DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

June 15, 2020

Delta Conveyance Design and Construction Authority
Board of Directors

Subject: ***Materials for the June 18, 2020, Regular Board Meeting***

Members of the Board:

The next regular meeting of the Delta Conveyance Design and Construction Authority (DCA) Board of Directors is scheduled for **Thursday, June 18, 2020 at 2:00 p.m.** and will be held completely online via conference line and video through Ring Central (Zoom). The call-in and video information is provided in the attached agenda and a link will also be posted on the dcdca.org website.

Please note that given the current COVID-19 outbreak, the DCA will comply with public health recommendations regarding public meetings and social distancing efforts. Any meeting changes or cancellation will be communicated.

Enclosed are the materials for the Board meeting in a PDF file, which has been bookmarked for your convenience.

Regards,

Kathryn Mallon
DCA Executive Director

DELTA CONVEYANCE DESIGN AND CONSTRUCTION AUTHORITY
BOARD OF DIRECTORS MEETING

REGULAR MEETING

Thursday, June 18, 2020
2:00 p.m.
Teleconference Meeting Only; No Physical Meeting Location
(Authorized by and in furtherance of Executive Orders N-29-20 and N-33-20)

Additional information about participating by telephone or via the remote meeting solution is available here: https://www.dcdca.org/index.htm#board2

Conference Access Information:
Phone Number: (916) 262-7278 Access Code: 1498361563#

Electronic Meeting Link:
Please join my meeting from your computer, tablet or smartphone
https://meetings.ringcentral.com/j/1498361563

AGENDA

In compliance with the Governor's Executive Orders and based on the recent Sacramento County health order and similar orders statewide, the meeting will be held electronically only through the listed meeting link and telephone number. Assistance to those wishing to participate in the meeting in person or remotely will be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Interested person must request the accommodation as soon as possible in advance of the meeting by contacting the DCA support staff at (916) 347-0486 or info@dcdca.org. Members of the public may speak regarding items on the agenda when recognized by the Chair as set forth below. Speakers are limited to three minutes each; however, the Chair may limit this time when reasonable based on the circumstances. Persons wishing to provide public comment remotely on Agenda Items must email Claudia Rodriguez at claudiarodriguez@dcdca.org by 2:15 pm. Additional information will be provided at the commencement of the meeting.

1. CALL TO ORDER

2. ROLL CALL

3. PLEDGE OF ALLEGIANCE

4. PUBLIC COMMENT

   Members of the public may address the Authority on matters that are within the Authority's jurisdiction whether they are on or off the agenda. Speakers are limited to three minutes each; however, the Chair may limit this time when reasonable based on the circumstances. Persons wishing to speak may do so remotely through the electronic meeting link or teleconference number when recognized by the Chair. Parties wishing to provide remote public comment on Agenda Items should email Claudia Rodriguez at claudiarodriguez@dcdca.org. by 2:15 pm.

5. APPROVAL OF MINUTES: May 21, 2020 Regular Board

6. CONSENT CALENDAR

Items on the Consent Calendar are considered to be routine by the Board of Directors and will be enacted by one motion and one vote. There will be no separate discussion of these items unless a director so requests, in which event the item will be removed from the Consent Calendar and considered separately.

(a) None.

7. DISCUSSION ITEMS

(a) Consider Passing Resolution Adopting the Delta Conveyance Design and Construction Authority Allowable Travel Expenses Policy

Recommended Action: Pass Resolution

(b) DCA Budget for Fiscal Year 20/21

Recommended Action: Adopt Fiscal Year 20/21 Budget

(c) Introduction to DCA Program Controls

Recommended Action: Information Only

(d) June DCA Monthly Report

Recommended Action: Information Only

(e) Stakeholder Engagement Committee Update

Recommended Action: Information Only

(f) Stakeholder Engagement Committee Members Report Out

Recommended Action: Information Only

(g) Independent Technical Review of Intakes

Recommended Action: Information Only

8. STAFF REPORTS AND ANNOUNCEMENTS

(a) General Counsel's Report

(b) Treasurer's Report

(c) DWR Environmental Manager's Report

(d) Verbal Reports, if any

9. FUTURE AGENDA ITEMS

10. ADJOURNMENT

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Next scheduled meeting: July 16, 2020 Regular Board Meeting at 2:00 p.m. (1:30 p.m. if there is a closed session) in the DCA Board Room, Park Tower, 980 9th Street, Suite 100, Sacramento, CA 95814

BOARD OF DIRECTORS MEETING

MINUTES

REGULAR MEETING
Thursday, May 21st, 2020
2:00 PM
(Paragraph numbers coincide with agenda item numbers)

1. CALL TO ORDER

The regular meeting of the Delta Conveyance Design and Construction Authority (DCA) Board of Directors was called to order remotely - Conference Access Information: Phone Number: 1 (916) 262-7278 Access Code: 1480112308# https://meetings.ringcentral.com/j/1480112308

2. ROLL CALL

Board members in attendance were Tony Estremera, Richard Atwater, Sarah Palmer, and Steve Blois constituting a quorum of the Board.

DCA staff members in attendance were Kathryn Mallon, Joshua Nelson, Nazli Parvizi and Katano Kasaine. DWR staff members in attendance included Carrie Buckman.

3. PLEDGE OF ALLEGIANCE

President Tony Estremera convened the open session at approximately 2:00 p.m. and led all present in reciting the Pledge of Allegiance.

4. PUBLIC COMMENT

President Estremera opened Public Comment, limiting speaking time to three minutes each.
There were no requests received to provide public comment.
President Estremera closed Public Comment.

5. APPROVAL OF MINUTES: April 16, 2020 Regular Board Meeting

Recommendation: Approve the April 16, 2020 Regular Board Meeting Minutes

Move to Approve Minutes from April 16, 2020 as Amended: Blois

Second:	Palmer
Yeas:	Estremera, Palmer, Blois, Atwater
Nays:	None
Abstains:	None
Recusals:	None
Absent:	None
Summary:	4 Yeas; 0 Nays; 0 Abstains; 0 Absent. (Motion passed as MO 20-05-01).

6. CONSENT CALENDAR

a. Joint Exercise Powers Agreement Amendment #2

Recommendation: Approve Joint Exercise Powers Agreement Amendment #2

Move to Approve Joint Exercise Powers Agreement Amendment #2: Palmer
Second: Atwater
Yeas: Estremera, Palmer, Blois, Atwater
Nays: None
Abstains: None
Recusals: None
Absent: None
Summary: 4 Yeas; 0 Nays; 0 Abstains; 0 Absent. (Motion passed as MO 20-05-02).

7. DISCUSSION ITEMS:

a. Stakeholder Engagement Committee Update

Ms. Nazli Parvizi provided an update on the April 22nd SEC meeting. The SEC discussed the issue of moving forward with the SEC meetings and ultimately decided that they would continue with the process. At this meeting, the SEC decided to have various ad hoc committees present an update to the Board each month. At the next SEC meeting on May 27th, there will be a presentation about tours of the facilities. In addition, how SEC feedback will be incorporated in future materials will be discussed. Ms. Parvizi mentioned that Congressman Garamendi has long proposed a plan for Delta Conveyance that utilizes the West Sacramento Port and Deep Ship channel. Recently, DWR and the DCA presented their preliminary findings of the plan to Congressman Garamendi and his staff.

Ms. Palmer felt that it is good to see folks in the SEC have such vigorous discussions in the meetings and that Nazli does a very good job at presenting how the process is going. Ms. Palmer was excited to see the presentations from the SEC members.

Ms. Barbara Keegan, DCA Alternate Director and SEC Vice Chair, noted the spirited discussions that happen at the SEC meetings and felt this is how we have real dialog and gain honest feedback. This can be challenging but ultimately will have a good outcome. Ms. Keegan looked forward to hearing the SEC representatives share their thought on the experience.

b. Stakeholder Engagement Committee Member Report Out

Mr. Jim Wallace, SEC Member representing history and heritage, thanked the Chair and Vice Chair of the SEC for their leadership and acknowledged the DCA and DWR for their presentation of data. Mr. Wallace shared his observations of the purpose of the committee, which Delta stakeholders are presented with details related to the design and construction of the project so that as informed stakeholders, they can provide meaningful recommendations that could improve the way the project benefits the Delta. This means that the SEC process carries tremendous expectations, not only for stakeholders but also for the DCA. Mr. Wallace commented on the extent of engagement that the SEC members have contributed, despite skepticism and frustration. Many times, during these

presentations, the DCA provided great granular details about specific project elements which has led to nuanced understanding of the project and more in-depth questions and feedback. Mr. Wallace addressed that it is difficult for the SEC to comment on site specific locations due to the personal connection they have with the Delta and its residence. There is not much way for the SEC to identify benefits from the project based on what has been presented to them thus far. Mr. Wallace felt that more road and more railroads should not be claimed as a benefit. Mr. Wallace asked why are ancient water management practices like river diversion and tunnels still being proposed as solutions to 21st century problems. Another difficulty presented was that the DCA could not address project operations at the same level of detail as they can address construction and design. Ultimately, there are no design or construction changes that adequately address the negative impacts of the conveyance project on Delta heritage and certainly no mutual benefits.

Mr. Wallace proposed that there might be a way to move this process forward by addressing the expectations that have been unmet. He suggested we start at a macro project level of assuming the project passed and would move forward in order to hone in on micro project effects lead to discussion about project benefits, if any. This approach would lead to a process which provides DCA with the types of input that leads to changes and would not conflict with CEQA process and would not require individual SEC member input. This allows the DCA to pointedly ask the SEC how this project can provide benefits to the Delta communities. Mr. Wallace emphasized that the SEC must be more than a check box on DCA public participation. Finally, from history and heritage stakeholders, whether the Conveyance Project is constructed or not, it is asked that the tunnels history not become part of the heritage which has defined the Delta as a place.

Ms. Lindsey Liebig, SEC member representing agriculture across the Delta region, thanked the Board and staff for the outreach opportunities that they have not had before. Ms. Liebig noted how impressed she was with the amount of detailed information that has been provided to the SEC that she has been able to pass along to her constituents. Regardless of her stance on the project, Ms. Liebig is grateful to be able to know exactly what the project entails including the footprint and construction elements. Ms. Liebig felt that it has been an asset being able to interact with the diverse members on the committee. Ms. Liebig reiterated that it is difficult to give feedback on site specific locations or get feedback from the ag community because they view the idea of mutual benefits as a joke. She does not feel that there will be a way to reinvigorate the agricultural economy that will be lost if this project moves forward. Ms. Liebig gave her impression of the topics that arise in the SEC meetings as being narrow and limited where they can't explore at a greater compacity and would like a more open Q&A discussions.

Ms. Liebig stated that without knowing what the operations will look like, it is hard for Ag stakeholders to make adequate comments on the project. Ms. Liebig's biggest concern was the potential loss of permanent crops such as orchards and vineyards and the way this will affect the agricultural economy. Additionally, this will result in a loss of farm worker jobs. Ms. Liebig discussed her concerns regarding dewatering and what this will look like and the impact this will cause on the greater area. The increased traffic and construction during the process is another issue that was brought up as well as questions about RTM storage and whether the material will be safe for reuse. Ms. Liebig suggested that moving forward, fostering a discussion more about what stakeholders are feeling would be helpful and wondered if there was a way for this committee to facilitate these broader discussions in a controlled format, often there is not enough time to have an open Q&A or process thoughts because there is so much material to present at meetings. In addition, it would be helpful to clarify what a mutual benefit is versus mitigation measures because she does not feel they

are the same. Ms. Liebig would like to see continued outreach with the individual stakeholder groups, post SEC process.

Ms. Karen Mann, SEC member representing South Delta local businesses, thanked the Board for the opportunity to share their thoughts and concerns. Ms. Mann provided her background of playing, working, and living in the Delta since she was a child and is currently an active member of thee different boat clubs. Ms. Mann commended the DCA's ability of explaining the engineering components to the committee but felt that the DCA was not responsive to SEC concerns. Ms. Mann spoke about the intake locations and their placement being the same locations as the WaterFix project and felt that this would adversely affect the Legacy communities. Ms. Mann said SEC members have recommended alternative solutions but does not feel like these have been considered. Ms. Mann emphasized that the Central Corridor route is not a preferred option. It was noted that the Independent Technical Review (ITR) team hired by the DCA said that the Central Corridor was not feasible and that there are no benefits to eastern Contra Costa County. This route will affect the wells, the Sandhill cranes, and will go through a heavily used recreation area and the National Heritage area. Ms. Mann is concerned about the Real Estate Acquisition Plan moving forward if the tunnel route has yet to be determined. Ms. Mann presented statement letters provided by the General Manager of Discovery Bay and the Fire Marshall representing the East Contra Costa County Fire Protection District, about the adverse impact of Discovery Bay, Byron businesses and residences (estimated at roughly 25,000-50,000) that would be put into jeopardy. Ms. Mann was concerned about the layout of the Byron maintenance shaft being within only 1000 feet of residences. Ms. Mann said that having only three fire stations covering 250miles is not enough and noted that the Fire Marshal was very concerned that he hasn't been consulted early on in this process. Ms. Mann had not seen project benefits yet and feels that this will be a lose-lose situation for anyone that lives in the Delta.

Mr. Michael Moran, Ex-Officio member on the SEC and representative of East Bay Regional Park District, thanked everyone that has been involved in the process and felt that the DCA Board and DCA staff have been very professional, gracious and kind. This process has resulted in a sense of empathy and connection between the DCA and stakeholders, what was missing in past iterations of this project. Mr. Moran spoke about the well-presented information provided and that the attitude of DCA has been transparent and sincere. Mr. Moran would like to see the tangible ways that the SEC's input is applied to the project and believes this is a great opportunity to broaden audiences and begin a foundational understanding of the 'why' around the project. Mr. Moran said that we need to go beyond mutual facilities benefits and discuss how to best maintain, restore, or improve Delta character and to do this you need to have the engaged community. In addition, those benefits should be immediate, mid-range, long range, and continues benefits throughout the lifespan of the project. Mr. Moran feels that education and outreach are key components that must go on as long as the project does.

Ms. Palmer explained that it is important for the Board to know these feelings that the SEC have. Ms. Palmer referenced the "why" to the project that Mr. Moran brought up and says that we will work on improving this definition.

Ms. Keegan thanked the SEC members for their kind comments and critical points that were brought up. She appreciated the professionalism of both staff and SEC. Ms. Keegan is glad to be a part of a change in the way things had been done in the past and felt that we will be able to look back on this process and be proud of our participation.

Mr. Atwater thanked Ms. Palmer and Ms. Keegan for their participation on the SEC and the great leadership that they show. Mr. Atwater was pleased with how this process has moved forward and encouraged continued engagement, listening, and participation as much as we can.

Mr. Blois echoed the comments of his colleges, grateful for the extent of participation. He recognized that we will not agree on everything but we have a job to do which is to come up with the best project that works for everyone, both locally and statewide. Mr. Blois said that sincere and honest input will help us in our mission.

Ms. Osha Meserve, Local Agencies of the North Delta, appreciated the stakeholders giving their own report. Ms. Meserve gave her impression of why the SEC decided to continue with the last meeting which was because the DCA made it appear as if stakeholder didn't continue with the SEC meeting, they couldn't give input on the engineering. Ms. Meserve reference Pg. 5 of the Board report and wanted to clarify that 'critical' infrastructure project is different than 'essential' infrastructure project, future water projects are not essential. Ms. Meserve believed there was wrong information in the presentation provided to Congressman Garamendi in regards to why the Western Delta couldn't be considered as an alternative in the EIR. She felt that this should not be dismissed preliminarily. Lastly, Ms. Meserve felt the topics of the committee are too narrow and we are not getting the full value of the SEC by doing this.

Mr. Estremera wanted to thank each SEC member for their presentations. Right away there is an improvement by having them meet directly with the Directors. Mr. Estremera explained that once we get to know the project more intimately and have a closer understanding about construction variables, we will begin discussing topics of community benefits and effective alternatives. Mr. Estremera emphasized how important it is to find win-wins from the project and knows we are headed in that direction because of the group of community people that have shown their commitment.

c. DCA's Transition Back to the Office

Ms. Marcie Scott, DCA HR Manager, referenced Governor Newson's Four (4) phase plan for re-opening California. As we are currently in Phase Two (2), the DCA continues to work in a telework status. IT systems that were brought on in January have fully supported an immediate pivot to remote work. This pivot occurred right before the April footprint deadline. The DCA continues to meet deliverables to DCO. Both Board and SEC meeting are continuing to work remotely. With relaxation of restriction, the DCA office will be available to workers on a voluntary basis. The DCA will revise the office layout to accommodate for social distancing requirements and prepare for protocols of behaviors required to work in the office.

d. Draft DCA Budget for Fiscal Year 20/21

Ms. Mallon gave an overview of the draft DCA Budget for Fiscal Year 20/21 and plans to come for final approval at the June Board meeting. Overall budget is approximately $34M. Most of the work next year revolves around the engineering needed to support DWR on the CEQA documentation. Ms. Mallon would like to get the field work started. It is important that Geotech exploration be done as it can help answer common questions related to dewater and pile driving. This will also help to refine the construction and design of the project. Ms. Mallon budgeted for SEC monthly meetings to

continue and would like to find ways to open up the SEC process more. Ms. Mallon would like to reallocate money into field work for additional boreholes and field studies when possible which will help the engineering.

e. May DCA Monthly Report

Ms. Mallon referenced a new item in the Board report which was the procurement of General Counsel services permanently, added as new commitment.

8. STAFF REPORTS AND ANNOUNCEMENTS:

a. General Counsel's Report

A written report was provided in the Board package. Mr. Nelson noted that based on Ms. Scott's presentation about Stage 2 commencing, his report is outdated. Mr. Nelson expressed his appreciation for the Board's approval of the JEPA amendment.

b. Treasurer's Report

A written report was provided in the Board package. Ms. Kasane said that we ended with 978K at the end of April.

c. DWR Environmental Manager's Report

A written report was provided in the Board package. Ms. Buckman noted the 850 comments they received. DWR is working on documenting these into the scoping summary report which is expected to be completed late June/early July.

d. Verbal Reports

9. FUTURE AGENDA ITEMS:

None.

10. ADJOURNMENT:

President Estremera adjourned the meeting at 3:07p.m., remotely - Conference Access Information: Phone Number: 1 (916) 262-7278 Access Code: 1480112308#
https://meetings.ringcentral.com/j/1480112308

DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

Board Memo

Contact: Kathryn Mallon, Executive Director

Date: June 18, 2019 Board Meeting **Item No.** 7a

Subject:
Consider Passing Resolution Adopting the Delta Conveyance Design and Construction Authority Allowable Travel Expenses Policy

Executive Summary:
Staff recommends that the Board approve the Allowable Travel Expenses Policy.

Detailed Report:
Last month the Board approved Amendment No. 2 (Amendment) to the Joint Exercise of Powers Agreement (JEPA). In part, this Amendment allows the DCA to adopt and utilize a travel policy for its contractors and consultants. This policy must be approved by the Board of Directors by resolution and then forwarded to the Department of Water Resources.

Enclosed is a draft Allowable Travel Expenses Policy for Board consideration. As a general rule, the policy utilizes a "multiplier" approach for travel and similar other direct costs. This adds a multiplier to the rate charged by a consultant or contractor to reimburse them for their travel and other direct costs. This multiplier would be negotiated with each contractor at the beginning of the contract or issuance of an applicable task order. As an example, the cost multiplier would be negotiated with Jacobs and Parsons at least annually prior to the issuance of their task orders for the fiscal year. This approach significantly simplifies the administrative procedures for reviewing and approving invoices while ensuring cost reasonableness. Moreover, discussions regarding proposed multipliers for FY 2020-21 acknowledge that contractors will incur reduced travel costs due to COVID-19.

The above approach would be utilized as long as the contract utilizing a multiplier to capture other direct costs does not receive federal funds. If federal funds are received, the policy requires contractors to utilize alternative reimbursement procedures. These procedures are based on those applicable to federal contractors.

The enclosed resolution adopts the proposed Allowable Travel Expenses Policy. It also authorizes the Executive Director to amend existing DCA consultant and similar agreements to incorporate travel reimbursement provisions consistent with the new policy.

Recommended Action:
Adopt the attached Resolution approving the Allowable Travel Expenses Policy.

Attachments:
Attachment 1 - Draft Resolution 20-XX
Attachment 2 - Allowable Travel Expenses Policy

BOARD OF DIRECTORS OF THE DELTA CONVEYANCE DESIGN AND CONSTRUCTION AUTHORITY

RESOLUTION NO. 20-XX

Introduced by Director xxxx
Seconded by Director xxxx

ADOPT THE ALLOWABLE TRAVEL EXPENSES POLICY

Whereas, consistent with best practices and Section 6(b) and Section 12 of Exhibit F of the amended Joint Exercise of Powers Agreement (JEPA), the Board of Directors wishes to adopt an allowable travel expenses policy;

Now, therefore, the DCA Board of Directors resolves as follows:

1. The Board of Directors hereby adopts the Allowable Travel Expenses Policy (Policy) attached to this Resolution as Exhibit A and incorporated by this reference.

2. The Executive Director is authorized and directed to amend all existing consultant and similar agreements, excepting any agreement with Management Partners, to ensure that such agreements are consistent with the provisions of this Policy. Such agreements shall include those other direct costs within the cost multiplier provided for in this Policy for travel expenses as deemed reasonable and advisable by the Executive Director. Any reimbursable cost excluded from the cost multiplier shall be clearly set forth in such agreement, including requiring reasonable recordkeeping requirements.

3. This Resolution is effective upon its adoption and shall be transmitted to the Department of Water Resources as required by the JEPA.

* * * * *

This Resolution was passed and adopted this 18th day of June 2020, by the following vote:

Ayes:
Noes:
Absent:
Abstain:

Tony Estremera, Board President

Attest:

Sarah Palmer, Secretary

DCA ALLOWABLE TRAVEL EXPENSES POLICY

PART I

Pursuant to this Allowable Travel Expenses Policy ("Policy"), the DCA does not generally reimburse vendors for travel expenses. Vendors are required to provide fully inclusive rates that include all taxes, surcharges, expenses and fees, including travel expenses, as part of their negotiated other direct cost rate, which must be incorporated as part of the vendor's rates set forth in the fee schedule. Vendors will only be reimbursed travel expenses in the following cases:

- Vendor's agreement with the DCA expressly authorizes such reimbursement; or
- Vendor has requested and received prior written approval from the Executive Director for reimbursement of extraordinary travel expenses not otherwise captured under the negotiated other direct cost rate.

Notwithstanding the foregoing, in the event the vendor's services are paid for in whole or in part using federal funds and provided such federal funds require compliance with the Federal Acquisition Regulations, the provisions of this Part I are superseded by Part II of this Policy, and all travel expenses will be processed in accordance with Part II of this Policy and applicable provisions of the Federal Acquisition Regulations.

PART II

Reimbursement for travel expenses are specifically excluded, unless expressly authorized by the Executive Director, or his or her designee, in writing and memorialized in a written agreement. If approved in advance in writing by the Executive Director, or his or her designee, the DCA shall reimburse vendor for reasonably incurred actual costs in accordance with this Allowable Travel Expenses Policy ("Policy"), and no markup shall be applied to such actual costs. Expenses incurred without prior approval or which are not in compliance with this Policy may be denied. Any changes from this Policy requires approval by the Executive Director, or his or her designee, in writing. Notwithstanding anything to the contrary and to the extent allowable under existing law, the Executive Director, or his or her designee, may revise this Policy on a case by case basis with such revised Policy incorporated in the applicable agreement.

BILLING AND SUPPORTING DOCUMENTS

Vendors shall submit all supporting documents (receipts, invoices, travel itineraries, etc.) for each expense listed below, unless otherwise stated. Attached receipts should itemize each cost and provide descriptive information so that expenses are separately identified. Failure to submit accurate and complete supporting documents may result in less than full reimbursement for travel expenses. Where receipts are not required to be submitted with the monthly invoice, vendors shall keep receipts on file for audit purposes in accordance with Federal Acquisition Regulations.

MEALS & INCIDENTAL EXPENSES (M&IE)

Meal and incidental expenses ("M&IE") while on a travel status will be reimbursed at the per diem rate based on the Federal General Service Administration ("GSA") published rate for destinations

within the Continental United States. Receipts are not required for M&IE reimbursements. If the DCA requests weekend work assignments, per diem shall be reimbursed.
M&IE includes tax and tips and no separate reimbursement will be made for those costs.

Trips of 24 Hours or More: As set by the GSA, DCA will reimburse a daily per diem rate equal to the GSA rate for meals and incidental expenses including taxes and gratuity. Specific GSA maximum M&IE per diem rates are assigned to designated destinations within each state. The per diem rates are updated annually on October 1st and provided online at the GSA web site https://www.gsa.gov/travel/plan-book/per-diem-rates/per-diem-rates-lookup.

- Day travel begins: The per diem allowable shall be three-quarters of the destination M&IE rate.
- Full calendar day of travel: The per diem allowable shall be the full destination M&IE rate.
- Day travel ends: The per diem allowable shall be three-quarters of the M&IE rate applicable to the preceding calendar day.

M&IE Example: vendor leaves residence in Sacramento, CA on 06/20 and travels to Los Angeles, CA. vendor works a full day in Los Angeles on 06/21. vendor leaves Los Angeles on 06/22 back to Sacramento, CA.

- Day 1, 6/20: 3/4 of Los Angeles M&IE Rate of $66.00 = $49.50 M&IE per diem allowable
- Day 2, 6/21: Full Los Angeles M&IE Rate = $66.00 M&IE per diem allowable
- Day 3, 6/22: 3/4 of Los Angeles M&IE Rate of $66.00 = $49.50 M&IE per diem allowable
- Total M&IE Reimbursed = $165.00

Trips of More than 12 Hours, but not Exceeding 24 Hours: The rate will be adjusted down for partial days of travel. For partial days, use the breakdown of eligible expenses from this GSA web site: https://www.gsa.gov/travel/plan-book/per-diem-rates/mie-breakdown. For travel more than 12 hours and less than 24 hours, the Vendor's allowance is three-quarters of the destination M&IE rate.

M&IE Reduction: When all or part of the meals are provided by the project, meals included in hotel expenses or conference fees, meals included in transportation costs such as airline tickets, or meals that are otherwise provided, the applicable M&IE rate shall be reduced by the amounts prescribed by the GSA in Table 1 below:

Table 1 M&IE Rate Reduction				
M&IE Total (1)	Continental Breakfast/ Breakfast (2)	Lunch (2)	Dinner (2)	Incidental Expenses
$55	$13	$14	$23	$5
$56	$13	$15	$23	$5
$61	$14	$16	$26	$5
$66	$16	$17	$28	$5
$71	$17	$18	$31	$5
$76	$18	$19	$34	$5

M&IE Reduction Example: vendor leaves residence in Sacramento, CA and travels to San Francisco, CA for a conference and travels more than 12 hours and less than 24 hours. Breakfast is included at the conference. vendor returns home to Sacramento, CA that same day.

- M&IE destination rate for San Francisco is $76.00
- Because the trip is for more than 12 hours and less than 24 hours, the vendor is entitled to three-quarters of the M&IE rate, or $57.00
- M&IE Reduction of breakfast provided at San Francisco rate of $18.00
- Total M&IE Reimbursed = $39.00

LODGING EXPENSES

Vendors who incur approved overnight lodging expenses may be reimbursed. Lodging expenses will be reimbursed, on an actual cost basis. An original detailed hotel receipt, showing the single room rate plus taxes, must be submitted with the request for payment, otherwise reimbursement will be denied. If vendor is requested by the DCA to perform services on the weekend, hotel charges for Saturday and Sunday shall be reimbursable.

Lodging reimbursement will be limited to the GSA lodging rate for the location in question. Please visit www.gsa.gov/perdiem to find the rates. Enter the zip code for the location. Please note this amount does not include taxes, which are reimbursed separately. If you are unable to find lodging within the maximum GSA posted rate, you may submit a request for reimbursement of the excess of the maximum reimbursement rate to the Agreements Administrator. You must obtain prior written approval by the Agreements Administrator to book the lodging that exceeds the GSA posted rate. The written approval of the DCA is required to be submitted with the invoice for the travel expense.

Hotel cancellations are the responsibility of the vendor. Any hotel expenses charged to the DCA when the vendor had adequate time to cancel the accommodations without charge will be the sole responsibility of the vendor.

METHOD OF TRAVEL

- Vendors are responsible for determining the need for and method of travel.
- Reimbursement for transportation expenses will be based on the method of transportation that is in the best interest of the project, considering both direct expense and the consultant's time.
- Trips that require travel in excess of 200 miles one way shall be made by commercial airline unless the circumstances dictate otherwise. Reimbursements for transportation costs for trips over 200 miles one way by any form of transportation other than commercial airline shall generally not exceed the standard round-trip airline coach airfare in effect at the time, plus any personal auto mileage and airport parking that would have been incurred and reimbursable if airline transportation had been used.

If a vendor chooses and is authorized to use a method of transportation that is:

- Not the least costly,
- Not the typical method of getting from one location to the other, or
- Not "in the best interest of the state,"

A cost comparison will be prepared, and the consultant shall be reimbursed only the amount that would have been reimbursed had the consultant traveled using the least costly method.

Taxis/Uber/Lyft/Rideshare: When it is an economical choice to use a taxi/Uber/Lyft/rideshare service for approved business travel, the cost of the fare will be reimbursed with a receipt. M&IE includes tips and those costs are not separately reimbursable.

Car Rental: Car rentals shall be the most economical vehicle to fulfill vendor's needs when other modes of transportation are not available. vendor shall use the most reasonable cost rental vehicle that can accommodate travel requirements. One automobile rental for up to three travelers is acceptable. If a more expensive rental option is required, vendor must provide justification and obtain prior approval from the Executive Director, or his or her designee, the

approval must be attached to the invoice. Insurance for collision and personal liability is the responsibility of the vendor and shall not be reimbursed. Rental car receipts are required for all rental car expenses. Claims for rental car gasoline must be supported by original receipts.

Personal Car: Personal automobile reimbursement is allowable only from consultant's local office to project site location or meeting destination as determined by the Executive Director, or his or her designee, and will be paid at the current Federal Internal Revenue Standard ("IRS") allowable mileage rate.

Mileage Reimbursement: Mileage reimbursements are based upon the number of miles driven for DCA related trips. Vendors are required to retain a monthly mileage log. Use the attached template. The log is not required to be submitted with the expense reports or invoices. Vendor must keep the log on file for audit purposes.

Parking: Receipts for parking while traveling are not required for expenses of $75.00 or less. Parking for staff located on-site shall not be reimbursable by the DCA.

Tolls: Receipts for tolls are not required. You must include a description of any tolls on your monthly mileage log.

Air Travel: Preapproved airfare will be reimbursed at the actual cost of the airline ticket. Air travel shall be made by commercial airline at coach or economy airfare. If flight accommodations are upgraded from coach or economy airfare, all additional charges shall be paid by the vendor, and not charged to the Agreement. Travel should be by whichever scheduled airline offers the (lowest fare and is not dictated by a vendor's frequent flyer preference or preferred carrier.

Air travel receipts must include the flight itinerary (including flight number, departure time, arrival time, etc.) and proof of payment. Service fees for airline tickets shall be reimbursable as part of the air travel cost. In-flight internet fees are reimbursable for DCA related work while in-flight.

Long Term Travel: Travel over 30 days shall be considered long term travel. Pre-approval request required. Reimbursable costs shall include rent, utilities and reduced per diem of $41.00

NON-REIMBURSABLE EXPENSES

Time spent in travel shall not be compensable unless services are performed during such travel.

Travel expenses will not be reimbursed for travel of twelve hours or less.

Monthly Mileage Log					
Name:			Month of:		
Consultant:			Mileage Rate:		
Date	From	To	Miles	Amount	Reason

DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

Board Memo

Contact: Kathryn Mallon, Executive Director

Date: June 18, 2019 Board Meeting **Item No.** 7b

Subject: DCA Budget for Fiscal Year 20/21

Summary:

Every year, the DCA Board is required to approve the annual fiscal budget for operation of the DCA organization. For Fiscal Year 2020/21, the proposed annual budget is $34M, consistent with the level of expenditure of the current 2019/20 fiscal year (forecasted at approximately $36.4M). Over 70% of the proposed new annual budget ($24M) is dedicated to engineering and field work along with the permitting management and property access staff necessary to support the technical work.

Our Program Management Office and Program Initiation efforts in FY 2020/21 are largely a continuation of work initiated in FY 2019/20 in support of DWR's Environmental Planning efforts. As such, most of the expenditure will be derived from new task orders to existing vendors with few new procurements anticipated.

Scope Highlights:

The scope of the **engineering** team is focused on completion of Engineering Reports for the identified alternatives under DWR's Environmental Planning process and preparation of Engineering Reports for any new alternatives identified by DWR through the CEQA Scoping process. The team will also provide general technical support to DWR as they prepare the Draft Environmental Planning documents.

This year, we hope to launch our **field works** which were delayed during the FY19/20 Fiscal Year by litigation that has since been resolved. This information is critical in validating our assumptions of underground conditions so that important design work such as foundations, site stabilization, dewatering, levee stability and other technical studies can be completed.

Stakeholder engagement will continue to be an important focus of the DCA. We plan to continue our monthly SEC meetings through the fiscal year to keep stakeholders informed of progress as well as solicit input on a variety of technical issues. We will also launch our new DCA website and continue to post new material on our social media outlets to help keep interested parties informed of our work.

The **program controls** group will continue to execute work consistent with our Program Management Plans in the areas of procurement, cost, schedule, risk and document management.

During this Fiscal Year we will launch Phase II of our Program Management Information System which will require rollout and staff training efforts, as well as, system modifications to respond to user feedback.

The executive office has added a new position, Chief Engineer, to provide technical oversite of the engineering work. The executive office will also continue to host the monthly DCA Board meetings and provide general counsel, treasury, and human resources services to the organization.

A summary of our proposed annual budget is shown below.

PROGRAM MANGEMENT OFFICE		$	12,888,000
	PMO-Executive Office	$	2,697,272
	PMO-Community Engagement	$	1,301,880
	PMO-Program Controls	$	2,527,124
	PMO-Administration	$	3,244,410
	PMO-Procurement and Contract Administration	$	210,000
	PMO-Property	$	1,648,758
	PMO-Permitting Management	$	1,123,893
	PMO-Health and Safety	$	45,000
	PMO-Quality Management	$	45,000
	PMO-Sustainability	$	45,000
PROGRAM INITIATION		$	21,112,000
	PI-Engineering	$	12,451,950
	PI-Fieldwork	$	8,659,576
	TOTAL	**$**	**34,000,000**

Upon approval of the budget by the Board, the DCA will begin to close out task orders for the FY 2019/20 period and finalize new task orders with our existing vendors for continuation of work into the new fiscal year.

Recommended Action:

Adopt the DCA Fiscal Year 20/21 Annual Budget.

Attachments:

Attachment 1 - DCA Fiscal Year 2020/21 Annual Budget

DCA Annual Budget FY 2020/21

TOTAL	**$**	**34,000,000**
PROGRAM MANGEMENT OFFICE	**$**	**12,888,000**
PMO-Executive Office	**$**	**2,697,272**
EO-Management		
EO-Executive Office	$	908,600
EO-Chief Engineer	$	427,872
EO-DCA Board Meetings	$	39,800
EO-General Counsel		
EO-General Counsel	$	620,000
EO-Audit		
EO-Audit	$	25,000
EO-Treasury		
EO-Treasury	$	196,000
EO-Human Resources		
EO-Human Resources	$	164,000
EO-Undefined Allowance		
EO-Undefined Allowance	$	316,000
PMO-Community Engagement	**$**	**1,301,880**
CE-Management		
CE-Management	$	300,000
CE-Community Coordination		
CE-Community Support	$	50,000
CE-Outreach		
CE-SEC Meetings	$	828,380
CE-Social Media	$	123,500
PMO-Program Controls	**$**	**2,527,124**
PCTRL-Management		
PCTRL-Management	$	621,646
PCTRL-Risk Mgt		
PCTRL-Risk Mgt	$	379,725
PCTRL-Cost Mgt		
PCTRL-Cost Mgt	$	736,013
PCTRL-Schedule Mgt		
PCTRL-Schedule Mgt	$	373,286
PCTRL-Document Mgt		
PCTRL-Document Mgt	$	316,454
PCTRL-Program Governance		
PCTRL-Program Governance	$	100,000
PMO-Administration	**$**	**3,244,410**
AD-Management		
AD-Management	$	645,000
AD-Facilities		
AD-Office Rent	$	990,000
AD-Office Furniture	$	6,000
AD-Office Supplies	$	16,000
AD-Other Direct Costs	$	28,500
AD-Office Utilities	$	112,800

PROGRAM MANGEMENT OFFICE (CONT)		
PMO-Administration (Cont)		
AD-Information Technology		
AD-IT Services	$	1,057,391
AD-IT Software	$	298,719
AD-IT Hardware	$	90,000
PMO-Procurement	**$**	**210,000**
PCA-Management		
PCA-Management	$	210,000
PMO-Property	**$**	**1,648,758**
PY-Management		
PY-Management	$	373,758
PY-Property Agents		
PY-Property Agents	$	900,000
PY-Temporary Entrance Permits		
PY-Temporary Entrance Permits	$	375,000
PMO-Permitting Management	**$**	**1,123,893**
PM-Management		
PM-Management	$	1,123,893
PMO-Health and Safety	**$**	**45,000**
HS-Management		
HS-Management	$	45,000
PMO-Quality Management	**$**	**45,000**
QM-Management & Auditing		
QM-Management & Auditing	$	45,000
PMO-Sustainability	**$**	**45,000**
ST-Management		
ST-Management	$	45,000
PROGRAM INITIATION	**$**	**21,112,000**
PI-Engineering	**$**	**12,451,950**
PIE-Management & Administration		
PIE-Management & Admin.	$	2,043,790
PIE-Quality Review	$	297,343
PIE-CEQA Engineering Support		
PIE-CEQA Engineering Support	$	2,293,256
PIE-Facility Studies		
PIE-Facility Studies	$	3,314,202
PIE-Shared Support Services		
PIE-Shared Support Services	$	4,503,359
PI-Fieldwork	**$**	**8,659,576**
PIF-Management		
PIF-Management	$	413,255
PIF-Geotechnical		
PIF-Geotechnical Work	$	8,140,500
PIF-Surveying		
PIF-Surveying	$	105,821

Note: Numbers rounded to the nearest whole number

DCA

DELTA CONVEYANCE **DESIGN**
& CONSTRUCTION AUTHORITY

DCA FY 2020/21 ANNUAL BUDGET

Agenda Item 7b | June 18, 2020

PROPOSED FY 2020/21 BUDGET REVIEW

- Review DCA Work Breakdown Structure
- Review proposed FY 2020/21 budget by functional area
- Review proposed budget summary by major vendors
- Review proposed FY 2020/21 budget summary roll-up

WBS

The Program Management team developed a programmatic **Work Breakdown Structure** (WBS) to organize all budgeted activities of the DCA for implementation of the Delta Conveyance program. The WBS was developed to for all phases of program delivery from initiation to program closeout. Work activities of the DCA at the highest level of the WBS are described below:

All Phases:

Program Management Office – All cross-organizational support functions throughout all phases of program delivery.

Current Phase:

Program Initiation – Engineering work to support the Environmental Planning Phase. The Phase ends with finalization of the Program Implementation Plan that identifies the individual projects that comprise the program.

Future Phases:

Program Execution – Delivery of individual capital projects.

Program Closeout – Closeout of all financial, record document, legal actions, etc. for the dissolution of the DCA.

PROGRAM MANAGEMENT OFFICE (PMO)

- **PMO-Executive Office**
  - **EO-Management**
    - EO-Executive Office
    - EO-Chief Engineer
    - EO-DCA Board Meetings
  - **EO-General Counsel**
    - EO-General Counsel
  - **EO-Audit**
    - EO-Audit
  - **EO-Treasury**
    - EO-Treasury
  - **EO-Human Resources**
    - EO-Human Resources
  - **EO-Undefined Allowance**
    - EO-Undefined Allowance
- **PMO-Community Engagement**
  - **CE-Management**
    - CE-Management
  - **CE-Community Coordination**
    - CE-Community Support
  - **CE-Outreach**
    - CE-SEC Meetings
    - CE-Social Media
- **PMO-Program Controls**
  - **PCTRL-Management**
    - PCTRL-Management
  - **PCTRL-Risk Mgt**
    - PCTRL-Risk Mgt
  - **PCTRL-Cost Mgt**
    - PCTRL-Cost Mgt
  - **PCTRL-Schedule Mgt**
    - PCTRL-Schedule Mgt
  - **PCTRL-Document Mgt**
    - PCTRL-Document Mgt
  - **PCTRL-Program Governance**
    - PCTRL-Program Governance
- **PMO-Administration**
  - **AD-Management**
    - AD-Management
  - **AD-Facilities**
    - AD-Office Rent
    - AD-Office Furniture
    - AD-Office Supplies
    - AD-Other Direct Costs
    - AD-Office Utilities

PROGRAM MANAGEMENT OFFICE (Cont.)

- **PMO-Administration (Cont.)**
  - **AD-Information Technology**
    - AD-IT Services
    - AD-IT Software
    - AD-IT Hardware
- **PMO-Procurement**
  - **PCA-Management**
    - PCA-Management
- **PMO-Property**
  - **PY-Management**
    - PY-Management
  - **PY-Property Agents**
    - PY-Property Agents
  - **PY-Temporary Entrance Permits**
    - PY-Temporary Entrance Permits
- **PMO-Permitting Management**
  - **PM-Management**
    - PM-Management
- **PMO-Health and Safety**
  - **HS-Management**
    - HS-Management
- **PMO-Quality Management**
  - **QM-Management & Auditing**
    - QM-Management & Auditing
- **PMO-Sustainability**
  - **ST-Management**
    - ST-Management

PROGRAM INITIATION PHASE (PI)

- **PI-Engineering**
  - **PIE-Management & Administration**
    - PIE-Management & Admin.
    - PIE-Quality Review
  - **PIE-CEQA Engineering Support**
    - PIE-CEQA Engineering Support
  - **PIE-Facility Studies**
    - PIE-Facility Studies
  - **PIE-Shared Support Services**
    - PIE-Shared Support Services
- **PI-Fieldwork**
  - **PIF-Management**
    - PIF-Management
  - **PIF-Geotechnical**
    - PIF-Geotechnical Work
  - **PIF-Surveying**
    - PIF-Surveying

FUNCTIONAL AREAS

The WBS for the current phase of program delivery includes the Program Management Office and the Program Initiation work activities.

The **PMO** include ten (10) budget categories that represent the functions which provide support across the entire organization.

Program Initiation includes the engineering and fieldwork functional areas that support the DWR Environmental Planning efforts.

WBS LEVEL 1 AND 2
PROGRAM MANGEMENT OFFICE
PMO-Executive Office
PMO-Community Engagement
PMO-Program Controls
PMO-Administration
PMO-Procurement and Contract Admin.
PMO-Property
PMO-Permitting Management
PMO-Health and Safety
PMO-Quality Management
PMO-Sustainability
PROGRAM INITIATION
PI-Engineering
PI-Fieldwork

EXECUTIVE OFFICE

The Executive Office (EO) includes all activities of the Executive Director Office and the Chief Engineer as well as support for the DCA Board and monthly meetings. It also includes activities that provide financial, legal and human resource oversite to the DCA organization.

Available contingency for the fiscal year budget are included in the Executive Office budget as an Undefined Allowance.

PMO-Executive Office	**$**	**2,697,272**
EO-Management		
EO-Executive Office	$	908,600
EO-Chief Engineer	$	427,872
EO-DCA Board Meetings	$	39,800
EO-General Counsel		
EO-General Counsel	$	620,000
EO-Audit		
EO-Audit	$	25,000
EO-Treasury		
EO-Treasury	$	196,000
EO-Human Resources		
EO-Human Resources	$	164,000
EO-Undefined Allowance		
EO-Undefined Allowance	$	316,000

COMMUNITY ENGAGEMENT

Community Engagement (CE) includes all activities related to the DCA's outreach with interested stakeholders. This includes hosting monthly DCA Stakeholder Engagement Committee meetings as well as our managing content on our website and social media outlets.

PMO-Community Engagement	**$**	**1,301,880**
CE-Management		
CE-Management	$	300,000
CE-Community Coordination		
CE-Community Support	$	50,000
CE-Outreach		
CE-SEC Meetings	$	828,380
CE-Social Media	$	123,500

PROGRAM CONTROLS

The Program Controls (PCTRL) group provides management support across the entire organization for budget, cost, schedule, risk and document controls. The group is also responsible for maintenance of our policies and procedures that document our business processes.

PMO-Program Controls	**$**	**2,527,124**
PCTRL-Management		
PCTRL-Management	$	621,646
PCTRL-Risk Mgt		
PCTRL-Risk Mgt	$	379,725
PCTRL-Cost Mgt		
PCTRL-Cost Mgt	$	736,013
PCTRL-Schedule Mgt		
PCTRL-Schedule Mgt	$	373,286
PCTRL-Document Mgt		
PCTRL-Document Mgt	$	316,454
PCTRL-Program Governance		
PCTRL-Program Governance	$	100,000

ADMINISTRATION

The Administration (AD) group is responsible for managing the DCA's physical facilities and IT requirements. IT services include personnel PC support, hardware maintenance and software implementations.

PMO-Administration	**$**	**3,244,410**
AD-Management		
AD-Management	$	645,000
AD-Facilities		
AD-Office Rent	$	990,000
AD-Office Furniture	$	6,000
AD-Office Supplies	$	16,000
AD-Other Direct Costs	$	28,500
AD-Office Utilities	$	112,800
AD-Information Technology		
AD-IT Services	$	1,057,391
AD-IT Software	$	298,719
AD-IT Hardware	$	90,000

PROPERTY AND PERMITTING MANAGEMENT

The **Property** group is responsible for securing all property-related permissions and acquisitions including temporary entrance permits for field work activities, temporary and permanent easements, and property acquisition for construction site requirements.

The **Permitting Management** group is responsible for supporting the engineering teams in identifying and securing all permits required for construction of the project as well as compliance with all permit requirements.

PMO-Property	**$**	**1,648,758**
PY-Management		
PY-Management	$	373,758
PY-Property Agents		
PY-Property Agents	$	900,000
PY-Temporary Entrance Permits		
PY-Temporary Entrance Permits	$	375,000
PMO-Permitting Management	**$**	**1,123,893**
PM-Management		
PM-Management	$	1,123,893

ADDITIONAL PMO FUNCTIONS

The **Procurement** group is responsible for managing the procurement of all goods and services for the organization including RFPs, bids, contract negotiation, insurance, contract amendments and closeout.

The **Health and Safety, Quality, and Sustainability** groups are responsible for preparing their respective Program Management Plans and overseeing implementation of the plans across all DCA activities.

PMO-Procurement	**$**	**210,000**
PCA-Management		
PCA-Management	$	210,000
PMO-Health and Safety	**$**	**45,000**
HS-Management		
HS-Management	$	45,000
PMO-Quality Management	**$**	**45,000**
QM-Management		
QM-Management	$	45,000
PMO-Sustainability	**$**	**45,000**
ST-Management		
ST-Management	$	45,000

PROGRAM INITIATION - ENGINEERING

The **Engineering** group is responsible for conducting technical studies and alternatives analyses to support development of conceptual level design reports. Design reports will be developed for all alternatives identified by DWR as part of the Environmental Planning process.

Note: Once the Environmental Planning work is complete, the DCA engineering activities will transition into the Program Execution Phase with a new budget code structure reflective of delivery of individual capital projects.

PI-Engineering	**$**	**12,451,950**
PIE-Management & Administration		
PIE-Management & Admin.	$	2,043,790
PIE-Quality Review	$	297,343
PIE-CEQA Engineering Support		
PIE-CEQA Engineering Support	$	2,293,256
PIE-Facility Studies		
PIE-Facility Studies	$	3,314,202
PIE-Shared Support Services		
PIE-Shared Support Services	$	4,503,359

PROGRAM INITIATION - FIELDWORK

The **Fieldwork** group is responsible for the management and execution of all field investigatory activities including the geotechnical program, field surveying, and other exploratory work (e.g. gas well surveys, etc.) to support conceptual engineering work.

PI-Fieldwork	**$**	**8,659,576**
PIF-Management		
PIF-Management	$	413,255
PIF-Geotechnical		
PIF-Geotechnical Work	$	8,140,500
PIF-Surveying		
PIF-Surveying	$	105,821

BUDGET BY VENDOR (≥ $300,000; 97% OF BUDGET)

VENDOR NAME	BUDGET	SERVICES
Jacobs	$ 15,173,000	Engineering
Fugro	$ 6,690,500	Geotechnical Exploration
Parsons	$ 5,095,000	Program Management Support; Software Implementation; Chief Engineer
DWR	$ 1,825,000	Geotechnical Support; Temporary Entry Permits
GV/HI Park Tower LLC	$ 990,000	Office Rent
Best, Best & Krieger	$ 620,000	General Counsel
Management Partners	$ 565,400	Executive Director
VMA	$ 375,250	Stakeholder Engagement Support
Metropolitan Water District	$ 361,000	Treasury; Procurement Support, HR
Direct Technologies	$ 357,824	IT Support; Hardware; Software Licenses
Bender Rosenthal	$ 300,000	Property Agents
Hamner Jewell	$ 300,000	Property Agents
Associated Right of Way	$ 300,000	Property Agents

BUDGET SUMMARY

- Work activities for FY 2020/21 focused on completing engineering documents to support DWR Environmental Planning efforts and the Draft EIS and launch of field investigatory program
- Total Proposed Budget = $34M
  - Similar to FY 2019/20 Expenditure of ~$36.5M
  - Approximately $24.3Mil allocated to technical work activities
- Nearly entire budget allocated to existing vendors; little new procurement anticipated

BUDGET CODE	BUDGET CATEGORY	BUDGET ($)
	TOTAL	$ 34,000,000
10	PROGRAM MANGEMENT OFFICE	$ 12,888,337
105	PMO-Executive Office	$ 2,697,272
110	PMO-Community Engagement	$ 1,301,880
115	PMO-Program Controls	$ 2,527,124
120	PMO-Administration	$ 3,244,410
125	PMO-Procurement and Contract Admin.	$ 210,000
130	PMO-Property	$ 1,648,758
135	PMO-Permitting Management	$ 1,123,893
140	PMO-Health and Safety	$ 45,000
145	PMO-Quality Management	$ 45,000
150	PMO-Sustainability	$ 45,000
20	PROGRAM INITIATION	$ 21,111,526
205	PI-Engineering	$ 12,451,950
210	PI-Fieldwork	$ 8,659,576

QUESTIONS?

DCA

DELTA CONVEYANCE **DESIGN**
& CONSTRUCTION AUTHORITY

INTRODUCTION TO DCA PROGRAM CONTROLS

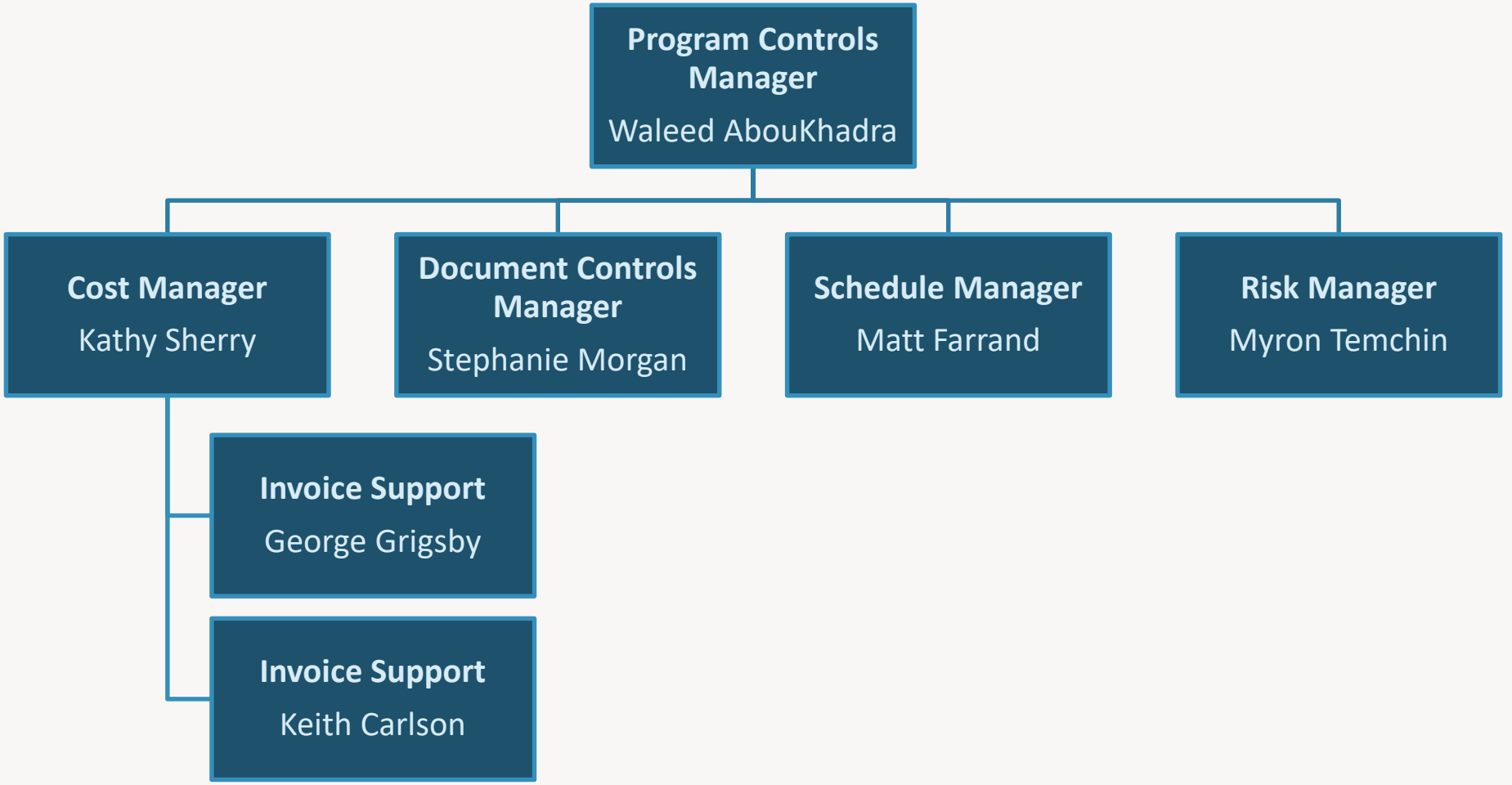
Agenda Item 7c | June 18, 2020

Waleed AbouKhadra

AGENDA

- Introduction of Team
- Completed and Current Initiatives
- Introduction to Program Management Information System (PMIS)

DCA PROGRAM CONTROLS TEAM



KEY ACHIEVEMENTS IN FY 19/20

- Built cohesive Program Controls team
- Lead development of DCA Annual Budget and supporting task orders
- Streamlined invoice review and approval process with DWR
  - Reduced average invoice turnaround by an average of 35 days;
  - Converted to electronic/paperless submission of invoices
- Developed new program controls plans, systems and procedures
- Completed Phase I and II of E-Builder PMIS Implementation
- Launched risk management program
- Developed SharePoint Document Management System

BASIC STEPS IN PROGRAM MANAGEMENT INFORMATION SYSTEM (PMIS) DEVELOPMENT

- **Step 1**: Identify processes for automated workflow development
- **Step 2**: Develop desired business processes using “Swim Lane” workflow diagrams
- **Step 3**: Identify data collection requirements for each business process
- **Step 4**: Configure E-Builder System for workflows and forms
- **Step 5**: Document processes in Program Controls Plans
- **Step 6**: Training and rollout

STEP 1

SELECTED E-BUILDER AUTOMATED BUSINESS PROCESSES

BUDGET MANAGEMENT
- Potential Change Request
- Data Entry – Budget Change

CONTRACT MANAGEMENT
- Task Order
- Consultant Invoice
- Consultant Monthly Progress Report
- Data Entry – Commitment
- Data Entry – Commitment Change
- Consultant Commitment Closeout

PROCUREMENT
- Prequalification
- Contract Procurement
- Direct Purchase Request

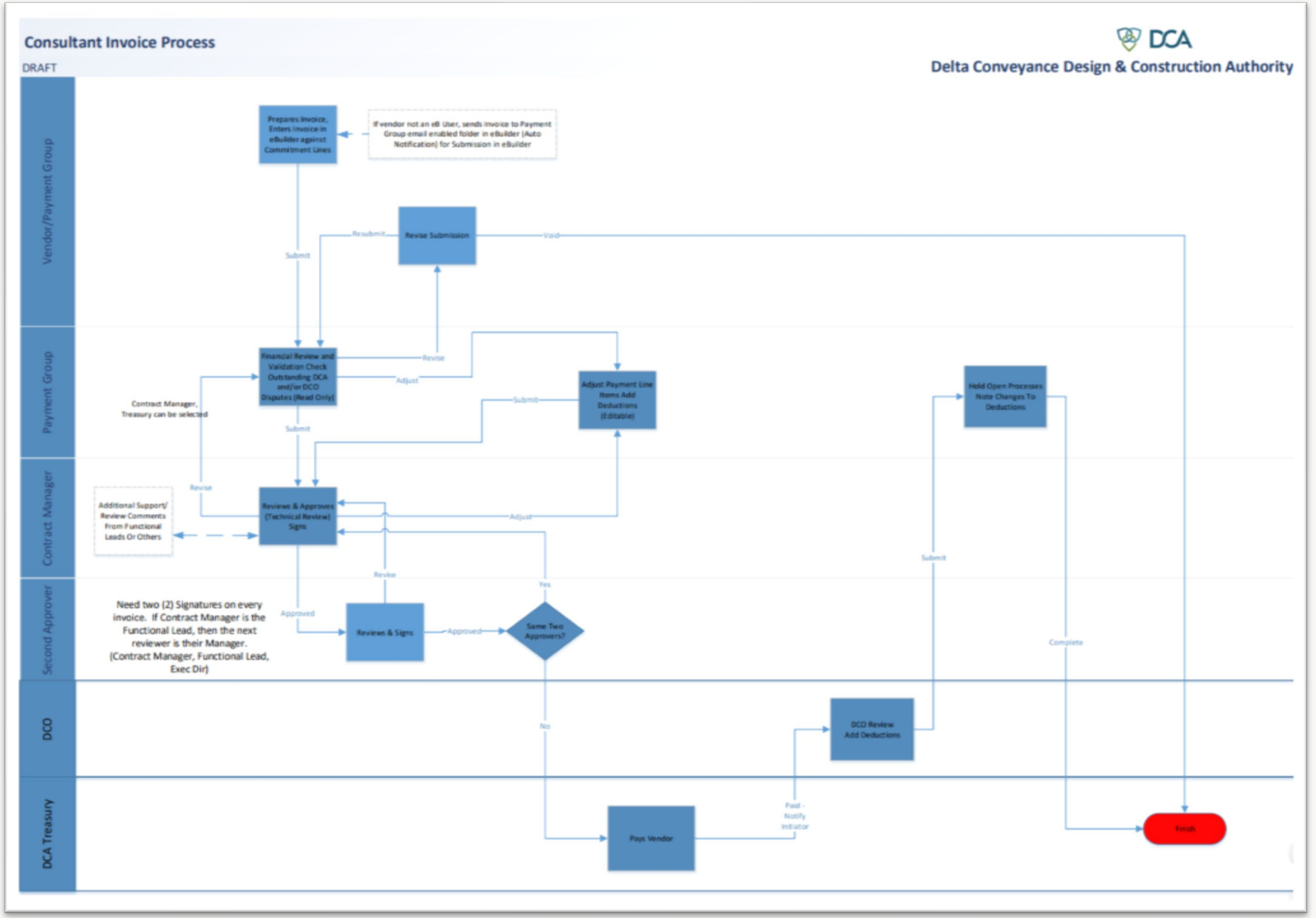
COMMUNITY ENGAGEMENT
- Public Feedback Q&A

RESOURCE MANAGEMENT
- Staff Administration

SCHEDULE MANAGEMENT
- Data Entry – Schedule Plan
- Data Entry – Schedule Update

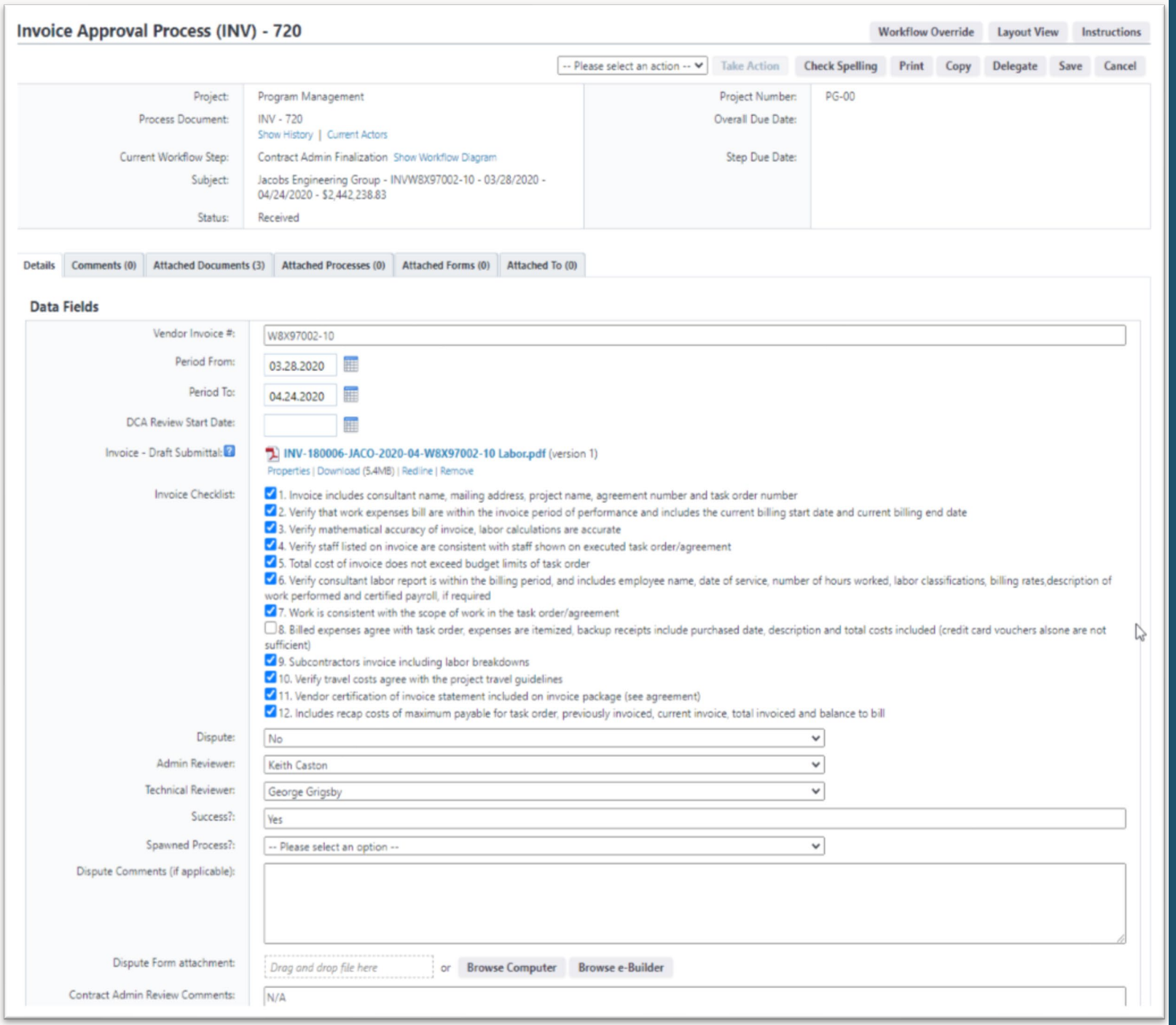
STEP 2

DEVELOP BUSINESS PROCESS WORKFLOW



STEP 3&4

DEVELOP FORMS TO CAPTURE DATA REQUIREMENTS



Invoice Approval Process (INV) - 720

Workflow Override | Layout View | Instructions

-- Please select an action -- | Take Action | Check Spelling | Print | Copy | Delegate | Save | Cancel

Project:	Program Management	Project Number:	PG-00
Process Document:	INV - 720 Show History | Current Actors	Overall Due Date:	
Current Workflow Step:	Contract Admin Finalization Show Workflow Diagram	Step Due Date:	
Subject:	Jacobs Engineering Group - INVW8X97002-10 - 03/28/2020 - 04/24/2020 - $2,442,238.83		
Status:	Received		

Details | Comments (0) | Attached Documents (3) | Attached Processes (0) | Attached Forms (0) | Attached To (0)

Data Fields

Vendor Invoice #: W8X97002-10

Period From: 03.28.2020

Period To: 04.24.2020

DCA Review Start Date:

Invoice - Draft Submittal: INV-180006-JACO-2020-04-W8X97002-10 Labor.pdf (version 1)
Properties | Download (5.4MB) | Redline | Remove

Invoice Checklist:

- [x] 1. Invoice includes consultant name, mailing address, project name, agreement number and task order number
- [x] 2. Verify that work expenses bill are within the invoice period of performance and includes the current billing start date and current billing end date
- [x] 3. Verify mathematical accuracy of invoice, labor calculations are accurate
- [x] 4. Verify staff listed on invoice are consistent with staff shown on executed task order/agreement
- [x] 5. Total cost of invoice does not exceed budget limits of task order
- [x] 6. Verify consultant labor report is within the billing period, and includes employee name, date of service, number of hours worked, labor classifications, billing rates,description of work performed and certified payroll, if required
- [x] 7. Work is consistent with the scope of work in the task order/agreement
- [ ] 8. Billed expenses agree with task order, expenses are itemized, backup receipts include purchased date, description and total costs included (credit card vouchers alsone are not sufficient)
- [x] 9. Subcontractors invoice including labor breakdowns
- [x] 10. Verify travel costs agree with the project travel guidelines
- [x] 11. Vendor certification of invoice statement included on invoice package (see agreement)
- [x] 12. Includes recap costs of maximum payable for task order, previously invoiced, current invoice, total invoiced and balance to bill

Dispute: No

Admin Reviewer: Keith Caston

Technical Reviewer: George Grigsby

Success?: Yes

Spawned Process?: -- Please select an option --

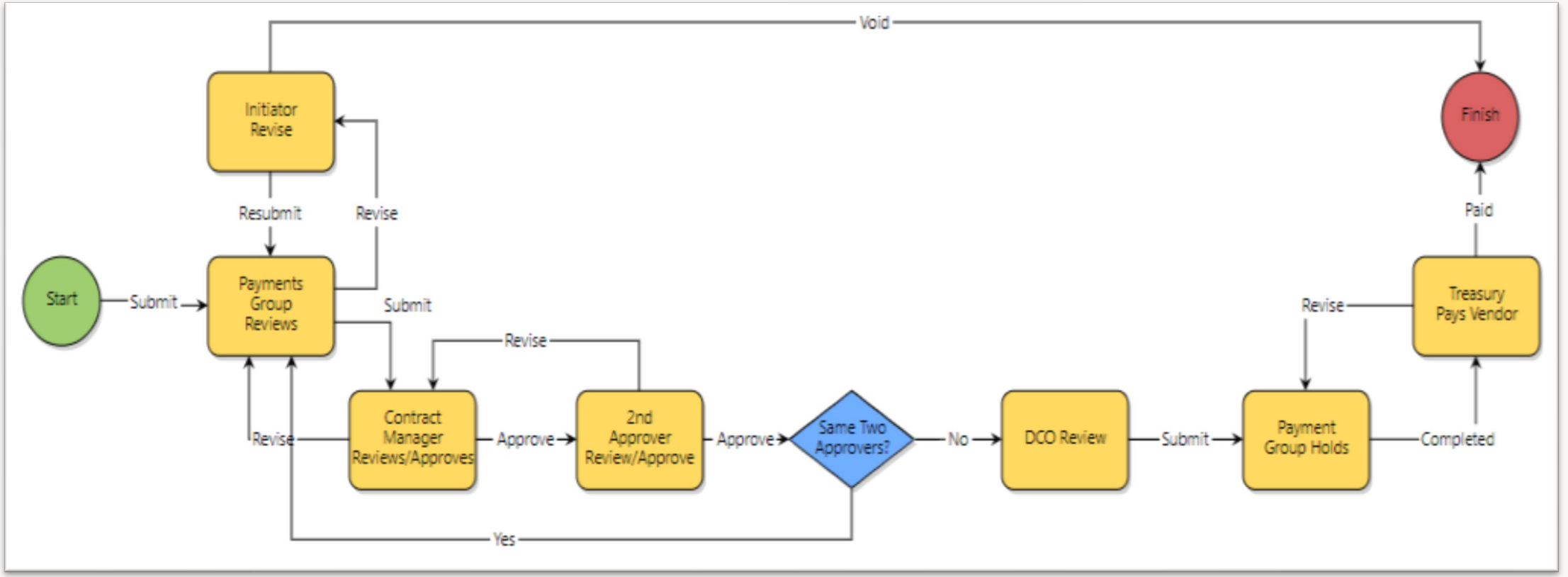
Dispute Comments (if applicable):

Dispute Form attachment: Drag and drop file here or Browse Computer | Browse e-Builder

Contract Admin Review Comments: N/A

STEP 4

E-BUILDER WORKFLOW CONFIGURATION



STEP 5

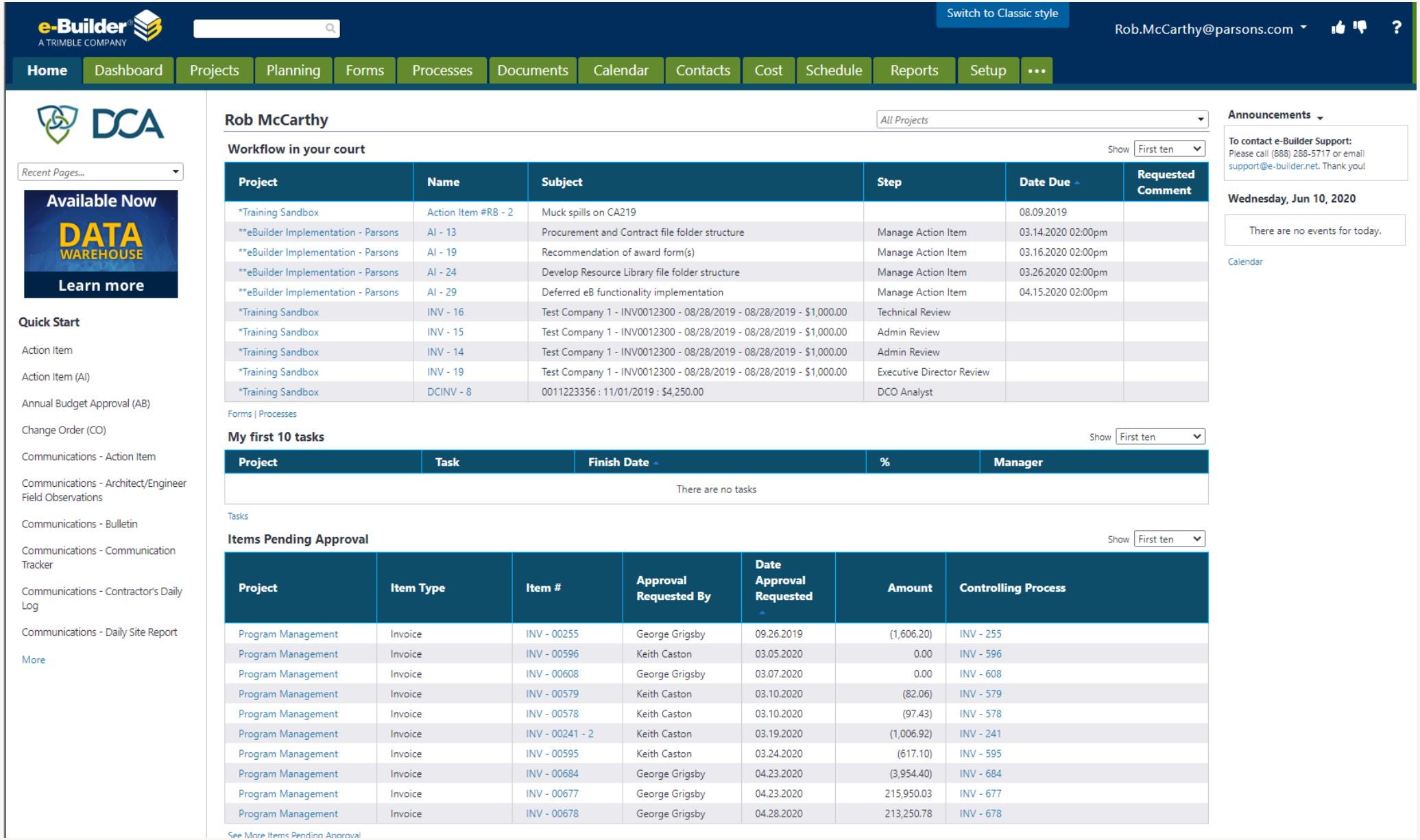
PROGRAM MANAGEMENT PLANS DOCUMENT PROCESSES

- Budget Management Plan
- Cost Management
- Contract Management Plan
- Change Management Plan
- Procurement Plan
- Risk Management Plan
- Schedule Management Plan
- Document Management Plan

STEP 6

QUICK INTRODUCTION TO EBUILDER

E-BUILDER HOME SCREEN



e-Builder A TRIMBLE COMPANY

Switch to Classic style

Rob.McCarthy@parsons.com

Home | Dashboard | Projects | Planning | Forms | Processes | Documents | Calendar | Contacts | Cost | Schedule | Reports | Setup | ...

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Quick Start

- Action Item
- Action Item (AI)
- Annual Budget Approval (AB)
- Change Order (CO)
- Communications - Action Item
- Communications - Architect/Engineer Field Observations
- Communications - Bulletin
- Communications - Communication Tracker
- Communications - Contractor's Daily Log
- Communications - Daily Site Report

More

Rob McCarthy

All Projects

Workflow in your court

Show First ten

Project	Name	Subject	Step	Date Due	Requested Comment
*Training Sandbox	Action Item #RB - 2	Muck spills on CA219		08.09.2019	
**eBuilder Implementation - Parsons	AI - 13	Procurement and Contract file folder structure	Manage Action Item	03.14.2020 02:00pm	
**eBuilder Implementation - Parsons	AI - 19	Recommendation of award form(s)	Manage Action Item	03.16.2020 02:00pm	
**eBuilder Implementation - Parsons	AI - 24	Develop Resource Library file folder structure	Manage Action Item	03.26.2020 02:00pm	
**eBuilder Implementation - Parsons	AI - 29	Deferred eB functionality implementation	Manage Action Item	04.15.2020 02:00pm	
*Training Sandbox	INV - 16	Test Company 1 - INV0012300 - 08/28/2019 - 08/28/2019 - $1,000.00	Technical Review		
*Training Sandbox	INV - 15	Test Company 1 - INV0012300 - 08/28/2019 - 08/28/2019 - $1,000.00	Admin Review		
*Training Sandbox	INV - 14	Test Company 1 - INV0012300 - 08/28/2019 - 08/28/2019 - $1,000.00	Admin Review		
*Training Sandbox	INV - 19	Test Company 1 - INV0012300 - 08/28/2019 - 08/28/2019 - $1,000.00	Executive Director Review		
*Training Sandbox	DCINV - 8	0011223356 : 11/01/2019 : $4,250.00	DCO Analyst		

Forms | Processes

My first 10 tasks

Show First ten

Project	Task	Finish Date	%	Manager
There are no tasks				

Tasks

Items Pending Approval

Show First ten

Project	Item Type	Item #	Approval Requested By	Date Approval Requested	Amount	Controlling Process
Program Management	Invoice	INV - 00255	George Grigsby	09.26.2019	(1,606.20)	INV - 255
Program Management	Invoice	INV - 00596	Keith Caston	03.05.2020	0.00	INV - 596
Program Management	Invoice	INV - 00608	George Grigsby	03.07.2020	0.00	INV - 608
Program Management	Invoice	INV - 00579	Keith Caston	03.10.2020	(82.06)	INV - 579
Program Management	Invoice	INV - 00578	Keith Caston	03.10.2020	(97.43)	INV - 578
Program Management	Invoice	INV - 00241 - 2	Keith Caston	03.19.2020	(1,006.92)	INV - 241
Program Management	Invoice	INV - 00595	Keith Caston	03.24.2020	(617.10)	INV - 595
Program Management	Invoice	INV - 00684	George Grigsby	04.23.2020	(3,954.40)	INV - 684
Program Management	Invoice	INV - 00677	George Grigsby	04.23.2020	215,950.03	INV - 677
Program Management	Invoice	INV - 00678	George Grigsby	04.28.2020	213,250.78	INV - 678

See More Items Pending Approval

Announcements

To contact e-Builder Support:
Please call (888) 288-5717 or email support@e-builder.net. Thank you!

Wednesday, Jun 10, 2020

There are no events for today.

Calendar

EXAMPLE E-BUILDER DASHBOARD – INVOICE STATUS

Payments Metrics Edit

Invoices in Review > $50K

Company Name	Record Count
Parsons	5.00
Metropolitan Water District of S. California	3.00
Audio Visual Communication	2.00
Best Best & Krieger	1.00

Received and Open

Invoices Paid > $50K Past 60 Days

Company Name	Record Count
Best Best & Krieger	2.00
Miles Treaster & Associates	2.00
Jacobs Engineering Group	1.00
Metropolitan Water District of S. California	1.00
Parsons	1.00

Paid and Closed

Invoices in Review > $250K

Company Name	Record Count
Parsons	3.00

Received and Open

Invoices Paid > $250K Past 60 Days

Company Name	Record Count
Miles Treaster & Associates	1.00
Parsons	1.00

Paid and Closed

Invoices in Review > $500K

Company Name	Record Count
Jacobs Engineering Group	3.00

Received and Open

Invoices Paid > $500K Past 60 Days

Company Name	Record Count
Jacobs Engineering Group	1.00

Paid and Closed

EXAMPLE E-BUILDER REPORT – INVOICE STATUS

Filter By:
Project Name equals **Program Management**
Date Created in the past **12.17mo**
Status not equal to **Paid, Void**
Invoice Amount greater than or equal to **500000**

Subject	Status	Vendor Invoice #	eB Invoice Number	Invoice Amount (Data Field)	Invoice Amount (Cost Field)	Date Submitted	Current Step	Responsible Actors	Step Age (days)	Process Age (days)	Commitment Number
Company Name: Jacobs Engineering Group (3 records)											
Jacobs Engineering Group - INVW8X97002-09 - 02/01/2020 - 03/27/2020 - $2,826,846.17	Received	W8X97002-09	INV - 00688	2,826,846.17	2,826,846.17	04.27.2020 09:39AM	Contract Admin Finalization	George Grigsby, Keith Caston	7.2	44.2	180006-02
Jacobs Engineering Group - INVW8X97002-10 - 03/28/2020 - 04/24/2020 - $2,442,238.83	Received	W8X97002-10	INV - 00720	2,442,238.83	2,442,238.83	05.19.2020 01:22PM	Contract Admin Finalization	George Grigsby, Keith Caston	8.0	22.0	180006-02
Jacobs Engineering Group - INVINVAccrual_May - 05/01/2020 - 05/31/2020 - $2,347,003.49	Received	INVAccrual_May	INV - 00752	2,347,003.49	2,347,003.49	06.03.2020 02:01PM	Document Control	George Grigsby, Keith Caston, Stephanie Morgan	7.0	7.0	180006-02
Grand Totals (3 records)											

QUESTIONS?

DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

Monthly Board Report

This document is fully interactive; use menus to navigate on-screen.

Agenda Item 7d

JUNE 2020

(ACTIVITIES IN MAY)

Section 1 | Executive Summary

Program Initiation. The program initiation team finalized the business requirements and prepared Draft Plans for the Phase II implementation of the Program Management Information System. Automated workflow configurations in E-Builder for budget, cost, contract, procurement and payments are in progress and we will be transitioning into use of the Phase II system processes in the upcoming fiscal year.

Engineering. The engineering team continues to progress the engineering documentation for the two alternatives identified by DWR in the Environmental Planning process. Recent work has focused on modifications to the plan as a result of SEC feedback as well as further study. We are on target to complete draft plans for the two alternatives in September.

We are beginning to ramp back up with planning activities for our field work efforts as the litigation with the Delta Counties has been resolved.

Stakeholder Engagement. The DCA held its eighth Stakeholder Engagement Committee (SEC) meeting in May where we presented DWR Scoping Update, Site Map Books, and Traffic Impacts. Valuable feedback was collected on logistics alternatives presented. Meeting material and minutes from the SEC meetings are available on the DCA website.

Budget. The DCA has committed approximately $62.4M of the Board approved budget of $82M. Our current EAC is approximately $36.4M, approximately $1Mil less than the previous month and reflects continued adjustments to expected expenditures as we approach the end of the fiscal year.

Schedule. The monthly schedule update shows an overall delay of two weeks which represents a two week gain on the previous reporting period. The months of April and May saw a ramp up in engineering staff which helped gain back lost time from our late start on the Environmental Planning support work.

Monthly Budget Summary (FY 2019/2020)

Category	Current Budget	Current Contingency	Current Commitments	Incurred To Date	EAC	Variance
Program Management	$ 8,800,000	$ 1,600,000	$ 3,725,096	$ 3,624,224	$ 4,030,000	(4,770,000)
Project Controls	$ 5,250,000	$ 700,000	$ 4,086,016	$ 3,534,075	$ 3,900,000	(1,350,000)
Stakeholder Engagement	$ 4,700,000	$ 700,000	$ 2,804,203	$ 2,042,276	$ 2,350,000	(2,350,000)
Administration	$ 6,930,000	$ 1,500,000	$ 6,307,339	$ 4,826,004	$ 5,200,000	(1,730,000)
Engineering	$ 31,800,000	$ 5,800,000	$ 23,831,926	$ 17,006,516	$ 19,240,000	(12,560,000)
Field Work	$ 21,460,000	$ 4,900,000	$ 20,728,338	$ 1,449,480	$ 1,470,000	(19,990,000)
Property Access and Acquistion	$ 3,060,000	$ 600,000	$ 953,330	$ 192,095	$ 210,000	(2,850,000)
	$ 82,000,000	**$ 15,800,000**	**$ 62,436,247**	**$ 32,674,670**	**$ 36,400,000**	**$ (45,600,000)**

Section 2 | Engineering & Field Work

During this period, the engineering team delivered the revised environmental footprint documentation and associated, preliminary drawings and GIS data. The team also continued to advance various Technical Memoranda that describe the engineering design criteria, analyses, and alternatives that will inform the Engineering Project Report to be submitted to DWR for inclusion in the Draft EIR.

The fieldwork team initiated planning for FY 20/21 fieldwork investigations.

General Work

Completed

- Revised draft Environmental Documentation Information
- Hydraulic Modeling ITR Panel
- Second Tunnels and Shafts ITR Panel

Look Ahead – Next Month

- Final EDM FY 20/21 workplan
- Draft Intake O&M Facility Requirements
- Draft Summary of Existing Surface Water Diversions at Intake Sites
- Draft Reusable Tunnel Material (RTM) Location and Quantity
- Draft RTM Handling, Utilization, and Disposal
- Draft Main Raw Water Pump Selection, AFD/CS and Redundancy
- Draft Sensitivity Evaluation of Southern Forebay Embankment Seismic Stability
- Draft Shaft Siting Study
- Draft Pre-Cast Yard Study
- Draft Barge Transport Study

continued >

Section 2 | Engineering & Field Work

General Work (continued)

Completed	Look Ahead – Next Month
	• Draft Railroad Transport Study • Draft Road Access Study • Draft Logistics Strategy TM • Draft Clean Fuel Opportunities • Draft Traffic Impact Analysis • Draft Hydraulics Design Criteria TM

Field Work

Completed	Look Ahead – Next Month
• Nothing to Report	• Preparatory work for FY 20/21 geotechnical investigation program • Draft Groundwater Cutoff for Impoundments • Draft Alternative Ground Improvement Methods Evaluation

continued >

Section 3 | Stakeholder Engagement

The eighth meeting of the Stakeholder Engagement Committee (SEC) was held remotely via video conference on May 27, 2020. DWR provided an update on the CEQA process and scoping comments received. The DCA team presented information about traffic and logistics improvements, explained how DCA is incorporating SEC feedback, provided updated map books and shared virtual tour information. Our June 24th SEC Meeting will focus on Delta-wide Soils Transportation and Balances and an update on DCA Follow-Up Studies in Response to SEC Comments

DWR UPDATE: The Scoping Summary Report, featuring 3,500 individual comments, is currently being developed by DWR and is anticipated for release in Summer 2020. It will also be included in the Draft EIR with an anticipated release date in early 2021. DWR made initial contact with 121 Tribes, and Tribal consultation continues at the discretion of each tribe. In response to SEC member inquiries from the last SEC meeting, an email was sent explaining that DCA is expected to submit to DWR its Draft Engineering Project Report in July 2020 and Final Engineering Project Report in September 2020. DWR will provide information to SEC members in June or July regarding the range of alternatives proposed for detailed analysis in the Draft EIR.

TRAFFIC UPDATE: The meeting focused on preliminary traffic modeling studies and forecasted conditions without the proposed project and traffic projections for the proposed project with and without remedial actions such as park and ride lots, dedicated haul roads, etc. Estimated traffic projections were provided for each proposed project site along both alignment options. Traffic Planner Don Hubbard provided some remediation suggestions for SEC member feedback and reviewed preliminary traffic modeling based on planning studies (not CEQA studies).

DELTA TOURS: The DCA hopes to finalize and be able to present to the SEC a virtual tour of the proposed project and facilities sitings at the next SEC meeting on June 24th. The virtual tours will allow everyone to explore the proposed sites, driving routes and facility schematics from their computer. Map books were sent to each SEC member as well and we will provide audio of the tour to allow for self-guided driving tours.

Upcoming SEC Meeting

Date: June 24, 2020

Time: 3 to 6 PM

Location: Online via Zoom registration

Topics:

* Soils Transportation & Balance
* Follow-up on SEC Comments
* Update on Tribal Outreach

SEC Meeting Calendar

- July 29, 2020*
- August 26, 2020*

SEC Meeting Materials & Updates

https://www.dcdca.org/

**Dates are subject to change, please continue to check the dcdca.org website for updates*

Note: DCA will comply with public health recommendations regarding public meetings and COVID-19 response. Any meeting changes or cancellation will be communicated to members.

Section 4 | Program Management/Administration

Program Management/Project Controls

The program management team continues to work on finalizing policies and procedures and expanding the Program Management Information System to include processes for budget management, cost management, contract management, change management and procurement management plans.

Program Controls continues to manage and track costs including budget, commitments, invoicing and payments. We are working on developing the 3-year schedule and budget for the program to take us through the environmental planning phase.

Key Accomplishments

- Budget preparation for FY 20-21
- Improved Invoicing workflow have been developed and agreed with DCO
- Electronic submission of invoices between DCA and DCO have been implemented
- E-Builder Configuration on new business processes for budget, cost and procurement management are under way
- E-builder rollout will start by end of June 2020
- The controls team processed and submitted 32 invoices to DWR for approval and payment

Administration

Most recently the administration team has been monitoring and responding to DCA impacts due to the current civil unrest events. Suite 100 sustained minimal damage (broken window) to date. Additionally, the administration team continues supporting remote work in response to the COVID-19 Sacramento County directives. We continue preparing the office for a return to work. This includes social distancing measures, sanitation supplies and training. At this time the majority of the DCA staff will work primarily remotely, with some choosing to work onsite or hybrids of both.

The team continues to manage the build-out of the new DCA Headquarters located at 980 9th Street, 1st floor. Civil unrest events have impacted the ability to complete the build-out.

Information Technology continues to support the DCA team remotely including remote meetings, application and connectivity support.

Key Accomplishments

- Coordination with HR for COVID-19 DCA support
- Go-live with PRA Responsive Records process
- Preparation and planning technology, onboarding and space needs for incoming 2020 Summer Interns
- Planned and hosted May 2020 Stakeholder Engagement Committee meeting, coordinating connectivity, moderating access, presentations, committee feedback and public comment
- Provided connectivity solution for 2 SEC members, resolving long-standing insufficient internet access issues

Section 5 | Budget

Budget Summary

Budget Forecast FY 2019/20. The DCA has committed approximately $62.4M of the original budgeted $82M. Our estimate at completion (EAC) for the current Fiscal Year is $36.4M. See pages 7-8.

Planned Cash Flow. The DCA continues to forecast approximately $39.4M in expenditure through the end of the Fiscal Year including May and June of the previous Fiscal Year (Planned Period Restart). See page 9.

Budget Change Requests. No budget changes to be reported this month.

Budget Detail

WBS	Fiscal Year	Original Budget	Current Budget	Contingency	Commitments	Pending Commitments	Incurred to Date	% Spent	Remaining Budget	% Rem	EAC	Variance
Delta Conveyance	2019/2020	**$ 97,800,000**	**$ 82,000,000**	**$ 15,800,000**	**$ 62,436,247**	**$ -**	**$ 32,674,670**	**40%**	**$ 49,420,504**	**60%**	**$ 36,400,000**	**$ (45,600,000)**
Program Management	**2019/2020**	**$ 10,400,000**	**$ 8,800,000**	**$ 1,600,000**	**$ 3,725,096**	**$ -**	**$ 3,624,224**	**41%**	**$ 5,270,950**	**60%**	**$ 4,030,000**	**$ (4,770,000)**
Executive Management	2019/2020	2,000,000	2,000,000	-	1,380,552	-	1,047,734	52%	1,047,440	52%	1,180,000	(820,000)
Legal Counsel	2019/2020	3,020,000	2,970,000	-	660,000		545,577	18%	2,424,423	82%	600,000	(2,370,000)
Audit	2019/2020	100,000	100,000	-	-	-	-	0%	100,000	100%	50,000	(50,000)
Treasury	2019/2020	160,000	160,000	-	153,046	-	161,322	101%	(1,322)	-1%	200,000	40,000
Health & Safety	2019/2020	100,000	100,000	-	-	-	-	0%	100,000	100%	-	(100,000)
Quality	2019/2020	750,000	750,000	-	150,000	-	-	0%	750,000	100%	-	(750,000)
Program Initiation	2019/2020	2,130,000	2,180,000	-	1,247,236	-	1,770,009	81%	409,991	19%	1,900,000	(280,000)
Sustainability	2019/2020	540,000	540,000	-	134,263	-	99,581	18%	440,419	82%	100,000	(440,000)
Contingency	2019/2020	1,600,000		1,600,000	-	-	-	0%	-	-	-	-
Program Controls	**2019/2020**	**$ 5,950,000**	**$ 5,250,000**	**$ 700,000**	**$ 4,086,016**	**$ -**	**$ 3,534,075**	**67%**	**$ 1,715,925**	**33%**	**$ 3,900,000**	**$ (1,350,000)**
Cost, Schedule and Document Control	2019/2020	3,950,000	3,950,000	-	3,556,098	-	2,993,242	76%	956,758	24%	3,250,000	(700,000)
Procurement	2019/2020	1,020,000	1,020,000	-	303,346	-	316,760	31%	703,240	69%	350,000	(670,000)
Risk Management	2019/2020	280,000	280,000	-	226,571		224,073	80%	55,927	20%	300,000	20,000
Contingency	2019/2020	700,000		700,000	-	-	-	0%	-	0%	-	-
Stakeholder Engagement	**2019/2020**	**$ 5,400,000**	**$ 4,700,000**	**$ 700,000**	**$ 2,804,203**	**$ -**	**$ 2,042,276**	**43%**	**$ 2,657,724**	**57%**	**$ 2,350,000**	**$ (2,350,000)**
Engineering Coordination	2019/2020	1,497,000	1,497,000		-	-	419,431	28%	1,077,569	72%	500,000	(997,000)
Outreach	2019/2020	2,173,000	1,923,000	-	2,296,252		1,285,453	67%	637,547	33%	1,400,000	(523,000)
Committee Management	2019/2020	-	250,000	-	461,112	-	337,392	135%	(87,392)	-35%	450,000	200,000

continued >

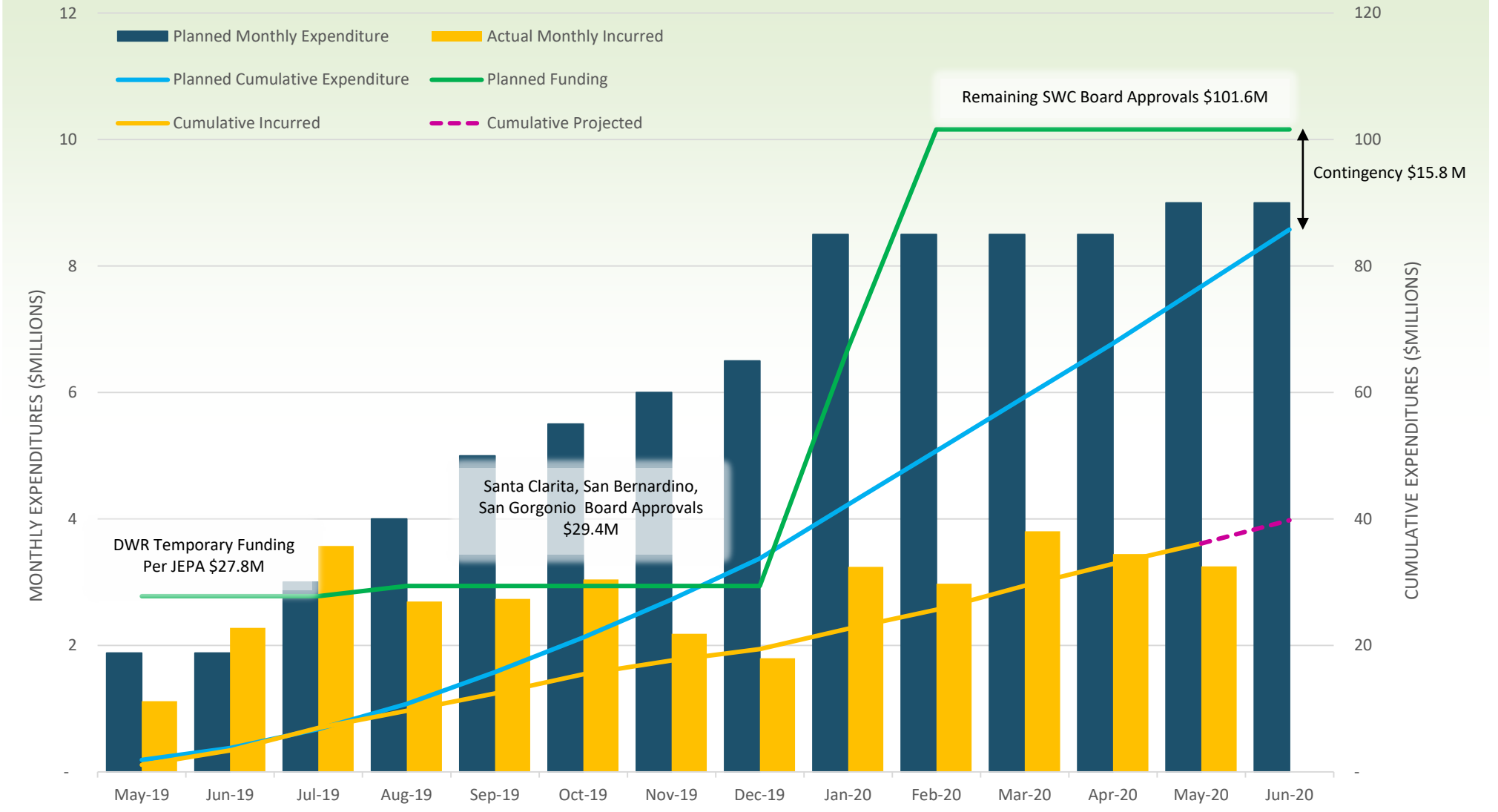
Section 5 | Budget *continued*

Budget Detail

WBS	Fiscal Year	Original Budget	Current Budget	Contingency	Commitments	Pending Commitments	Incurred to Date	% Spent	Remaining Budget	% Rem	EAC	Variance
Stakeholder Engagement	**2019/2020**	**$ 5,400,000**	**$ 4,700,000**	**$ 700,000**	**$ 2,804,203**	**$ -**	**$ 2,042,276**	**43%**	**$ 2,657,724**	**57%**	**$ 2,350,000**	**$ (2,350,000)**
Economic Development	2019/2020	1,030,000	1,030,000	-	46,838	-	-	0%	1,030,000	100%	-	(1,030,000)
Contingency	2019/2020	700,000		700,000	-	-	-	0%	-	0%	-	-
Administration	**2019/2020**	**$ 8,430,000**	**$ 6,930,000**	**$ 1,500,000**	**$ 6,307,339**	**$ -**	**$ 4,826,004**	**70%**	**$ 2,103,996**	**30%**	**$ 5,200,000**	**$ (1,730,000)**
Facilities & Operations	2019/2020	3,800,000	3,800,000		3,163,183		2,998,860	79%	801,140	21%	3,200,000	(600,000)
Human Resources	2019/2020	650,000	650,000	-	210,000	-	95,821	15%	554,179	85%	150,000	(500,000)
Information Technology	2019/2020	2,480,000	2,480,000	-	2,934,156		1,731,322	70%	748,678	30%	1,850,000	(630,000)
Contingency	2019/2020	1,500,000		1,500,000	-	-	-	0%	-	-		-
Engineering	**2019/2020**	**$ 37,600,000**	**$ 31,800,000**	**$ 5,800,000**	**$ 23,831,926**	**$ -**	**$ 17,006,516**	**53%**	**$ 14,793,484**	**47%**	**$ 19,240,000**	**$ (12,560,000)**
Engineering Management	2019/2020	2,900,000	2,300,000	-	836,032	-	423,115	18%	1,876,885	82%	500,000	(1,800,000)
Engineering	2019/2020	27,900,000	27,900,000	-	21,978,984	-	15,838,836	57%	12,061,164	43%	17,840,000	(10,060,000)
DWR Engineering Coordination	2019/2020	-	600,000		-		-	0%	600,000	100%	-	(600,000)
Environmental Coordination	2019/2020	1,000,000	1,000,000		1,016,910	-	744,565	74%	255,435	26%	900,000	(100,000)
Contingency	2019/2020	5,800,000		5,800,000	-	-	-	0%	-	0%		-
Field Work	**2019/2020**	**$ 26,360,000**	**$ 21,460,000**	**$ 4,900,000**	**$ 20,728,338**	**$ -**	**$ 1,449,480**	**7%**	**$ 20,010,520**	**93%**	**$ 1,470,000**	**$ (19,990,000)**
Geotech	2019/2020	20,440,000	20,440,000	-	19,925,640	-	1,347,258	7%	19,092,742	93%	1,350,000	(19,090,000)
Survey	2019/2020	1,020,000	1,020,000	-	802,698	-	102,222	10%	917,778	90%	120,000	(900,000)
Contingency	2019/2020	4,900,000		4,900,000	-	-		0%	-	0%		-
Property Access & Acquisition	**2019/2020**	**$ 3,660,000**	**$ 3,060,000**	**$ 600,000**	**$ 953,330**	**$ -**	**$ 192,095**	**6%**	**$ 2,867,905**	**94%**	**$ 210,000**	**$ (2,850,000)**
Property Access Management	2019/2020	360,000	360,000	-	179,330	-	141,798	39%	218,202	61%	150,000	(210,000)
Easements	2019/2020	1,700,000	1,700,000	-	-	-	-	0%	1,700,000	100%	-	(1,700,000)
Temporary Access	2019/2020	1,000,000	1,000,000	-	774,000		50,297	5%	949,703	95%	60,000	(940,000)
Land Purchases	2019/2020	-	-	-	-	-	-	0%	-	0%	-	-
Contingency	2019/2020	600,000		600,000	-	-	-	0%	-	0%		-

Section 5 | Budget *continued*

DCA FY18/19 May & June + FY19/20 Planned Cash Flow



[1]Anticipate remaining SWC participants to seek and receive funding approval from respective boards between December 2019 and February 2020

Section 6 | Contracts

Contract Summary. The table on pages 10-12 summarize the status of all executed contracts and task orders to date.

New Commitments. DCA negotiated a new purchase order for DocuSign. The total value of the purchase order is $4,437.

Procurement. There are no procurements at this time.

S/DVBE Participation. The program has committed approximately 11% of the total contract values for FY 2019/20 to S/DVBEs. Based on actual incurred costs for the current Fiscal Year 5% has been paid to our S/DVBE contractors and subcontractors. See page 13.

Contract Summary

Contracts	Contract Budget	Contingency	Historical Expenditures	Commitments FY19/20	Pending Commitments	Total Committed To Date	Incurred to Date FY19/20	% Spent FY19/20
180001 Best Best & Krieger LLP	$ 900,000	$ -	$ 343,992	$ 550,000		$ 893,992	$ 490,577	89%
200003 Best Best & Kreieger LLP	$ 3,900,000	$ -	$ -	$ 110,000		$ 55,000	$ 55,000	50%
180002 Management Partners	$ 375,000	$ -	$ 192,315	$ -		$ 192,315	$ -	0%
180005 e-Builder	$ 1,029,633	$ -	$ 305,743	$ 149,457		$ 455,200	$ 149,290	100%
180006 Jacobs	$ 93,000,000	$ 17,000,000	$ 4,221,003	$ 27,532,686		$ 31,753,689	$ 19,559,408	71%
180007 Fugro	$ 75,000,000	$ -	$ 927,247	$ 18,915,020		$ 19,842,267	$ 1,010,445	5%
180008 Hamner Jewell Associates	$ 9,000,000	$ -		$ 250,000		$ 250,000	$ 19,874	8%
180009 Bender Rosenthal	$ 9,000,000	$ -		$ 274,000		$ 274,000	$ 13,944	5%
180010 Associated ROW Services	$ 9,000,000	$ -		$ 250,000		$ 250,000	$ 16,479	7%
180011 Michael Baker	$ 8,000,000	$ -		$ 180,000		$ 180,000	$ 3,735	2%
180013 Psomas	$ 15,000,000	$ -		$ 520,700		$ 520,700	$ 1,563	0%
180014 CDMSmith	$ 74,999	$ -	$ 34,684	$ -		$ 34,684	$ -	0%
180015 AECOM	$ 15,000	$ -	$ 12,579	$ -		$ 12,579	$ -	0%
180016 PlanNet	$ 86,999	$ -	$ 77,890	$ 8,619		$ 86,509	$ 8,619	100%

continued >

Section 6 | Contracts *continued*

Contract Summary *continued*

Contracts	Contract Budget	Contingency	Historical Expenditures	Commitments FY19/20	Pending Commitments	Total Committed To Date	Incurred to Date FY19/20	% Spent FY19/20
180017 Sextant	$ 74,999	$ -	$ 21,889	$ 53,110		$ 74,999	$ 38,215	72%
190001 Bentley Systems ProjectWise	$ 140,860	$ -	$ 100,000	$ 40,850		$ 140,850	$ 25,625	63%
190003 Ron Rakich Consulting	$ 6,000	$ -	$ 5,831	$ -		$ 5,831		0%
190005 Management Partners	$ 3,135,000	$ -	$ 156,755	$ 627,000		$ 783,755	$ 521,994	83%
190008 RMW Architecture & Interiors	$ 30,594	$ -		$ 30,594		$ 30,594	$ 30,590	100%
190009 Parsons	$ 36,000,000	$ 4,000,000	$ 473,716	$ 5,823,713		$ 6,297,429	$ 5,467,247	94%
190010 Porter Consulting LLC	$ 51,150	$ -		$ 51,150		$ 51,150	$ 51,150	100%
190011 GV/ HI Park Tower	$ 8,122,584	$ -		$ 1,598,671		$ 1,598,671	$ 1,598,671	100%
190013 Jacqueline Blakeley LLC	$ 28,380	$ -		$ 28,380		$ 28,380	$ 28,375	100%
190014 Direct Technology Gov Solutions	$ 2,300,000	$ -		$ 1,210,100		$ 1,210,100	$ 704,433	58%
190015 Audio Visual Innovations, Inc.	$ 310,000	$ -		$ 310,000		$ 310,000	$ 259,071	84%
190016 Consolidatd Communications	$ 108,072	$ -		$ 21,014		$ 21,014	$ 19,102	0%
190017 ATT	$ 70,380	$ -		$ 18,192		$ 18,192	$ 6,256	0%
190018 AP42	$ 700,000	$ -		$ 136,600		$ 136,600	$ 136,600	100%
190019 VMA	$ 1,200,000	$ -		$ 391,565		$ 391,565	$ 248,785	64%
190020 Miles Treaster & Associates	$ 843,385	$ -		$ 762,080		$ 762,080	$ 761,872	100%
190021 Ring Central	$ 216,932	$ -		$ 23,586		$ 23,586	$ 22,751	96%

continued >

Section 6 | Contracts *continued*

Contract Summary *continued*

Contracts	Contract Budget	Contingency	Historical Expenditures	Commitments FY19/20	Pending Commitments	Total Committed To Date	Incurred to Date FY19/20	% Spent FY19/20
190022 Caltronics Business	$ 166,671	$ -		$ 32,051		$ 32,051	$ 9,638	30%
190023 Jambo	$ 69,840	$ -		$ 34,920		$ 34,920	$ 34,920	100%
190025-Sierra Valley Moving & Storage	$ 5,300	$ -		$ 5,300		$ 5,300	$ 3,685	70%
190026-Meeting Booster	$ 23,562	$ -		$ 7,854		$ 7,854	$ 7,854	100%
200001-Foliate	$ 16,640	$ -		$ 16,640		$ 16,640	$ 7,292	44%
200002-DocuSign	$ 4,437			$ 4,437		$ 4,437		0%
07252018 Hallmark Group	$ 1,531,360	$ -	$ 1,517,137	$ -		$ 1,517,137	$ -	0%
20200201-Office Depot	$ 15,000			$ 15,000		$ 15,000	$ 2,518	17%
Department of Water Resources	$ 3,294,035	$ -	$ 3,294,035	$ 152,317		$ 3,446,352	$ 125,413	82%
AO5218 Metropolitan Water District	$ 1,660,048	$ -	$ 1,658,329	$ 2,055,000		$ 3,713,329	$ 1,006,381	49%
Miscellaneous Vendors	$ 369,929	$ -	$ 124,288	$ 245,641		$ 369,929	$ 227,298	93%

continued >

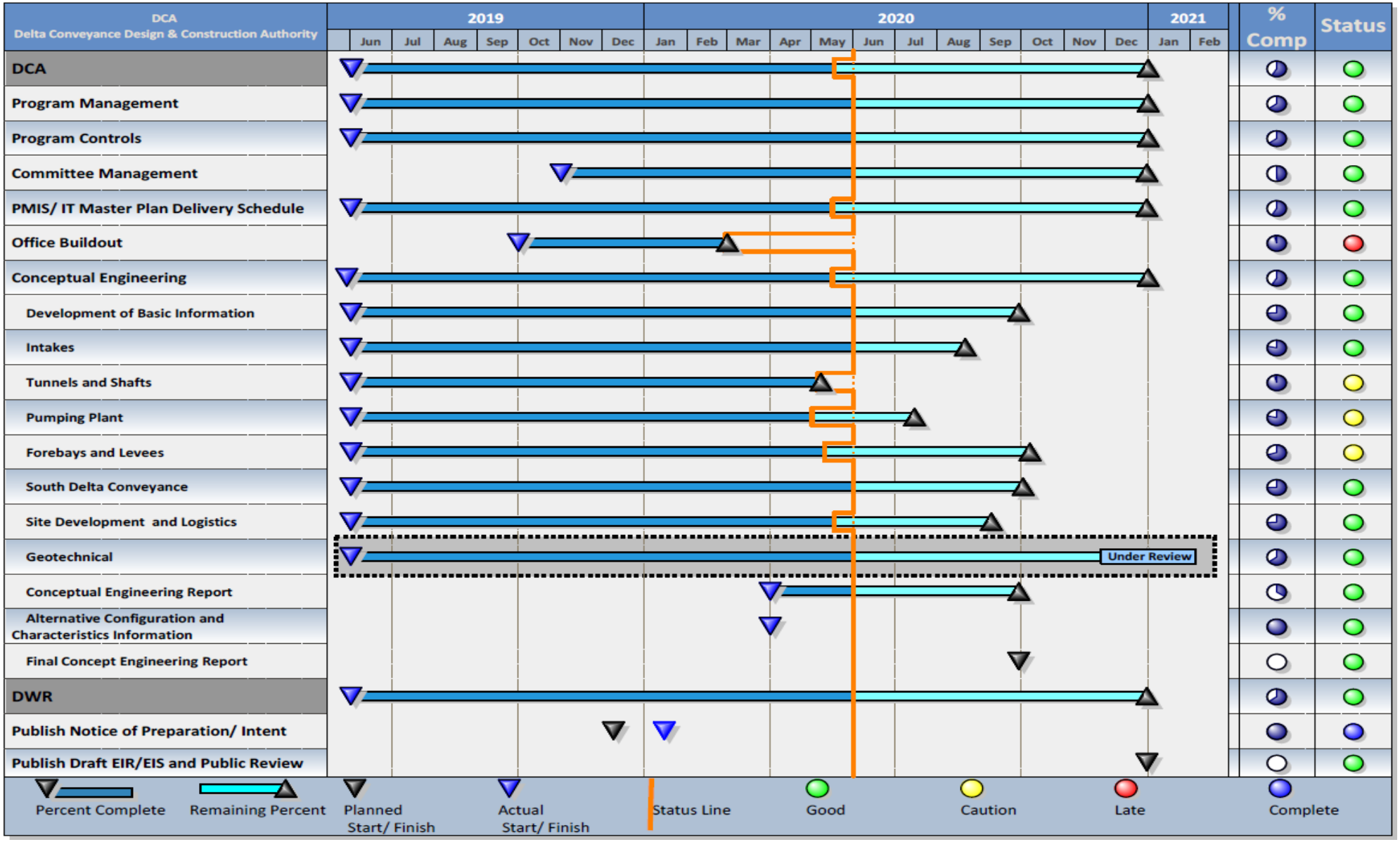
Section 6 | Contracts *Continued*

S/DVBE Status FY 2019/20

Contract/Prime	Prime	Committed	Incurred	Firm Name	SBE / DVBE	SBE/DVBE Committed	% SBE/DVBE Committed	SBE/DVBE Incurred	% SBE/DVBE Incurred
180006-02	**Jacobs**	**$ 27,532,686**	**$ 19,559,408**			**$ 2,175,731**	**8%**	**$ 941,066**	**5%**
				AnchorCM	DVBE	432,060		208,758	
				Babendererde	SBE	53,000		34,607	
				EETS, Inc.	SBE	471,957		94,113	
				JMA Civil, Inc.	SBE	205,683		205,683	
				Kearns & West, Inc.	SBE	35,213		35,213	
				Lettis Consulting International	SBE	515,000		58,908	
				Nazparv Consulting LLC	SBE	230,000		191,469	
				Wiseman Consulting	SBE	232,818		112,315	
180007-02&03	**Fugro**	**$ 18,934,723**	**$ 1,010,445**			**$ 2,772,364**	**15%**		**0%**
				Dillard Environmental Services	SBE	408,744		-	
				GeoTech Utility	SBE	121,500		-	
				The LeBaugh Group	SBE	2,242,120		-	
190022-00	**Caltronics**	**$ 32,051**	**$ 9,638**	**Caltronics Government Services**		**$ 32,051**	**100%**	**$ 9,638**	**30%**
190009-01&02	**Parsons**	**$ 5,823,296**	**$ 5,467,247**			**$ 681,803**	**12%**	**$ 513,684**	**9%**
				Chaves & Associates	SBE	681,803		513,684	
190019-01	**VMA**	**$ 391,695**	**$ 248,785**	**VMA Communications**	**SBE**	**$ 391,695**	**100%**	**$ 248,785**	**100%**

Section 7 | Schedule

The program is running two weeks behind schedule based on deliverable status. The Engineering team has started to recover from schedule slippage for the Pumping Plant and all other Engineering areas are progressing well to complete the Conceptual Engineering Report.



DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

STAKEHOLDER ENGAGEMENT COMMITTEE (SEC)

MEETING SUMMARY

May 27, 2020

This summary is provided as a resource for committee members and the public to have brief highlights following SEC meetings. In addition to this summary, detailed meeting minutes, question and answer documents and full meeting video will be available on the dcdca.org website.

MEETING HIGHLIGHTS

The eighth meeting of the Stakeholder Engagement Committee (SEC) was held remotely via video conference on May 27:

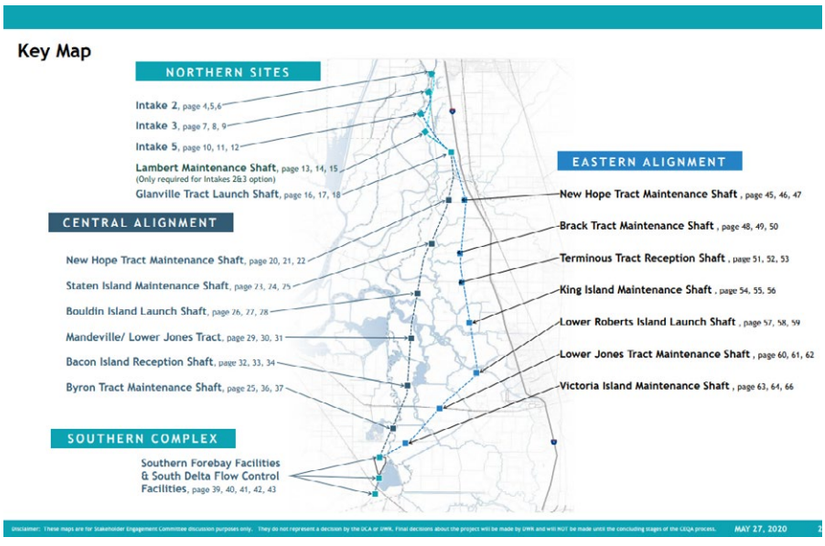
- DWR provided an update on the CEQA process and scoping comments received.
- The DCA team presented information about traffic and logistics improvements, explained how DCA is incorporating SEC feedback, provided updated map books and shared virtual tour information.

The meeting video, agenda, presentation and supplemental materials are available for review on the dcdca.org website.

MEETING OVERVIEW

- **Tracking Packet:** Member feedback on questionnaires has been included in the most recent Question Tracking Packet. The cumulative tracking packet capturing all questions submitted by SEC members is also on the website; sortable Excel versions of the documents are available as well.
- **CEQA Process Update**
  - The scoping period for the proposed Delta Conveyance project has concluded. The Scoping Summary Report, featuring 3,500 individual comments, is currently being developed by DWR and is anticipated for release in Summer 2020. It will also be included in the Draft EIR which will hopefully be ready for release in early 2021.
  - DWR made initial contact with 121 Tribes, and Tribal consultation continues at the discretion of each tribe.
  - In response to SEC member inquiries from the last SEC meeting, an email was sent explaining that DCA is expected to submit to DWR its Draft Engineering Project Report in July 2020 and Final Engineering Project Report in September 2020. DWR will provide information to SEC members in June or July regarding the range of alternatives proposed for detailed analysis in the Draft EIR.
- **Traffic Modeling Methodology:** Traffic Planner Don Hubbard reviewed preliminary traffic modeling based on planning studies (not CEQA studies) and DCA asked for SEC member feedback. The modeling showed forecasted conditions without the proposed project and traffic projections for the proposed project with and without remedial actions such as park and ride lots, dedicated haul roads, etc.
- **Traffic at Each Site and Possible Remediations:** Estimated traffic projections were provided for each proposed project site along both alignment options. DCA staff provided some remediation suggestions for SEC member feedback and further discussion.
- **Virtual Corridor Tours:** Ms. Parvizi shared a proposal for how to approach tours of the Central and Eastern corridors in order to provide visual and graphic context that is safely viewable by SEC while ensuring equity by giving everyone the same experience. Some sites are only accessible on or through private property and would therefore require permission to enter; other proposed sites are obscured by trees; some road ways are too narrow to accommodate multiple vehicles at a time; other routes have no turnouts to accommodate a tour stop; and other proposed sites cannot accommodate caravans. Map books have been provided for self-guided tours, but caution and discretion are advised regarding privacy and safety issues.
- **Next SEC Report to Board:** SEC members interested in presenting at the June DCA Board meeting should email Ms. Parvizi at NazliParvizi@dcdca.org. The May DCA Board Meeting featured the first report-out by the SEC members and was well-received by the Board.

To see the Delta Conveyance Site Book, click the here or on the image below.



NEXT MEETING

DATE*:
June 24, 2020

TIME:
3-6 p.m.

LOCATION:
RingCentral
Video Conference;
information TBD

POSSIBLE MEETING TOPICS:

- Follow-up on traffic logistics & remedial actions
- RTM quantity estimates, storage, use and transport
- Revisiting proposed barge landing on Bouldin Island
- Remediation requirements of temporary construction site land for various permanent uses
- Truck traffic and equipment operating hours and categories of air quality (Low, Medium, High)

** DCA will comply with public health recom.mendations regarding public meetings and social distancing efforts. Any meeting changes or cancellations will be communicated to members.*

NEXT STEPS

- SEC members interested in participating in the next report to the DCA Board should email Ms. Parvizi at NazliParvizi@dcdca.org. The number of SEC members participating would ideally be between 1-4 in order to avoid Brown Act concerns and achieve an appropriate report length. If a greater number of SEC members express interest, the additional members can be scheduled to speak at subsequent Board meetings.
- At the suggestion of Mr. Wirth, the DCA staff will further evaluate the proposed new haul road to the Intakes that is near Stone Lakes Wildlife Preserve to determine if it can move further West in order to potentially lessen the possible effects to the terrestrial species in that area. Mr. Wallace encouraged careful consideration of placement in relationship to the nearby project levee.
- Ms. Buckman (DWR) will reach out to Mr. Cox to further discuss concerns about fish screens and Clifton Court Forebay since the issue falls outside the scope of the SEC.
- The DCA is taking a closer look at the Byron Tract area and Highway 4 to gauge the possibility of repositioning the proposed shaft locations in order to reduce the total number of facilities needed and thereby lessen the potential effects on traffic, air quality and noise for the sensitive receptors Ms. Mann mentioned, including the school, Wastewater Treatment Plant and already-understaffed emergency services.
- The DCA team is also still working to eliminate the use of bridges on Highway 4.
- Mr. Bradner (DCA Geotechnical Engineer) will reach out to Dr. Lytle to address his questions about the methodologies used to determine the proposed heights of the Southern Forebay that were shared at the April 22nd meeting. The question and response will be added to the SEC Question Tracking Log.
- Mr. Ryan (DCA Engineering Manager) will follow-up with the fish screen manufacturers to ascertain the possibility of an SEC member tour in light of the current social distancing orders in place.
- DCA staff will work directly with Ms. Tayaba to understand the additional materials, maps, and/or presentations needed for tribes that are interested in more fully understanding the proposed Delta Conveyance project.
- DCA would like to engage the SEC in monthly meetings for the next year.
- SEC meetings will likely focus on siting until September and then the purpose and structure of the committee should be revisited in order to address further topics such as project alternatives, mitigation efforts and community benefits.

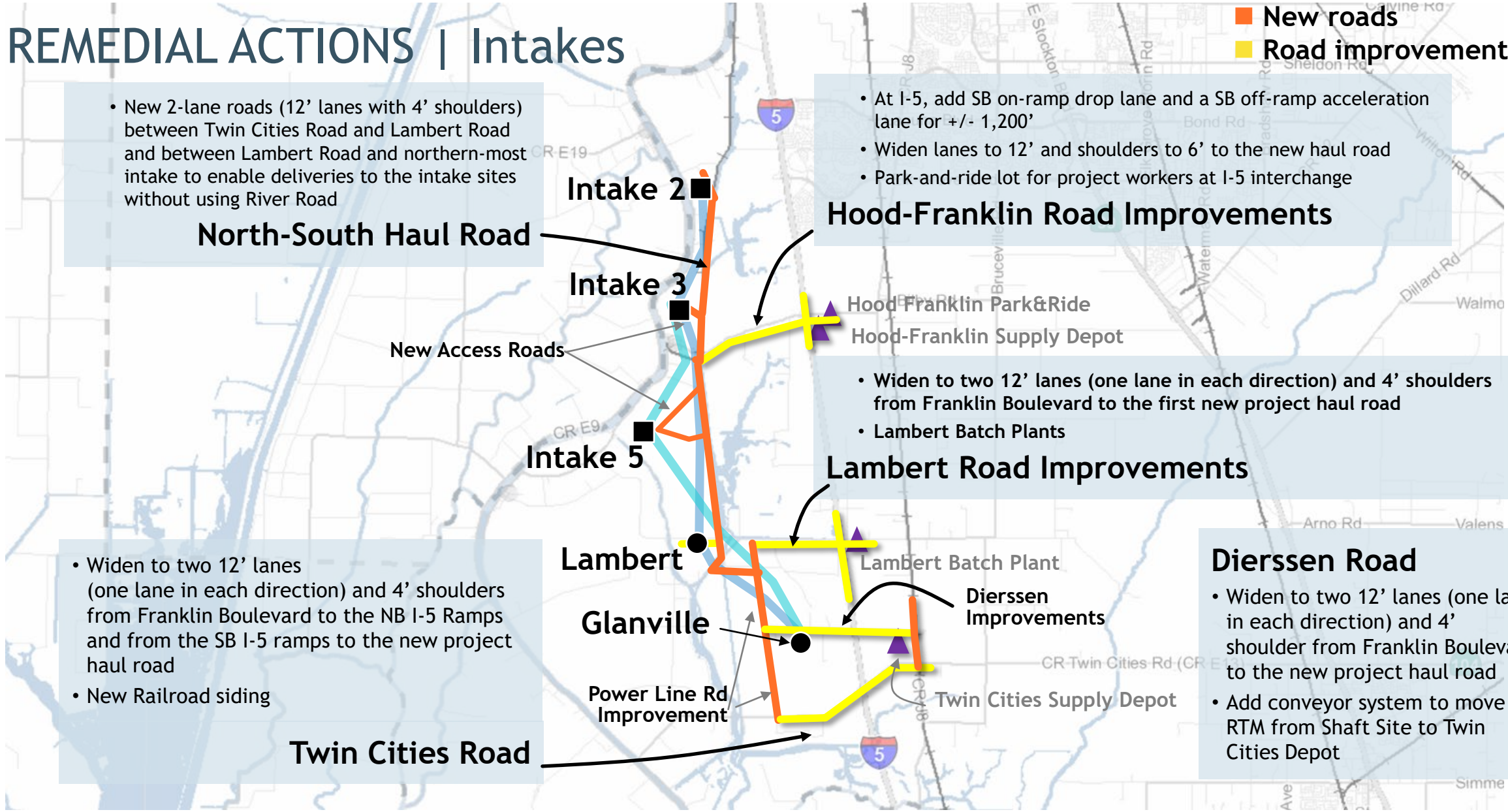
SEC Informational Tours*

• DCA Engineering staff will contact the fish screen manufacturing facilities to inquire about the possibility of tours that comply with social distancing orders.

• Map books have been provided to accompany a forthcoming narrated video that SEC members can use during a self-guided tour of the proposed corridors. Discretion and caution are advised regarding privacy and safety issues.

** Disclaimer: Maps 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.*

REMEDIAL ACTIONS | Intakes



- New 2-lane roads (12’ lanes with 4’ shoulders) between Twin Cities Road and Lambert Road and between Lambert Road and northern-most intake to enable deliveries to the intake sites without using River Road

North-South Haul Road

- At I-5, add SB on-ramp drop lane and a SB off-ramp acceleration lane for +/- 1,200’
- Widen lanes to 12’ and shoulders to 6’ to the new haul road
- Park-and-ride lot for project workers at I-5 interchange

Hood-Franklin Road Improvements

- **Widen to two 12’ lanes (one lane in each direction) and 4’ shoulders from Franklin Boulevard to the first new project haul road**
- **Lambert Batch Plants**

Lambert Road Improvements

- Widen to two 12’ lanes (one lane in each direction) and 4’ shoulders from Franklin Boulevard to the NB I-5 Ramps and from the SB I-5 ramps to the new project haul road
- New Railroad siding

Twin Cities Road

Dierssen Road

- Widen to two 12’ lanes (one lane in each direction) and 4’ shoulder from Franklin Boulevard to the new project haul road
- Add conveyor system to move RTM from Shaft Site to Twin Cities Depot

Shift Bract Track maintenance shaft north

Original Plan:

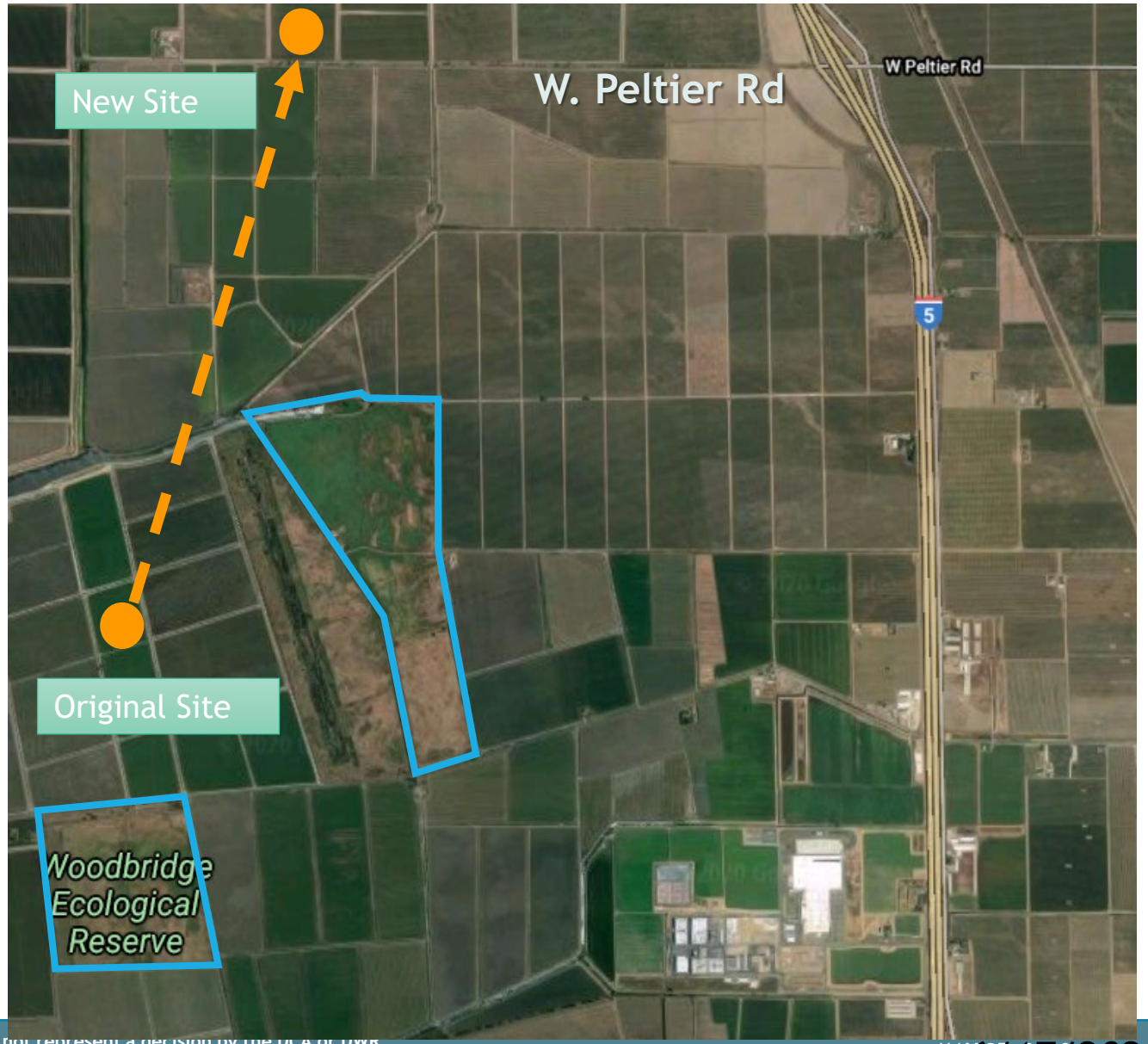
- Bract Track shaft located within 0.5 miles of South and North Units of Woodbridge Ecological Reserve

Updated Plan:

- Move shaft approximately 1.5 miles northeast to increase distance from Woodbridge Reserve

Benefits:

- Shifts construction work further away from Reserver boundary (over 1 mile)
- Easier access to site from I-5 along W Peltier Rd



DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

Board Memo

Contact: Kathryn Mallon, Executive Director

Date: June 18, 2019 Board Meeting **Item No.** 7g

Subject: Intakes Independent Technical Review

The Delta Conveyance Design and Construction Authority (DCA) has assembled world-class experts to develop conceptual engineering work to help define the project alternatives and to identify ways to avoid or minimize impacts that will be analyzed as a part of the environmental review process.

As part of any world class delivery organization, we seek the advice of other experts, both formally and informally, to share their insights and experience with our team. The Independent Technical Review (ITR) process, managed by DWR, has been implemented as part of the Delta Conveyance program to provide formal reviews of the DCA work at key delivery milestones. ITRs are considered a best practice in providing expert opinion on complex technical work and are most often associated with large infrastructure projects and programs.

ITRs will be used by the DCA throughout the Design and Construction phase of the Delta Conveyance program although the topics and focus will vary to reflect the changing nature of the work as the program advances. During the Concept Engineering Phase, ITRs will be assembled to help review the DCA work in the following key areas:

1. Tunnels and shafts
2. Intakes
3. Pumping plants and hydraulics
4. Forebays, levees, seismic and geotechnical engineering
5. Construction logistics
6. Sustainability (construction materials and methods)

Each ITR panel will likely convene multiple times and we plan to share the findings of these sessions at these Board meetings and by extension, with the public, consistent with our aim for transparency.

The ITR sessions are structured to encourage open dialogue and brainstorming where all ideas are welcome. Since the experts meet for a relatively brief period of time, they are not expected to provide definitive comments but rather ideas for consideration. Some of the recommendations or considerations may be prudent to pursue providing significant benefit to the program while others may be dismissed for a variety of technical or other reasons that the experts may or may not have considered.

Several months ago, the DCA presented the findings and our response to the Tunnels and Shaft ITR session held back in December of 2019. In today's package, you will find the Intakes ITR Findings Report and the DCA response. Similar to the Tunnels and Shafts ITR workshops, there was a healthy exchange of ideas between the panelists and the engineering teams. The report validates much of the work that has been done to date and provided a few interesting concepts for further exploration.

Please note that several of the ITR panelists were Aquatic specialists and some of their comments were environmental in nature rather than design or construction related. In these cases, DWR staff rather than DCA staff, provided a response to the ITR panelist's comment. DWR responses are identified in the table.

Recommended Action:

Information only.

Attachments:

Attachment 1 – Intakes ITR Report and DCA Response

Robert Bittner **rrb@bittner-shen.com**	Brent Mefford Bmefford.co@gmail.com	Charles Hanson chanson@hansonenv.com
Dennis Dorratcague **dedorrat@hotmail.com**	Mark Nunnelley markn@srco.com	Raymond Costa Rcosta.ge@gmail.com

March 31, 2020

Mr Tony Meyers
Executive Director
Delta Conveyance Office
Department of Water Resources
901 P Street, Room 428
Sacramento, CA 95814

DELTA CONVEYANCE INDEPENDENT TECHNICAL REVIEW PANELS (ITR)
DWR AGREEMENT NO. 4600013418, TASK ORDER ITR-02

INTAKES ITR PANEL REPORT – MEETING 1
MARCH 17-19, 2020

Dear Sir:

This letter report presents the findings of the Delta Conveyance Intakes Independent Technical Review (ITR) Panel from its March 17-19, 2020 Skype meeting. In addition to the Intakes ITR Panel, representatives from the Department of Water Resources (DWR), the Delta Conveyance Office (DCO), Jacobs Engineering (Delta Conveyance Authority's, DCA's, Engineering Design Manager/Contractor), and ICF (DWR's Environmental Services Contractor) participated in the meeting. The meeting agenda is included as Appendix 1. A daily listing of meeting attendees is included as Appendix 2. A table comparing the characteristics of vertical flat plate, and cylindrical Tee, screens in on-bank structural configurations is included in Appendix 3. Appendix 4 presents information on possible slide-in/lift-in construction methodology for the intakes, while Appendix 5 presents information on possible float-in construction methodology for the intake structures. Finally, Appendix 6 presents a short list of suggested action items to be completed before the next Intakes ITR Panel meeting; while Appendix 7 contains a table for requested responses to the Panel's feedback/considerations.

Due to the size of this letter report an index with hyperlinks is provided to facilitate access to the Panel comments/considerations in the body of the report and to supplemental information in the appendices.

Index

Appendices

1.0 Introduction

Prior to the March 17-19, 2020 Skype meeting, the ITR Panel was provided with the following additional documents:

- 5-Agency Technical Recommendations for the Location of BDCP Intakes 1-7, December 13, 2011.
- California Salmonid Stream Habitat Restoration Manual, Appendix S – Fish Screen Criteria – Department of Fish and Game, December 2002.
- Draft Memorandum from Jason Hassrick, IFC to Gardner Jones, DWR, Fish Consideration for Comparison of Tee-Screen and Flat Plate Screen Designs, March 7, 2020.
- EDM ITR Intakes Packet v1 20200309, assembled by Darryl Hayes and the Engineering Design Manager.
- BDCP Fish Facilities Technical Team Technical Memorandum – Fish Facilities Technical Team Bay Delta Conservation Plan, July 2011.
- Draft NOAA Technical Memorandum NWFS-NWFSC-1xx, NOAA Fisheries West Coast Region Anadromous Salmonid Passage Design Guidelines, August 16, 2018

In addition to the above listed documents, Panel Members are receiving periodic update documentation including:

- Ch 6 Effects Analysis USFWS Species BA 6.1-6
- Geotechnical Exploration Data Intakes 2, 3 and 5 (WaterFix)
- Intake Location Map (WaterFix)
- Temporal Distribution in the Delta
- Conceptual Engineering Report – Byron Tract Forebay Option, Volume 1/3, July 2018
- Conceptual Engineering Report – Byron Tract Forebay Option, Engineering Drawings, Volume 2/3, July 2018
- Conceptual Engineering Report – Byron Tract Forebay Option, MapBook, Volume 3/3, 7-18-2018.

Specific feedback requested from the Panel in advance of the First Meeting were to provide feedback on:

- Minimizing intake footprint
- Construction sequencing
- Cofferdam and deep foundation constructability
- Operations and Hydraulic control issues
- Sediment management
- Maximum screen panel height and
- Other relevant issues (including: Refugia, modeling and field studies)

RESPONSES TO SPECIFIC FEEDBACK REQUESTED FROM THE PANEL

The ITR panel reviewed the above documents and developed responses to these categories in the form of ideas, suggestions or recommendations followed by commentary on the benefits or challenges associated with each concept or consideration.

2.0 "Minimizing intake footprint"

Screen footprint impacts site requirements, facility O&M, fish protection and likely project cost. The Team developed a number of ideas to reduce the intake footprint ranging from minor modifications to proposed designs to major changes that could yield significant reduction in the footprint. All ideas presented are based on existing technology but would require further evaluation.

2.1

Consideration:

Reduce Length of vertical flat fish screen sweeper parking area.

Benefits:

- May be able to reduce length of sweeper parking area by offsetting the drive rails vertically to allow end of trolley to extend over the downstream panel.

Challenges:

- May require a customized design for the sweeper.
- Parked sweep arms must be far enough from downstream screens to allow flow turbulence generated by the arm to dissipate.

2.2

Consideration:

The fact that the existing flood control levee will be abandoned, and a new Project levee constructed around the perimeter of the intake facility affords the opportunity to encroach into the existing levee alignment. That is, if deemed worthwhile, the intake facility could be "setback" more into the existing streambank.

Benefits:

- Reduces overall project footprint by moving entire facility closer into river into existing streambank. Conversely, it could also allow the intake structure to either be inclined or setback into the existing streambank.

Challenges:

- This could impact road width if it remains on levee. (See additional comments regarding road relocation). Additionally, steeper slopes than the standard levee

prism configuration may require additional ground improvement or reinforced earth/retaining wall structures. A CFD or 2-D model would inform designers of the effects of this. Model would show the effects of this idea on the sweeping velocities along the screen face.

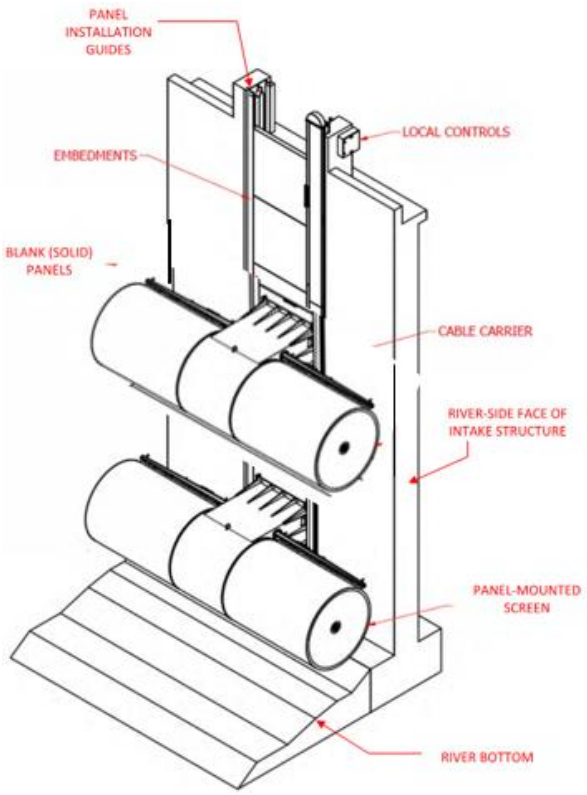
2.3

Consideration:

Dual stacked Tee Screens could reduce length of screens

Benefits:

- Vertically stacked Tee screens with diameters of about 5-ft dia. by 25-ft long could decrease intake length by 10% to 20%;
- Inclined stacked Tee screens of about 8-ft dia. could decrease intake length by 30% to 48%. (see consideration 2.6 and Appendices 4 and 5)



Representative Example of Vertically Stacked Tee Screens

Challenges:

- There are a multitude of pros and cons with Tee and stacked Tee screens, which are discussed further in Appendix 3.

2.4

Consideration:

Using the Tee screen gives you the option to follow the curve of the bank.

Benefits:

- Potentially improved sweeping velocities and potentially reduce overall footprint/environmental impact. (long straight screen could extend into river increasing sweeping velocities rather than conform to bank).
- This idea could also be applied to the vertical flat plate screens. Glenn Colusa fish screens have slight bends in their approximately 1100 feet of length.

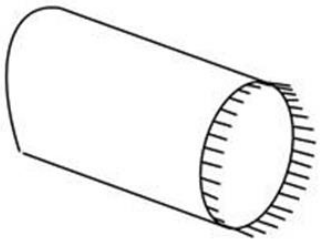
Challenges:

- The sweeping velocity challenges are not fully known at this time without additional modeling. Additional pros and cons of Tee Screens discussed in Appendix 3.

2.5

Consideration:

For Tee screen alternative, consider moving screens closer together and using brushes or rubber fingers on the ends of the screens to reduce the potential for predator holding between screens.



Schematic Example of a Tee Screen Drum with End Filaments or Wire Brushes used to eliminate predator holding areas between Tee screens.

Benefits:

- Could potentially shorten the overall screen length
- Potentially reduce predation potential between screens and or provide Refugia.

Challenges:

- The potential for juvenile fish predation with Tee screens is largely speculative and uncertain at this time.

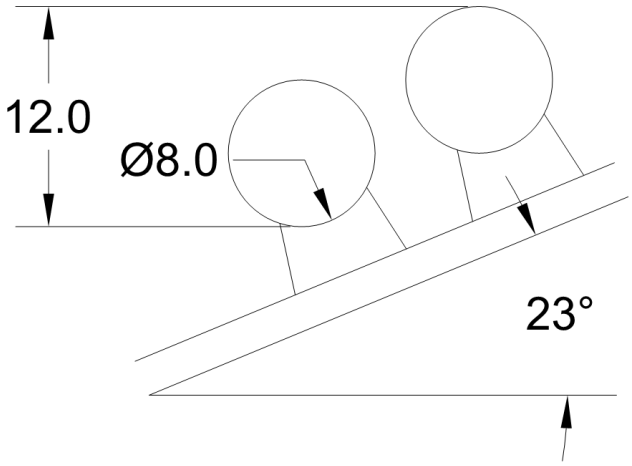
2.6

Consideration:

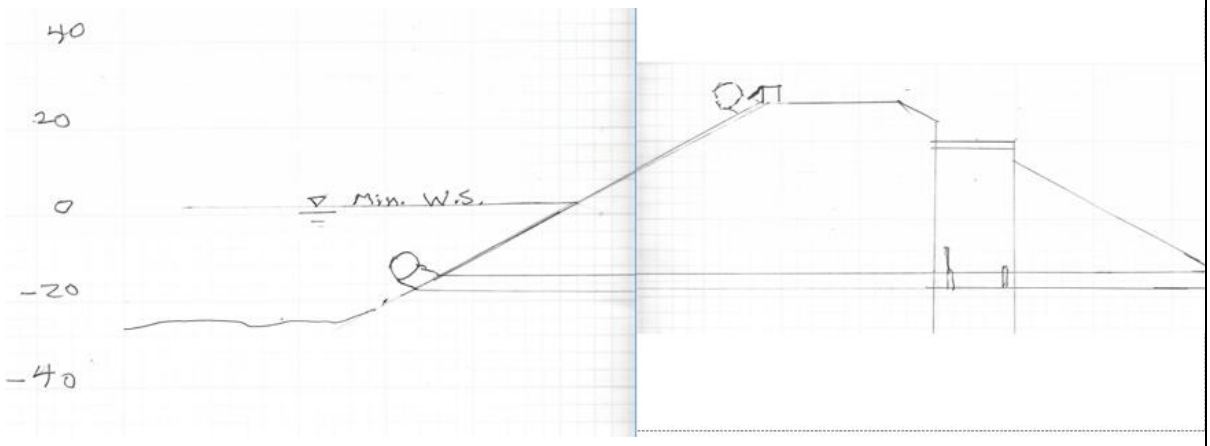
Consider Tee screens (either single or double Tee's) installed on the riverbank slope.

Benefits:

- This could reduce the structure footprint by concentrating more screen area in shorter distance.
- Could reduce impacts to upstream movement of adult Delta Smelt by creating more slower velocity water near surface away from screens.

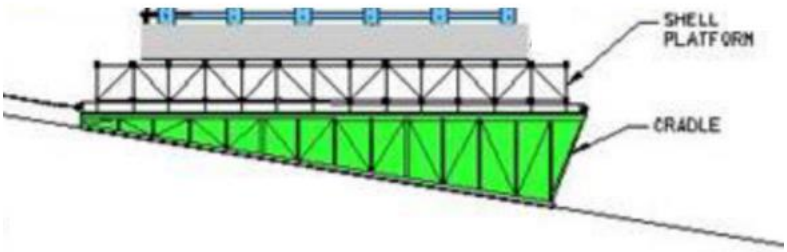


Representative Example of Inclined Stacked 8-ft dia. Tee Screens



Schematic Example an Inclined Tee Screen on a Levee Slope with a Control Gate on the Protected Side of the Embankment

Example of Inclined Tee Screens on Levee Slope



Schematic Representation of a Cradle on an Inclined Trackway on a River Bank for the Olmsted Dam Construction Project. A Comparable Approach Could be Used to Lower/Raise a Service Cradle Along an Inclined Tee Screen Track to Facilitate Maintenance of Underwater Tee-screens.

Challenges:

- This might require steepening the river side bank behind the structure to between 2:1 to 1:1. This could be done with a ground improved/reinforced earthen slope to interface with the current sedimentation basin.
- Alternatively, the embankment would have to be widened and the sediment pond set back further.
- A relocatable service cradle could be lowered down different inclined tracks to facilitate cleaning and debris removal from submerged Tee screens without interrupting operations.

3.0 "Hydraulic control issues"

3.1

Consideration:

Need to build a minimum flow velocity of about 2 to 2.5 fps into conduits behind screens to keep sediment moving in conduits.

Benefits:

- For tee screens this velocity would need to be maintained in the pipe manifold by control valves
- If available head allows, an 8 by 8 ft conduit would provide a 2-fps velocity at about 125 cfs in each conduit. Therefore, this would provide greater flow control in each conduit.

Challenges:

- Some modeling may be required to ensure these velocities are maintained in either design. If the conduit contains deposited sediment, can it be cleaned by mechanical means in an 8 by 8 ft conduit?

3.2

Consideration:

Work with system modelers to try to reduce the 18 inches of drop at radial gates at one or both intakes (e.g.: via operations).

Benefits:

- This might significantly reduce the pumping requirements/costs.

Challenges:

- Need to be careful that this reduced head is consistent with maintaining high enough velocities in the conduits to move sediment.

3.3

Consideration:

On flat plate screens use 12 modules instead of 6.

Benefits:

- This would reduce the flow in each module to 250 cfs to provide finer flow control at the baffles to obtain more uniform approach velocities to the screens. The number of screen cleaners would not be increased. One cleaner would serve two bays.
- To maintain or repair fish screens or baffle panels, half as many screen panels would have to be taken out of operation.

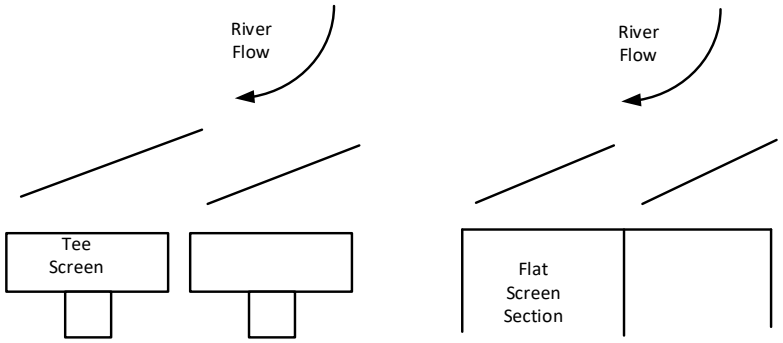
Challenges:

- This would require six additional transverse walls.

3.4

Consideration:

Has there been any consideration to training walls or training vanes in front of the screens to force the flows in a parallel sweeping direction and prevent river flow from trying to pass through the screen perpendicularly (for tee screen) or cause too high of an approach velocity for flat screen?



Schematic Representation of the Potential Use of Hydraulic Training Vanes in Front of Tee Screens or Flat Screens.

Benefits:

- For high approach velocity from river at bend, vanes could channel the water to more of a sweeping direction

Challenges:

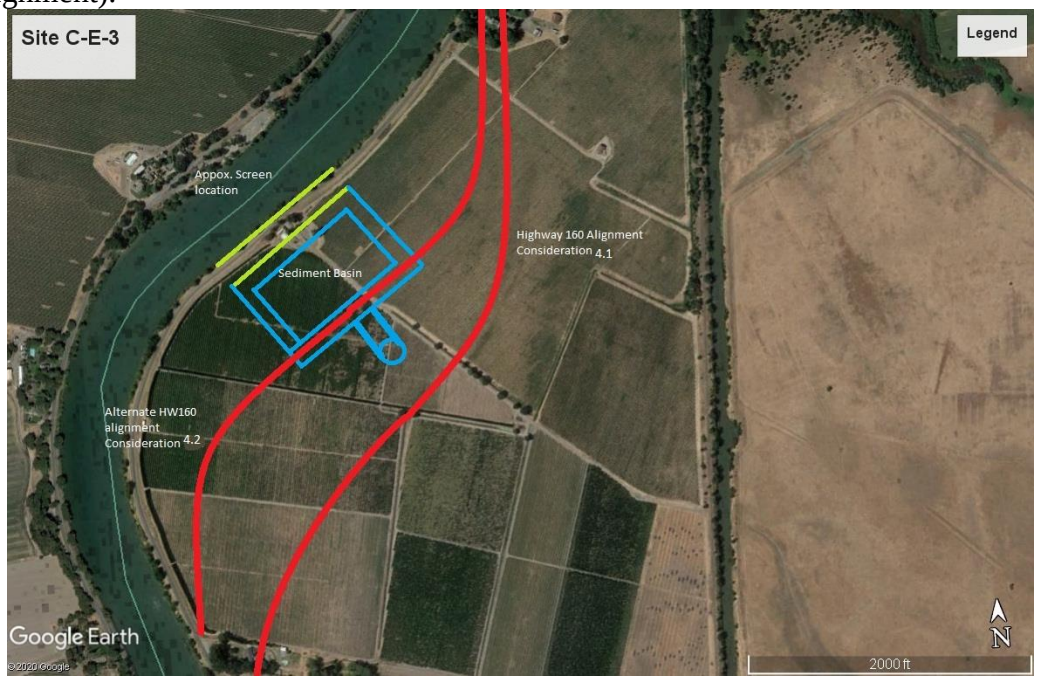
- Vanes have the potential for other issues such as trapping large debris or could alter scour patterns in front of screen structure. This concept would only be considered if modeling indicated too high of an approach velocity due to river flow at a bend.

4.0 "Construction sequencing"

4.1

Consideration:

The preliminary construction sequencing plan indicates a potential temporary relocation (with associated ground improvement) of State Highway 160 across the project site. In later stages of construction, the roadway would be restored to near the current alignment. Consider temporarily, or permanently, moving State Highway 160 to the existing grade around entire construction site as first step. (see diagram for 4.1 alignment).



Benefits:

- This could eliminate the need for an intermediate levee which would have to be built and removed during construction.
- This could also help in moving soil during construction. This may reduce levee material and slurry wall material demands.
- This option could potentially shorten the valve gallery behind the screens and pipe sections (because there would be no highway above them) and therefore reduce the overall footprint of intake.
- This may also afford opportunities to narrow/steepen the remnant levee (no longer the Project levee) along this reach.
- If favorable hydraulics could be maintained within the structure, the structure could be narrowed.

Challenges:

- Would require more land acquisition and significant work to tie in at the ends and which could actually increase the overall footprint. If the highway is considered

an essential evacuation route, it may have to elevated above any interior flooding water stage elevation.

4.2

Consideration:

A second option would be relocating road to rest on the eastern berm of the sediment basin. This section could be built early in construction with dirt from the excavated basin, with a bridge over what would become the flow control structure. (See diagram in consideration 4.1)

Benefits:

- This could eliminate the need for an intermediate levee which would have to be built and removed during construction.
- This could also help in moving soil during construction. This may reduce levee material and slurry wall material demands.
- Would require somewhat less land purchase than 4.1, but more than original concept of replacing highway back in nearly original position.
- This option would potentially shorten the valve gallery behind the screens and pipe sections (because there would be no highway above them) and therefore reduce the overall footprint of intake.
- If favorable hydraulics could be maintained in the structure, the structure could be narrowed.

Challenges:

- Consideration would have to be given for construction access to both sides of highway such as an over/under pass at each side of the sediment basin.
- There may also be security concerns with roadway through the middle of project.
- Would require more land acquisition and significant work to tie in at the ends, which could actually increase the overall footprint.
- If the highway is considered an essential evacuation route, it may have to be elevated above any interior flooding water stage elevation.

4.3

Consideration:

It appears that the sediment drying basins are roughly at the current grade of the existing agricultural land. There is the potential to use excess soil from excavating the sediment ponds to raise the elevation of the drying basins instead of having to haul off that material. Some of the material could also be used to make the "levee"/berm around the sediment basin wider/flatter than shown.

Benefits:

- Reduce the amount of sediment spoils that needs to be hauled off site.

Challenges:

- May impact the ability to dredge sediment basin.

4.4

Consideration:

Working In-the-Dry Results in: a) risk of up to one-year delay due to cofferdam installation; and b) a congested work site that could delay construction by many months. Thus, it is recommended that either the construction schedule be revisited with this risk considered and/or that a construction risk matrix be developed for the baseline/assumed construction method. Potential offsite prefabricated construction alternatives are discussed in Appendices 4 and 5; and it is understood that the Construction Logistics ITR Panel will evaluate the logistics of material handling vs river transport.

Benefits:

- Recognition of construction risks in advance allows for the provision of sufficient float-time to resolve unexpected challenges.
- Recognition of construction risks in advance could allow for changes in the construction plan to incorporate more marine staged construction activities in order to reduce both risks and construction congestion.

Challenges:

- Including more marine staged construction activities might either restrict the qualified contractor pool to larger contractors; or might necessitate dividing construction solicitations for the intakes into smaller packages.

4.3

Consideration:

The design proposes the soils excavated for the settling basin be used for construction of the new perimeter Project levee. Based on the preliminary waterside borings completed to date, if similar conditions are present landside, it is likely these soils will be sandy and not meet either CVFPB Title 23 or USACE levee embankment material requirements. Will need to consider either select fill materials will need to be imported or the excavated materials will need to be blended/modified to meet embankment fill requirements

Benefits:

- Material will meet current standards and can be dewatered and readily excavated and placed as levee embankment fill.

Challenges:

- Likely to require soils testing

- May need selective excavation/placement practices to maximize use of on-site materials
- Possibly need to haul in additional materials if existing is inadequate.
- Clay borrow pits may need to be identified.

5.0 "Cofferdam and deep foundation constructability considerations"

See Appendices 4 and 5 for conceptual representations of possible construction means, methods, construction sequences and examples of prior projects relevant to the construction of the intakes using offsite prefabrication technology.

5.1

Consideration:

Evaluate constructing the deep foundations using a slide-in sunken caisson system (200' to 300' long), see Appendix 4.

Benefits:

- Would not require any dredging in the Sacramento River as excavation would occur in the confined caisson.
- Would not require installation of either drilled shafts nor sheet piles that might disturb marine life.

Challenges:

- Would need to identify qualified contractors.
- Would need to identify potential offsite prefabrication/staging areas.

5.2

Consideration:

Evaluate a stay-in-place prefabricated slide-in concrete cofferdam (200' to 300'), see Appendix 4.

Benefits:

- Regardless of what foundation type is used, prefabrication of a precast concrete shell (either infilled after installation or not) for the intakes could accelerate the construction schedule and eliminate the risk of flooding a cofferdam.

Challenges:

- Would need to identify qualified contractors.
- Would need to identify potential offsite prefabrication/staging areas.

5.3

Consideration:

The option for off-site fabrication and float-in of a precast screening structure should be maintained as a potential construction option, see Appendix 5.

Benefits:

- This method offers very significant potential for reducing construction schedule by allowing multiple critical path activities to be performed concurrently and thereby lower the total project duration.
- The precast construction option also helps to ensure a higher quality of the final structure.
- The precast off-site fabrication float-in option would also help significantly to reduce the number of in-water work activities that would have to be performed during the relatively short annual fish windows (typically June 1st to Oct 31st).
- Offsite prefabrication would reduce local site congestion.

Challenges:

- The concern with water depth and clearance under bridges can be overcome by locating the precast/launch facility close to the installation site. Finding acceptable sites and permitting (including dredging permits) them could be difficult.
- The number of qualified contractors would be smaller than for in-the-dry construction.

5.4

Consideration:

Consider use of a Construction Manager at Risk, CMAR, contracting mechanism for offsite prefabrication.

Benefits:

- In a CMAR contract the designers remain under direct control by the State rather than the contractors.
- If the CMAR price quote is unacceptable the State can put the design out for open competitive bidding.
- The total design/construction schedule is typically reduced.
- The CMAR contractor can provide design recommendations that could improve constructability and/or construction cost.
- The State would likely not be surprised by contractor contingencies associated with design uncertainties as the CMAR would interact with the designer during the design process.

Challenges:

- More complicated design and contracting processes.
- Not suitable for small contractors.

5.5

Consideration:

The preliminary geotechnical information presented for the vicinity of the intake structures indicates problematic soil conditions. These include potentially liquefiable soil deposits and compressible organic materials. Ground improvement to mitigate these conditions as indicated will likely be required. Typical ground improvement measures may include jet grouting, deep soil mixing, deep dynamic compaction, and/or other methods such as stone (or sand) columns.

Benefits:

- Possible cost savings.

Challenges:

- Some ground improvement methods can increase local soil pore pressures during seismic events, so a careful evaluation process is merited.

5.6

Consideration:

In some locations there are dense sands/gravels and stiff clays present. This will present difficult sheet and pipe pile driving conditions. Similar hard driving conditions at other intake cofferdam locations along the Sacramento River has resulted in split sheet pile containment walls that required special additional sheet piles and grouting options. This should be anticipated in the design concept. Predrilling, as proposed, may be required.

Benefits:

- Advance identification of hard driving materials will enable the contractor to anticipate these conditions and use means/methods for installation of the required water and soil retention systems.

Challenges:

- Hard driving conditions will likely have associated noise/vibration impacts to surrounding areas.

5.7

Consideration:

Seepage cutoff walls are favorable features to reduce seepage beneath the new levee embankments. Suggest optimization of various methods be considered including both Soil-Bentonite (SB) and Slag Cement-Cement-Bentonite (SCCB) for open trench construction methods and Soil-Cement-Bentonite (SCB) for deep soil mixing methods.

Benefits:

- Having local contractors experienced with the various methods of seepage cutoff wall construction allows flexibility for the design engineer to select the optimum system for the intended use.
- Using self-hardening slurry (SCCB) will help expedite project scheduling.

Challenges:

- In some cases, the relatively tight site conditions will complicate construction of these linear features. Penetrations of the cutoff walls will need to be properly sealed.

5.8

Consideration:

BMPs such as attenuation of pile driving using an impact hammer, predrilling to reduce pile installation sound pressure, etc. should apply to all in-water construction activity.

Benefits:

- Reduced impacts on marine life during construction.

Challenges:

- Costs and logistics.

6.0 "Sediment management"

6.1

Consideration:

Evaluate disposal of treated sediment by river barge from July to October 1.

Benefits:

- Potential to reduce long term hauling and disposal costs

Challenges:

- This would require provision of a sediment out-loading berth (possibly by pumping from the dredge).

6.2

Consideration:

Allow more scour at base of screens by lowering the elevation of the rock scour protection design.

Benefits:

- During high flows this would put the highest concentration of sediment at the bottom below the screen sill and decrease suspended sediment concentration near the bottom of the screen and reduce through-screen sediment entrainment.
- This could reduce the effect of any sand dunes traveling down river past the screen structures.

Challenges:

- Design of shoring/dewatering systems will need to anticipate the effects of localized scour.

6.3

Consideration:

The concept of a gravel lined sediment settling basin is of concern to the Panel - especially along the waterside of the new Project levee. Suggest consideration of revetment (6" to 8" cobbles), soil cement lining/facing, or other hard features (e.g. articulated concrete mats).

Benefits:

- This would provide a facing such that dredge removal of sediments does not encroach into the new levee embankment prism.
- A hardened slope facing could also be useful for wind/wave erosion protection

within/outside the basin.

Challenges:

- Any lining system selected will need to be compatible with the underlying subgrade soils.

6.4

Consideration:

Sediment must be managed below screens (river side) regardless of which screen is used. Jets below screens may be effective but will require frequent operation. Traveling "toothbrush" type screen is extremely sensitive to this sediment, and it could result in major maintenance issues. At PG&E's Philadelphia diversion the oscillating brush mechanism frequently lodged in sediment bar resulting in significant damage and high maintenance. Sweep arm will need to be very robust, have good access for repair and have plenty of spare parts.

Benefits:

- Effective sediment management in front of screens will reduce maintenance issue for wiper brush.

Challenges:

- If sediment is not managed in front of the screens, the bottom of the screen sweeper mast would run into sediment and stop the sweeping operation.

6.5

Consideration:

Consider baffles or "S" walls in sediment pond to force the water/sediment to travel further increasing settling time before entering tunnel.

Benefits:

- Potential to reduce size of sediment pond or dredging frequency.

Challenges:

- This is speculative at this point and would need modeling to prove.

6.6

Consideration:

Consider permanent boom for suction dredge.

Benefits:

- Potential to eliminate/reduce the need for someone to be on the barge for dredging

Challenges:

- Control of a large boom might be difficult to achieve.

6.7

Consideration:

Consider mounting the jetting system pipes on the intake floor surface, (i.e. do not embed the jet pipes in the floor). The CER describes the system as "The sediment jetting pump will pressurize water from the pipe manifold located behind the back wall of the intake structure and deliver it to the spray nozzles, which will spray the bay floor".

Benefits:

- Placing the jet piping and nozzles on the surface rather than embedding will allow flexibility in moving them around if operations show spots that are not getting cleaned.
- Maintenance of jetting system will be easier with pipes exposed.

Challenges:

- Could result in additional maintenance if pipes get damaged.

6.8

Consideration:

Sediment removed from the intakes should, to the extent possible, be used beneficially in the Delta to reverse effects of island subsidence, in combination with carbon sequestration, as well as support shallow water aquatic habitat restoration in the Delta.

Benefits:

- Delta island restoration
- Carbon sequestration
- Support shallow water aquatic habitat restoration in the Delta.
- Additionally, this material could also be favorable for seepage berm construction which could enhance levee safety
- This potentially helps provide sustainability.

Challenges:

- Would require more testing of potential sediment contamination.
- Would require more truck trips or transport with a barge from the screen site to the Delta.

6.9

Consideration:

With regards to sediment disposal it would be important to anticipate whether the solids may likely contain contaminants (mercury, ag chemicals, etc.) that may impact the ability to dispose of the materials. Additionally, local groundwater conditions should be investigated for adverse chemical conditions. The construction of the Northwest Interceptor in West Sacramento encountered naturally occurring boron which complicated the disposal of dewatering fluids. This consideration merits testing for contaminants in the sediment and groundwater.

Benefits:

- Knowledge of characteristics of decanted spoils will allow greater flexibility in consideration of disposal options.
- Groundwater quality issues can be anticipated in advance.

Challenges:

- Discharge of either spoils or dewatering groundwater may require advance agency permitting. Disposal may only be allowed for limited uses.

7.0 "Maximum screen panel height"

This issue only applies to vertical flat plate screens. Screen height is also linked to site selection, screen length and site footprint.

7.1

Consideration:

Evaluate allowing the tops of the vertical flat plate screens to extend above design water level.

Benefits:

- During times of higher water levels, this would allow greater flexibility of water withdrawal locations within a long screen structure or between screen structures.

Challenges:

- Political distrust of violating water withdrawal requirements.

7.2

Consideration:

The Panel believes that it would be difficult to clean a 20-ft high vertical flat plate screen located 25 to 30 feet below the deck of the structure due to cleaner arm and brush length required. The panel suggests evaluating panel height, screen length and cleaner arm size (diameter and length) together. Evaluate whether the trolley rail can be located lower on the structure to reduce the length of the brush arm.

Benefits:

- Could potentially reduce the length of cleaning arm

Challenges:

- Having the trolley mechanism too high could make screen too difficult to operate and maintain.
- Would place the trolley below the water surface at high flows.

7.3

Consideration:

Determination of the design screen sill elevation would be impacted by both intermittent mobilized sediment sand dune height and frequency. More data will be required to know the impacts of dune migration and its impact on sill elevation.

Benefits: • Might be able to know in advance of dune migration and alter screen operations to mitigate dune affects.
Challenges: • Jets in the sill may not be effective to eliminate interference from large infrequent sand dunes.

8.0 "Operations"

The team believes that developing operational flexibility within each intake and between intakes is an important design component. New and greater operation challenges will impact screen operation in the future that will require operational flexibility.

Comments:

8.1

Consideration:

Evaluate developing two intake sites, at Sites 2 and 3, with a maximum diversion capacity of 3,000 cfs each. Isolate diversion within each intake to 100 to 500 cfs increments. Preferentially operate (December1-May 31) the most upstream diversion first before initiating operations downstream. Preferentially operate the upstream diversion to the lowest diversion rate needed to meet existing demands).

Benefits:

- Consolidating diversions to two sites reduces the intake footprint and reduces construction impacts that would occur if three sites were developed.
- Preferential operations of the most upstream intake can reduce the risk to delta smelt (delta smelt have reduced densities as a function of distance upstream in the Sacramento River).
- Preferential operation of the upstream intake also reduces the risk and magnitude of reverse flows in the Sacramento River and multiple exposure of fish to the intakes (consideration should be given to variable diversion rates within a day based on tidal conditions and sweeping velocities

Challenges:

- The diversion may be limited to operations only when sweeping velocity exceeds a 2:1 ratio with approach velocities). The frequency and magnitude of reverse flows is greater downstream of Hood.
- Variable diversion rates within a day might be difficult for the entire pump and tunnel system.

8.2

Consideration:

Site Location/selection – Sites 2, 3, and 5 appear to be the locations under consideration. Sites 3 and 5 are the likely favorites based on the screen and constructability. However, the selection of the two sites may be driven more by local input than based on preferred screen/river hydraulics. Screens could be constructed and operated successfully at each of the sites. Screen design should account for the river hydraulics at the chosen sites. This may result in some differences in the screen design for the different sites. Tee screens are likely less impacted by site conditions compared to the longer and taller vertical screen options. Hydraulic 2-D and CFD

modeling might show that some sites are better than others among the three final site choices. This could also inform the choice of vertical or tee screen structures.

Benefits:

- Better operation and success of screen operations.

Challenges:

- Proper calibration of the hydraulic models.

8.3

Consideration:

Limit diversion rates to 0.2 ft/sec approach velocity between December 1 and May 31 to protect adult delta smelt, juvenile salmonids, and other fish. Diversion operations during October 1-November 30 and June 1-15 would be 0.33 ft/sec or less unless a pulse of juvenile salmonids is detected moving toward the intake site when diversion rates should be reduced to 0.2 ft/sec (see near real-time operations below). Between June 15 and October 1 diversion rates should be limited to 0.33 ft/sec for juvenile salmonids and other fish.

Benefits:

- Would allow for higher diversion rates during "safe" fish population times and reduced flows when fish are present determined by real-time or near real-time monitoring.
- Increasing diversion rates to 0.33 ft/sec will reduce the active diversion footprint during the summer and fall. This would allow seasonal variations of intake throughput.
- By increasing approach velocities during safe periods, you would run less screens, thus effectively reducing overall active screen area and exposure.

Challenges:

- Increased operational complexity, as different intakes could be operated with different throughputs in different seasons.
- If adopted, this recommendation resulted in higher water throughput capacities it would require redesign of the conduits and control gates.

8.4

Consideration:

Unless tied to reductions in export rates or curtailment, real-time biological monitoring offers potential benefits only during the October 1-November 30 and June 1-15 periods. If real time data (e.g., Knights Landing, Sacramento trawl, acoustic tagging) shows a pulse of juvenile salmonids approaching the intake sites when diversion rates would be reduced to 0.2 ft/sec or curtailed there could be biological

benefit from reduced diversion exposure. Diversion operations during the periods October 1-November 30 and June 1-15 can be coordinated with Delta Cross Channel (DCC) gate closures for fishery protection based on near real-time monitoring so that diversion rates are reduced to 0.2 ft/sec when the DCC gates are closed for fishery protection.

Benefits:

- Greater range of operational control.

Challenges:

- More complex operations.

8.5

Consideration:

Acoustic tag survival studies should be conducted using juvenile Chinook salmon and steelhead (and white sturgeon surrogates) released upstream of the intake reach and immediately upstream and downstream of each intake site to assess baseline predation losses before and after intake construction over a range of river hydrologic conditions.

Benefits:

- Know the possible extent of predator populations at the different sites to inform choice of sites and design of screen structures.

Challenges:

- Fish behavior during operation may differ from that of the study period.

8.6

Consideration:

Restoration of shoreline juvenile rearing habitat should occur a minimum or five miles upstream of the most upstream intake site to improve habitat conditions and growth of juvenile salmonids before migrating downstream and encountering the intakes as well as to avoid an attractive nuisance in the immediate area of the intakes.

Benefits:

- Could provide healthier larger fish at the intakes.

Challenges:

-

8.7

Consideration:

Control of Aquatic Weed Impingement: Assume increased occurrence of and concentration of aquatic weeds in the future as river flow may warm and new exotic species show up. This a critical issue to maintaining screen performance for both delivery and fish protection. The cleaners must be capable of removing debris from the screen along its length during heavy aquatic debris loads.

- Possible ways to minimize impact –
    - Maximizing Sweeping/Approach velocity ratio.
    - Frequent screen cleaning. Provide flexibility to increase cleaning cycles.
    - Minimize screen length.
    - Reduce diversion during high concentrations of aquatic weeds.
    - Avoid exceptionally tall screens that may require long cleaner sweep arms.

Benefits:

- Better screen operation

Challenges:

- Preventing debris from rapidly re-impinging on the downstream screen during cleaning. Cleaning the screen will cause debris concentration to increase downstream near the screen as debris is removed from the upstream portions of the screen.
- There is little direct guidance on this. However, long sweep arms are inherently more difficult to maintain consistent brush pressure over the length of the brush. Small horizontal offsets in screen panels or support structure can affect brush performance. This can be minimized with additional pivot points in the screen length more like a long windshield wiper (see Appendix 3 for additional discussion).

8.8

Consideration:

Control of Biofouling: Control of aquatic organisms that will attach to the front or back of the screen. Mussels, freshwater sponges and snails are known to impact screen operation when they occur in abundance. Filter feeders are particularly problematic as the back side of screens with low approach velocity are ideal habitat for these organisms.

Possible ways to minimize impact –

i. Use Tee screens with internal brushes.
ii. Close one module of the vertical screen to remove and clean all screens sequentially. Installation of blank panels should maintain a smooth screen face to prevent introduction of excessive near screen turbulence.

Benefits:

- Design for biofouling can mitigate effects on screen operations when biofouling does occur.

Challenges:

- Cleaning the front, back and slots of the screen on a frequent basis. For the flat plate this will require removal of panels. This process must be as easy as possible and not interfere with diversion or fish protection. Based on mussel growth/colonization rates experienced in the lower Colorado River this could require bi-monthly cleaning.

8.9

Consideration:

Mechanical Equipment: Minimizing the impact to diversion of mechanical failures on large screens will be needed. Major components that directly impact operating the screen within design criteria should be identified and ranked as to potential impact on diversion.

Possible ways to minimize impact –

i. Compartmentalize screen operation to the degree possible.
ii. Stock key components on site.
iii. Maximize diversion flexibility between diversion sites.
iv. Plan for access to perform O&M of screen cleaners during high flows.

Benefits:

- Reduce screen outage times.

Challenges:

- Identifying key components, identifying potentially better alternatives and planning for mechanical outages.

9.0 "Screen Type"

The ITR panel team members have substantial experience with the design, operation and maintenance of large Vertical Flat Plate and Tee Screen facilities. While the team was in agreement in most areas, there were some areas where the team was not in complete alignment. Therefore, in addition to the Team's comments given below the Team developed a matrix of screen type pros and cons by adding our comments to previously published comparison charts. The draft memorandum "Fish Considerations for Comparison of Tee screen and Flat Plate Screen" provided to the ITR comparing the alternatives does a good job of identifying the differences between the screens. The matrix allowed the team to comment on pros and cons of specific features of each screen and is given as Appendix 3.

Based on our collective experience we find:

1. Both provide State-of-the-Art screening technologies.
2. Both screen types could be designed to meet all fisheries criteria.
3. Both facility footprint and flow per screen bay favor the Tee screen option.
3. Screen cleaning favors the Tee screen option.
   i. Tee screens offer superior screen cleaning via the external and internal brush system.
   ii. The most common problems experienced with large Vertical Flat Plate screens are related to the brush cleaners, brush arms and pully systems especially for the long brush arms required at these sites. These systems generally are difficult to access. Observation of screen streaking during screen removal will indicate poor brush contact. Identifying the problem can require dive inspections of brush/screen contact.

4. Both screens will provide inflow structure creating hydraulic shadows downstream that predators could use for holding. The team believes relatively minor modifications can be made to both screen types that would reduce predator holding areas. Several ideas developed by the team are presented in the comments that follow. Assuming efforts were made to reduce predator holding during design the team has no clear screen favorite for limiting predation. Further studies would be needed to differentiate between the two.
   i. The vertical screens option has six brush cleaner arms that extend the full height of the screen. These will be large steel members with vertical brushes that have been shown to be used by predators holding next to the screen.
   ii. Tee screens would create hydraulic shadows downstream of the center leg of the 30 Tee screen cylinders extending from the wall and between the ends of the screens. These are possible predator holding areas.

Screen Type Considerations

9.1

Consideration:

Minimizing the screen footprint is important for reducing environmental impacts and improving operation of the screen. The Tee screens offer a major advantage on this

issue and should be given strong consideration.

Benefits:

- Tee Screen option can be condensed into shorter structure reducing exposure.

Challenges:

- Both flat plate and Tee screens have the same area of screen exposed to fish.

9.2

Consideration:

Predation is a major concern no matter what type of screen is selected. Flat Plate screens could harbor predators behind the 6 sweeper masts, along the log boom, and downstream of the structure. The Tee screen could harbor predators behind the base of the tees projecting from the structure, downstream of or under the cylinders, along the log boom, downstream of the structure.

Benefits:

- Reference appendix 3 for more detailed discussion on Screen selection.

Challenges:

- Small fish swimming along the screen may be more vulnerable to predation due to expenditure of energy to avoid screen impingement and the lack of natural river structure for hiding. Predation impacts due to the screens cannot be definitively answered although more research would be beneficial. Identifying the flexibility of each screen design to adaptively manage predation is likely more valuable than trying to estimate the potential difference of predation between screen types.
- Many behavioral fish guidance/barrier systems have been installed to control fish behavior near water intakes. In general, the effectiveness of such devices can be summed up as "partially effective". Electric pulse systems are widely tested behavioral devices. They have been tested on many predator species including striped bass in laboratory and field trials. Electric pulses used for shocking fish affect larger fish more than smaller fish and therefore offer the ability to irritate larger predators while causing little effect on small fish. Installing electrodes in areas thought to be predator holding areas near screens could likely scatter predators taking advantage of screen structure. Other methods of managing predation should also be evaluated. These include, but are not limited to, reducing water visibility along the screen by pumping turbid water from a settling ponds into the river near the surface when large numbers of smolts are migrating downstream (likely most effective for Tee screens that draw water lower in the river), evaluate predator response to operation of sediment jetting in front of the screen, installing a bubble curtain to reduce/obscure predator visibility in the upper water column (likely most effective for Tee screens that draw water lower in the river).
- Fish may become tolerant of deterrent method over time.

- Evaluating effectiveness will be difficult
- Requires O&M of additional equipment
- Ensuring fish deterrence system does not provide a hazard to the public.

9.3

Consideration:

The smaller module approach offered by the Tee screen concept would likely provide greater control of near screen hydraulics thus allowing better compliance with screen criteria.

Benefits:

- Baffling a large flat plate screen to meet 0.2 ft/s criteria over its full length and height will be difficult at best.

Challenges:

- Tee screens can be very problematic in this regard also since their baffling system is fixed plates inside the screen cylinders. If they do not meet approach velocity criteria, making the necessary adjustments could be difficult.

9.4

Consideration:

Measuring approach velocities at vertical flat plate, and Tee, screens could be difficult especially in areas of high sweeping velocities. The flat plate screen approach velocities would be measured from meters on a boom hung from a dolly on the sweeper trolley rail. Adjustments to the baffling would be mad from the deck of the structure. The Tee screens would likely require divers to position the velocity meters on all sides of the screen. Baffling would be determined from large scale laboratory tests. Field adjustment of Tee screen baffles would be difficult.

Benefits:

- Measuring approach and sweeping velocities are required by fish agencies

Challenges:

- Flat plate screen: cleaning the screens would be difficult during measurement operations; high flows could cause vibration in the mast degrading measurements.
- Velocity measurements in the 0.2 ft/s range are difficult to make with ADV's mounted on long booms suspended in flow. Measurement position, meter orientation and vibration of the mast/meters are difficult to control.
- Using divers to mount meters directly on the screen should be considered.
- Tee screens: measurements at high flows would be very difficult for divers to hold in position; turbidity could make it difficult to for divers to locate themselves;

adjusting baffling would require removing the screen cylinders, opening them up, and replacing the baffle plate with a new one.

9.5

Consideration:

Avoid screen designs that could require intermediate bypass collection and conveyance systems in the intake design. V screens should be avoided to eliminate the need for fish bypass pipes and fish handling and exposure to concentration and turbulence and the discharge location.

Benefits:

-

Challenges:

- Experience has shown these types of bypasses to be problematic especially for predation where the bypasses are discharged into the river.

9.6

Consideration:

A key element of intake design will be regulatory acceptance of the design configuration. Unless there is a strong rationale for an alternative design the preferred intake configuration supported by CDFW, USFWS, and NMFS should be the preferred design concept. Either the flat plate or Tee screen intake configurations appear to be functional at the selected sites so that the preferred intake design would be the design approved by the regulatory agencies.

Benefits:

- Letting the Agencies select the type of screen system would reduce effort in trying to sell a different concept or carrying two different system further into design.

Challenges:

- Whatever screen is currently acceptable with the agencies would be selected without consideration to many of the advantages or disadvantages discussed in Appendix 3.

9.7

Consideration:

Screen Brush on Vertical Flat Plates – add more pivot points to more evenly distribute forces on the brushes. See Appendix 3 for additional details.

Benefits:

• Provides a more even brush pressure on the screen over its height. This prevents uneven cleaning in the vertical or "striping" on the screen.
Challenges: • Brush could extend out further from the screen.

10.0 "Screen Refugia"

The team believes opportunities for including refugia as an adaptive management component should be considered during design.

10.1

Consideration:

Evaluate fully designing a continuous horizontal refugia with continuous horizontal bars mount on the bankside of the piles for the floating boom. Also, design a shroud that could be installed underwater to cover the refugia if it does not prove beneficial.

Benefits:

- Would not impact either screen design

Challenges:

- Could be difficult to remove or modify after installation

10.2

Consideration:

Refugia mechanisms could be incorporated on non-screen sections of Tee screen which would not add to overall length.

Benefits:

- Could help with agency acceptance
- These refugia could be easily pulled out with the screen to be inspected, repaired or modified.
- Several different types of refugia could be tested and modeled in this fashion but does not require divers to inspect or modify

Challenges:

- Limited to individual screen and not available for entire distance.

10.3

Consideration:

Refugia should include horizontal bar configuration and extend, to the extent practical giving screen modules and cleaning, across the entire length of each intake. The refugia bars should be spaced to allow fish less than 3 inches in length to enter and exclude all Tee screen intake modules should be located as low in the water column as possible while avoiding bed load sediment transport.

Benefits:

- Horizontal bars appear to perform better than vertical bars

Challenges:

- Use of horizontal bars imposes some design requirements.

10.4

Consideration:

For the Tee screen option, cones should be placed on the upstream and downstream screens to provide smoother hydraulic conditions and reduce velocity refugia and turbulence that encourage potential predation.

Benefits:

- Could reduce predator holding areas

Challenges:

- Need to store addition replacement Tee screens with end cones.

10.5

Consideration:

Design refugia to exclude fish greater than 16 inches in length. If debris loading, excessive eddies or turbulence, predation, etc. are observed the refugia should be covered and no further consideration of application of refugia given to intake design or operation (adaptive decision).

Benefits:

-

Challenges:

- Sizing the refugia entrance racks to provide refuge for prey while excluding smaller predators could be difficult.

10.6

Consideration:

There is no definitive data as to the benefit or dis-benefit of refugia. Are refugia safe locations for prey or small predators?

Benefits:

- Designs based on experience and judge can be customized to the current situation.

Challenges:

- Designs may need to be either removed or shrouded if they provide net dis-benefits.

10.7

Consideration:

For design look at wider horizontal refugia built into fish screens or at bottom of blank panels above screens. Consider designing in removable camera locations inside refugia to assist in adaptive management decisions.

Benefits:

- Horizontal bars at refugia entrance have been found to work better than vertical bars.
- Cameras in the refugia would aid in determining if the refugia are providing a benefit

Challenges:

-

11.0 "Other relevant topics"

11.1

Consideration:

Do 2-D river modelling early enough to inform decision of final screen placement.

Benefits:

- There are many factors that will rely on this modeling

Challenges:

- To get maximum benefit such modelling should be done sooner rather than later.

11.2

Consideration:

Potentially, screens could be moved slightly closer to outer bend to increase sweeping velocities,

Benefits:

- Would help in screen cleaning and quicker passage of fish.

Challenges:

- This might not be the best for Delta Smelt, nor for verification of the 0.2 ft/sec maximum diversion flow velocity. This may require adjustment of the baffles and/or increased screen design area

11.3

Consideration:

More information is needed for screen contact and predation.

Benefits:

- This data could better inform the design of the screens and refugia.

Challenges:

- The sooner such data is gathered the more useful it would be.

11.4

Consideration:

Need studies of fish presence and distribution at the screen sites. Needed for baseline studies anyway.

Benefits: • Could aid in design and operating rules for water withdrawals.
Challenges: • The sooner such data is gathered the more useful it would be for the design.

11.5

Consideration: Study predator use of piles and log booms at existing screens.
Benefits: • Could inform design of log booms and refugia.
Challenges: • The sooner such data is gathered the more useful it would be for the design.

11.6

Consideration: Non-physical fish deterrents/guidance can be considered.
Benefits: • Could keep some fish away from the screen structures.
Challenges: • Studies of such systems have shown them to be partially effective.

11.7

Consideration: On a sustainability basis, you may want to consider installing solar panels to augment power usage.
Benefits: • Simple step to gain sustainability credit.
Challenges: •

11.8

Consideration:

If Tee screens are used, consider using electric motor in lieu of hydraulics

Benefits:

- Reduce the potential for oil entering water way. This action should be considered for any hydraulic equipment that could leak into the river water.

Challenges:

-

11.9

Consideration:

1. Suggest confirmation of project hydraulics in light of the recent adoption of the Folsom Dam operating manual. Additionally, the widening of the Sacramento Weir will affect the frequency and flow characteristics of the Sacramento River downstream of the American River confluence. Potential changes in hydraulic grade lines as well as sediment transport conditions may affect project operations.

Benefits:

- Potential changes to anticipated discharge frequency and potential sediment transport conditions can be incorporated into the design.

Challenges:

- Proceeding without this confirmation creates risk of future operations difficulties.

3.0 CONCLUSIONS

The Intakes ITR Panel is impressed with progress made on the conceptual design of the Intakes for Delta Conveyance Project to date, but also realizes that there are many key design parameters that still need to be determined before the conceptual Intakes design is ready for solicitation for final design. Appendix 6 contains a short list of Action Items that should be accomplished prior to the next Intakes ITR Panel meeting.

4.0 NEXT INTAKES ITR PANEL MEETING

The participants agreed that at this point it would be premature to set a firm date for the next Intakes ITR Panel Meeting.

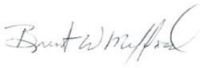
5.0 CLOSURE

This was an exceptionally productive meeting. The Intakes ITR Panel acknowledges the efficiency with which the First Meeting was organized and conducted. We compliment the presenters and project manager and also note the willingness of individuals from all parties to present findings and opinions, and to provide technical and strategic leadership to the project.

Respectfully submitted,

Dale E. Berner

Raymond Costa



Brent Mefford

Mark Nunnelley

Robert Bittner

Charles Hanson

Dennis Dorratcague

Appendix 1: Daily Agendas

Delta Conveyance
Intakes ITR Panel Meeting – March 17-19, 2020

BONDERSON CONFERENCE ROOM 422: 901 P Street, Sacramento, CA Skype Sessions

TIME: 8:00 AM Start each day

Meeting Goal and Objectives

1. Develop Common Understanding of Intake Facilities and Identify Critical Issues
    - Project description; Facility needs/features; Fish protection; Hydraulics; Operations; Project scope; Major assumptions
2. Screen-Type Selection Issues – Plates vs. Tees
3. Intake ITR Feedback on Proposed Facilities
    - Minimizing intake footprint; Hydraulic control issues; Construction sequencing; Cofferdam and deep foundation constructability considerations; Sediment management; Maximum screen panel height; and, Other relevant topics

Day 1 - AGENDA for March 17, 2020

8:00- 8:05 Introductions - Safety Moment – *Darryl Hayes*

8:05- 8:15 Opening Remarks – *Tony Meyers*

8:15- 8:30 Delta Conveyance Project Overview (including Intakes) – *Phil Ryan / Darryl Hayes*

8:30- 9:30 Proposed Intake Facility Presentations – *Phil Ryan*

- Site information, Hydraulics, Sediment management, Operations, Etc.

- Plates vs. Tees (Engineering Considerations)

9:30- 10:00 Fisheries, Fish Protection, and Fish Passage Issues – *Gardner Jones*

- Downstream and Upstream Passage, Predation issues, Fish Refugia, Baseline studies, and Data gaps
- Plates vs. Tees (Biological Considerations)

10:00- 10:15 ----- *Break* ------

10:15-11:00 Geotechnical Setting – *Andrew Finney*

- Subsurface conditions
- Conceptual structure foundation and cofferdam construction

11:00- 11:45 Levee Modifications – *Phil Ryan*

- Sequencing
- Flood protection considerations
- State Highway 160 realignment (Temporary/Permanent)

11:45-12:15 Discussions and Questions - *All*

12:15- 12:45----- *Lunch Break* -----

12:45- 4:30 Field Trip – DCP Proposed Intake Sites, ISI Shop (Large Tee Screens), RD2035 or Freeport Intake Visit

Day 2 - AGENDA for March 18, 2020

1. ITR Panel Review and Discussions – *ITR Panel and Selected DCA and DCO Reps*
2. Summary Recommendations and Presentation Preparation – *ITR Panel and COWI*

Day 3 - AGENDA for March 19, 2020

10:30- 12:00 ITR Panel Summary Presentation – *ITR Panel*

12:00 Adjournment

Appendix 2: Lists of Daily Attendees

March 17, 2020 Skype Session Attendees

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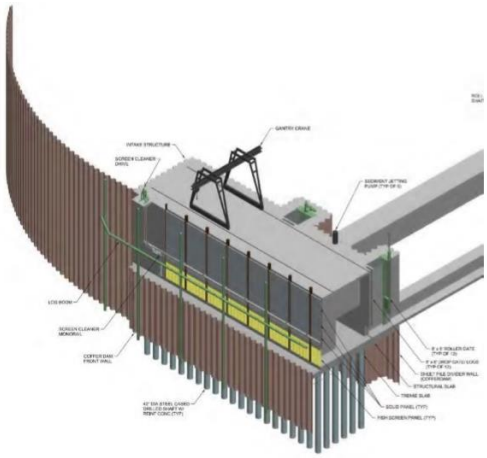
Appendix 3: Comparison Table of Vertical Flat Plate, and Cylindrical Tee, Screens

Adaptation from Table 2. Comparison of Vertical Flat Plate and Cylindrical Tee Screens Characteristics in On-Bank Structural Configuration –

Taken from Delta Conveyance Design & Construction Authority Draft Technical Memorandum, section 3.4.2 – Intake Structural Configuration and Fish Screen - Dated November 22, 2019 –

This table was revised by the ITR panel to include more current information based on the experience of the ITR. The middle column lists the features of each screen and the right-hand column provides panel commentary by the ITR members for the design team to get a full understanding of the issues experienced by this team. The first table discusses vertical flat plate screens, and the second discusses Tee screens.

Vertical Flat Plate Screen Discussion:



Comparison Factor	Vertical Flat Plate Screens	ITR Commentary
Screening Cleaning	• Counterweighted brush moves both directions on wire rope and pulley system.	• Cleaning occurs by two methods: 1) back eddy behind moving brush lifts debris off screen to be carried downstream in sweeping flow; and 2) brush pushes debris downstream to end of travel. The brush is then lifted off screen by traveling up a ramp, so sweeping flow can carry loose debris off the brush and downstream
	• Effective cleaning if properly maintained and adjusted.	• This was questioned by the some of the ITR and found that cleaning is not completely effective and potentially leaves uncleaned areas. Inspection and adjustment of screen cleaners may require divers. • Although some members had not experienced this and suggested that *Usually the brush arm is removed and checked/modified on the*

		structure deck.
	• High maintenance requirements: frequent adjustments needed	• This is mainly for the drive cable tension system, however some felt that the overall cleaning mechanism will require frequent maintenance due the long moment arm of the assembly.
	• "Striping" is common; this is bands on the screen face that are not fully cleaned.	• This can be mitigated with multiple pins arrangement for better articulation of brush segments, like a windshield wiper. This would more evenly distribute the force on the brushes. • Design could add adjustable wheels at top and bottom of the brush arm to adjust and even the distance out from the screen.
	• Biofouling will require more O&M	• Clean the screens of biofouling as follows: Use gantry crane to place blank panels behind the screens, remove blank panels above screens, remove screens, pressure wash back of screens, then replace screens then blank panels.
	• Subject to debris collection and damage.	• Large debris usually travels on the surface in high flows and debris that passes the log boom is floating above the screen panels and would strike the blank plates and could strike the screen sweeper arm.
	• May want to consider a break-away section at the bottom of cleaning brush to prevent damaging the entire structure if it connects with sediment below the screen.	• Alternately, a current-rising or other type of relay could sense that the brush is being stopped by sediment/debris. This would then shut off the drive. This system has been used on other projects.
	• Traveling "toothbrush" type screen is extremely sensitive to sediment and it could result in major maintenance issues. Will need a very robust design.	• Sensors mentioned immediately above would prevent damage.
	• The Panel believes that it would be difficult to clean a 20-ft high	• This is true for sweeping flows greater than about 3 fps due to the

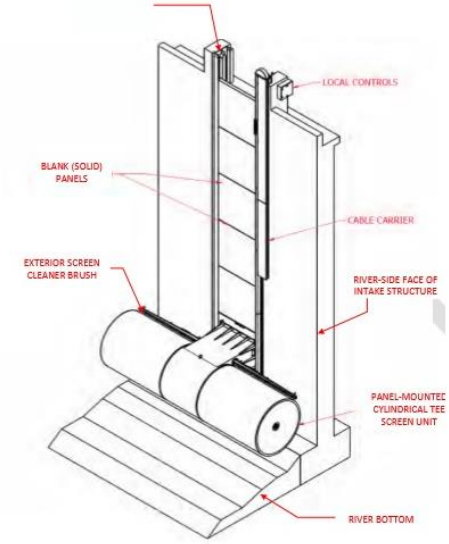
	vertical flat plate screen.	long brush arm. It isn't the 20-foot screen height but the brush arm length, which equals 20 feet of screen height plus the 30 feet above that up to the height of the trolley at about the 100-year flood level. • Lowering the screen trolley rails could alleviate this problem. But this would put the rails and screen cleaner trolley under water at high flows. • Some panel members believe brush length and cleaning effectiveness/maintenance are inversely related as for brush lengths greater than ~15 ft.
Fish Protection	• Flat structure surface, and little opportunity for predator holding along screen face.	• Predators could hold behind brush sweeper arms which will be parked most of the time. • Striped bass longer than 6" have a sustained swim speed of >2 ft/s. Predator holding areas may be less important than screen length and lack of surface complexity along a screen.
	• Requires longer structures; therefore, longer fish exposure – possibly too long for Delta smelt.	• Assuming a 3,000 cfs screen and a flat plate screen 17.5 feet high the difference in length between flat plate and Tee screens is: Site2 616 feet (39%); Site3 310 feet (24%); Site5 412 feet (30%). • Continuous screen length should be also be considered.
	• Opportunities for refugia are minimal without adding to overall length.	• Possible refugia solutions without adding to length are: horizontal refugia built into screen panels, refugia in the 26-foot long blank sections at the screen cleaner brush parking area. Building refugia into the screen piers could lengthen the structure 20 to 50 feet in length.
	• Flat Screen does not allow preference to pull from different elevations in the river. Water is withdrawn evenly over the height of the screens.	•

	• Horizontal control of water withdrawals can be varied in 250 cfs increments by closing the conduit gates.	• If greater control is desired on vertical flat plate, the screen module size can be reduced. This would be done by adding divider walls inside the structure and adding more but smaller gated conduits from the structure to the sediment pond.
Flow Control	• Adjustable baffle plates help provide uniform approach velocity through each screen panel.	• These are adjustable from the deck of the screen structure. • Adjustments will likely require multiple iterations of adjustment and measurement for all panels within each 500 cfs bay followed by a set of measurements along the entire screen.
	• Flow control in ~450- to 500-cfs sections, with large control gates and flow meters in box conduit extending behind structure to sediment basins.	• Additional module sections could be added for finer flow control. This makes 12 modules instead of 6. The flow control would be at 250 cfs max increments.
	• Uniform flow performance dependent on adjustable baffles; can vary with river depth and diversion rate.	• Vertical flow control can be achieved with baffling adjustable in 2 or 3 vertical segments. This adds complexity to adjustable baffles. • Accurate flow control highly dependent on downstream sedimentation basin level control to facilitate fine flow control at screens and intake structure sections using baffles and large gates. This is true with tee screens also. I think that adding more modules as described above makes the alternatives about the same.
Operations and Maintenance	• Screen removal frequency relatively high (~ every 3 months).	• At most large flat plate installations screen panel removal is once per year or less. • May be more frequent if mussels, sponges or another organism colonize the screens in the future. Could require monthly removal and cleaning during summer months if mussels or other filter feeders colonize the screen in the future.

	• Screen removal relatively simple.	• Some members feel this is fairly labor-intensive process and could involve divers and underwater work if problems with screens seating properly occur over time. • Other members feel the labor is about equal to removing the screens for either screen configuration.
	• Screen cleaner system more complex.	• From experience, the cleaning arm is subject to significant damage from debris and sediment. Multiple sites have been identified where significant maintenance was required for cleaning arm.
	• Fewer motors, and none submerged.	• Failure of a cleaner arm requires closing 500 cfs screen bay during repairs.
	• Sediment jetting system required to resuspend settled sediment for transport from wet pit intake structure behind screens into the sediment basins.	• Panel suspects that the jetting action will be required quite frequently and continuously at times at a significant cost. • Jetting systems have been used at several screen installations, such as: Paterson, Banta Carbona, RD2035, others.
	• Sediment jetting will also be required in front of the screens to prevent build up which would impede cleaning brush.	• Need to contact other installations, preferably on the Sacramento or San Juaquin Rivers, to see how effective this is.
Other Factors	• Requires wet pit structure to distribute screened flow to sediment basins.	• This also creates a significant sediment trap area that will require jetting pumps
	• Best screen material (Profile Wire by Hendrick Screens) is manufactured by one firm in Kentucky.	•
	• Known regulatory acceptance for proposed large intakes.	•
	• Screen panel can be repositioned to a higher setting in the future, but screen cleaner mechanism	•

	would also need to be modified.	
	• Expected to result in larger and therefore, higher cost intake facilities	•
Potential for sloped screen	• There are challenges with sloped flat screen including increased cleaning difficulty and increased silt intrusion due to more horizontal distance.	• This alternative is not recommended for further study.

Cylindrical Tee Screen Discussion



Comparison Factor	Cylindrical Tee Screens	ITR Commentary
Screen Cleaning	• Cylinders rotate forward and backward on interior and exterior brushes.	• Drive motor and retention of required gap spacing appears to be very reliable based on operational histories
	• Superior cleaning as long as brushes are maintained in good condition. Fewer hot spots.	• This is dependent on the hydraulics of flow approaching the screen structure.
	• Better biofouling performance, and less O&M effort.	• Internal brushes will brush off interior biofouling. Organisms attaching to the non-screen surfaces may remain inside the screen unit.
	• Minor debris collection potential on external	• The brush on each screen cleans a length of about 25 feet (pi

	brushes.	times 8 ft). Whereas, the flat plate brush cleans a length of about 145 feet.
	• Easily removed from service for deep cleaning with minimal impact to operations.	• Some members questioned if it was any easier than flat screen, suggesting that cleaning is done by use of gantry crane to remove blanks above screen, remove screen, lower blank panels over opening, pressure wash screen or maybe remove screen to access inside. • A gate valve directly behind the Tee screen would make this process easier and require no blank plate. Just close the gate and pull the screen out.
	• Superior cleaning of back and front of screens	• Affords greater flexibility to adapt to changing debris and biofouling conditions over time (i. e. zebra mussels, sponges, etc.).
	• The internal and external brush system provides much better cleaning of the slots in the wedgewire fabric.	• Experience at other installations has shown high reliability over years of operation.
Fish Protection	• Space between screen cylinder units (about 1 foot) is a potential predator holding area. Some mitigation may be possible.	• Moving the screens closer together or adding Coned sections on end of screens and/or brush seals and/or flexible fingers could mitigate this issue. • Predators could hold under the screen along the floor looking upward for prey. This behavior has been observed at other locations. This consideration is not screen specific.
	• Area on downstream side of tee connection to structure is a potential predator holding area.	• See above comments • Predator deterrence methods such as electric pulses and methods to obstruct/reduce flow visibility could be deployed in these areas if needed.
	• Substantially shorter structure and related	• Multiple individual screens may provide better opportunities for

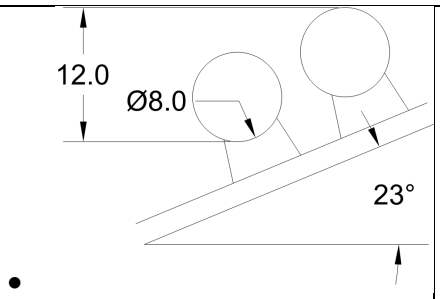
	exposure time than vertical flat plate system.	fish to move away from the screens compared to a continuous flat screen/wall.
	• High refugia opportunity along structure face, but minimal along screens	• Potential for Refugia on non-screened section of Tee screen. Allows for easy removal, inspection and testing of different types.
	• Due to the greater flow control of either the single Tee screen or dual stacked screen, gives better ability to control for either 0.33 ft/s or 0.2 ft/s depending on real time fish population data	• This is accomplished through the smaller conduit and downstream gate valve instead of the 8'x8' slide gate.
	• Either single or Dual stacked screens would allow control bias to pull more from lower portion of the water column or from the higher portion to avoid bed load sediment transport.	•
	• "Cylindrical design expected to occupy less water column and therefore reduce encounter/impingement" from ICF report 7 March 2020.	• The area of fish screen drawing water is the same for Tee screens and flat plate screens. If fish are higher in the water column, this could mean less screen near fish for the Tee screens.
	• Inclined Tee Screen offers additional benefits of providing more low velocity shore area for adult smelt migration.	•
Flow Control	• Flow control for individual screen units better than individual vertical flat plate screen panels.	• This is not necessarily true because: <u>Vertical flat plates</u>: there are newer and better types of baffling arrangements, baffles can be arranged to independently adjust baffling vertically in 2 or 3 sections, baffles can be adjusted relatively easily from the screen deck; however, such adjustments may, or may not, be adjusted correctly over the whole face of the screen. <u>Tee screens</u>:

		Tee screen baffling is fixed based on lab experiments. In the river, flow approaching the structure is probably different than in the lab, especially at different points along 950 feet of screen structure. • To prove the uniformity of approach velocities on the screens, hydraulic measurements will be required at many points along the screens, flat plate or cylindrical. For flat plates this can be done by suspending a vertical boom from the cleaner trolley rail; which can be difficult to perform correctly. On the Tee screens this might have to be done by a diver, which is problematic if sweeping flows are above 2 fps, or it could be done by raising the screen and changing the orientation of an attached sensor, repeatedly. If approach velocities do not meet criteria requirements, the baffles can be adjusted from the structure deck for flat plates. For tee screens each unit has to be raised to the deck and disassembled and the baffle plate replaced with a differently drilled plate and re-installed. • ADV meters could likely be mounted on the screens in their raised position and then lowered into place. This method would provide the best control of meter alignment and data quality.
	• Dual stacked Tee screens could potentially provide even greater resolution for control.	• Each screen having its own gate valve.
	• More difficult to use adjustable baffles for individual units, but screen	• There are variable hydraulic conditions along 950 feet of screen structure. So, I am not

	uniformity easier to laboratory test and adjust.	sure the that the lab baffle settings are going to meet agency approach velocity requirements. • Manufacturer should be asked if adjustable baffles could be designed for the screens. Using two concentric perforated baffle cylinders instead of one may be possible. Adjustment could be made when screens are pulled from center discharge pipe.
	• Flow control for each 100-cfs screen unit using in-line control valve and flow meter; results in a more accurate total intake facility flow control.	•
	• Only minor dependency on downstream sedimentation basin level control because of in-line control valve and meter.	• The culverts in the flat plate layout do the same thing. The valves (tee screens) or gates (flat plate screens) both depend on the sediment basin water level.
	• Tee screens could facilitate a curved intake structure to take advantage of higher sweeping velocities and deeper water in river bends. Potentially reduce river intrusion compared to straight line.	• For either screen type, degree of river intrusion has to do with obtaining desired sweeping velocities while keeping the flood rise to below 0.1 feet.
	• The smaller module approach offered by the Tee screen concept would likely provide greater control of near screen hydraulics thus allowing better compliance with screen criteria. Baffling a large flat plate screen to meet 0.2 ft/s criteria over its full length and height will be difficult at best.	• Meeting approach velocity requirements could be difficult for tee screens because baffling to control flows in each screen is fixed. • The sensitivity of Tee screens to the angle of flow attack should be determined.
	• Cones would likely be needed at upstream and	•

	downstream screens for better flow dynamics and reduce velocity refugia and turbulence that encourage potential predation. •	
Operations and Maintenance	• Screen removal frequency less (~6 months).	• Potentially even longer frequency due to superior cleaning ability.
	• Screen removal is similar to vertical plate screen panels, but involves substantially more weight; therefore, larger crane or hoist equipment is needed.	• While the screens are heavier, the downstream gate valve makes it easier to take one screen out of service at a time and has less risk of sediment intrusion or fish entrapment while screen is out of service. • The agencies will probably require a slide plate/gate immediately behind the Tee that can be closed when the Tee is removed to prevent fish from entering.
	• More motors, all submerged but accessible when screen unit raised; generally low-maintenance motors.	•
	• Possibly more debris collection.	• Since screen cylinders extend out from structure, they could catch large debris. • There is solid evidence from multiple sites that the cleaning is superior for small debris on the screens.
	• Industry experience shows that cylindrical screen systems require less routine maintenance than vertical flat plate systems.	•
	• No sediment jetting system required because intake structure is dry pit.	• However, sediment jetting on the river side below the screens will be critical to ensure sediment does not build up to the screen.
	• Screens directly piped to sediment basins; no wet pit structure required.	• Reduces the buildup of sediment inside screen structure because there is no chamber to trap sediment.

Other Factors	• Currently, single local supplier of the brush cleaned Tee screens (located in Freeport, CA).	• This could require licensing to other contractors to help build tee screens in required time.
	• Regulatory acceptance is good for other installations, but unknown for proposed large intakes.	•
	• Screen unit can be easily repositioned to a higher setting in the future with some modifications.	• Needs new pipe with a tee into the existing pipe in dry well to accomplish this. • Could likely be engineered with a vertical manifold to allow repositioning if this was felt to be important.
	• Expected to result in lower cost intake facilities.	
	• Dual stacked vertical Tee Screen has potential of reducing overall screen length by 10-20%	
Potential for sloped screen	• There is potential for installing either 1 or 2 stacked Tee screens on sloped surface which could result in improved surface water velocity for adult smelt.	• No other significant drawbacks to sloped surface other than increased footprint. I think there are numerous challenges to a sloped design that would need to be worked out, but worth investigating, if passage of adult Delta Smelt is of greater benefit.
	• Tee screens on a slope allow for shallow areas for passage of adult Delta Smelt. Passage has been judged to be difficult at vertical structures where high sweeping velocities over a long-distance limit smelt passage.	• This inclined Tee screen configuration has the potential to decrease the length of the intakes by up to 48%.

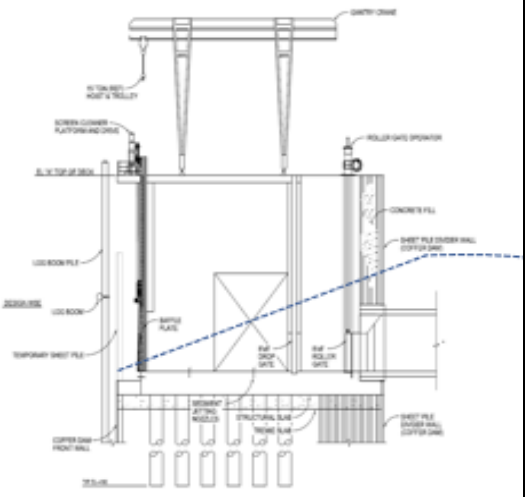
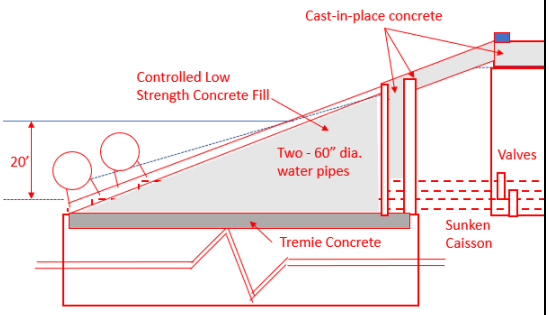
	 12.0 Ø8.0 23°	

Appendix 4: One Representative Offsite Prefabrication Method Using a Slide-in/Lift-in Construction Technology with a Table Comparing This Offsite Prefabrication Method to Construction Using a Conventional Cofferdam and Examples of Relevant Existing Projects.

It is noted that the offsite prefabrication method shows an inclined configuration with stacked Tee screens; this construction approach is relevant to both vertical and inclined screen configurations.

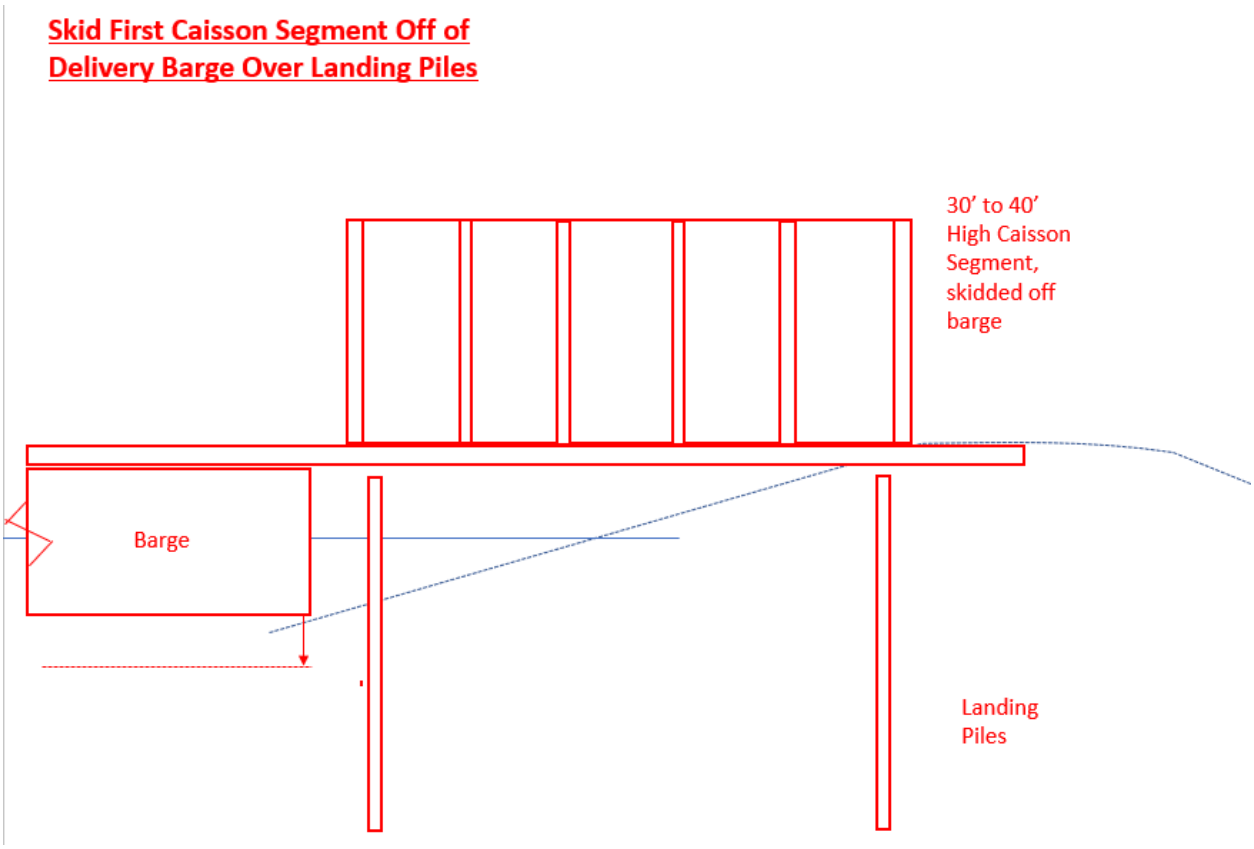
Comparison of Conventional Combi-Wall Cofferdam vs Offsite Prefabrication for the Intake Structures

This table was created by the Intake ITR Panel

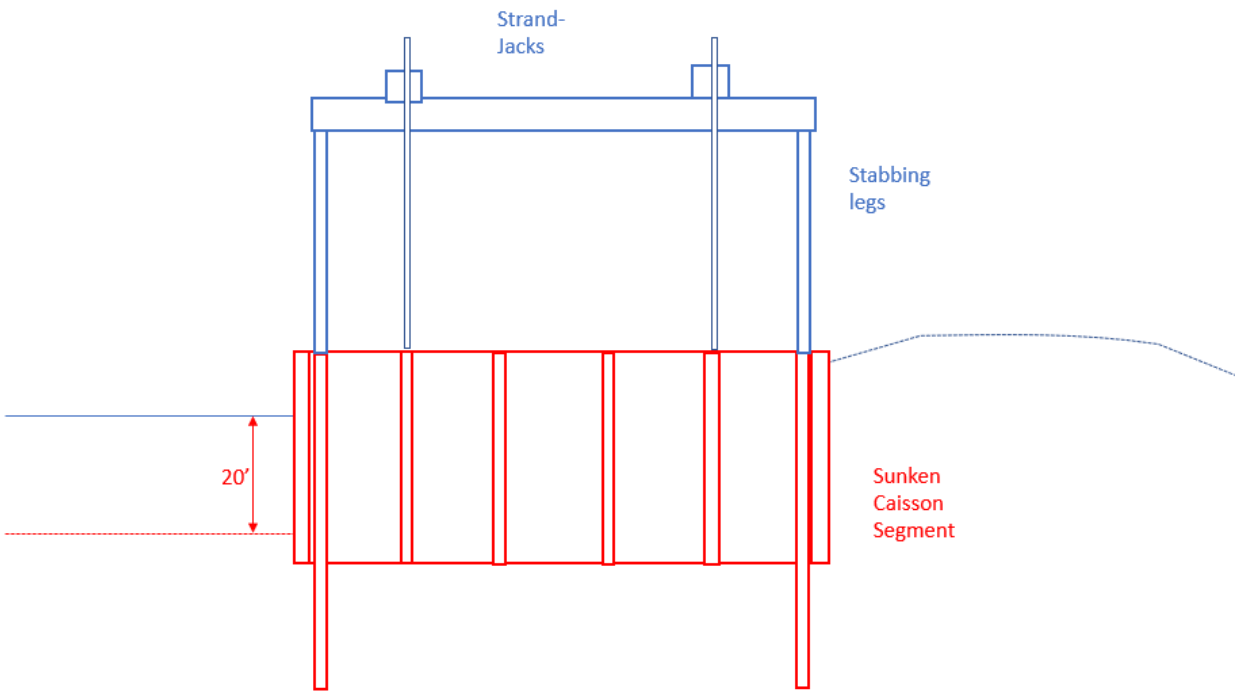
Comparison Factor	Conventional Combi-Wall Cofferdam	Offsite Prefabrication with Slide-in Installation
		
Construction Logistics	• All construction logistical support from land-based operations and equipment. • More contractors qualified resulting in more competition. • Use of land-based equipment results in more emissions	• The majority of construction logistical operations and equipment are marine-based • Larger contractors have existing marine equipment and are better suited for this scale of construction. • Distributed sourcing of prefabricated sub-units or modules could be divided between existing and/or new offsite prefabrication facilities
Construction Schedule	• Risk of adding almost an additional year to the schedule • Land-based construction of both the conventional cofferdams and intakes would add to congestion associated	• Can fabricate precast sub-units at existing precast yards during mobilization, clearing & grubbing and landing shaft installation. • The sunken caisson could be

	with the construction of the back-lands facilities; which would slow construction. • Installation of numerous large diameter drilled shafts could be limited by equipment availability.	fabricated in 20' to 30' high sub-units to facilitate: barge transport, lateral sliding and sinking operations. This would also help to maintain schedule. • Provides more construction float-time by eliminating the time required to build a conventional cofferdam.
Quality Control of Final Product	• Allows for visual inspection of completed intakes • More contractors are familiar with this type of QA/QC. • Quality control within a congested cofferdam is more challenging then for work at the surface.	• Quality of precast concrete elements is typically better than that for concrete cast within a congested cofferdam. • The dry-pit for a Tee screen intake facilities inspection using non-destructive testing.
Cost Considerations	• More numerous bidders may limit the cost of the cofferdam; however, a cofferdam is not needed for offsite prefabrication construction. • Unit prices for land-based operations are typically lower than unit prices for marine operations.	• Eliminates the cost of a conventional cofferdam • Reduces the risk of costs associated with potential construction delays. • Marine operations combined with offsite prefabrication can accelerate the construction schedule; which can reduce overhead costs.
Other Factors	• Conventional cofferdams require larger footprints than would offsite prefabrication. • Sheet piles may come out of interlock during construction. • Cofferdam dams are subject to flooding.	• Precast concrete sub-units could be fabricated at the same facility as the precast concrete tunnel liners • Sinking of caissons is less disruptive to the riverine environment. Also, no dredging is required when using the sunken caisson method. • Requires more engineering than conventional construction. • It is practicable to sink several caissons at one time on one site. • A combination of in-the-wet construction techniques could be used including both float-in and lift-in technologies.

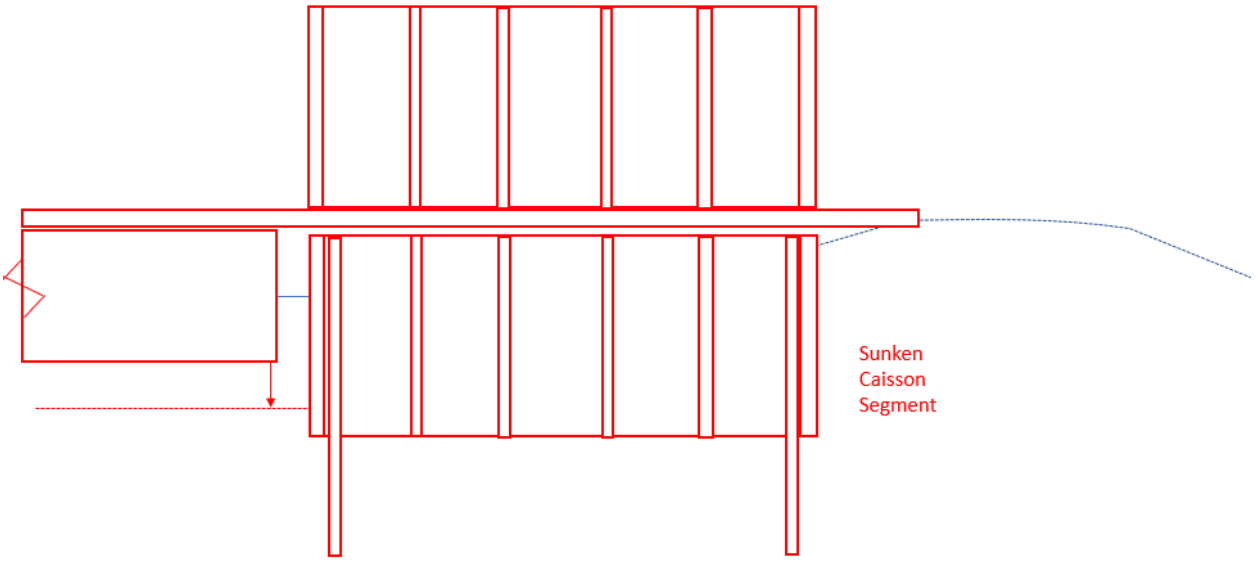
Possible Construction Sequence for Slide-In Offsite Prefabrication of an Inclined Double Tee Screen Intake About 500-ft Long

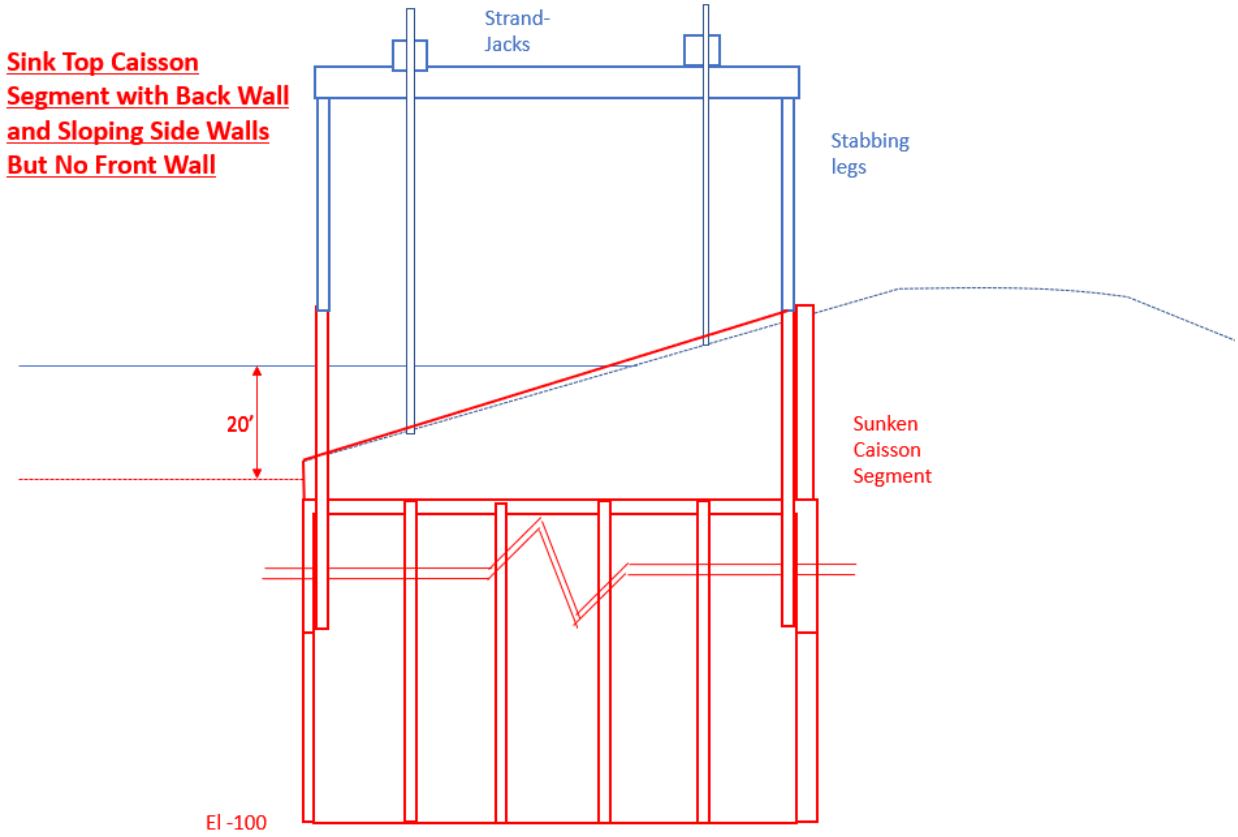


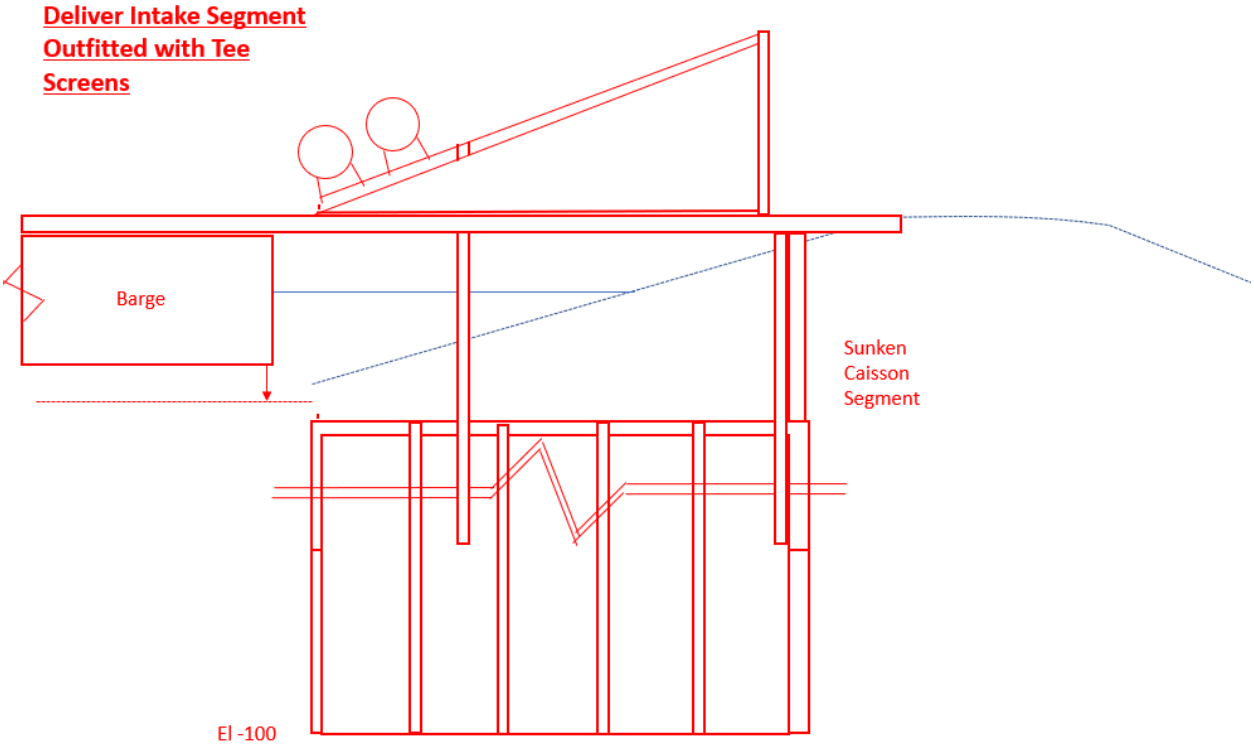
Lower First Caisson Segment Using Strand Jacks and Excavating Interior



Skid Second Caisson Segment Off of Delivery Barge Over Landing Piles

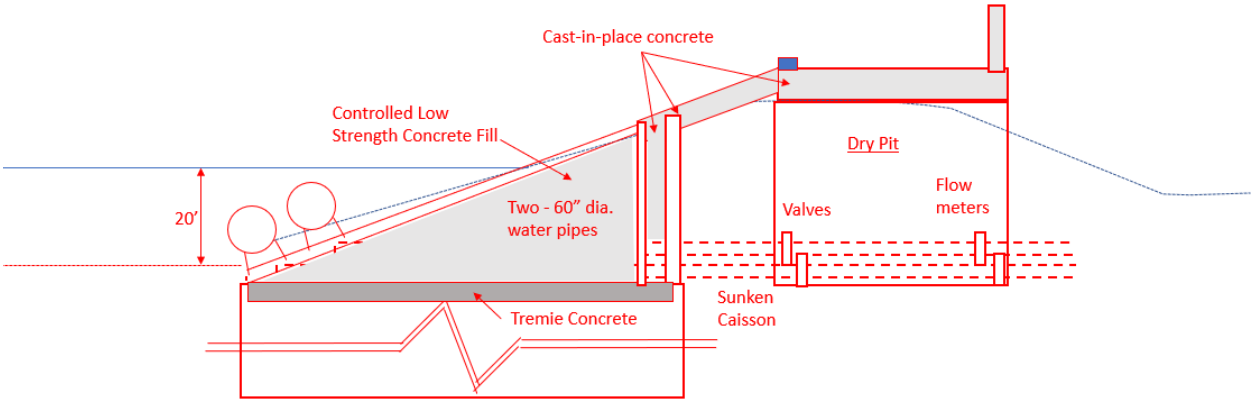



Sink Top Caisson Segment with Back Wall and Sloping Side Walls But No Front Wall
Strand-Jacks
Stabbing legs
20'
Sunken Caisson Segment
El -100


Deliver Intake Segment Outfitted with Tee Screens
Barge
Sunken Caisson Segment
El -100

3,000 cfs Inclined Double Tee Screen Intake length ~ 500' assuming 20' of water depth; which means a ~48% reduction of length

Note:
1. Heavy maintenance would be performed by a barge in the river.
2. Highway 160 to be adjusted accordingly.



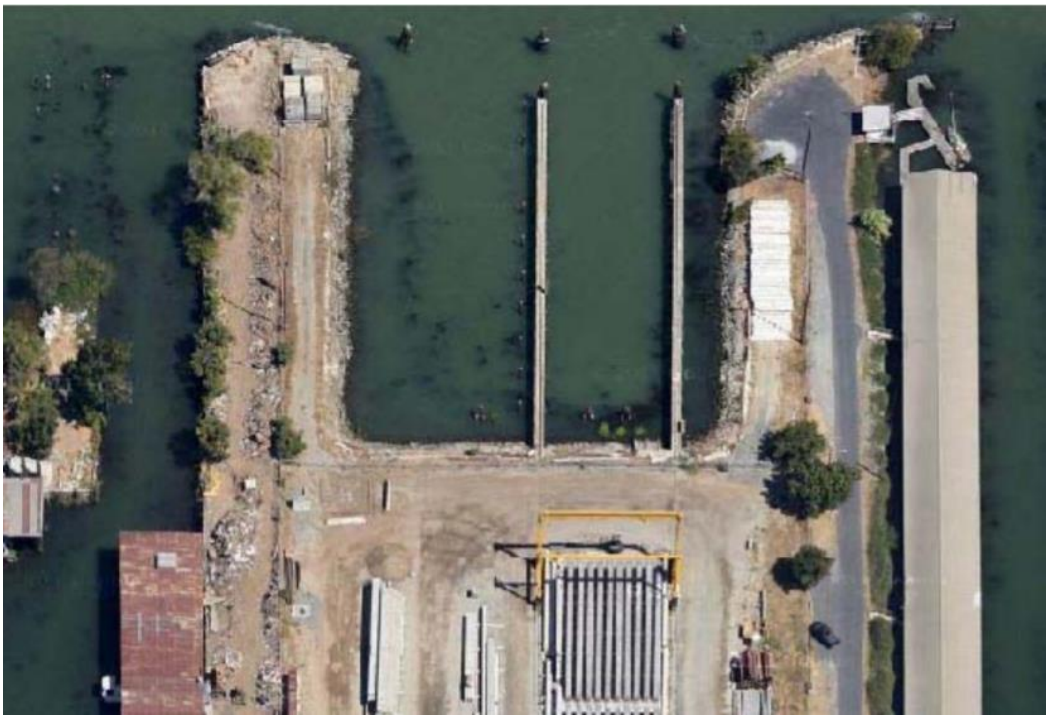
Example of the Slide-in Construction Method for a Replacement Bridge Superstructure

Delivery of Bottomless Concrete Shell by FlexiFloat for the Chickamauga Lock Cofferdam

Support of Bottomless Concrete Shell by Drilled Shafts & Strand Jacks for the Chickamauga Lock Cofferdam

Sequence of Concrete Shell Installation and Outfitting for the Chickamauga Lock Cofferdam

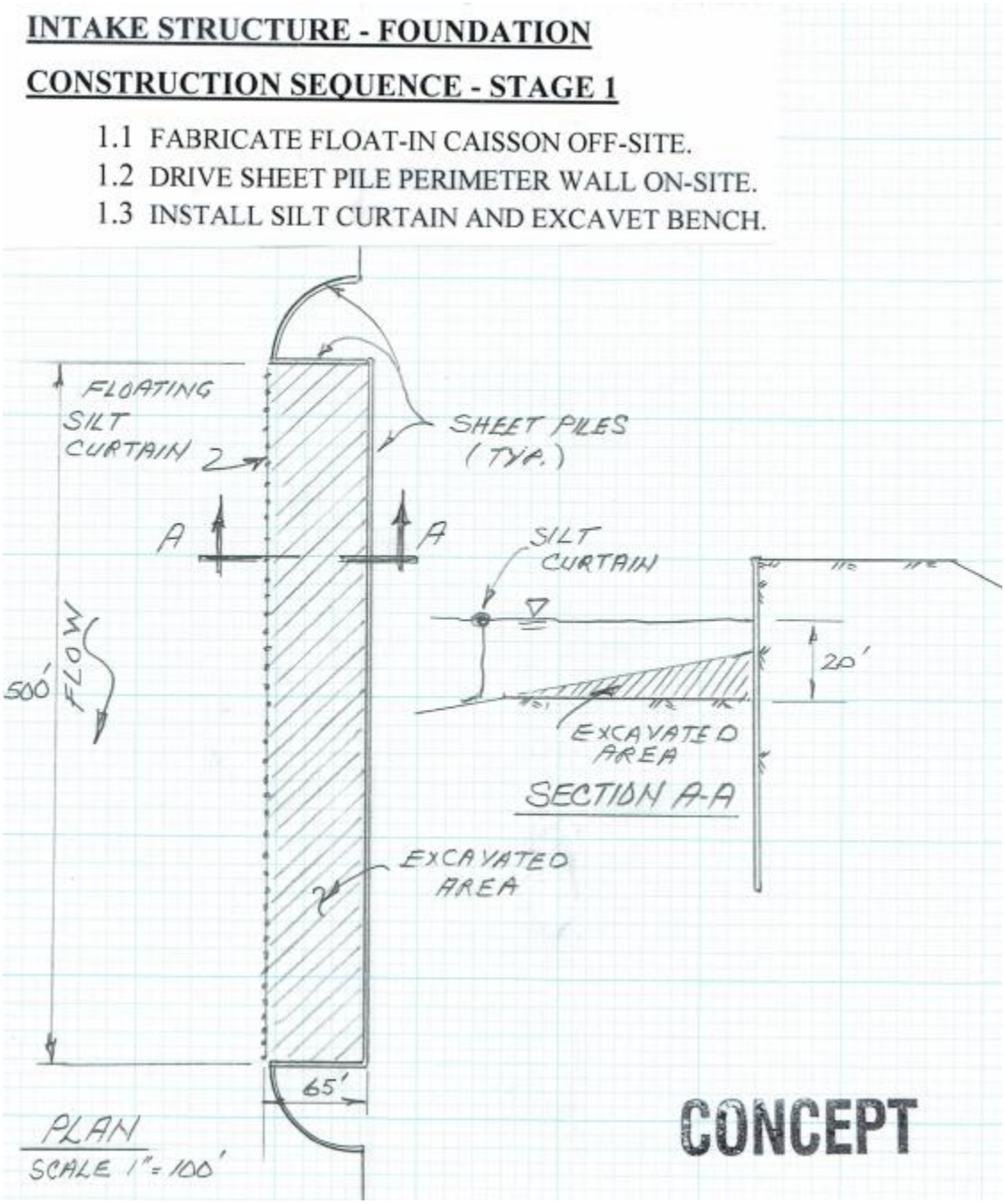
Potential Berthing/Outfitting Facility such as Freeport Area Marina



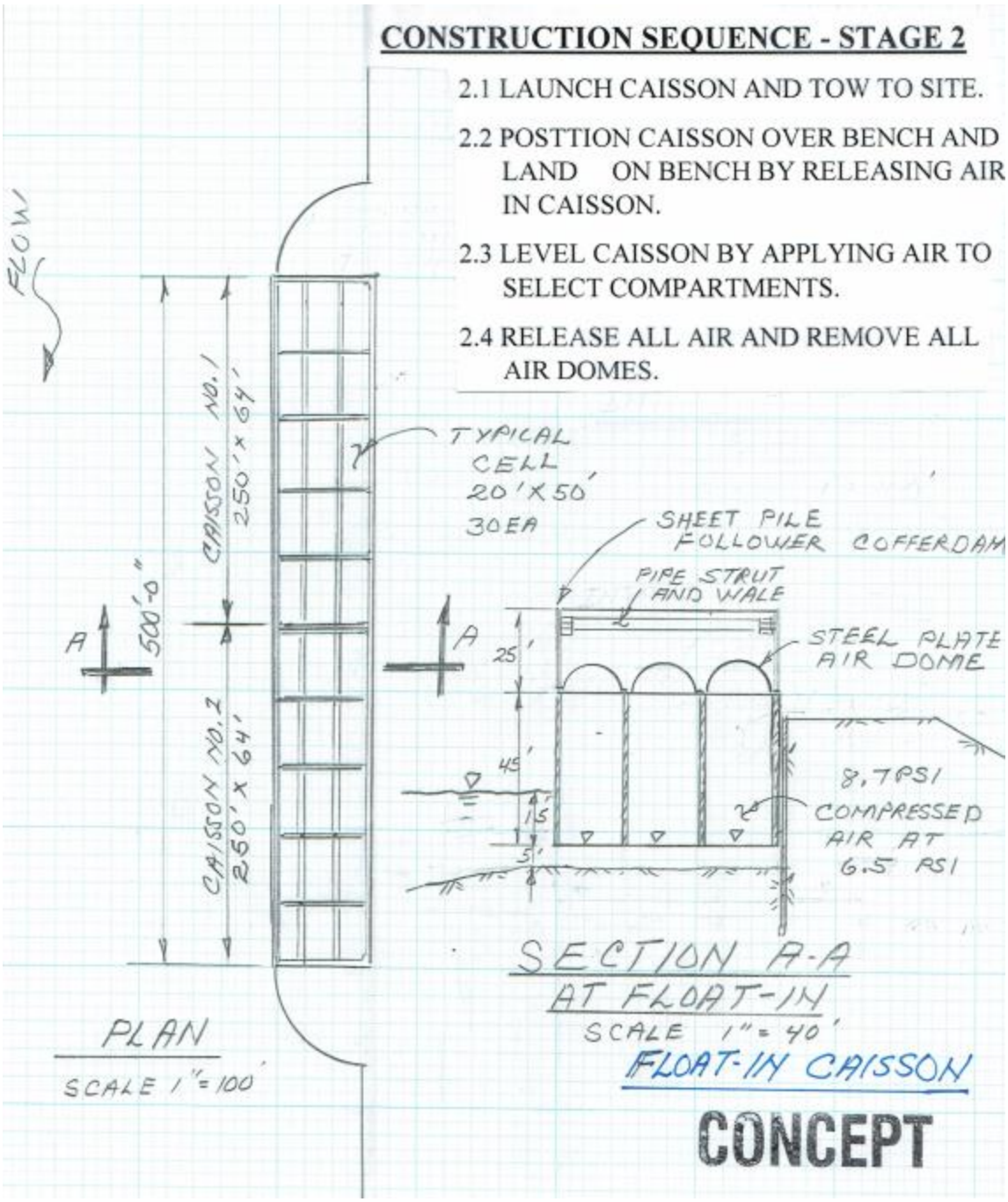
Kiewit Stockton Precast Yard's Loadout Facilities as an Example of Existing Offsite Prefabrication Facility that Could Outload Precast Elements or Concrete Shells

Appendix 5: Presentation of One Possible Offsite Prefabrication Method Using Float-in Construction Means and Methods and Examples of Prior Relevant Float-in Projects

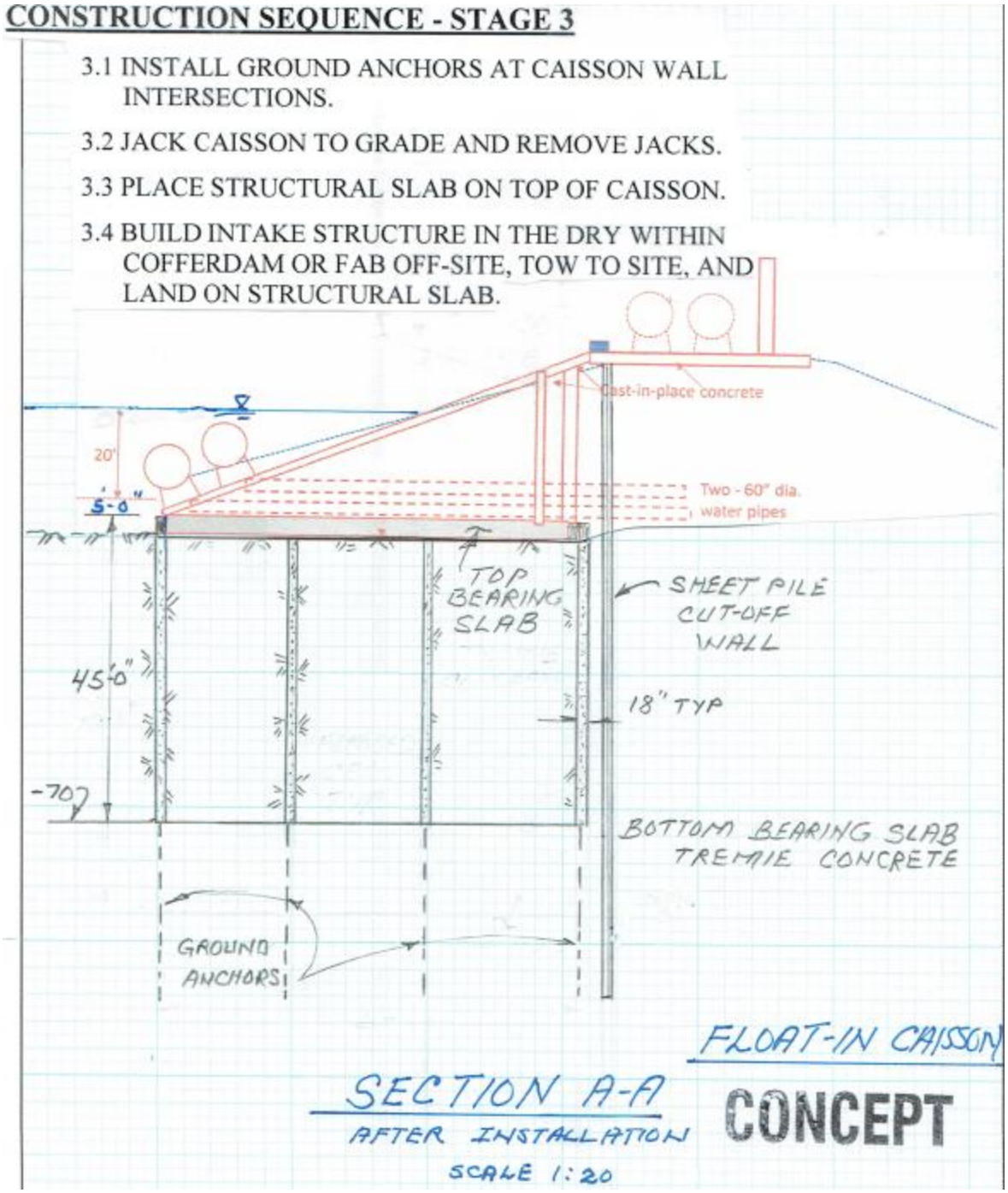
It is noted that the offsite prefabrication method shows an inclined configuration with stacked Tee screens; this construction approach is relevant to both vertical and inclined screen configurations.



Representation of Excavation of Local Receiving Area for Float-in Concrete Caisson Foundation



Representation of a Float-in Concrete Caisson Foundation Into Locally Excavated Area



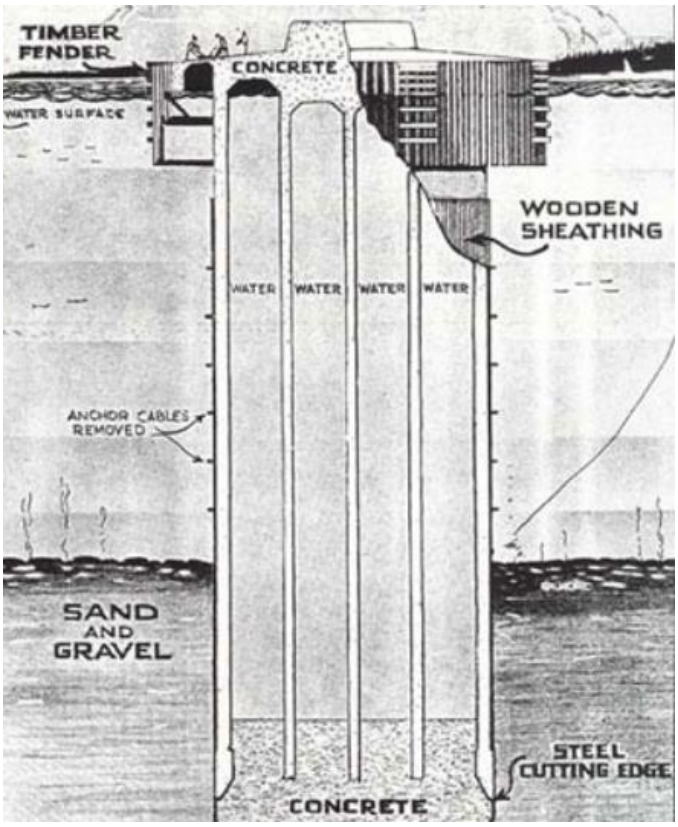
Representation of a Prefabricated, or Cast-In-Place, Inclined Double Tee Screen Module Installed on Top of a Float-in Sunken Concrete Caisson Foundation.

ADVANTAGES TO OFF-SITE FABRICATION AND FLOAT-IN FOUNDATION CONCEPT

1. SHORTER CONSTRUCTION SCHEDULE BY ALLOWING WORK TO BE PERFORMED CONCURRENTLY OFF-SITE AT MULTIPLE LOCATIONS
2. FABRICATION IN A CONTROLLED ENVIROMENT, ALLOWING HIGHER QUALITY OF CONSTRUCTION
3. MINIMIZING EXCAVATION AND DISPOSAL OF MATERIAL OFF-SITE.
4. MINIMIZING ON SITE WORK AND IMPACT TO LOCAL AREA.
5. ELIMINATES THE SUPPLY AND DRIVING OF LARGE FOUNDATION PILES
6. REDUCES THE REQUIRED NUMBER OF SHEET PILES BY APPROXIMATELY 40%

View of the Completed Montezuma Slough Salinity Barrier Construction Using Offsite Prefabrication

View of the Radial Gate Monolith Module for the Montezuma Slough Salinity Barrier During Construction Using Offsite Prefabrication on a Grounded Barge



Example of the Sunken Caisson Construction Method for the Tacoma Narrows Bridge Foundation

Appendix 6: Recommended Action Items

1. The ITR Panel looks forward to the Engineering Design Manager's and DCA's response to the panel's comments (see Appendix 7) and to answer any questions that you might have.
2. The Engineering Design Manager indicated that future input from selected panel members may be needed to further develop offsite prefabrication construction alternates.
3. The dates of the next Intakes ITR Panel meeting need to be determined.
4. The Intakes ITR Panel looks forward to receiving the read ahead documents for the 2nd Intakes ITR Panel meeting when the dates of the meeting have been determined.
5. Gather performance data for both vertical flat plate, and Tee, screens possibly from:
    a. Name and location of relevant existing fish screens that the Design Manager could contact for O&M records;
    b. Existing/published study results of relevant screen performance.
    c. Recommended surveys of manufactures, agencies and/or existing relevant screen facility to gather new data.
    d. Selected photos of performance issues being commented on, such as debris accumulation.
    e. Recommendations for possible physical studies related to screen performance either in test labs or prototype tests in the Sacramento River near one of the three short-listed intake sites.

Item	Consideration	Response
2.1	Reduce Length of vertical flat fish screen sweeper parking area.	Will consider during future design efforts. Current arrangement considers the pulley system for both landing and launching mechanisms. Reduction in overall length would be nominal.
2.2	The fact that the existing flood control levee will be abandoned, and a new Project levee constructed around the perimeter of the intake facility affords the opportunity to encroach into the existing levee alignment. That is, if deemed worthwhile, the intake facility could be “setback” more into the existing streambank.	Only a small setback would likely result from this concept. If structure set back further, it would require dredging to achieve a "pocket" with upstream and downstream transitions to the face of the intake. This area would likely see additional shoaling of sediment and the setback position may reduce the actual sweeping flow along the screens. This concept does not appear to offer significant cost savings, may reduce the effectiveness of the installation, and will not be implemented.
2.3	Dual stacked Tee Screens could reduce length of screens.	Dual screens will not be pursued further. The screens would occupy a depth zone of about 13 feet (assuming 5-foot diameter units) compared to the 8 foot zone for the larger units. Stacked screens could increase potential for more surface-oriented species (e.g., juvenile salmon) to encounter the screens verses a single Tee screen lower in the water column. Doubling the screen units would also double the velocity shadow areas for potential predator holding. Also, assuming 5-foot diameter units, dual screens would increase the quantity of screen units from 30 single units to about 35 pairs per intake. This arrangement would nominally reduce the concrete structure length by about 200 feet. The dual screen units would increase O&M complexity and introduce about twice as many components (screen units, drive motors, electrical components/connections, etc.).
2.4	Using the Tee screen gives you the option to follow the curve of the bank.	Given the tight spacing of the screen units (1 foot between units), only a slight curvature would be possible without increasing the length of the intake structure. Also, a curved structure would involve more complex cofferdam and concrete structure construction. Preliminary river hydraulics indicate minimal impact on flood flow profiles for the straight structures. There appears to be little advantage to the slight curvature relative to the probable extra cost and possible extra length. This concept will not be pursued further.
2.5	For Tee screen alternative, consider moving screens closer together and using brushes or rubber fingers on the ends of the screens to reduce the potential for predator holding between screens.	Brushes or fingers between screens is being considered as part of the current concept. These would be considered in additional detail during future design efforts.
2.6	Consider Tee screens (either single or double Tee’s) installed on the riverbank slope.	This concept will be evaluated in additional detail for single units to determine its applicability to the Project. Substantial operability and constructability issues are evident that will be considered as part of further evaluations.

3.1	Need to build a minimum flow velocity of about 2 to 2.5 fps into conduits behind screens to keep sediment moving in conduits.	Minimum velocity is already included in the current Tee screen concept. Will consider for box conduits (vertical plate option) relative to cost savings, headloss in the system, and discharge jet into sedimentation basins. This concept reduces footprint so is less conservative than current layout and would be considered during future design efforts.
3.2	Work with system modelers to try to reduce the 18 inches of drop at radial gates at one or both intakes (e.g.: via operations).	Reduction of headloss through intake components and considering pump station control schemes for maintaining the level downstream of the radial gates is ongoing and already a key focus of the DCA Engineering effort.
3.3	On flat plate screens use 12 modules instead of 6.	This feature will be considered during future design efforts and as part of planned system hydraulic modeling. Note that this suggestion would not change the overall footprint of the structure.
3.4	Has there been any consideration to training walls or training vanes in front of the screens to force the flows in a parallel sweeping direction and prevent river flow from trying to pass through the screen perpendicularly (for tee screen) or cause too high of an approach velocity for flat screen.	This concept will not be pursued further due to the potential to create eddies and non-uniform flow in front of the screens. Also, such vanes would likely increase the flood flow profile impacts and would be difficult to implement. The current baffle assemblies and control gates allow control of the approach velocity and supplemental in-river features are not considered beneficial.
4.1	The preliminary construction sequencing plan indicates a potential temporary relocation (with associated ground improvement) of State Highway 160 across the project site. In later stages of construction, the roadway would be restored to near the current alignment. Consider temporarily, or permanently, moving State Highway 160 to the existing grade around entire construction site as first step. (see diagram for 4.1 alignment).	Relocation of State Highway 160 traffic out of the work area as suggested may be beneficial. However, the driver for the current plan is the need to maintain a flood control levee at all times. The DCA Engineering Team is continuing to consider options for both the temporary levee and the relocated highway so the suggested concept will continue to be considered as alternatives to the current layout are evaluated.
4.2	A second option would be relocating road to rest on the eastern berm of the sediment basin. This section could be built early in construction with dirt from the excavated basin., with a bridge over what would become the flow control structure. (See diagram in consideration 4.1).	This concept was considered during planning stages for the facilities but was eliminated since the required highway layout would result in greater impacts to properties adjacent to the intakes, would require a longer construction schedule, and is expected to increase cost relative to staging the work.
4.3	It appears that the sediment drying basins are roughly at the current grade of the existing agricultural land. There is the potential to use excess soil from excavating the sediment ponds to raise the elevation of the drying basins instead of having to haul off that material. Some of the material could also be used to make the “levee”/berm around the sediment basin wider/flatter than shown.	This concept is already included in the planning for the intakes.

4.4	Working In-the-Dry Results in: a) risk of up to one-year delay due to cofferdam installation; and b) a congested work site that could delay construction by many months. Thus, it is recommended that either the construction schedule be revisited with this risk considered and/or that a construction risk matrix be developed for the baseline/assumed construction method. Potential offsite prefabricated construction alternatives are discussed in Appendices 4 and 5; and it is understood that the Construction Logistics ITR Panel will evaluate the logistics of material handling vs river transport.	Working in the wet is expected to only be allowed for about 4 months per year due to fisheries impacts. Therefore, some sort of cofferdam would be required to construct a foundation and maintain the construction schedule regardless of the prefabrication concepts for the intake structure. Prefabrication in the vicinity of the intakes would be subject to the same in-river work windows and the same logistical constraints in the area and would increase the number and overall acreage of impact areas. The use of existing marinas near the intakes is not considered feasible. The DCA Engineering Team will only consider alternative construction concepts provided they are logistically feasible and do not increase impacts.
4.5	The design proposes the soils excavated for the settling basin be used for construction of the new perimeter Project levee. Based on the preliminary waterside borings completed to date, if similar conditions are present landside, it is likely these soils will be sandy and not meet either CVFPB Title 23 or USACE levee embankment material requirements. Will need to consider either select fill materials will need to be imported or the excavated materials will need to be blended/modified to meet embankment fill requirements.	Acknowledged. The project description currently includes importing core material for a zoned embankment. Additionally, a slurry cutoff wall would be provided beneath and into the embankment. The upper soil layers on the land side of the levee are expected to be predominantly fine grained and should be useable for levee construction with the core material considered. In any case, additional site-specific geotechnical information would be collected during future design efforts to more definitively verify the materials availability at the sites. Acquisition of this information is a high priority for the DCA.
5.1	Evaluate constructing the deep foundations using a slide-in sunken caisson system (200’ to 300’ long), see Appendix 4.	Consideration of alternative construction, foundation, and cofferdam concepts is currently planned. The suggested concept is not considered feasible because it involves off-site fabrication and river delivery. It is not feasible to transport the foundation structure to the site from down-river and local offsite construction would increase footprint and impacts in the vicinity of the intakes. Refer also to response for Item 4.4.
5.2	Evaluate a stay-in-place prefabricated slide-in concrete cofferdam (200’ to 300’), see Appendix 4.	See response to Item 5.1.
5.3	The option for off-site fabrication and float-in of a precast screening structure should be maintained as a potential construction option, see Appendix 5.	See response to Items 4.4 and 5.1.
5.4	Consider use of a Construction Manager at Risk, CMAR, contracting mechanism for offsite prefabrication.	Contracting mechanisms are planned to be evaluated as part of program development activities later in the project sequence. The suggested mechanisms would be considered as part of that effort.

5.5	The preliminary geotechnical information presented for the vicinity of the intake structures indicates problematic soil conditions. These include potentially liquefiable soil deposits and compressible organic materials. Ground improvement to mitigate these conditions as indicated will likely be required. Typical ground improvement measures may include jet grouting, deep soil mixing, deep dynamic compaction, and/or other methods such as stone (or sand) columns.	Acknowledged. Ground improvement using a cement deep mechanical soil mixing (DMM) shear wall grid is currently included in the project description. Once more site-specific geotechnical information is available, a more detailed evaluation of effective ground improvement methods and physical locations of such improvements would be conducted.
5.6	In some locations there are dense sands/gravels and stiff clays present. This will present difficult sheet and pipe pile driving conditions. Similar hard driving conditions at other intake cofferdam locations along the Sacramento River has resulted in split sheet pile containment walls that required special additional sheet piles and grouting options. This should be anticipated in the design concept. Predrilling, as proposed, may be required.	Pile driving effort has been evaluated as part of the current project description. Preliminary analysis suggests that sheet pile installation is feasible in the soils represented by the existing borings. Note that consideration of alternative foundation and cofferdam construction concepts is currently planned.
5.7	Seepage cutoff walls are favorable features to reduce seepage beneath the new levee embankments. Suggest optimization of various methods be considered including both Soil-Bentonite (SB) and Slag Cement-Cement-Bentonite (SCCB) for open trench construction methods and Soil-Cement-Bentonite (SCB) for deep soil mixing methods.	Acknowledged. This suggestion would be evaluated in greater detail during future design efforts. The current concept leverages the need for ground improvement using DMM methods to create a grid and avoids the need for a second construction method to complete the cutoff walls.
5.8	BMPs such as attenuation of pile driving using an impact hammer, predrilling to reduce pile installation sound pressure, etc. should apply to all in-water construction activity.	Acknowledged. A test pile program is planned to help develop BMPs for pile driving. Also, consideration of alternative foundation and cofferdam construction concepts is currently planned which may affect this situation.
6.1	Evaluate disposal of treated sediment by river barge from July to October 1.	This concept would require daily conveyance of dried, or partially dried, sediment across the state highway to reach a barge. Barge traffic limitations are in effect that would also limit barge movements. We acknowledge that guidance on sediment disposal and/or its potential reintroduction back into the Delta is needed and needs to be developed as part of this Project. However, we do not believe barging of sediment is a practical offsite disposal option given the logistical constraints at the site.
6.2	Allow more scour at base of screens by lowering the elevation of the rock scour protection design.	Scour at the interface of the structure is generally not allowed as part of CVFPB and USACE permitting. Additionally, the rock scour protection is provided to help protect disturbed areas that are dredged in front of the screens to smooth out the riverbank at the structures. No change planned.

6.3	The concept of a gravel lined sediment settling basin is of concern to the Panel - especially along the waterside of the new Project levee. Suggest consideration of revetment (6” to 8” cobbles), soil cement lining/facing, or other hard features (e.g. articulated concrete mats).	Concur. The suggestion would be considered during future design efforts.
6.4	Sediment must be managed below screens (river side) regardless of which screen is used. Jets below screens may be effective but will require frequent operation. Traveling “toothbrush” type screen is extremely sensitive to this sediment, and it could result in major maintenance issues. At PG&E’s Philadelphia diversion the oscillating brush mechanism frequently lodged in sediment bar resulting in significant damage and high maintenance. Sweep arm will need to be very robust, have good access for repair and have plenty of spare parts.	Agreed. Robust structural design and sediment-related features (such as the "snow plow" used at FRWA) would be considered for this mechanism during future design efforts.
6.5	Consider baffles or “S” walls in sediment pond to force the water/sediment to travel further increasing settling time before entering tunnel.	This has been considered and does not achieve the results suggested since the velocity on the flow channel increases and proportionally increases the required settling length.
6.6	Consider permanent boom for suction dredge.	The details of the sediment dredging system would be considered during future design efforts. Permanent or semi-permanent features would be considered.
6.7	The CER describes the system as “The sediment jetting pump will pressurize water from the pipe manifold located behind the back wall of the intake structure and deliver it to the spray nozzles, which will spray the bay floor”.	Acknowledged. The quoted statement is generally the current plan except there is no longer a pipe manifold. Water would be drawn from within the intake structure.
6.8	Sediment removed from the intakes should, to the extent possible, be used beneficially in the Delta to reverse effects of island subsidence, in combination with carbon sequestration, as well as support shallow water aquatic habitat restoration in the Delta.	Agreed. All sediment disposal must be in accordance with applicable off-site discharge permits which are not currently defined. As noted above on 6.1, more final disposal sediment management guidance is needed and will be developed as part of the Project.
6.9	With regards to sediment disposal it would be important to anticipate whether the solids may likely contain contaminants (mercury, ag chemicals, etc.) that may impact the ability to dispose of the materials. Additionally, local groundwater conditions should be investigated for adverse chemical conditions. The construction of the Northwest Interceptor in West Sacramento encountered naturally occurring boron which complicated the disposal of dewatering fluids. This consideration merits testing for contaminants in the sediment and groundwater.	Acknowledged. Limited data currently exists for sediment chemical constituents and would be further investigated during future design efforts. Geotechnical testing would include groundwater quality testing.

7.1	Evaluate allowing the tops of the vertical flat plate screens to extend above design water level.	The DCA does not intend to further evaluate higher screens. In all cases, the screen facility will be designed for a 3000 cfs capacity at an approach velocity of 0.2 fps (with some screen area redundancy allowances). Additional screen height would not result in additional capacity due to overall hydraulic design of the facility.
7.2	The Panel believes that it would be difficult to clean a 20-ft high vertical flat plate screen located 25 to 30 feet below the deck of the structure due to cleaner arm and brush length required. The panel suggests evaluating panel height, screen length and cleaner arm size (diameter and length) together. Evaluate whether the trolley rail can be located lower on the structure to reduce the length of the brush arm.	Trolley is currently located below deck and configuration and strength would be considered during future cleaner design efforts. Panel heights are currently limited to 17.5 feet maximum height to facilitate effective cleaning and limit brush length. More specific ITR Panel input on this subject would be helpful.
7.3	Determination of the design screen sill elevation would be impacted by both intermittent mobilized sediment sand dune height and frequency. More data will be required to know the impacts of dune migration and its impact on sill elevation.	Agreed. To date, bathymetric data from 2008 to 2019 suggest a stable river cross section and generally consistent sediment accumulation in the vicinity of intakes. This information would be supplemented with sediment modeling and additional bathymetry during future design efforts.
8.1	Evaluate developing two intake sites, at Sites 2 and 3, with a maximum diversion capacity of 3,000 cfs each. Isolate diversion within each intake to 100 to 500 cfs increments. Preferentially operate (December1-May 31) the most upstream diversion first before initiating operations downstream. Preferentially operate the upstream diversion to the lowest diversion rate needed to meet existing demands).	**DWR RESPONSE:** This option exists and is being evaluated as part of operational modeling and impacts analysis being conducted.
8.2	Site Location/selection – Sites 2, 3, and 5 appear to be the locations under consideration. Sites 3 and 5 are the likely favorites based on the screen and constructability. However, the selection of the two sites may be driven more by local input than based on preferred screen/river hydraulics. Screens could be constructed and operated successfully at each of the sites. Screen design should account for the river hydraulics at the chosen sites. This may result in some differences in the screen design for the different sites. Tee screens are likely less impacted by site conditions compared to the longer and taller vertical screen options. Hydraulic 2-D and CFD modeling might show that some sites are better than others among the three final site choices. This could also inform the choice of vertical or tee screen structures.	Acknowledged. 2-D and CFD modeling are planned for the selected alternative. 2-D modeling may be conducted before alternative selection and would be used to support intake site and type selection, as applicable.

8.3	Limit diversion rates to 0.2 ft/sec approach velocity between December 1 and May 31 to protect adult delta smelt, juvenile salmonids, and other fish. Diversion operations during October 1-November 30 and June 1-15 would be 0.33 ft/sec or less unless a pulse of juvenile salmonids is detected moving toward the intake site when diversion rates should be reduced to 0.2 ft/sec (see near real-time operations below). Between June 15 and October 1 diversion rates should be limited to 0.33 ft/sec for juvenile salmonids and other fish.	**DWR RESPONSE:** The proposed intakes will be designed for the 0.2 fps criteria. Operational concept will be assessed further through the environmental planning and permitting process in coordination with the fisheries agencies.
8.4	Unless tied to reductions in export rates or curtailment, real-time biological monitoring offers potential benefits only during the October 1-November 30 and June 1-15 periods. If real time data (e.g., Knights Landing, Sacramento trawl, acoustic tagging) shows a pulse of juvenile salmonids approaching the intake sites when diversion rates would be reduced to 0.2 ft/sec or curtailed there could be biological benefit from reduced diversion exposure. Diversion operations during the periods October 1-November 30 and June 1-15 can be coordinated with Delta Cross Channel (DCC) gate closures for fishery protection based on near real-time monitoring so that diversion rates are reduced to 0.2 ft/sec when the DCC gates are closed for fishery protection.	**DWR RESPONSE:** The proposed intakes will be designed for the 0.2 fps criteria. Operational concept will be assessed further through the environmental planning and permitting process in coordination with the fisheries agencies.
8.5	Acoustic tag survival studies should be conducted using juvenile Chinook salmon and steelhead (and white sturgeon surrogates) released upstream of the intake reach and immediately upstream and downstream of each intake site to assess baseline predation losses before and after intake construction over a range of river hydrologic conditions.	**DWR RESPONSE:** Acknowledged. DWR is currently evaluating baseline biological studies.
8.6	Restoration of shoreline juvenile rearing habitat should occur a minimum or five miles upstream of the most upstream intake site to improve habitat conditions and growth of juvenile salmonids before migrating downstream and encountering the intakes as well as to avoid an attractive nuisance in the immediate area of the intakes.	**DWR RESPONSE:** This concept will be assessed further through the environmental planning and permitting process. Impacts associated with habitat removal at the intake sites will be evaluated, and opportunities to offset and mitigate impacts will be identified and analyzed. Location and design of potential compensatory habitat restoration will be evaluated in coordination with fish and wildlife agencies.

8.7	Control of Aquatic Weed Impingement: Assume increased occurrence of and concentration of aquatic weeds in the future as river flow may warm and new exotic species show up. This a critical issue to maintaining screen performance for both delivery and fish protection. The cleaners must be capable of removing debris from the screen along its length during heavy aquatic debris loads. Possible ways to minimize impact – • Maximizing Sweeping/Approach velocity ratio. • Frequent screen cleaning. Provide flexibility to increase cleaning cycles. • Minimize screen length. • Reduce diversion during high concentrations of aquatic weeds. • Avoid exceptionally tall screens that may require long cleaner sweep arms.	Acknowledged. Screen-type evaluation currently being conducted takes cleaning and debris accumulation into account. Screen height is currently limited to 17.5 feet maximum height.
8.8	Control of Biofouling: Control of aquatic organisms that will attach to the front or back of the screen. Mussels, freshwater sponges and snails are known to impact screen operation when they occur in abundance. Filter feeders are particularly problematic as the back side of screens with low approach velocity are ideal habitat for these organisms. Possible ways to minimize impact – i. Use Tee screens with internal brushes. ii. Close one module of the vertical screen to remove and clean all screens sequentially. Installation of blank panels should maintain a smooth screen face to prevent introduction of excessive near screen turbulence.	Acknowledged. Current concepts are consistent with comment. Screen type evaluation currently being conducted takes cleaning into account, both in place and on the top deck for interior or panel back areas.
8.9	Mechanical Equipment: Minimizing the impact to diversion of mechanical failures on large screens will be needed. Major components that directly impact operating the screen within design criteria should be identified and ranked as to potential impact on diversion. Possible ways to minimize impact – i. Compartmentalize screen operation to the degree possible. ii. Stock key components on site. iii. Maximize diversion flexibility between diversion sites. iv. Plan for access to perform O&M of screen cleaners during high flows.	Acknowledged. Comments are already included in current concepts or are planned for during future design efforts.
9.1	Minimizing the screen footprint is important for reducing environmental impacts and improving operation of the screen. The Tee screens offer a major advantage on this issue and should be given strong consideration.	Acknowledged.

9.2	Predation is a major concern no matter what type of screen is selected. Flat Plate screens could harbor predators behind the 6 sweeper masts, along the log boom, and downstream of the structure. The Tee screen could harbor predators behind the base of the tees projecting from the structure, downstream of or under the cylinders, along the log boom, downstream of the structure.	**DWR RESPONSE:** Acknowledged. This is being considered as part the screen-type biological effects evaluation.
9.3	The smaller module approach offered by the Tee screen concept would likely provide greater control of near screen hydraulics thus allowing better compliance with screen criteria.	Acknowledged. Comment is consistent with current concept.
9.4	Measuring approach velocities at vertical flat plate, and Tee, screens could be difficult especially in areas of high sweeping velocities. The flat plate screen approach velocities would be measured from meters on a boom hung from a dolly on the sweeper trolley rail. Adjustments to the baffling would be mad from the deck of the structure. The Tee screens would likely require divers to position the velocity meters on all sides of the screen. Baffling would be determined from large scale laboratory tests. Field adjustment of Tee screen baffles would be difficult.	Acknowledged. Comment is consistent with current concept. Tee screen baffle adjustment would be considered during future design efforts.
9.5	Avoid screen designs that could require intermediate bypass collection and conveyance systems in the intake design. V screens should be avoided to eliminate the need for fish bypass pipes and fish handling and exposure to concentration and turbulence and the discharge location.	Concur. Current concepts are consistent with this comment.
9.6	A key element of intake design will be regulatory acceptance of the design configuration. Unless there is a strong rationale for an alternative design the preferred intake configuration supported by CDFW, USFWS, and NMFS should be the preferred design concept. Either the flat plate or Tee screen intake configurations appear to be functional at the selected sites so that the preferred intake design would be the design approved by the regulatory agencies.	Screen facility design details will be developed in coordination with the fisheries agencies for their acceptance.
9.8	Screen Brush on Vertical Flat Plates – add more pivot points to more evenly distribute forces on the brushes. See Appendix 3 for additional details.	Agree. This would be considered as part of future design efforts.
10.1	Evaluate fully designing a continuous horizontal refugia with continuous horizontal bars mount on the bankside of the piles for the floating boom. Also, design a shroud that could be installed underwater to cover the refugia if it does not prove beneficial.	**DWR RESPONSE:** Acknowledged. Incorporating refugia design features into the facility will be informed by best available science.

10.2	Refugia mechanisms could be incorporated on non-screen sections of Tee screen which would not add to overall length.	**DWR RESPONSE:** Acknowledged.
10.3	Refugia should include horizontal bar configuration and extend, to the extent practical giving screen modules and cleaning, across the entire length of each intake. The refugia bars should be spaced to allow fish less than 3 inches in length to enter and exclude all Tee screen intake modules should be located as low in the water column as possible while avoiding bed load sediment transport.	**DWR RESPONSE:** Acknowledged.
10.4	For the Tee screen option, cones should be placed on the upstream and downstream screens to provide smoother hydraulic conditions and reduce velocity refugia and turbulence that encourage potential predation.	Agree. This is included in the current concept and will be defined in greater detail as part of future design efforts.
10.5	Design refugia to exclude fish greater than 16 inches in length. If debris loading, excessive eddies or turbulence, predation, etc. are observed the refugia should be covered and no further consideration of application of refugia given to intake design or operation (adaptive decision).	**DWR RESPONSE:** Acknowledged.
10.6	There is no definitive data as to the benefit or dis-benefit of refugia. Are refugia safe locations for prey or small predators?	**DWR RESPONSE:** Acknowledged. Incorporating refugia design features into the facility will be informed by best available science.
10.7	For design look at wider horizontal refugia built into fish screens or at bottom of blank panels above screens. Consider designing in removable camera locations inside refugia to assist in adaptive management decisions.	**DWR RESPONSE:** Acknowledged. Incorporating refugia design features into the facility will be informed by best available science.
11.1	Do 2-D river modelling early enough to inform decision of final screen placement.	Agree. 2-D river modeling is currently planned to verify placement of intake structures.
11.2	Potentially, screens could be moved slightly closer to outer bend to increase sweeping velocities.	Will consider slight facility adjustments; however, screens are currently placed at locations with suitable depth and as close to outer bend locations as possible without excessive protrusion into the flow channel to minimize impact on flood levels.
11.3	More information is needed for screen contact and predation.	**DWR RESPONSE:** Acknowledged.
11.4	Screen contact – the data on salmonids is pretty good. Data on Delta Smelt needs some more work. Consider fish lab work for fish behavior (especially smelt) at cylindrical screens, possibly as an adaptive measure.	**DWR RESPONSE:** DWR to consider as part of fisheries analyses. Extensive studies were conducted by UC Davis researchers on delta smelt screen contact, as cited in the California WaterFix BA, for example. These, as well as the juvenile salmonid studies, inform the potential effects of fish contacts with screens.
11.5	Need studies of fish presence and distribution at the screen sites. Needed for baseline studies anyway.	**DWR RESPONSE:** DWR to consider baseline fisheries studies in the intake vicinity areas.

11.6	Study predator use of piles and log booms at existing screens.	**DWR RESPONSE:** Log booms and piles are a necessary part of fish facility protection systems and will need to be included. DWR to consider specific baseline fisheries studies such as these.
11.7	Non-physical fish deterrents/guidance can be considered.	**DWR RESPONSE:** Acknowledged. Enhancement projects near the intake sites, or potentially elsewhere, may improve passage efficiency; however, these projects should be considered separately. The intake facility should be designed based on use of best available technology.
11.8	On a sustainability basis, you may want to consider installing solar panels to augment power usage.	Acknowledged. This will be considered as part of future design efforts.
11.9	If Tee screens are used, consider using electric motor in lieu of hydraulics.	Electric motors are the current concept.
11.10	Suggest confirmation of project hydraulics in light of the recent adoption of the Folsom Dam operating manual. Additionally, the widening of the Sacramento Weir will affect the frequency and flow characteristics of the Sacramento River downstream of the American River confluence. Potential changes in hydraulic grade lines as well as sediment transport conditions may affect project operations.	**DWR RESPONSE:** Acknowledged. These changes would not be expected to effect low water depth and would be considered as appropriate with flood agencies for flood impact modeling.

DELTA CONVEYANCE **DESIGN**
& CONSTRUCTION AUTHORITY

INTAKES ITR

Agenda Item 7g | June 18, 2020

Phil Ryan

PURPOSE OF INDEPENDENT TECHNICAL REVIEWS

- Opportunity for industry experts to provide independent review and suggest ideas for consideration
- Allows sharing of opinions from experts drawing on wide range of regional, national and global experiences
- ITR sessions typically convene for 3 to 5 days and focus on a set of specified goals and objectives
- Represents “Best Practice” in capital program delivery quality management

ITR PANEL MEMBERS

- Robert Bittner – Marine Construction
- Brent Mefford – Fish Screens
- Dr. Charles Hanson – Fisheries Biologist
- Dennis Dorratcague – Intake Design
- Mark Nunnelley – Intake Operations and Maintenance
- Raymond Costa – Geotechnical Engineering

ITR PANEL SCOPE - INTAKES

- Minimizing intake footprint
- Construction sequencing
- Cofferdam and deep foundation constructability
- Operations and hydraulic control issues
- Sediment management
- Maximum screen panel height (Flat Panel)

COMMENT SUMMARY

SCOPE ITEM	# COMMENTS
Minimizing Intake Footprint	6
Hydraulic Control Issues	4
Construction Sequencing	5
Cofferdam and Deep Foundation Constructability	8
Sediment Management	9
Maximum Screen Panel Height (Flat Panel)	3
Operations	9
Screen Type	8
Screen Refugia	7
Other Relevant Topics	10

9.1 TEE SCREENS MINIMIZE FOOTPRINT

Summary:

- Two screen alternatives were presented; Tees and vertical plates; Tee screen alternative offers potential benefits to the construction and operation of the intakes as compared to the flat panel alternative

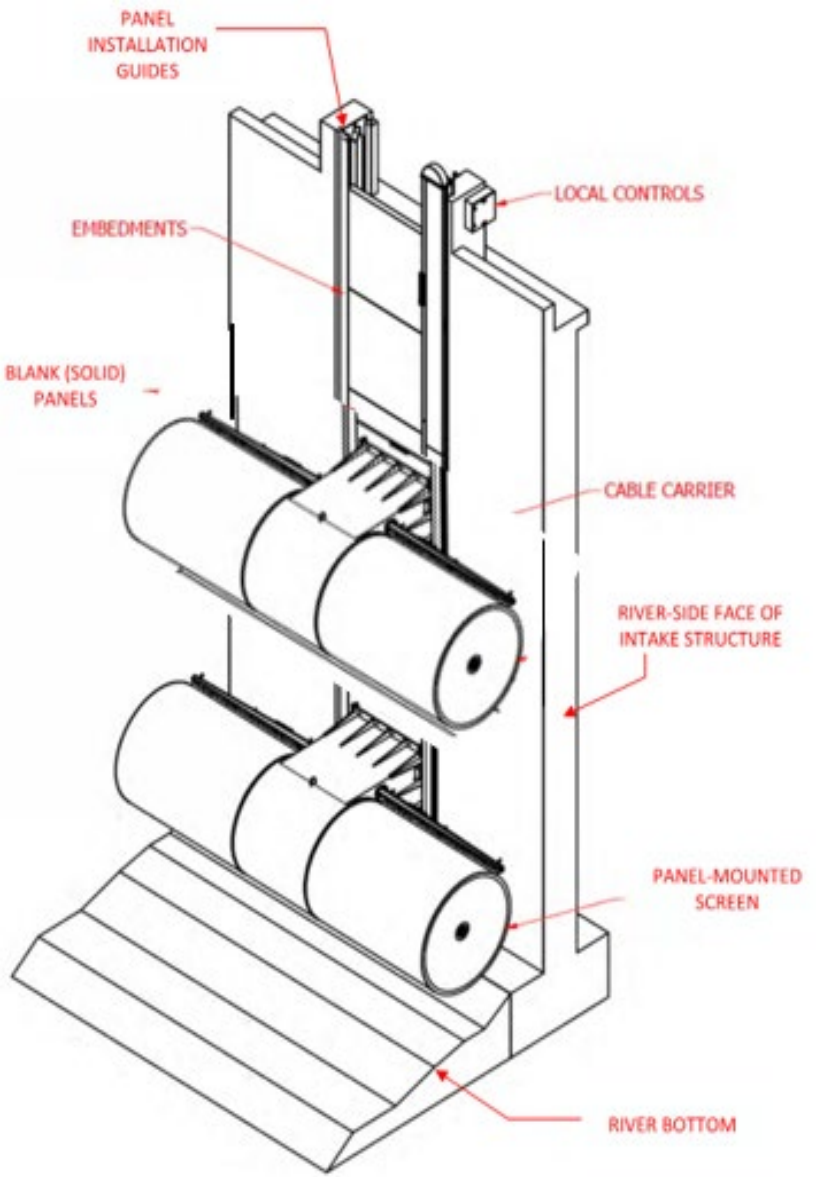
Potential Benefits:

- Tee Screen option can be condensed into shorter structure reducing exposure length
- Minimizing the screen footprint could be important for reducing environmental impacts and improving operation of the screen.

DCA Response:

- Agree; Tee screen design can reduce the overall length of the intake structure by about 20 to 40% as compared to the flat panel screen design
- Tee screens can be cleaned more efficiently reducing maintenance
- Cleaner screens reduce “blinding” and allow more even approach velocities

2.3 DUAL-STACKED TEE SCREENS



Summary:

- Consider stacking two panel-mounted tee-screens instead of a single tee screen to each guide

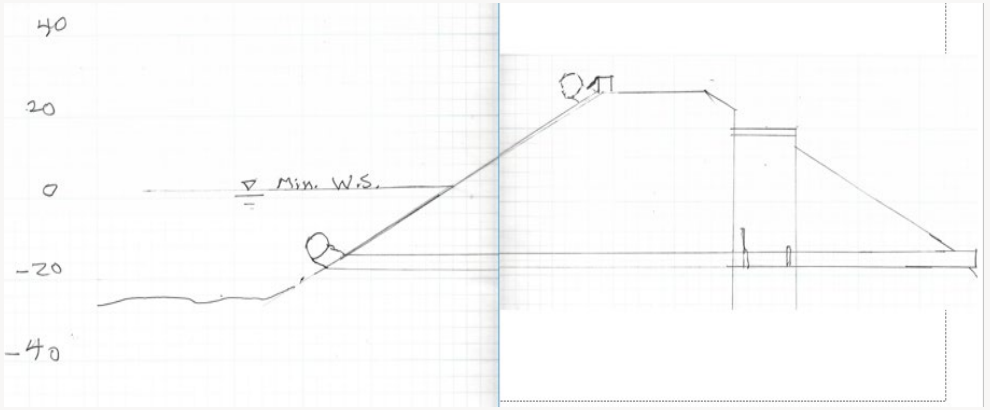
Potential Benefits:

- Vertically stacked tee screens with diameters of about 5-ft dia. by 25-ft long could decrease intake length by an additional 10% to 20%;
- Inclined stacked tee screens of about 8-ft dia. could decrease intake length by 30% to 48%.

DCA Response:

- Disagree. Dual screens would require locating one screen higher than current configuration, taking up more water column and having greater impact on surface species such as juvenile salmon
- May increase predator areas
- Doubles the amount of mechanical equipment and increases O&M complexity

2.6 INCLINED TEE SCREEN CONFIGURATION



Summary:

- Consider design and construction of inclined screen structure along riverbank slope

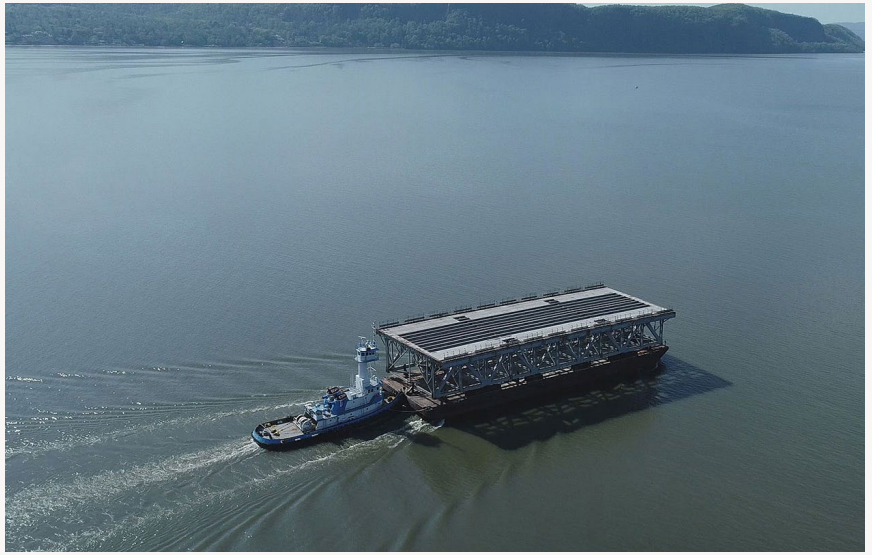
Potential Benefits:

- This could reduce the structure footprint by concentrating more screen area in shorter distance.
- Could reduce impacts to upstream movement of adult Delta Smelt by creating slower velocity water near surface away from screens.

DCA Response:

- Acknowledged. Will investigate in future design phase; maintain current configuration in conceptual design
- No shorter than vertical tee screen arrangement
- O&M and constructability issues for sloped arrangement requires significant further study and advantages may not offset disadvantages

4.4 OFFSITE PREFABRICATED CONSTRUCTION



Summary:

- Consider constructing intake from pre-fabricated concrete elements set in place from riverside using barges rather than building from landside.

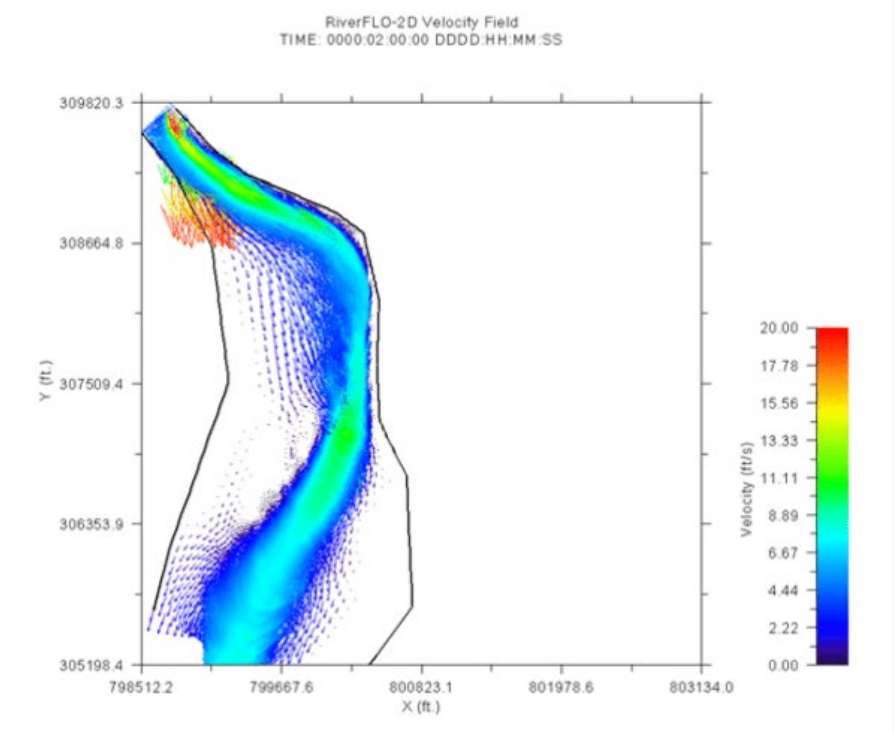
Potential Benefits:

- Eliminates cofferdam construction reducing schedule risk
- Could reduce construction congestion on intake sites

DCA Response:

- Disagree. Constructing intakes from riverside would create more disruption to river ecosystem, boating, and hydrodynamics
- Cofferdam allows year-round construction while in-river construction methods would be limited to 4 month windows – extending construction duration
- Barging large elements to site would be challenging (bridges, water depth, river width, etc.) - lighter loads OK

11.1 TWO-DIMENSIONAL RIVER MODELING



Summary:

- Two-dimensional river modeling would provide valuable data to aid in final design of the intakes.

Potential Benefits:

- 2D models will provide valuable prediction of flow and velocity distributions, water surface elevation, backwater, velocity magnitude, velocity direction, and flow depth at intake sites.
- Required by CVFPB and USACE for flood impacts analysis
- Informs hydraulic impacts aspects of selection of tee versus vertical plate screen types
- Likely required by fisheries agencies for fish impact analyses

DCA Response:

- Agree; planning to initiate 2D modeling in upcoming fiscal year scope of services
- Results will aid in resource agency coordination and final placement of structure

QUESTIONS?

DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

General Counsel's Report

Contact: Joshua Nelson, General Counsel

Date: June 18, 2020 **Item No.** 8a

Subject: Status Report

Summary:

The General Counsel continues to assist the DCA on legal matters as requested. This includes finalizing and executing the Joint Exercise of Powers Agreement amendment. It has now been signed and approved by the State. COVID-19 remains an important topic, and our office continues to assist staff with re-opening. Lastly, the DCA continues to receive and respond to Public Records Act requests.

Detailed Report:

As a follow up to last month, the Joint Exercise of Powers Agreement amendment was signed by the Department of Water Resources and approved by the Department of General Services. In part, this amendment allows the DCA to adopt a travel policy. The draft travel policy on the agenda implements this part of the amendment.

The General Counsel continues to advise staff on the COVID-19 pandemic and various state and local orders. We continue to see significant variation throughout the state on re-opening. As an example, Sacramento and surrounding counties have entered Stage 3, which allows the opening of bars, movie theaters and other higher risk facilities. The DCA has finalized its office re-opening plan and special thanks to Marcie Scott, DCA HR Manager, for her work on that.

The DCA has received a number of Public Records Act requests recently. Our office continues to seek to appropriately respond and to implement best practices regarding record production. Due to recent case law, the DCA must ensure that we are obtaining and providing responsive documents on private devices and accounts.

We also continue to assist with other legal matters as necessary. These matters are confidential and not appropriate for discussion in a public report.

Recommended Action:

Information only.

DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

Treasurer's Report

Contact: Katano Kasaine, Treasurer

Date: June 18, 2020 **Item No. 8b**

Subject: Treasurer's Monthly Report, May 2020

Summary:

The beginning cash balance for the Delta Conveyance Design and Construction Joint Powers Authority (Authority) at May 1, 2020 was $978,528. During May 2020, receipts totaled $2,953,266 representing contributions from the Department of Water Resources, Delta Conveyance Office (DCO) for payment of the Authority's obligations. Total disbursements for the month were $3,135,080. The ending cash balance at May 31, 2020 was $796,714.

As of May 31, 2020, the Authority's receivables totaled $6,685,051 consisting of 13 invoices to the DCO, of which $630,174 was received through June 10, 2020. Various invoices in the amount of $710,801 were paid out through June 10, 2020, leaving a cash balance of approximately $716,087.

As of May 31, 2020, prepaid expenses and construction in progress for the same period were $151,608 and $30,743,037, respectively. As of May 31, 2020, total accounts payable were $6,665,146 and total net position was $31,711,264.

Attachment 1 consists of financial statements for the month ended May 2020, a schedule of Invoices Paid through May 2020, Aging Schedules for Accounts Payable and Accounts Receivable as of May 31, 2020, and a Project to Date Schedule of Construction in Progress.

Attachment 2 consists of Budget versus Actuals by Appropriation through May 2020. Year-to date actual expenses were $43.9 million lower than budget due to continued delays in the engineering and geotechnical work stemming from County litigation and current restraints on field work activities due to State and County mandates.

Detailed Report:

See attached statements.

Recommended Action:

Information, only.

Attachments:

Attachment 1 – May 2020 Authority Financial Statements
Attachment 2 – May 2020 Budget versus Actuals by Appropriation

DELTA CONVEYANCE DESIGN AND CONSTRUCTION JOINT POWERS AUTHORITY

Statement of Net Position

As of May 31, 2020

Assets:		
Cash	$	796,714
Accounts receivable		6,685,051
Prepaids		151,608
Construction in progress [1]		30,743,037
Total assets	$	38,376,410
Liabilities:		
Accounts payable	$	6,665,146
Total liabilities		6,665,146
Net position:		
Net investment in capital assets		30,743,037
Unrestricted		968,227
Total net position		31,711,264
Total liabilities and net position	$	38,376,410

[1] Certain expenses from July 2018 to September 2019 were reclassified to construction in progress in September 2019.

DELTA CONVEYANCE DESIGN AND CONSTRUCTION JOINT POWERS AUTHORITY
Statements of Cash Receipts and Disbursements

	Month Ended May '20	Year to Date Jul '19-May '20
Receipts:		
Contributions	$ 2,953,266	$ 27,509,371
Disbursements:		
Environmental planning and design		
Program management	236,995	3,678,268
Project controls	295,574	3,005,677
Engineering	2,008,774	13,013,584
Property access and acquisition	4,528	215,015
Stakeholder engagement	302,457	1,650,258
Office administration	232,847	4,507,205
Fieldwork	53,905	1,438,237
Total disbursements	3,135,080	27,508,244
Net changes in cash	(181,814)	1,127
Cash at July 1, 2019	—	795,587
Cash at May 1, 2020	978,528	—
Cash at May 31, 2020	$ 796,714	$ 796,714

DELTA CONVEYANCE DESIGN AND CONSTRUCTION JOINT POWERS AUTHORITY

Statements of Revenues, Expenses and Changes in Net Position

	Month Ended May '20	Year to Date Jul '19-May '20
Expenses: [1]		
Environmental planning and design		
Program management	$ 170,526	$ 3,174,508
Stakeholder engagement	237,953	1,592,011
Office administration	205,874	3,826,673
Total expenses	614,353	8,593,192
Changes in net position before contributions	(614,353)	(8,593,192)
Capital contributions:		
DWR - Invoiced through the DCO [2]	6,240,182	32,110,178
Total capital contributions	6,240,182	32,110,178
Changes in net position	5,625,829	23,516,986
Net position at June 30, 2019	—	8,194,278
Net position at April 30, 2020	26,085,435	—
Net position at May 31, 2020	$ 31,711,264	$ 31,711,264

* Totals may not foot due to rounding.

** Balances may include prior month accruals that were not previously captured due to timing.

[1] Certain expenses through September 2019 were reclassified to construction in progress in September 2019.

[2] DWR - Department of Water Resources/DCO - Delta Conveyance Office.

DELTA CONVEYANCE DESIGN AND CONSTRUCTION JOINT POWERS AUTHORITY

Schedule of Invoices Paid
for the Ten Months Ended May 31, 2020

	Vendor	Invoice #	Invoice Date	Payment Date	Period of Expense	Invoice Amount	Amount Paid
1	Metropolitan Water District of Southern California	501609-T-1	08/29/19	05/04/20	07/01/19-07/31/19	$ 673	$ 644
2	Parsons	2001B621	01/17/20	05/04/20	12/07/19-01/03/20	10,376	7,858
3	Jacobs	W8X97002-02EXP	02/13/20	05/04/20	07/27/19-08/23/19	16,469	16,091
4	A.N.G Audio Visual Services	16223	02/26/20	05/04/20	02/26/20	3,566	3,566
5	VMA Communications	DCA20Feb	02/29/20	05/04/20	02/01/20-02/29/20	46,903	46,903
6	Foliate dba Plant Domaine	495716	03/05/20	05/04/20	03/05/20-03/31/20	695	695
7	Direct Technology	177717	02/29/20	05/04/20	02/01/20-02/29/20	45,809	45,809
8	Office Depot, Inc.	453011667001	03/09/20	05/04/20	03/09/20	534	534
9	Direct Technology	177733	02/29/20	05/04/20	02/01/20-02/29/20	4,275	4,275
10	Office Depot, Inc.	453017961001	03/09/20	05/04/20	03/09/20	504	504
11	A.N.G Audio Visual Services	16231	03/11/20	05/04/20	03/11/20	4,501	4,501
12	Spark Street Digital	2237	03/12/20	05/04/20	11/21/19	4,175	4,175
13	Spark Street Digital	2238	03/12/20	05/04/20	12/11/19	5,460	5,460
14	Spark Street Digital	2239	03/12/20	05/04/20	12/19/19	4,175	4,175
15	Spark Street Digital	2240	03/12/20	05/04/20	01/16/20	4,175	4,175
16	Spark Street Digital	2241	03/12/20	05/04/20	01/22/20	5,460	5,460
17	Spark Street Digital	2242	03/12/20	05/04/20	02/12/20	5,460	5,460
18	Spark Street Digital	2243	03/12/20	05/04/20	02/20/20	4,175	4,175
19	Spark Street Digital	2244	03/12/20	05/04/20	02/26/20	5,460	5,460
20	Jacqueline Blakeley	419	03/15/20	05/04/20	03/04/20-03/11/20	9,563	9,563
21	Crossover Capital Group (AP42)	244	03/16/20	05/04/20	01/28/20-03/13/20	4,010	4,010
22	Best, Best, & Krieger	872968	03/20/20	05/08/20	02/01/20-02/29/20	59,363	59,342
23	Ring Central	000104738	03/24/20	05/08/20	03/18/20-03/27/20	4,328	4,328
24	Miles Treaster & Associates	40733	03/24/20	05/08/20	03/24/20	75	75
25	Jacobs	W8X97002-03EXP	02/25/20	05/08/20	07/27/19-09/27/19	23,550	16,970
26	Jacobs	W8X97002-08	03/23/20	05/08/20	11/01/19-02/28/20	2,131,944	2,131,699
27	Foliate dba Plant Domaine	495749	04/01/20	05/08/20	04/01/20	695	695
28	Foliate dba Plant Domaine	495750	04/01/20	05/08/20	04/01/20	1,572	1,572
29	Ring Central	INV1224681	01/01/20	05/08/20	12/20/19-01/19/20	3,684	3,684
30	Crossover Capital Group (AP42)	250	04/06/20	05/18/20	04/06/20	12,140	12,140
31	VMA Communications	DCA20March	03/31/20	05/18/20	03/01/20-03/31/20	31,271	31,271
32	Parsons	2003B284	03/10/20	05/18/20	01/04/20-02/07/20	582,638	582,135
33	Direct Technology	178224	03/31/20	05/18/20	03/01/20-03/31/20	38,263	38,263
34	The Sextant Group	20192821	02/29/20	05/18/20	02/01/20-02/29/20	1,469	1,469
35	Consolidated Communication	APR004	04/15/20	05/18/20	04/15/20-05/14/20	4,672	4,672
36	Management Partners	INV08473	04/14/20	05/18/20	03/14/20-04/13/20	47,250	47,250
37	Metropolitan Water District of Southern California	501642-1	03/24/20	05/22/20	01/01/20-01/31/20	11,574	11,522
38	Stakeholder Engagement Committee Member	007	05/13/20	05/22/20	04/22/20	4,500	4,500
						3,145,406	3,135,080

* Totals may not foot due to rounding.

DELTA CONVEYANCE DESIGN AND CONSTRUCTION JOINT POWERS AUTHORITY

Accounts Payable Aging Schedule

As of May 31, 2020

Payable To:	1 - 30	31 - 60	61 - 90	> 90	Total
ACWA					
Invoice #20APR001	$ 42	$ 40	$ —	$ —	$ 82
Best, Best, & Krieger					
Invoice #875423	45,456	—	—	—	45,456
Caltronics Business System					
Invoice #3022184	4,337	—	—	—	4,337
Invoice #2985445	681	—	—	—	681
Invoice #3006696	630	—	—	—	630
Convergent Systems					
Invoice #1036975	—	—	212	—	212
Crossover Capital Group (AP42)					
Invoice #255	—	27,280	—	—	27,280
Invoice #256	35,750	—	—	—	35,750
Direct Technology					
Invoice #178132	—	5,697	—	—	5,697
Invoice #178623	37,780	—	—	—	37,780
e-Builder					
Invoice #9047	11,244	—	—	—	11,244
Foliate					
Invoice #495811	463	—	—	—	463
Invoice #495812	696	—	—	—	696
Fugro USA Land, Inc.					
Invoice #04.72190203-4	—	960	—	—	960
Hammer Real Estate Group - Capitol Event Center					
Invoice #655	—	—	—	2,431	2,431
Jacobs					
Invoice #W8X97001-04EXP	—	—	—	7,457	7,457
Invoice #W8X97002-04EXP	—	18,979	—	—	18,979 (1)
Invoice #W8X97002-10	2,442,239	—	—	—	2,442,239
Invoice #W8X97002-09	2,826,846	—	—	—	2,826,846
Jacqueline Blakeley					
Invoice #419EXP	1,313	—	—	—	1,313
Invoice #421	8,000	—	—	—	8,000
Keogh Multimedia					
Invoice #MK-2020-01	2,050	—	—	—	2,050
Management Partners					
Invoice #INV08546	47,392	—	—	—	47,392
Miles Treaster & Associates					
Invoice #40679	—	—	93,784	—	93,784
Invoice #40783	—	17,051	—	—	17,051
Invoice #40943	4,267	—	—	—	4,267
Parsons					
Invoice #2004C037	—	425,224	—	—	425,224
Invoice #2004C141	557,509	—	—	—	557,509
Ring Central					
Invoice #CD_000112328	3,801	—	—	—	3,801
Sierra Valley Moving & Storage					
Invoice #SV24277	3,686	—	—	—	3,686
The Sextant Group					
Invoice #20200887	578	—	—	—	578
VMA Communication					
Invoice #DCA20April	31,271	—	—	—	31,271
	$ 6,066,031	$ 495,231	$ 93,996	$ 9,888	$ 6,665,146

*Totals may not foot due to rounding.

(1) In May 2020, DCO disallowed $664 of travel expenses.

DELTA CONVEYANCE DESIGN AND CONSTRUCTION JOINT POWERS AUTHORITY

Accounts Receivable Aging Schedule [1]
As of May 31, 2020

Receivable From:	1 - 30	31 - 60	61 - 90	> 90	Total	
Department of Water Resources						
Invoice #DCA-1920-097	—	425,225	—	—	425,225	
Invoice #DCA-1920-098	—	18,979	—	—	18,979	[2]
Invoice #DCA-1920-099	50,403	—	—	—	50,403	
Invoice #DCA-1920-100	960	—	—	—	960	
Invoice #DCA-1920-101	54,769	—	—	—	54,769	
Invoice #DCA-1920-102	93,784	—	—	—	93,784	
Invoice #DCA-1920-103	105,378	—	—	—	105,378	
Invoice #DCA-1920-104	36,457	—	—	—	36,457	
Invoice #DCA-1920-105	21,424	—	—	—	21,424	
Invoice #DCA-1920-106	51,078	—	—	—	51,078	
Invoice #DCA-1920-107	2,826,846	—	—	—	2,826,846	
Invoice #DCA-1920-108	2,442,239	—	—	—	2,442,239	
Invoice #DCA-1920-109	557,509	—	—	—	557,509	
	$ 6,240,847	$ 444,204	$ —	$ —	$ 6,685,051	

*Totals may not foot due to rounding.

[1] Approval date by the DCO determines aging classification.

[2] In May 2020, DCO disallowed $664 of travel expenses.

DELTA CONVEYANCE DESIGN AND CONSTRUCTION JOINT POWERS AUTHORITY

Construction in Progress

	Month Ended May '20	Year to Date Jul '19-May '20	Project to Date Jun'18-May '20 [2]
Construction in progress:			
Environmental planning and design			
Program management	$ 32,481	$ 604,667	$ 604,667
Project controls	293,014	3,303,971	3,303,971
Engineering	5,022,430	16,522,912	16,522,912
Fieldwork	33,151	1,472,348	1,472,348
Property access and acquisition	10,626	190,089	190,089
Stakeholder engagement	45,324	303,239	303,239
Office administration	39,214	728,889	728,889
Executive director [1]	—	—	143,717
External affairs [1]	—	—	112,208
Treasury and accounting [1]	—	—	12,186
Information technology [1]	—	—	113,242
Legal [1]	—	—	38,955
Staffing and administration [1]	—	—	44,230
Program controls [1]	—	—	873,699
Property acquisition [1]	—	—	708,609
Environmental [1]	—	—	1,766,316
Engineering management programmatic [1]	—	—	3,803,760
Total construction in progress	$ 5,476,240	$ 23,126,115	$ 30,743,037

[1] Expense classifications were revised effective July 2019. These classifications were effective prior to July 2019.

[2] Certain expenses from July 2018 through September 2019 were reclassified to construction in progress in September 2019.

DELTA CONVEYANCE DESIGN AND CONSTRUCTION JOINT POWERS AUTHORITY

Statements of Cash Receipts and Disbursements

	Month Ended May '20	Year to Date Jul '19-May '20
Receipts:		
Contributions	$ 2,953,266	$ 27,509,371
Disbursements:		
Environmental planning and design		
Program management	236,995	3,678,268
Project controls	295,574	3,005,677
Engineering	2,008,774	13,013,584
Property access and acquisition	4,528	215,015
Stakeholder engagement	302,457	1,650,258
Office administration	232,847	4,507,205
Fieldwork	53,905	1,438,237
Total disbursements	3,135,080	27,508,244
Net changes in cash	(181,814)	1,127
Cash at July 1, 2019	—	795,587
Cash at May 1, 2020	978,528	—
Cash at May 31, 2020	$ 796,714	$ 796,714

Statements of Revenues, Expenses and Changes in Net Position

	Month Ended May '20	Year to Date Jul '19-May '20
Expenses: [1]		
Environmental planning and design		
Program management	$ 170,526	$ 3,174,508
Stakeholder engagement	237,953	1,592,011
Office administration	205,874	3,826,673
Total expenses	614,353	8,593,192
Changes in net position before contributions	(614,353)	(8,593,192)
Capital contributions:		
DWR - Invoiced through the DCO [2]	6,240,182	32,110,178
Total capital contributions	6,240,182	32,110,178
Changes in net position	5,625,829	23,516,986
Net position at June 30, 2019	—	8,194,278
Net position at April 30, 2020	26,085,435	—
Net position at May 31, 2020	$ 31,711,264	$ 31,711,264

* Totals may not foot due to rounding.

**Balances may include prior month accruals that were not previously captured due to timing.

[1] Certain expenses through September 2019 were reclassified to construction in progress in September 2019.

[2] DWR - Department of Water Resources/DCO - Delta Conveyance Office.

DELTA CONVEYANCE DESIGN AND CONSTRUCTION JOINT POWERS AUTHORITY

	Statements of Cash Receipts and Disbursements		Statements of Revenues, Expenses and Changes in Net Position	
	Month Ended May '20	Year to Date Jul '19-May '20	Month Ended May '20	Year to Date Jul '19-May '20
Receipts:				
Contributions	$ 2,953,266	$ 27,509,371		
Disbursements/Expenses: [1]				
Environmental planning and design				
Program management	236,995	3,678,268	$ 170,526	$ 3,174,508
Project controls	295,574	3,005,677	—	—
Engineering	2,008,774	13,013,584	—	—
Property access and acquisition	4,528	215,015	—	—
Stakeholder engagement	302,457	1,650,258	237,953	1,592,011
Office administration	232,847	4,507,205	205,874	3,826,673
Fieldwork	53,905	1,438,237	—	—
Total disbursements/expenses	3,135,080	27,508,244	614,353	8,593,192
Net changes in cash	(181,814)	1,127		
Cash at July 1, 2019	—	795,587		
Cash at May 1, 2020	978,528	—		
Cash at May 31, 2020	$ 796,714	$ 796,714		
Changes in net position before contributions			(614,353)	(8,593,192)
Capital contributions:				
DWR - Invoiced through the DCO [2]			6,240,182	32,110,178
Total capital contributions			6,240,182	32,110,178
Changes in net position			5,625,829	23,516,986
Net position at June 30, 2019			—	8,194,278
Net position at April 30, 2020			26,085,435	—
Net position at May 31, 2020			$ 31,711,264	$ 31,711,264

* Totals may not foot due to rounding.

**Balances may include prior month accruals that were not previously captured due to timing.

[1] Certain expenses through September 2019 were reclassified to construction in progress in September 2019.

[2] DWR - Department of Water Resources/DCO - Delta Conveyance Office.

Delta Conveyance Design and Construction Joint Powers Authority

Budget vs Cost by Appropriation - PTD, YTD

Current Period: MAY-20

	Period-to-Date				Year-to-Date				Fiscal Year		
Appropriation	**Actual**	**Budget**	**Variance**	**Variance %**	**Actual**	**Budget**	**Variance**	**Variance %**	**Budget**	**Contingency**	**Total Budget**
Program management	$ 203,007	$ 600,000	$ 396,993	66.2%	$ 3,779,175	$ 6,900,000	$ 3,120,825	45.2%	$ 7,500,000	$ 1,600,000	$ 9,100,000
Project controls	293,014	400,000	106,986	26.7%	3,303,971	4,800,000	1,496,029	31.2%	5,200,000	700,000	5,900,000
Engineering	5,022,430	2,950,000	(2,072,430)	-70.3%	16,522,912	32,050,000	15,527,088	48.4%	35,000,000	5,800,000	40,800,000
Field work	33,151	1,670,000	1,636,849	98.0%	1,472,348	18,330,000	16,857,652	92.0%	20,000,000	4,900,000	24,900,000
Property access and acquisition	10,626	200,000	189,374	94.7%	190,089	4,100,000	3,909,911	95.4%	4,300,000	600,000	4,900,000
Stakeholder engagement	283,277	300,000	16,723	5.6%	1,895,250	3,700,000	1,804,750	48.8%	4,000,000	700,000	4,700,000
Office administration	245,088	300,000	54,912	18.3%	4,555,562	5,700,000	1,144,438	20.1%	6,000,000	1,500,000	7,500,000
Total	$ 6,090,593	$ 6,420,000	$ 329,407	5.1%	$ 31,719,307	$ 75,580,000	$ 43,860,693	58.0%	$ 82,000,000	$ 15,800,000	$ 97,800,000

Delta Conveyance Design and Construction Joint Powers Authority
Appropriation - Trend
Current Period: MAY-20

	Period To Date												
Appropriation	**JUL-19**	**AUG-19**	**SEP-19**	**OCT-19**	**NOV-19**	**DEC-19**	**JAN-20**	**FEB-20**	**MAR-20**	**APR-20**	**MAY-20**	**JUN-20**	**Total**
Program management	$ 192,453	$ 158,963	$ 334,329	$ 774,274	$ 479,139	$ 653,996	$ 251,377	$ 314,676	$ 172,817	$ 244,144	$ 203,007	$ —	$ 3,779,175
Project controls	109,131	25,842	266,937	870,799	50,559	643,678	292,700	257,947	60,708	432,656	293,014	—	3,303,971
Engineering	649,330	110,410	1,383,914	490,231	2,362,217	513,129	63,936	2,133,617	3,389,489	404,210	5,022,430	—	16,522,912
Field work	—	—	—	805,593	396,794	69,979	—	72,388	93,483	960	33,151	—	1,472,348
Property access and acquisition	6,327	(112)	349	75,942	39,965	40,825	—	4,074	12,093	—	10,626	—	190,089
Stakeholder engagement [1]	346	31,012	27,663	85,573	100,939	315,583	115,071	387,416	473,775	74,595	283,277	—	1,895,250
Office administration [1]	1,704,208	196,355	176,608	264,009	54,562	142,265	677,655	649,951	349,243	95,618	245,088	—	4,555,562
Total	$ 2,661,795	$ 522,470	$ 2,189,800	$ 3,366,421	$ 3,484,175	$ 2,379,455	$ 1,400,739	$ 3,820,069	$ 4,551,609	$ 1,252,183	$ 6,090,593	$ —	$ 31,719,307

* Totals may not foot/crossfoot due to rounding.

[1] Certain prior month expenses were reclassified from office administration to stakeholder engagement.

DELTA CONVEYANCE DESIGN & CONSTRUCTION AUTHORITY

Environmental Manager's Report

Contact: Carolyn Buckman, DWR Environmental Manager

Date: June 18, 2020 **Item No.** 8c

Subject: Environmental Manager's Report

Summary:
The Department of Water Resources (DWR) is progressing through the California Environmental Quality Act (CEQA) process to analyze a single-tunnel solution to modernizing and rehabilitating the water distribution system in the Delta.

Detailed Report:
DWR is reviewing comments received during the public scoping period (that ended on April 17, 2020) and drafting a Scoping Summary Report to document the comments received. DWR is using the information received to formulate alternatives to the proposed project and identify methods to assess potential environmental impacts.

DWR will soon be submitting an application to the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. DWR is submitting this now in order to formally engage USACE for compliance with the National Environmental Policy Act (NEPA), as well as early coordination for the Clean Water Act and Rivers and Harbors Act. Upon receipt of the 404-permit application, USACE is expected to coordinate with other federal agencies to identify the appropriate lead agency to conduct environmental review under NEPA. The identified lead agency will then issue a Notice of Intent (NOI) initiating preparation of an Environmental Impact Statement (EIS). This will begin another scoping period, providing an additional opportunity for agencies and the public to comment on the contents of both the permit application and the scope and content of the EIS. More information about the scoping period will be available at that time.

DWR also recently requested a "Statement of No Objection" letter from the Central Valley Flood Protection Board as a part of the USACE Section 408 permission process. This letter enables DWR to engage in early coordination with the USACE and Central Valley Flood Protection Board during development of environmental documents. DWR expects the Section 408 permission will be obtained concurrently with Section 404 and 10 permit authorizations after CEQA and NEPA processes are complete and the design process has progressed (with Section 408 permit submittal likely in 2022).

DWR is also continuing our effort to investigate soil conditions in the Delta. Depending on the process to complete environmental permitting, DWR is planning to proceed with the process to begin selected soil surveys this summer.

Recommended Action:
Information only.