

Community Engineering Briefings

- Opportunity to bring engineering & design team to discuss specific community issues around facilities
- Good opportunity to share up to date and accurate info and get community feedback
- DCA team available to meet upon request



Item 5b

DWR's Ongoing Outreach Efforts

- *Community Benefits Framework*
- *Informational Webinars*

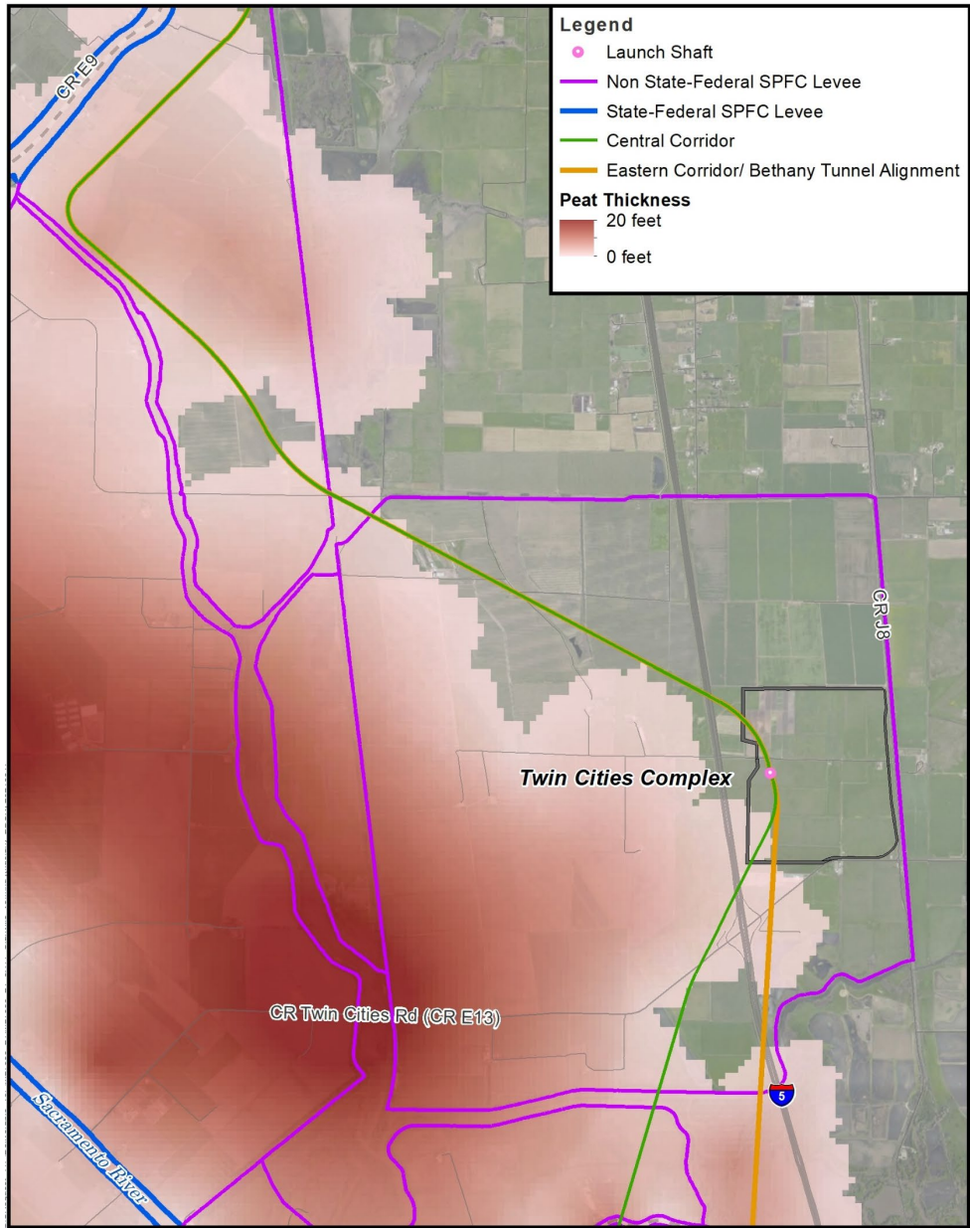
Item 5c.

Engineering Updates

Twin Cities Complex Flood Protection

- **Performed systemwide evaluation of flooding risks**
  - Evaluated levee vulnerability and flood history
  - Considered structural and non-structural measures
- **Twin Cities Complex Site Considerations**
  - Glanville Tract has a history of flooding from multiple sources
  - Site is on higher ground leading to shallow flooding
  - Favorable ground conditions
  - Logistics may require raising Franklin Blvd for project rail connection

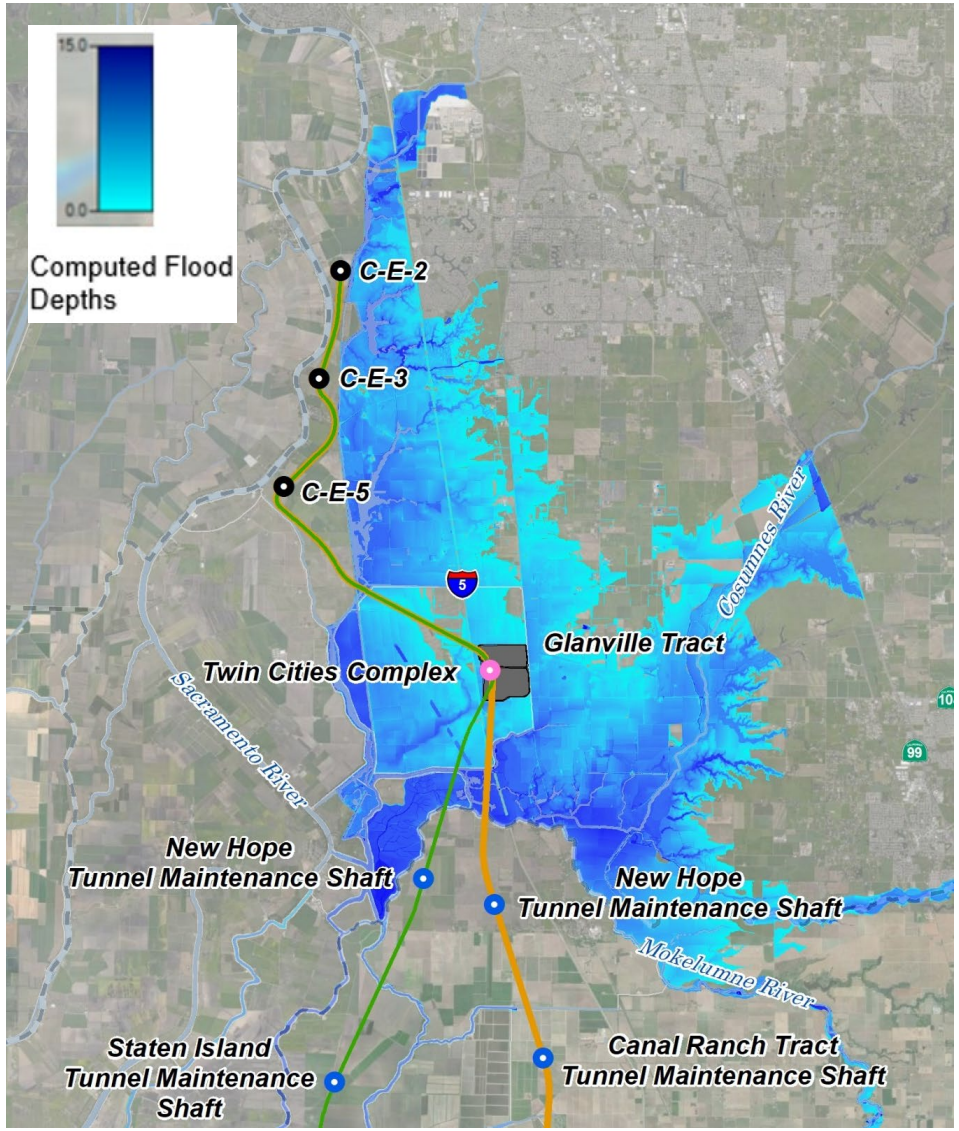
Local Solution: Temporary Ring Levee to Protect Construction Area



Twin Cities Complex Hydraulic Modeling

Purpose: Evaluate potential flood inundation effects of temporary ring levee and permanent RTM stockpile

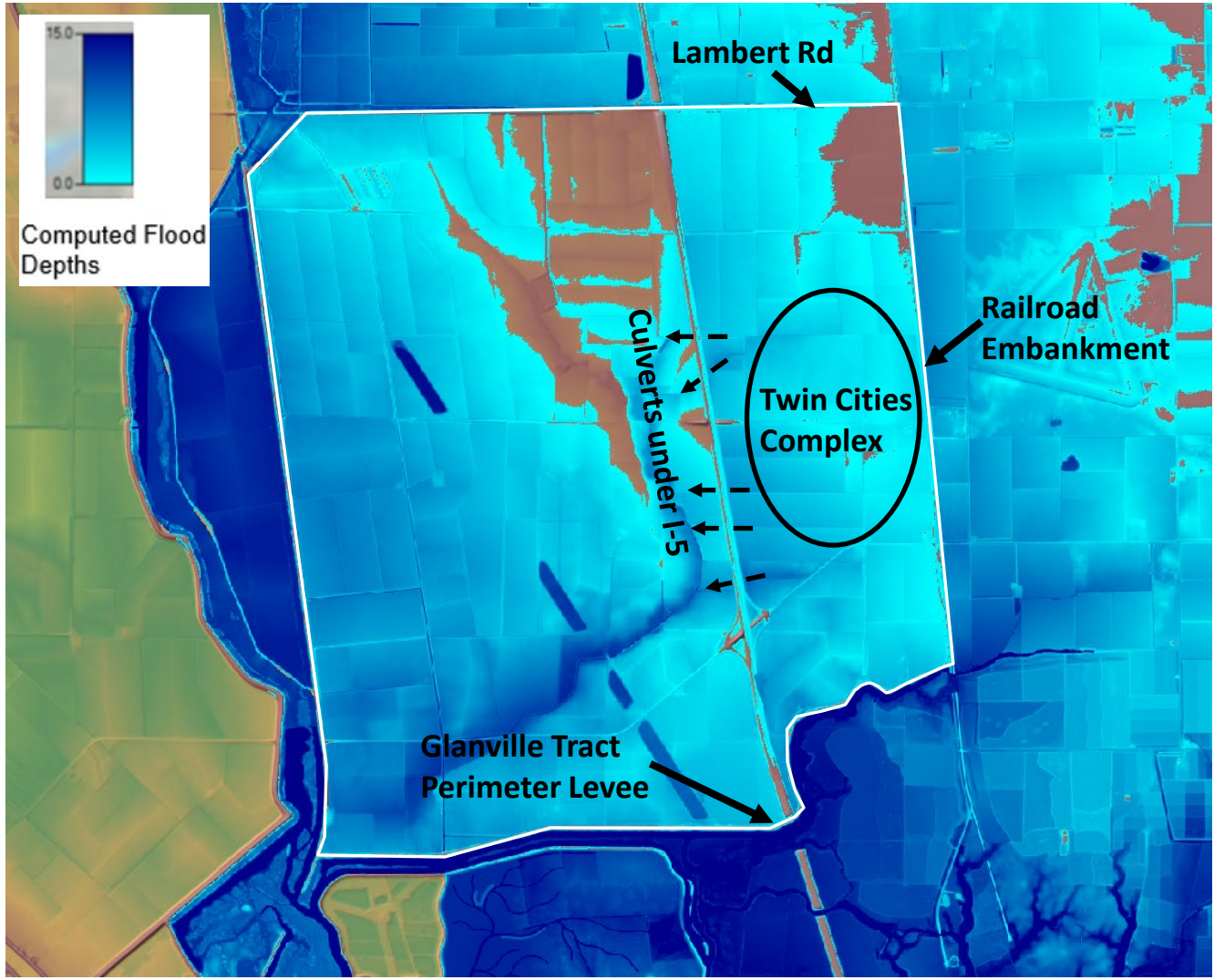
- **Approach:**
  - Used "Sacramento County North Delta" hydraulic model (HEC-RAS)
    - Model Validated to 1997 and 2017 Events
    - Same model used for evaluation of McCormack-Williamson Tract Project (not included in evaluation of flood effects)
  - Evaluated a "100-year" runoff event prepared for Sacramento County DWR (David Ford Consulting Engineers, 2004)



Disclaimer: These pages are for Stakeholder Engagement Committee discussion purposes only. They do not represent a decision by the DCA or DWR. Final decisions about the project will be made by DWR and will NOT be made until the concluding stages of the CEQA process.

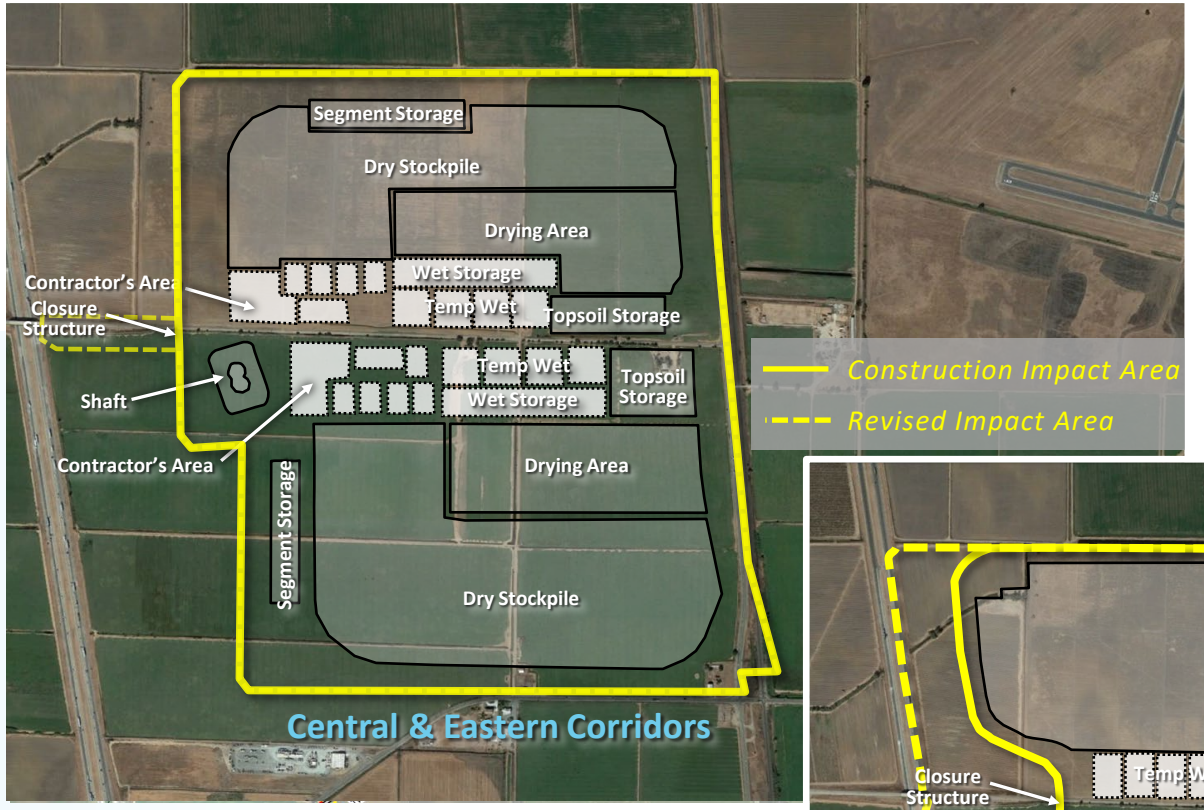
Twin Cities Complex Hydraulic Modeling

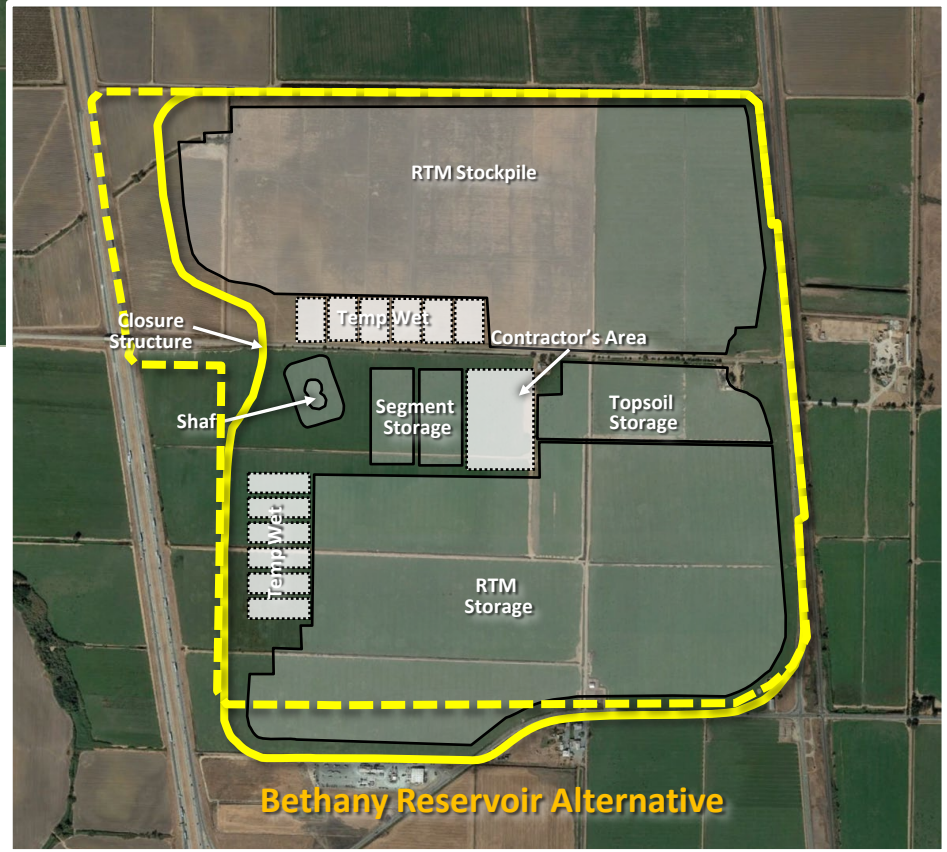
- **Existing Conditions Findings:**
  - Floodwaters enter Twin Cities Complex site mainly from the north (over Lambert Rd), but some also from the east (railroad embankment)
  - Floodwaters flow south and west across Twin Cities Complex site to culverts under I-5
  - Flooding at the Twin Cities Complex is shallow – average flooding depth is ~2 ft



Reconfiguration of Ring Levee at Twin Cities Site

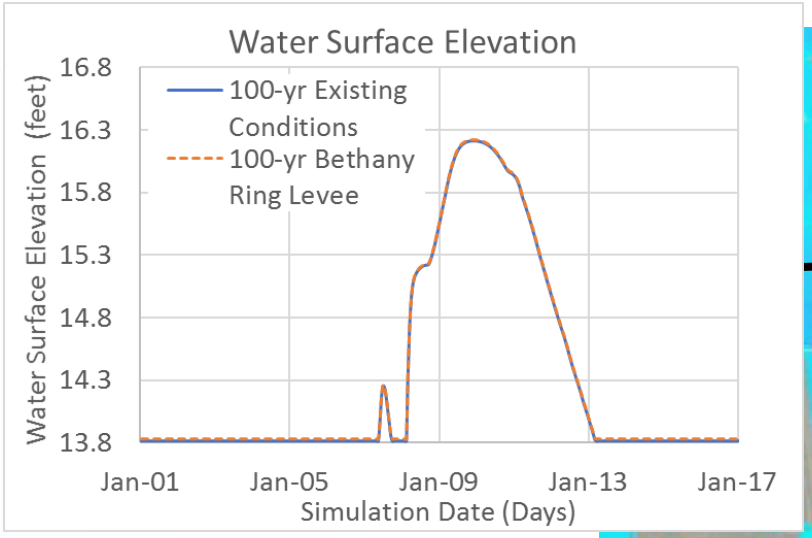
- Remove connection to Dierssen Road ramp
- Provide more space between western side of ring levee and I-5 (Bethany only)
- Allows shallow overland flows to move around the site following topography
- Allows better flow to existing culverts under I-5

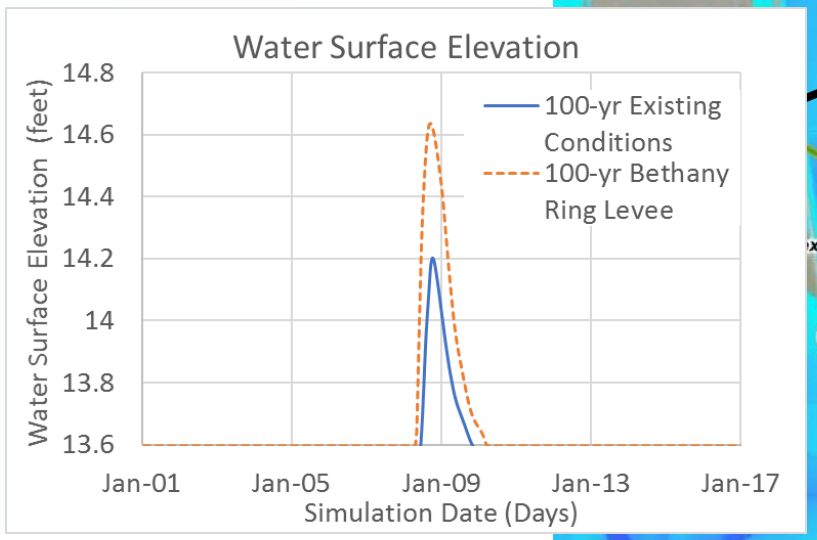


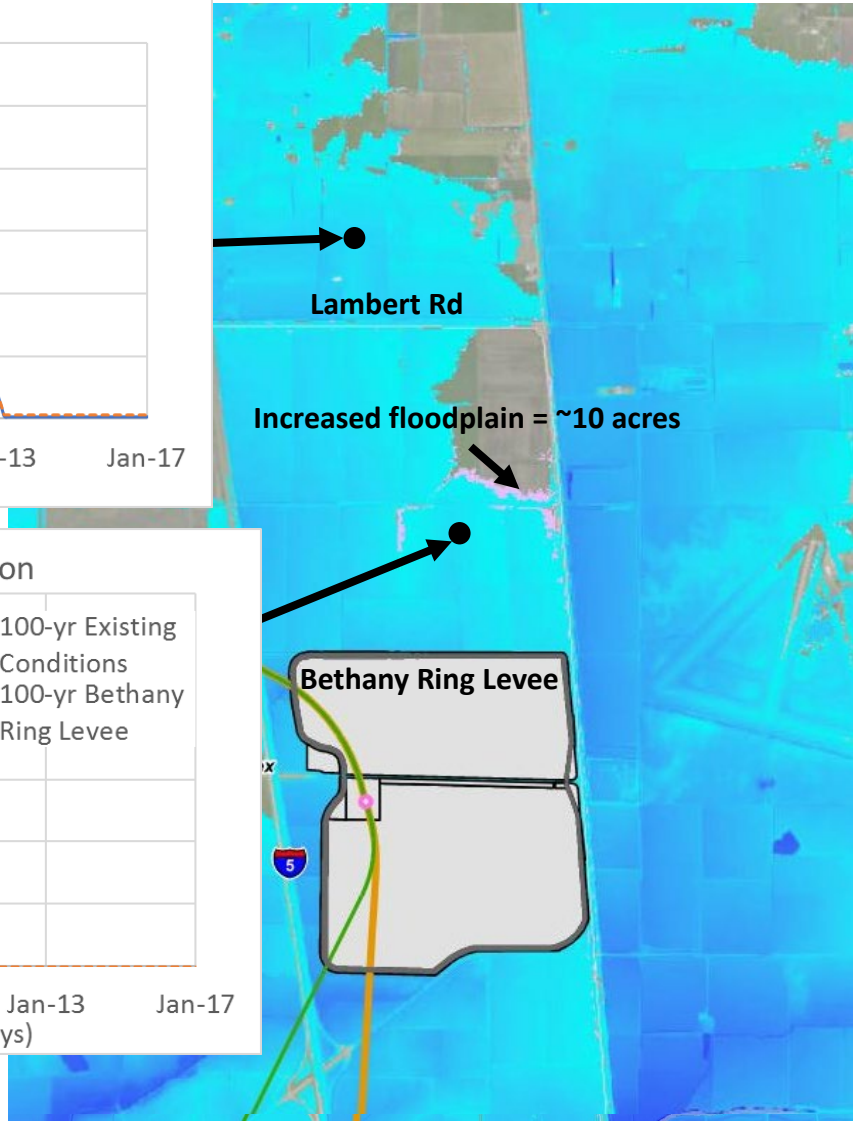


Bethany Ring Levee Hydraulic Results

- Summary of most conservative scenario
- Limited flood height increases immediately north of the Twin Cities Complex
  - Flood elevation increases approx. 0.4 feet (flood depth of 0.6 ft to 1.0 ft at reference point)
  - Increase inundation area ~10 acres south of Lambert Rd
- No impacts north of Lambert Rd



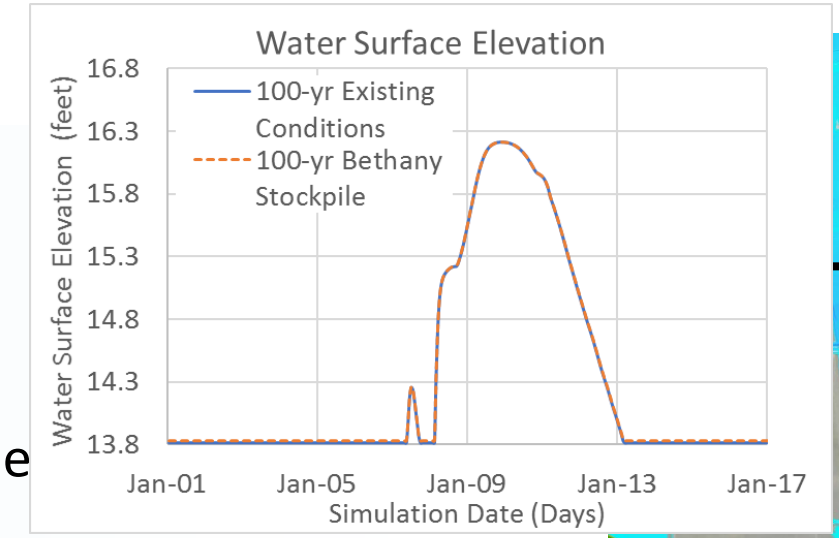


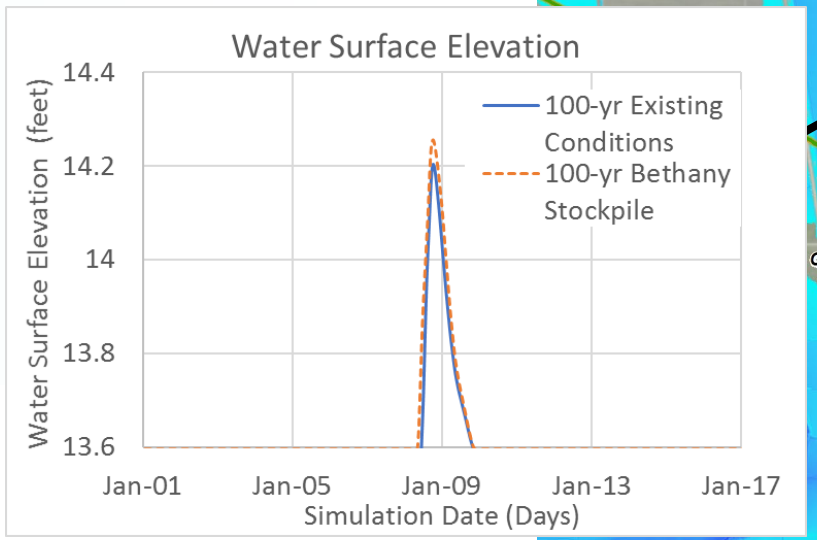


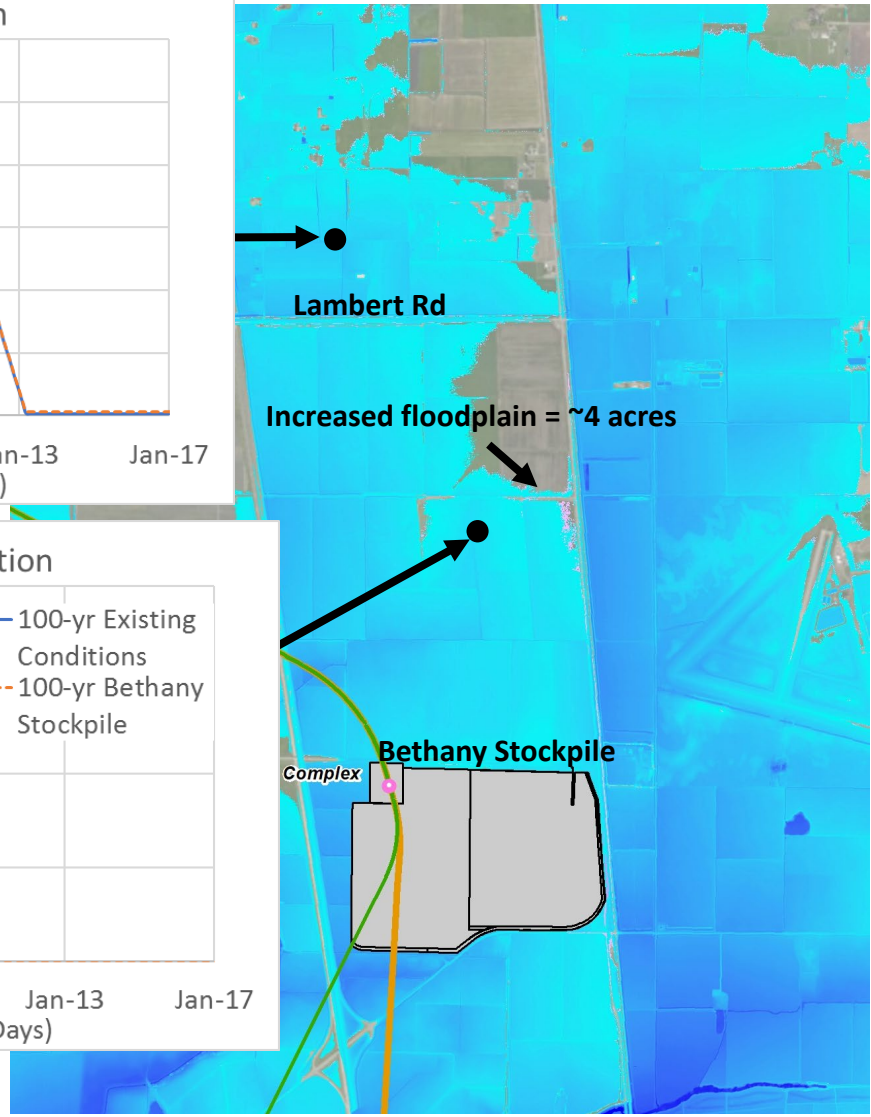
Disclaimer: These pages are for Stakeholder Engagement Committee discussion purposes only. They do not represent a decision by the DCA or DWR.
Final decisions about the project will be made by DWR and will NOT be made until the concluding stages of the CEQA process.

Bethany Permanent Stockpile Hydraulic Results

- Stockpile shows limited flood height increases immediately north of the Twin Cities Complex
  - Flood elevation increases a negligible amount (less than 0.1 ft)
  - Increase inundation area ~4 acres south of Lambert Rd
- No impacts north of Lambert Rd







Disclaimer: These pages are for Stakeholder Engagement Committee discussion purposes only. They do not represent a decision by the DCA or DWR.
Final decisions about the project will be made by DWR and will NOT be made until the concluding stages of the CEQA process.

Questions?

Item 5d.

Public Comment on Item 5

Item 6.

Future Agenda Items & Next Meeting

Proposed Date: December 8th

Potential Agenda Items*

- Overall Review of Current Configurations
- TBD

***(subject to change)**

Item 7.

Non-Agendized SEC Comments or Questions

Item 8.

Public Comment on Non-Agendized Items

Questions?

Thank you