From: Micko, Steve/SAC [Steve.Micko@jacobs.com]
Sent: 12/1/2020 10:05:44 AM
To: Heydinger, Erin [erin.heydinger@hdrinc.com]
CC: Thayer, Reed/SAC [Reed.Thayer@jacobs.com]; Alicia Forsythe [aforsythe@sitesproject.org]; Leaf, Rob/SAC [Rob.Leaf@jacobs.com]
Subject: RE: [EXTERNAL] Prop 1 Benefits

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California
WATER COMMISSION

Water Storage Investment Program
Commission Determinations and Additional Eligibility Requirement

Sites Reservoir Project

Sites Project Authority

The Sites Project Authority is proposing a surface storage project, the Sites Reservoir Project. The Sites Reservoir Project would be a 1.81 million acre-foot offstream surface storage reservoir located in the Sacramento Valley west of the town of Maxwell. The proposed reservoir's conveyance facilities would include the use of existing Tehama Colusa Canal and Glenn-Colusa Irrigation District Canal diversion and conveyance facilities, plus a proposed new diversion and discharge pipeline. Sources of water would be Funks Creek and Stone Coral Creek, which would be impounded by the proposed reservoir and the Sacramento River. Operation of the proposed reservoir would be in cooperation with the operations of existing Central Valley Project (CVP) and State Water Project (SWP) system facilities.

The California Water Commission (Commission) accepted the following monetized public benefits for this project:

- Ecosystem Improvement—Refuge water supply
- Ecosystem Improvement—Yolo Bypass flows
- Recreation
- Flood Control

Emergency Response and Recreation were considered by the Department of Water Resources as non-monetized benefits.

Introduction

This document addresses the following components of the Commission's Water Storage Investment Program (WSIP) project evaluation process:

- **Determinations:** The Commission must make nine (9) determinations by before assigning a maximum conditional eligibility amount.
- **Additional Eligibility Requirement:** The Commission must consider the eligibility requirement related to wild and scenic rivers.

Part 1: Discussion of Commission Determinations

Regulation section 6011(c) states that before the Commission assigns a maximum conditional eligibility amount to a project, the Commission shall make all nine determinations based on the technical review and appeal information. The determinations are the following items:

- The proposed project is cost effective;
- The proposed project improves the operations of the State water system;
- The proposed project provides a net improvement in ecosystem and water quality conditions;

- The proposed project provides measurable improvements to the Delta ecosystem or to the tributaries to the Delta;
- The Program cost share is less than or equal to 50 percent of the proposed project's total capital costs, with the exception of conjunctive use projects and reservoir reoperation projects;
- The Program funded ecosystem improvement benefits make up at least 50 percent of the total public benefits funded by the Program;
- The proposed project appears to be feasible;
- The proposed project will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses of the Delta; and
- The proposed project is consistent with all applicable laws and regulations.

If, for a project, the Commission cannot make any single determination then a maximum conditional eligibility determination (MCED) cannot be made for that project.

Relationship Between Determinations and Eligibility
These determinations are made before projects have completed all project formulation efforts. Regulations section 6013(c) states that additional requirements (such as completed feasibility studies, final environmental documents, contracts for the non-WSIP cost share, contracts for administration of public benefits, and permits) must be obtained by applicants after the MCEDs are made, but before the Commission makes a final award to the project. Those additional requirements may result in changes to the project that was proposed to the Commission in the August 2017 Application. Such changes may positively or negatively affect project eligibility and in turn one or more of the Commission's determinations. The Commission will consider such changes in determining a project's final award (section 6013(f)(3-5)). Additionally, regulations section 6013(f)(2) sets January 1, 2022, as the deadline for completing feasibility documents.

Table 1 presents Staff's assessment of whether each of the nine determinations conditions has been met. This assessment is based on the technical review and the appeal.

Table 1 - Staff Recommendations – Commission Determinations	
1. The proposed project is cost effective.	--
The quantified costs and benefits may have changed since the submission of the application in August 2017 and the February 2018 appeal. Staff recommends the Commission discuss with the applicant, consistent with the requirements of the Bagley-Keene Act, any changes that relate to cost effectiveness. The Commission may determine the project to be cost-effective based on the following factors: • Monetized and non-monetized benefits and costs as described in the application • A discussion with the applicant, consistent with the requirements of the Bagley-Keene Act, about any changes in benefits and costs related to cost effectiveness (Regulations section 6004(a)(4)(E)) that may have arisen since the submission of the application Any changes that arise from such a discussion would need to be documented and supported as part of the ongoing WSIP regulatory process.	
2. The proposed project improves the operations of the state water system.	YES

Table 1 - Staff Recommendations – Commission Determinations	
The applicant described how the project would be integrated into the local, regional, state, or federal systems that provide water resources benefits within California. Such integration would improve the operations of the state water system. The proposed Sites Reservoir Project operations would be coordinated and integrated with the state and federal systems as well as regional and local water agencies. The proposed project would provide additional storage and system flexibility to the system. The additional storage in the SWP and CVP reservoirs resulting from the proposed project would provide greater flexibility in operating the overall water system.	
3. The proposed project provides a net improvement in ecosystem and water quality conditions.	YES
The ecosystem public benefits accepted by the Commission for this project are: • Ecosystem Improvement—Refuge water supply • Ecosystem Improvement—Yolo Bypass flows The California Department of Fish and Wildlife (CDFW) found that the monetized ecosystem benefits, as described in the application, meet the requirements of Chapter 8, as related to matters within its purview. The proposed project would deliver water to the Yolo Bypass as a smelt benefit and to deliver Incremental Level 4 refuge water to National Wildlife Refuges, State Wildlife Areas, and privately managed wetlands to improve wetland habitat and provide benefits to species utilizing these habitats. Although CDFW reserved its concerns regarding the impacts to salmon that could result from the operations of the proposed project, it found that pulse flows to the Yolo Bypass are a substantiated ecosystem benefit which is consistent with the Delta Smelt Resiliency Strategy and that the refuge water constitutes an ecosystem improvement. This project also appears to contribute to ecosystem-related water quality improvements by enhancing wetlands and providing additional seasonal flows. Staff conclude that the proposed project appears to contribute to the restoration of aquatic ecosystems and native fish and wildlife, including those ecosystems and fish and wildlife in the Delta (Water Code section 79753(a)(1)).	
4. The proposed project provides measurable improvement to the Delta ecosystem or to the tributaries to the Delta.	YES
The ecosystem public benefits accepted by the Commission for this project are:: • Ecosystem Improvement—Refuge water supply • Ecosystem Improvement—Yolo Bypass flows Based on CDFW's finding that the monetized ecosystem benefits meet the requirements of Chapter 8 Staff conclude that the project will provide measurable improvements to the Delta ecosystem or to the tributaries to the Delta. These ecosystem public benefits will likely provide changes in the physical, chemical, or biological conditions that provide public benefits which can be quantified at a specific location and time (Water Code section 79752; Regulations section 6001(a)(48)).	

Table 1 - Staff Recommendations – Commission Determinations	
5. The proposed project's program cost share is less than or equal to 50 percent of the proposed project's total capital costs, with the exception of conjunctive use projects and reservoir reoperation projects.	YES
Based on the Commission's decision on May 3, 2018 and consistent with California Water Code section 79756(a), the project's WSIP cost share is less than or equal to 50 percent of the project's total capital costs. The Commission's May decision determined the maximum eligibility amount for each project, which necessarily included consideration of the project's WSIP cost share. The maximum eligibility amount for this project is $1,008.28 million and the project's total capital cost is $4,397.10 million.	
6. The proposed project's program-funded ecosystem improvement benefits make up at least 50 percent of the total public benefits funded by WSIP.	YES
The Commission's decision on May 3, 2018 determined the public benefit amount for each project, which necessarily included consideration and determination of the project's ecosystem benefits. Based on that decision, the project's public benefits consist of at least 50 percent ecosystem improvements, as required by Water Code section 79756(b).	
7. The proposed project appears to be feasible.	YES
Notwithstanding the implementation risks documented in the Technical Review, on whole the project appears to be feasible. The applicant demonstrated that the project can be constructed with existing technology and available construction materials, work force, and equipment. The applicant also demonstrated that the project is technically feasible consistent with the preliminary operations plan.	
8. The proposed project will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses of the Delta.	YES
Section 6001(a)(7) of the Regulations defines "beneficial uses of the Delta" as those: *"...identified in the State Water Board's 'Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary' (December 2006)."* CDFW found that the that the monetized ecosystem benefits, as described in the application, meet the requirements of Chapter 8, as related to matters within its purview. Although CDFW reserved its concerns regarding the impacts to salmon that could result from the operations of the proposed project, it found that pulse flows to the Yolo Bypass are a substantiated ecosystem benefit which is consistent with the Delta Smelt Resiliency Strategy and that the refuge water constitutes an ecosystem improvement. The identified public benefits appear to advance ecological beneficial uses of the Delta, including: Cold Freshwater Habitat; Wildlife Habitat; and, Rare, Threatened, or Endangered Species. The advancement of beneficial uses resulting from the project would aid in restoring healthy wildlife corridors, and ecologically diverse habitats that support the Delta ecosystem complex.	
9. The proposed project is consistent with all applicable laws and regulations	YES
The applicant stated in the application that the project will comply with all applicable laws and regulations. Such compliance is a requirement for WSIP funding.	

Part 2: Additional Eligibility Requirement

Wild and Scenic Rivers

Regulations section 6006(c)(2) identifies six additional eligibility items that require the Commission's consideration as part of the technical review. Five of the additional eligibility items are included in the determinations discussed above. One additional eligibility item (Wild and Scenic Rivers) is not included in the determinations. Water Code sections 79711(e) and 79751(a) prohibit the use of WSIP funds by any project that could have an adverse effect on the values upon which a Wild and Scenic River or any other river is afforded protections pursuant to the California Wild and Scenic Rivers Act or the federal Wild and Scenic Rivers Act.

The Sites Reservoir Project is unlikely to adversely affect a Wild and Scenic River, including its free-flowing character. The Black Butte River, which is located approximately 35 miles northwest of the proposed project area, is the nearest designated Wild and Scenic River, and the project does not propose a hydrologic connection to this watershed. The proposed project is an off-stream reservoir within the Corral Creeks watershed, which does not include any designated Wild and Scenic Rivers. The project proposes to divert water from, and release water to the Sacramento River watershed; and, there are currently no designated Wild and Scenic Rivers in this area of the watershed.

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To: steve.micko@jacobs.com
CC: Thayer, Reed/SAC [Reed.Thayer@jacobs.com]; Alicia Forsythe [aforsythe@sitesproject.org]; Leaf, Rob/SAC [Rob.Leaf@jacobs.com]
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D 916.679.8863 M 651.307.9758

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Thanks. I think Jeff believes we need change in Shasta releases, versus end of year Shasta storage. Is that your recollection for how the benefits were initially calculated for the WSIP application? Totally understand that more go into quantifying the benefit – just trying to get a ballpark of where we are vs. the application.

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Subject: Re: [EXTERNAL] Prop 1 Benefits

Yes we'll work something up

Sent from my iPhone

On Nov 17, 2020, at 11:23 PM, Heydinger, Erin <Erin.Heydinger@hdrinc.com> wrote:

Hi Rob,

Per our discussion this morning, I took a look at the ecosystem priorities CDFW identified for Prop 1 funding, and found the following on salinity:

7. Increase Delta outflow to provide low salinity habitat for Delta smelt, longfin smelt, and other estuarine fishes in the Delta, Suisun Bay, and Suisun Marsh.

I'm not sure if what you're seeing in the model would have enough of an impact to prove a benefit, but it could be a possibility.

I think sooner rather than later we need to assess our modeling results more thoroughly than Jeff's quick calculation to see how our State benefits are shaking out. That will help us determine if we need to push for recognition of some of these other benefits, including anadromous fish benefits.

It would be helpful if we could look at a comparison of deliveries to Yolo Bypass, SOD, and NOD refuges between the WSIP application and what the model is currently showing. Do you think this is something you could pull together fairly easily?

Thanks,
Erin

Erin Heydinger, PE, PMP
Asst. Project Manager
Water/Wastewater

HDR

2379 Gateway Oaks Dr, #200
Sacramento, CA 95833
D 916.679.8863 M 651.307.9758

hdrinc.com/follow-us

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From: Heydinger, Erin [Erin.Heydinger@hdrinc.com]
Sent: 12/1/2020 1:57:11 PM
To: Alicia Forsythe [aforsythe@sitesproject.org]
Subject: RE: Sites Joint Aquatics Workshop #1

Yes, will do!

Erin Heydinger PE, PMP
D 916.679.8863 M 651.307.9758

hdrinc.com/follow-us

From: Alicia Forsythe <aforsythe@sitesproject.org>
Sent: Tuesday, December 1, 2020 1:54 PM
To: Heydinger, Erin <Erin.Heydinger@hdrinc.com>
Subject: FW: Sites Joint Aquatics Workshop #1

Erin – I keep forgetting to send this over to you. See below. Cathy mentions the possibility of an interagency agreement to support NMFS time.

The fastest and easiest way to get this in place would be through Reclamation. Reclamation has a number of existing interagency agreements with NMFS and could possibly modify one or would be much faster at developing a new one that we would.

Can you check with Ryan to see if he can provide funding for technical assistance to NMFS? Maybe an FTE through the end of 2021 and funding for NMFS science center to run their spring-run model.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Reservoir Project | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov>
Sent: Wednesday, November 18, 2020 3:55 PM
To: Spranza, John <john.spranza@hdrinc.com>; Alicia Forsythe <aforsythe@sitesproject.org>; Lecky, Jim <jim.lecky@icf.com>
Subject: Re: Sites Joint Aquatics Workshop #1

John, Ali, and Jim –

I appreciate the recent efforts to bring NMFS back into the developments on Sites reservoir. We want to work out how we can best engage, but please understand our limited resources and my need to determine our most efficient means to provide meaningful technical assistance.

I do think that our staff feels behind the curve with the recent developments in the project, which makes it hard for us to tell you what we would like to see in the analysis or in mitigation measures or operational constraints.
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Thanks –
Cathy

Cathy Marcinkevage, Ph.D.
(she/her/hers)
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NOAA Fisheries | U.S. Department of Commerce
Office: (916) 930-5648
Mobile: (562) 537-8734
www.fisheries.noaa.gov

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Please let me know if I missed any action items.

Have a great day.

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John Spranza, MS, CCN

Senior Ecologist / Regulatory Specialist

HDR

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john.spranza@hdrinc.com

hdrinc.com/follow-us

hdrinc.com/follow-us

From: Charles Gardiner [Charles@catalystgroupca.com]
Sent: 12/1/2020 2:50:17 PM
To: Alicia Forsythe [aforsythe@sitesproject.org]
Subject: EIR Roadmap
Attachments: EIR Roadmap 12-1-20.pdf

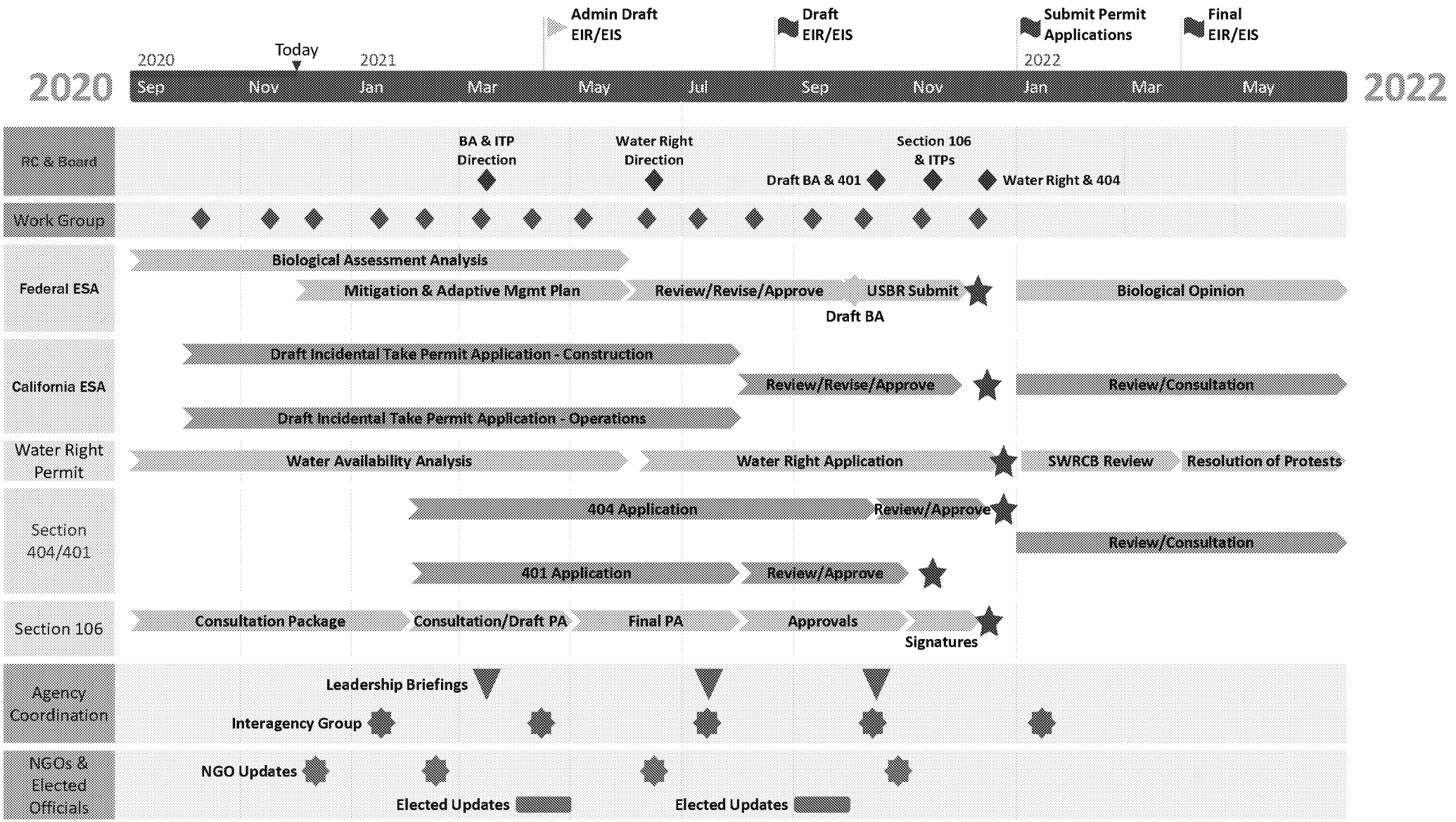
Ali,

I have had an initial conversation with Laurie and Linda on the EIR roadmap and dashboard. The attached is a first pass at folding the EIR process into the permitting timelines. Talking to Laurie again tomorrow to refine this and the topics to be included in the dashboard. This is tricky as the timeline is so short to the Draft EIR.

Let me know if you have any initial thoughts. We'll send an updated version later in the week.

Charles

Charles L. Gardiner
Principal
The Catalyst Group, Inc.
(415) 419-5133 (Office)
(415) 999-0316 (Mobile)
www.CatalystGroupCA.com


Admin Draft EIR/EIS
Draft EIR/EIS
Submit Permit Applications
Final EIR/EIS
Today
2020
2021
2022
2020
Sep
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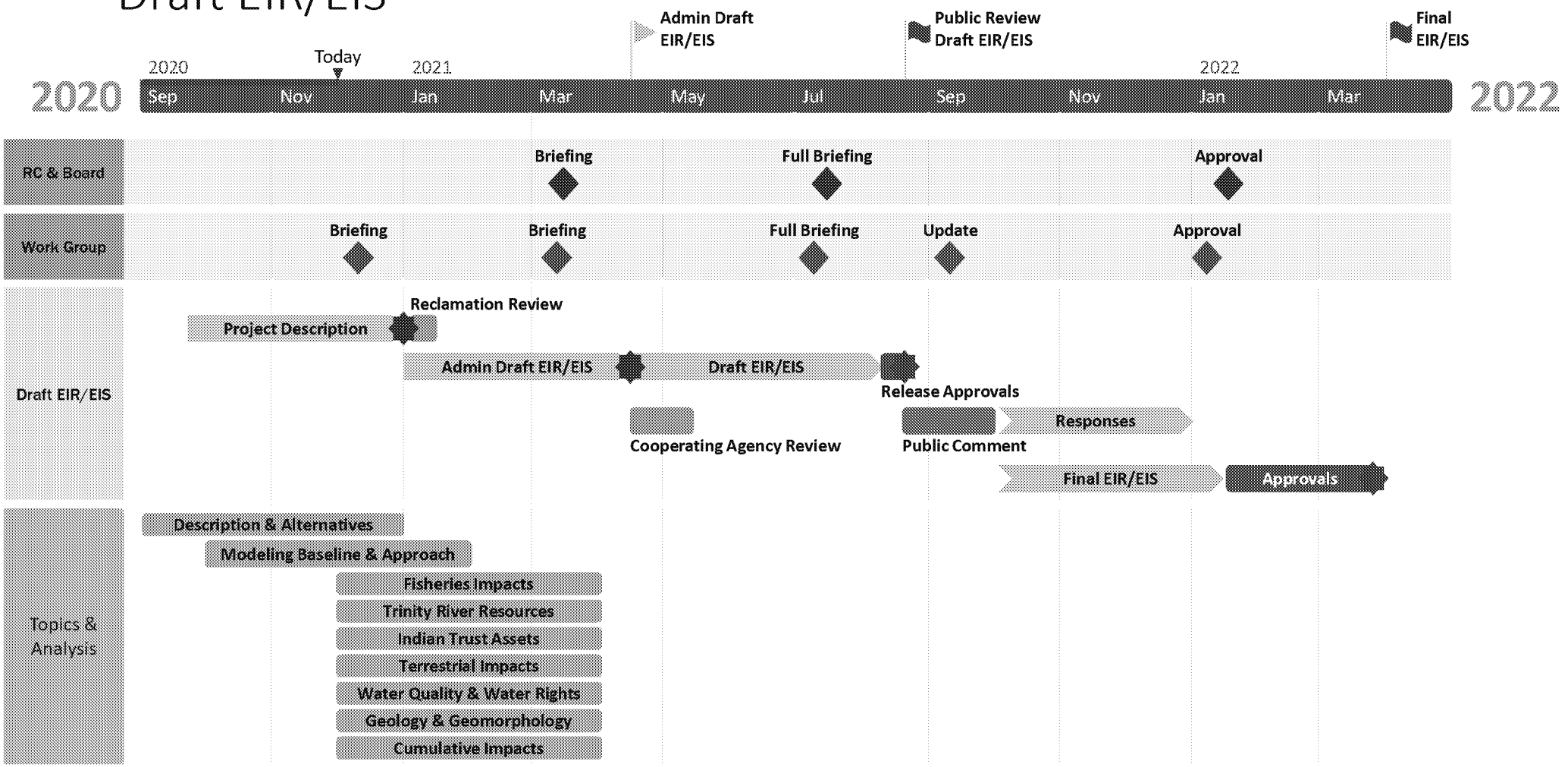
Jan
Mar
May
Jul
Sep
Nov
Jan
Mar
May
2022
RC & Board
BA & ITP Direction
Water Right Direction
Draft BA & 401
Section 106 & ITPs
Water Right & 404
Work Group
Federal ESA
Biological Assessment Analysis
Mitigation & Adaptive Mgmt Plan
Review/Revise/Approve
USBR Submit Draft BA
Biological Opinion
California ESA
Draft Incidental Take Permit Application - Construction
Review/Revise/Approve
Review/Consultation
Draft Incidental Take Permit Application - Operations
Water Right Permit
Water Availability Analysis
Water Right Application
SWRCB Review
Resolution of Protests
Section 404/401
404 Application
Review/Approve
Review/Consultation
401 Application
Review/Approve
Section 106
Consultation Package
Consultation/Draft PA
Final PA
Approvals
Signatures
Agency Coordination
Leadership Briefings
Interagency Group
NGOs & Elected Officials
NGO Updates
Elected Updates
Elected Updates

Draft EIR/EIS



Potential Cooperating Agencies for NEPA Review: BIA, USEPA, WAPA, USFWS, NMFS, USACE, and three federally recognized tribes.

From: Cathy Marcinkevage - NOAA Federal [cathy.marcinkevage@noaa.gov]
Sent: 12/3/2020 9:26:37 AM
To: Alicia Forsythe [aforsythe@sitesproject.org]; Tancy Mill - NOAA Federal [tancy.mill@noaa.gov]
CC: Spranza, John [john.spranza@hdrinc.com]; Lecky, Jim [jim.lecky@icf.com]; Heydinger, Erin [erin.heydinger@hdrinc.com]
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I've included Tancy Mill, our Division Manager, who helps to draft IAs from our side. Let me know if we need to connect her with anyone on Reclamation's side, or provide a copy of the other IA.

Thanks!
Cathy

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> ---
> Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Reservoir Project | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org
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> **From:** Spranza, John <John.Spranza@hdrinc.com>
> **Sent:** Thursday, November 19, 2020 11:59 AM
> **To:** Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov>; Alicia Forsythe <aforsythe@sitesproject.org>; Lecky, Jim <jim.lecky@icf.com>
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Please feel free to contact us with any additional concerns or questions.

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John Spranza

D 916.679.8858 M 818.640.2487

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From: Jerry Brown [jbrown@sitesproject.org]
Sent: 12/3/2020 9:30:51 AM
To: Alicia Forsythe [aforsythe@sitesproject.org]
CC: Heydinger, Erin [erin.heydinger@hdrinc.com]
Subject: Re: Sites Alternative 1 - Iteration 2

Thanks. I think it's time then to get Walter B or somebody of that caliber from MBK to do an independent review.

Sent from my iPhone

On Dec 3, 2020, at 9:10 AM, Alicia Forsythe <aforsythe@sitesproject.org> wrote:

Your expectations exceed our ability to deliver right now. 😉 Just the trend report right now as we pour through the data and test different criteria to chart the path forward. But, we've been meeting this week to talk about the associated write-ups. More to come on write ups in the coming weeks.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Reservoir Project | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Jerry Brown <jbrown@sitesproject.org>
Sent: Wednesday, December 2, 2020 5:57 PM
To: Alicia Forsythe <aforsythe@sitesproject.org>
Cc: Heydinger, Erin <erin.heydinger@hdrinc.com>
Subject: Re: Sites Alternative 1 - Iteration 2

Thanks. I assume there is also modeling analysis in a written up form because the trend reports are intellectually interesting but relatively worthless for decision making and charting a path forward. I see what could be interpreted as red flags by a non-astute person.

We are paying for and expecting model runs that are analyzed and interpreted by an expert, correct? I'd like to see these reports too which I expect could be confidential in areas.

From: Alicia Forsythe <aforsythe@sitesproject.org>
Date: Wednesday, December 2, 2020 at 5:29 PM
To: Jerry Brown <jbrown@sitesproject.org>
Cc: "Heydinger, Erin" <erin.heydinger@hdrinc.com>
Subject: FW: Sites Alternative 1 - Iteration 2

Jerry – I was just talking with Erin about the trend reporting sheet for Iteration 2 and realized that I forgot to sent this to you. Attached is the sheet for the most recent modeling effort. The modeling and fisheries internal team is meeting tomorrow for a few hours to talk thru the results and where we go from here. (Actually, there have been a number of meetings this week on this, tomorrow is intended to be the culmination of all of these and chart our path forward.)

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Reservoir Project | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Thayer, Reed/SAC <Reed.Thayer@jacobs.com>
Sent: Wednesday, November 18, 2020 5:05 PM
To: Alicia Forsythe <aforsythe@sitesproject.org>; Heydinger, Erin <erin.heydinger@hdrinc.com>
Cc: Leaf, Rob/SAC <Rob.Leaf@jacobs.com>; steve.micko@jacobs.com
Subject: Sites Alternative 1 - Iteration 2

Ali and Erin,
We have completed "Iteration 2" of Alternative 1. The model is labeled "ALTA1_OpFlex91_111820_rev01_PEA". It is very similar to the model that we discussed this morning. A trend report, NODOS_Trend_Reporting_rev29dpcy_DV5_HistClim_CALSIM_NAA_ALTA2_092220_rev03_PEA_111820_ALT1_rev01.xlsm, is attached which includes this alternative and Alt A2 rev03 PEA and their associated No Action Alternatives:

Alt A2 rev03 PEA
No Action: NAA 091720
Alternative: ALTA2 rev03 PEA

Alt 1 rev01 PEA
No Action: NAA 111820
Alternative: ALT1 rev01 PEA

May we send this to the ICF aquatics team? Is there anyone else we should send this to?

Thank you,

Reed Thayer, PE | Jacobs | Water Resources Engineer
O: 916.286.0228 | M: 831.233.2141 | reed.thayer@jacobs.com
2485 Natomas Park Dr, Ste 600 | Sacramento, CA 95833 | USA

From: Tancy Mill - NOAA Federal [tancy.mill@noaa.gov]
Sent: 12/3/2020 9:46:20 AM
To: Cathy Marcinkevage - NOAA Federal [cathy.marcinkevage@noaa.gov]
CC: Alicia Forsythe [aforsythe@sitesproject.org]; Spranza, John [john.spranza@hdrinc.com]; Lecky, Jim [jim.lecky@icf.com]; Heydinger, Erin [erin.heydinger@hdrinc.com]
Subject: Re: Sites Joint Aquatics Workshop #1
Attachments: NMFS BOR Agreement Statement of Work R20PG00105.pdf

Hi all,

Cathy is correct in that this is a great time to develop a reimbursable agreement. Based on where we are in the hiring life cycle, we could get someone on fairly quickly (by federal government standards at least). Let me know if there is any way I can assist. Attached is the statement of work for our CVP agreement with Reclamation.

Tancy

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NOAA FISHERIES

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--

Tancy Mill
CCVO Division Manager
NOAA Fisheries California Central Valley Office
(916)930-3605

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Table of Contents

Statement of Work for
Interagency Agreement
R20PG00105
Between
U.S Department of the Interior, Bureau of Reclamation And
National Oceanic and Atmospheric Administration, National Marine Fisheries Service
For
Technical Assistance on the Coordinated Long-Term Modified Operations of the Central Valley Project and State Water Project

1. BACKGROUND

On October 21, 2019, NOAA's National Marine Fisheries Service (NMFS) issued its Endangered Species Act (ESA) section 7 biological opinion to the U.S. Bureau of Reclamation (Reclamation) on the Coordinated Long-Term Modified Operations of the Central Valley Project (CVP) and the State Water Project (SWP). In February 2020, Reclamation completed a record of decision approving Reclamation's preferred alternative to better integrate ESA compliance and water supply operations through operations that improve Reclamation's flexibility to manage the CVP, and best meets the authorized CVP purposes. The Proposed Action includes real-time monitoring and analyses to support increased flexibility to more efficiently use available water supplies, extensive habitat restoration for the benefit of aquatic species, and intervention measures for certain conditions.

Reclamation seeks NMFS' technical assistance to implement the Proposed Action, with a focus on activities that will improve collaboration and understanding among the two agencies.

Objectives supported by the Interagency Agreement (IA) include:

- Implement Reclamation's scientific studies in a manner that NMFS would incorporate into consultations on operations of the CVP.
- Determine the value of habitat restoration and non-flow projects in offsetting the adverse effects from Reclamation's operations, identify if such tradeoffs are valid, and identify opportunities for operational flexibility.
- Development of best available science to fill in gaps in scientific knowledge of the listed species and the associated habitats.
- Assist in the development and implementation of habitat restoration projects, consistent with the Proposed Action and NMFS' Central Valley Recovery Plans for Chinook salmon and steelhead, and green sturgeon.

2. DESCRIPTION OF PRODUCTS OR SERVICES AND MILESTONES

Scope of Work:

Four staff are included as part of this IA:

- NMFS will provide two additional FTEs in-kind, which will provide technical assistance on the Proposed Action (e.g., independent panel development, preparing site-specific compliance), identification and integration of advancing science into decision making and compliance documents, recovery plan projects/actions, and water user outreach and coordination.
- Reclamation will contribute funds for the provision of two NMFS FTEs. These FTEs will provide technical assistance on the Proposed Action (e.g., independent panel development, preparing site-specific compliance), identification and integration of advancing science into decision making and compliance documents, recovery plan projects/actions, and water user outreach and coordination.

- The budget below describes the funds Reclamation is providing to NMFS for the reimbursement of two FTEs. NMFS will provide the labor of two FTEs in kind.

3. ROLES AND RESPONSIBLITIES

A. Reclamation will:

1. Provide program and project management for activities under the LTO and incorporate NMFS Technical Assistance into the implementation.
2. Provide background, technical information, contact information and any other relevant information needed by NMFS to carry out the Scope of Work.
3. Work collaboratively with NMFS to resolve any concerns regarding the Scope of Work or draft products.
4. Review any draft documents in a timely manner.
5. Provide funding for this IA.

B. NMFS will:

1. Confer with regulatory staff and functions to provide input on how activities will support and be incorporated into subsequent consultations.
2. Provide labor, materials, and supplies necessary to perform the tasks described in the Scope of Work.
3. Monitor performance and expenditures associated with this IA.
4. Provide performance reviews pursuant to the standard fiscal year performance review cycle for mid-year reviews and year-end performance reviews.

4. BUDGET

A. Budget Estimate. Attachment 2 is the estimated budget for this agreement. As interagency agreements are cost-reimbursable, the budget provided is for estimation purposes only. Final costs incurred under the budget categories listed may be either higher or lower than the estimated costs. Final determination of the allowability, allocability, or reasonableness of costs incurred under this agreement is the responsibility of the Contracting Officer. Servicing Agencies are encouraged to direct any questions regarding allowability, allocability or reasonableness of costs to the Requesting Agency's Contracting Officer for review prior to incurrence of the costs in question.

Summary of Funding Estimates				
Period #	**Dates Covered**	**Est. Agreement Amount**	**Mod No.**	**Actual Agreement Obligations**
1	**October 1, 2020 through September 30, 2021**	**$370,566.00**	**Base**	**$370,566.00**
2	October 1, 2021 through September 30, 2022	$389,057.00		
3	October 1, 2022 through September 30, 2023	$408,472.00		
4	October 1, 2023 through September 30, 2024	$428,858.00		
5	October 1, 2024 through September 30, 2025	$450,264.00		
	TOTAL ESTIMATED/OBLIGATION AMOUNT	**$2,047,217.00**		**$370,566.00**

B. Funding Schedule:

Summary of Funding Obligations		
Period #	**Accounting and Appropriation Data**	**Funds Obligated**
1	**RR02800000 20XR0680A3 RX.17868949.0000000**	**$370,566.00**
	Total Obligated Amount	**$370,566.00**

C. Pre-Award Incurrence of Costs

The Servicing Agency is not authorized to be reimbursed for costs incurred prior to the award of this Interagency Agreement.

5. BILLING AND PAYMENT

The Servicing Agency will be reimbursed by Reclamation using the Intergovernmental Payment and Collection (IPAC) method. The Servicing Agency shall bill via IPAC to Reclamation's Agency Location Code (ALC) identified in Block 1 of the 7600A. Bill on a quarterly basis for costs incurred as authorized by the agreement. Include the IA number **R20PG00105**, account numbers (Fund: 20XR0680A3, Cost Center: RR02800000, WBS: RX.17868949.0000000), the billing time period, and the Servicing agency's point of contact and the telephone number for billing information. Billing may not begin until after the date of the award.

Description block of IPAC billing must include the following:

1. Reclamation accounting information;
2. IA number;
3. billing period;
4. accountable contact; and
5. telephone number.

The Servicing Agency shall submit the appropriate IPAC payment support documentation to

Reclamation's Financial POC and to the IATR as identified on the cover-page of this IA.

6. PROPERTY

Title to all property acquired with funds provided under this interagency agreement shall be vested in Reclamation and is subject to the condition that the property shall be used for authorized purposes of the project. Should the Servicing Agency wish to take unrestricted title to any property acquired or to change the use of the facilities or real property so acquired, such transactions shall be governed by Federal Property Management Regulations.

All procurements of property using interagency acquisition funds shall be approved in writing by Reclamation prior to the transaction being initiated. The Servicing Agency shall not make disposition of any property except as directed in writing by Reclamation.

7. MODIFICATIONS

Authority to modify an IA on behalf of Reclamation is expressly limited to the Contracting Officer. Authority of the IATR is subject to limitations that do not include the authority to modify an IA.

This IA may be modified through bilateral agreement between the parties. Any modification made to this IA shall be confirmed in writing prior to performance of the change. The Servicing Agency assumes all risks, liabilities, and consequences of performing additional work outside the specified scope of work without prior written approval from the Contracting Officer. Any modifications to the terms and conditions shall be made in writing and signed by both the Servicing Agency and the Requesting Agency. The Servicing Agency will notify Reclamation as soon as practicable if it appears that additional funding may be needed to perform the work. If additional funding is needed, Reclamation may provide it or agree to adjust the work to fit within available funding, as appropriate.

8. TERMINATION

This IA may be terminated upon thirty (30) calendar days of written notice by either party. If this agreement is cancelled, any implementing contract/order may also be cancelled. If the IA is terminated, the agencies shall agree on the terms of the termination, including costs

attributable to each party and the disposition of awarded and pending actions.

If the Servicing Agency incurs costs due to the Requesting Agency's failure to give the requisite notice of its intent to terminate the IA, the Requesting Agency shall pay any actual costs incurred by the Servicing Agency as a result of the delay in notification, provided such costs are directly attributable to the failure to give notice.

9. INTERPRETATION OF THE IA

If the Servicing Agency and Requesting Agency are unable to agree about a material aspect of the terms and conditions of this IA, the parties agree to engage in an effort to reach mutual agreement in the proper interpretation of this IA, including amendment of this IA, as necessary, by escalating the dispute within their respective organizations.

If a dispute related to funding remains unresolved for more than sixty (60) calendar days after the parties have engaged in an escalation of the dispute, the parties agree to refer the matter to their respective Agency Chief Financial Officers with a recommendation that the parties submit the dispute to the CFO Council Intragovernmental Dispute Resolution Committee for review in accordance with the Treasury Financial Manual, Volume 1, Appendix 10, Chapter 4700, entitled Intergovernmental Transaction Guide, or subsequent guidance.

From: Williams, Nicole [Nicole.Williams@icf.com]
Sent: 12/4/2020 7:48:05 AM
To: Laurie Warner Herson [laurie.warner.herson@phenixenv.com]; Henry.Luu@hdrinc.com; Alicia Forsythe [aforsythe@sitesproject.org]
CC: Linda Fisher (linda.fisher@hdrinc.com) [linda.fisher@hdrinc.com]; Briard, Monique [Monique.Briard@icf.com]
Subject: RE: GCID Improvements - RR Siphon
Attachments: GCID Main Canal Diversion and System Upgrades_Excerpt_Draft_12042020.docx

Hello - Attached is from the current version of Chapter 2 on the Sites Authority Sharepoint Site that may help facilitate the discussion this morning. Cheers, Nicole

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ICF
o 916.231.9614
icf.com

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Sent: Tuesday, December 01, 2020 12:54 PM
To: Laurie Warner Herson; Henry.Luu@hdrinc.com; Williams, Nicole; Alicia Forsythe
Cc: Linda Fisher (linda.fisher@hdrinc.com); Briard, Monique
Subject: GCID Improvements - RR Siphon
When: Friday, December 04, 2020 9:30 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: webex

This meeting is to discuss how to characterize proposed improvements to the RR Siphon MP 26.60 in the environmental documents.

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GCID Main Canal Diversion and System Upgrades

Alternative 1 would require a new 3,000-cfs Main Canal head gate structure about 0.25 mile downstream of Hamilton City Pump Station. This is because the existing head gate structure would not be adequate for proposed winter operation during high river flows due to the large head-drop (decrease of water elevation) across the structure during high river levels.

- The existing head gate structure would be left in place to continue to serve as a bridge between County Road 203 and County Road 205 in Glenn County. This structure would continue to operate during construction of the new head gate structure and diversion activities would continue throughout construction.
    - A new head gate structure would be constructed upstream of the existing structure. The new head gate structure would include eight automated gates. The water level and flow control functions would involve operating conditions that would result in water surface drops across the head gate of between 3 and 15 feet. The canal reach immediately downstream of the new head gate structure would be lined with concrete for approximately 35 feet to prevent erosion resulting from the turbulent flow conditions
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    - Road improvements to approximately 17 miles of left bank canal road between Willow Creek Siphon and Funks Siphon are needed to ensure an all-weather road surface. Approximately 6 inches of aggregate base material would be needed
    - GCID would manage the facility upgrades consistent with their existing management practices and appropriate for their service area.
    - ~~In addition, a~~Add additional capacity (increase from 5 barrels to 6 barrels) at the existing ~~new~~ California Northern R~~r~~ailroad siphon (MP26.6) at the City of Willows would be required to allow for increased capacity.
        - ~~The California Northern Railroad siphon at Mile 26.6, near Willows, does not meet design and operation criteria for the Sites Project.~~
        - At maximum existing flows of approximately 2,000 cfs, the head loss across the railroad siphon, resulting from high flow velocity and poor entrance and exit transitions, reduces upstream canal freeboard to marginal conditions.
        - ~~Due to the structure's age, hydraulic capacity restrictions, and use as a major transportation link it needs to be replaced. The new structure will consist of five barrels to approximately match the existing dimensions with improved entrance and exit transitions. The structure will be sized to support the design railroad live load.~~

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Excerpts re RR Siphon from 11/9 TM Feasibility Report

It should be noted that replacement of the two siphons and railroad bridge is not confirmed. Determination of whether these existing structures will need to be replaced depends on the results of a canal hydraulic modeling task to determine if the structure present hydraulic limitations. Assuming the structures are not capacity limiters, then a condition assessment is expected in early 2021 to determine if replacement is needed for structural integrity reasons. Criteria presented in this section for other Sites specific facilities mostly apply to these GCID improvements, but all criteria will be defined once additional design information about GCID facilities is obtained.

The California Northern Railroad siphon at Mile 26.6, near Willows, does not meet design and operation criteria for the Sites Project; the siphon will need to be replaced. The existing railroad siphon structure was built in the early 1900s and includes five 7.25-foot by 6-foot barrels. At maximum existing flows of approximately 2,000 cfs, the head loss across the railroad siphon, resulting from high flow velocity and poor entrance and exit transitions, reduces upstream canal freeboard to marginal conditions. The structure's age, hydraulic capacity restrictions, and use as a major transportation link lead to the recommendation for its replacement. The new structure will consist of five barrels to approximately match the existing dimensions with improved entrance and exit transitions. The structure will be sized to support the design railroad live load.

The proposed replacement of the railroad siphon would require coordination and planning with railroad operators. Construction restrictions may exist regarding minimizing interference with regular railroad operations. To the extent possible, replacement of the railroad siphon would take place during periods of lowest train traffic, and railroad shutdown time would be minimized

Chapter 2 Information

GCID Main Canal Diversion and System Upgrades

Alternative 1 would require a new 3,000-cfs Main Canal head gate structure about 0.25 mile downstream of Hamilton City Pump Station. This is because the existing head gate structure would not be adequate for proposed winter operation during high river flows due to the large head-drop (decrease of water elevation) across the structure during high river levels.

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No description of construction of the RR Siphon in Chapter 2, Section 2.7.9

Information from 11/9 Feasibility will be updated for RR Siphon to reflect:

- Add another culvert on the north of the existing RR siphon
- Work would likely occur during standard shutdown period, but would need a dirt coffer dam (confirm with GCID); no pile driving
- Staging area would be vacant lot to the north of the RR siphon

HR to modify excerpts below to show addition of culvert and generally describe how culvert would be added/constructed.

Excerpts re RR Siphon from 11/9 TM Feasibility Report

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Subject: RE: GCID Improvements - RR Siphon

Sorry HC!

NICOLE L. WILLIAMS
Senior Environmental Planner
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o 916.231.9614
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From: Williams, Nicole
Sent: Friday, December 04, 2020 1:00 PM
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Hello – please see attached excerpt for Pete/HC to work in. Cheers, Nicole

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From: Alicia Forsythe <aforsythe@sitesproject.org>
Sent: Friday, December 04, 2020 10:08 AM
To: Williams, Nicole <Nicole.Williams@icf.com>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; Henry.Luu@hdrinc.com; Rude, Pete/RDD <Pete.Rude@jacobs.com>
Cc: Linda Fisher (linda.fisher@hdrinc.com) <linda.fisher@hdrinc.com>; Briard, Monique <Monique.Briard@icf.com>
Subject: RE: GCID Improvements - RR Siphon

Hi all – Thanks for the discussion today. On our call we decided to include in the EIR/EIS another culvert on the north side of the canal, constructed when the canal is dry and using a dirt coffer dam and the open lots as a staging area. Full replacement of the facility seems unlikely from the team's expertise and understanding and would be extremely costly. Pete will revise the text in Chapter 2 and Pete's team is also working on GIS data for the ICF team. Pete will also talk with GCID to determine the viability of a dirt coffer dam. It is possible from an engineering perspective, but unsure if GCID has any standard practice/uses this method successfully in the local conditions. Pete will circle back with the team on these items.

The engineering team will have more information on this aspect with completion of preliminary HEC-RAS modeling (end of month) and physical inspections (January/Feb in the de-watering window). If any of this new information changes the approach, please let us know asap so we can appropriately describe this in the EIR/EIS.

Thanks all! Please add or correct anything I have wrong or misunderstood.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Reservoir Project | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

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From: Williams, Nicole [mailto:Nicole.Williams@icf.com]
Sent: Friday, December 4, 2020 7:48 AM
To: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; Henry.Luu@hdrinc.com; Alicia Forsythe <aforsythe@sitesproject.org>
Cc: Linda Fisher (linda.fisher@hdrinc.com) <linda.fisher@hdrinc.com>; Briard, Monique <Monique.Briard@icf.com>
Subject: RE: GCID Improvements - RR Siphon

Hello - Attached is from the current version of Chapter 2 on the Sites Authority Sharepoint Site that may help facilitate the discussion this morning. Cheers, Nicole

NICOLE L. WILLIAMS
Senior Environmental Planner
ICF
o 916.231.9614
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-----Original Appointment-----
From: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Sent: Tuesday, December 01, 2020 12:54 PM
To: Laurie Warner Herson; Henry.Luu@hdrinc.com; Williams, Nicole; Alicia Forsythe
Cc: Linda Fisher (linda.fisher@hdrinc.com); Briard, Monique
Subject: GCID Improvements - RR Siphon

When: Friday, December 04, 2020 9:30 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: webex

This meeting is to discuss how to characterize proposed improvements to the RR Siphon MP 26.60 in the environmental documents.

-- Do not delete or change any of the following text. --

When it's time, join your Webex meeting here.

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From: Thayer, Reed/SAC [Reed.Thayer@jacobs.com]
Sent: 12/7/2020 2:23:53 PM
To: Rude, Pete/RDD [Pete.Rude@jacobs.com]; Luu, Henry [Henry.Luu@hdrinc.com]
CC: steve.micko@jacobs.com; Leaf, Rob/SAC [Rob.Leaf@jacobs.com]; Heydinger, Erin [erin.heydinger@hdrinc.com]; Alicia Forsythe [aforsythe@sitesproject.org]
Subject: Dunnigan Pipeline Exceedance Plots
Attachments: ReleaseAnalysisTool_rev11__ALT1_CVP91_111820_rev01.pdf

Pete and Henry,
I have attached our Release Analysis Tool for Sites Alternative 1 ("Iteration 2"). On the 3rd page, you will find the Dunnigan Pipeline exceedance plots. Please contact me with any questions.

Reed Thayer, PE | Jacobs | Water Resources Engineer
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2485 Natomas Park Dr, Ste 600 | Sacramento, CA 95833 | USA

Sites Project Release Analysis

ALT 1 111820 rev01 (91 TAF CVP OpFlex) PEA

Notes

[1]Annual averages are calculated on a Jan-Dec SWP contract year basis for 1922-2002

[2]Water-year types are determined using the D-1641 40-30-30 Sacramento Valley index

Table 1 -Total Sites Project Releases (TAF)

Total releases from Sites Reservoir for all participants and beneficiaries

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average[1]	0	0	1	6	18	38	35	35	29	28	12	3	206
Wet Years[2]	0	1	0	1	0	1	2	19	24	19	5	6	79
Above Normal Years	0	0	0	0	11	38	27	28	26	17	2	2	152
Below Normal Years	1	1	0	4	17	38	31	35	30	43	10	2	211
Dry Years	0	0	1	11	35	84	71	57	40	34	27	1	360
Critically Dry Years	0	0	6	17	40	46	68	41	26	28	15	1	289

Table 2 - Total releases for local use (TAF)

Total releases to TCCA Sites participants, GCID, RD 108, and NOD refuge deliveries

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	1	3	4	5	5	4	3	1	1	0	26
Wet Years	0	0	0	0	0	1	2	1	1	0	0	0	6
Above Normal Years	0	0	0	0	0	2	3	2	3	1	1	2	13
Below Normal Years	0	0	0	2	4	2	3	3	3	2	2	1	22
Dry Years	0	0	1	6	8	9	10	8	5	2	1	0	49
Critically Dry Years	0	0	2	10	12	11	8	3	2	1	0	0	51

Table 3 - Total releases to the Sacramento River (TAF)

Total releases to the Sacramento River for CVP Operational Flexibility, Delta participants, and refuges

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	1	1	7	25	31	17	13	16	11	3	126
Wet Years	0	1	0	1	0	0	0	0	0	0	5	6	13
Above Normal Years	0	0	0	0	10	36	24	1	1	1	1	1	77
Below Normal Years	1	1	0	1	13	36	29	15	18	32	8	2	156
Dry Years	0	0	0	4	15	38	61	40	30	30	26	1	245
Critically Dry Years	0	0	4	1	2	35	60	33	23	27	14	1	201

Table 4 - Total exchange with Shasta Lake (TAF)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	1	7	8	0	0	0	0	0	0	16
Wet Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry Years	0	0	0	1	12	37	0	0	0	0	0	0	51
Critically Dry Years	0	0	0	6	27	0	0	0	0	0	0	0	32

Table 5 - Total Sites Project releases through the Tehama-Colusa Canal (TAF)

Total releases from Sites Reservoir through the Tehama-Colusa Canal

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	1	4	7	12	8	5	4	1	0	0	41
Wet Years	0	0	0	0	0	1	2	1	1	0	0	0	6
Above Normal Years	0	0	0	0	5	22	19	3	3	0	0	0	52
Below Normal Years	0	0	0	4	10	14	7	6	6	1	0	0	47
Dry Years	0	0	1	8	14	19	13	10	7	1	0	0	73
Critically Dry Years	0	0	3	10	11	13	9	4	4	0	0	0	54

Table 6 - Releases for local use through the Tehama-Colusa Canal (TAF)

Releases to TCCA Sites participants

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	1	3	4	5	4	3	2	0	0	0	21
Wet Years	0	0	0	0	0	1	2	1	1	0	0	0	6
Above Normal Years	0	0	0	0	0	2	2	2	2	0	0	0	8
Below Normal Years	0	0	0	2	4	2	2	2	2	0	0	0	15
Dry Years	0	0	1	6	7	8	9	7	4	0	0	0	42
Critically Dry Years	0	0	2	9	9	11	8	3	2	0	0	0	44

Table 7 - Releases to the Sacramento River through exchanges with the Tehama-Colusa Canal (TAF)

Exchanges with the Sacramento River at Red Bluff for CVP Operational Flexibility

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	1	3	7	4	2	2	0	0	0	20
Wet Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal Years	0	0	0	0	5	20	17	1	1	0	0	0	44
Below Normal Years	0	0	0	1	6	12	5	4	4	1	0	0	33
Dry Years	0	0	0	2	7	10	4	3	3	1	0	0	31
Critically Dry Years	0	0	1	1	1	2	2	2	2	0	0	0	10

Table 8 - Exchange with Shasta Lake through exchanges with the Tehama-Colusa Canal (TAF)

Exchanges with the Sacramento River at Red Bluff for CVP Operational Flexibility

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Critically Dry Years	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 9 - Total Sites Project releases through the Glenn-Colusa Canal (TAF)

Total releases from Sites Reservoir through the Glenn-Colusa Canal

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	0	6	11	9	4	4	6	3	1	44
Wet Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal Years	0	0	0	0	4	6	8	0	1	2	2	2	26
Below Normal Years	0	0	0	0	7	8	5	1	5	13	6	2	48
Dry Years	0	0	0	0	11	35	17	9	8	12	7	0	100
Critically Dry Years	0	0	1	1	14	5	23	9	5	6	3	1	68

Table 10 - Releases for local use through the Glenn-Colusa Canal (TAF)

Releases to GCID in Shasta-critical water years and NOD refuge deliveries

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	0	0	0	0	1	1	1	1	0	4
Wet Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal Years	0	0	0	0	0	0	1	0	1	1	1	2	5
Below Normal Years	0	0	0	0	0	0	0	1	1	2	2	1	8
Dry Years	0	0	0	0	0	0	1	1	1	2	1	0	7
Critically Dry Years	0	0	0	0	1	0	1	1	1	1	0	0	5

Table 11 - Releases to the Sacramento River through exchanges with the Glenn-Colusa Canal (TAF)

Exchanges with the Sacramento River at Hamilton City for Delta participants and CVP Operational Flexibility

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	0	3	6	9	3	3	5	3	0	33
Wet Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal Years	0	0	0	0	4	6	8	0	0	1	1	1	21
Below Normal Years	0	0	0	0	7	8	5	0	4	10	5	1	40
Dry Years	0	0	0	0	8	15	17	8	7	10	6	0	71
Critically Dry Years	0	0	0	0	0	4	23	8	5	5	3	1	49

Table 12 - Exchange with Shasta Lake through exchanges with the Glenn-Colusa Canal (TAF)

Exchanges with Shasta Lake for later release to Delta Participants

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	0	3	4	0	0	0	0	0	0	7
Wet Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry Years	0	0	0	0	3	19	0	0	0	0	0	0	22
Critically Dry Years	0	0	0	1	13	0	0	0	0	0	0	0	14

Table 13 - Total Sites Project releases through the Dunnigan Pipeline (TAF)

Total releases from Sites Reservoir through the Dunnigan Pipeline

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	2	5	15	18	12	9	11	8	2	82
Wet Years	0	1	0	1	0	0	0	0	0	0	5	6	13
Above Normal Years	0	0	0	0	2	10	0	0	0	0	0	0	12
Below Normal Years	0	1	0	0	0	16	19	11	11	21	3	1	83
Dry Years	0	0	0	3	10	30	41	28	20	20	20	1	172
Critically Dry Years	0	0	3	6	15	29	36	24	17	21	11	1	161

Table 14 - Releases for local use through the Dunnigan Pipeline (TAF)

Releases to RD 108 in Shasta-critical water years

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	0	0	0	0	0	0	0	0	0	0
Wet Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Critically Dry Years	0	0	0	1	1	0	0	0	0	0	0	0	2

Table 15 - Releases to the Sacramento River through the Dunnigan Pipeline (TAF)

Direct releases to the Sacramento River via the Delevan Pipeline for Delta participants, CVP Operational Flexibility, and refuges

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	0	0	11	18	12	9	11	8	2	73
Wet Years	0	1	0	1	0	0	0	0	0	0	5	6	13
Above Normal Years	0	0	0	0	2	10	0	0	0	0	0	0	12
Below Normal Years	0	1	0	0	0	16	19	11	11	21	3	1	83
Dry Years	0	0	0	1	0	12	41	28	20	20	20	1	143
Critically Dry Years	0	0	3	0	1	29	36	24	17	21	11	1	141

Table 16 - Exchange with Shasta Lake through the Dunnigan Pipeline (TAF)

Exchanges with Shasta Lake for later release to Delta Participants

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	1	4	4	0	0	0	0	0	0	9
Wet Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Above Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal Years	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry Years	0	0	0	1	9	18	0	0	0	0	0	0	29
Critically Dry Years	0	0	0	4	14	0	0	0	0	0	0	0	18

Table 17 - Releases to the Yolo Bypass (TAF)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Long-Term Average	0	0	0	0	0	0	0	15	13	10	0	0	38
Wet Years	0	0	0	0	0	0	0	18	23	19	0	0	60
Above Normal Years	0	0	0	0	0	0	0	25	22	15	0	0	63
Below Normal Years	0	0	0	0	0	0	0	16	9	8	0	0	33
Dry Years	0	0	0	0	0	0	0	9	5	2	0	0	16
Critically Dry Years	0	0	0	0	0	0	0	5	0	0	0	0	5

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Figure 1 - Releases for Local Use

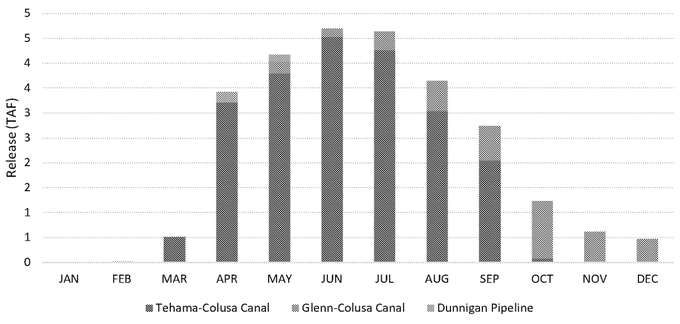


Figure 2 - Releases to Sacramento River

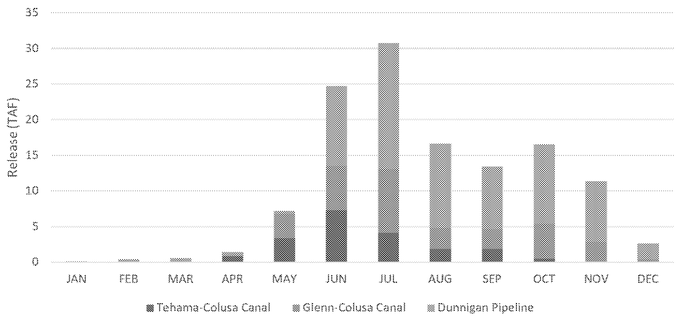


Figure 3 - Shasta Exchange

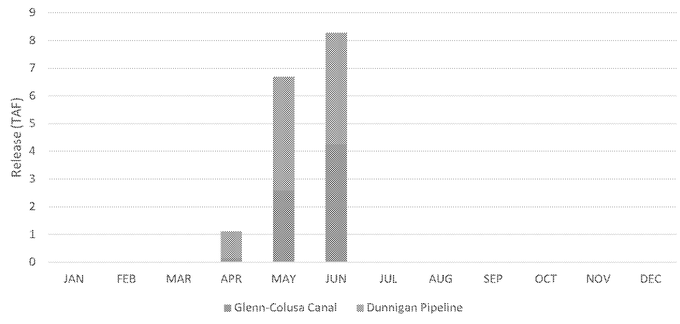


Figure 4 - Releases through Tehama-Colusa Canal

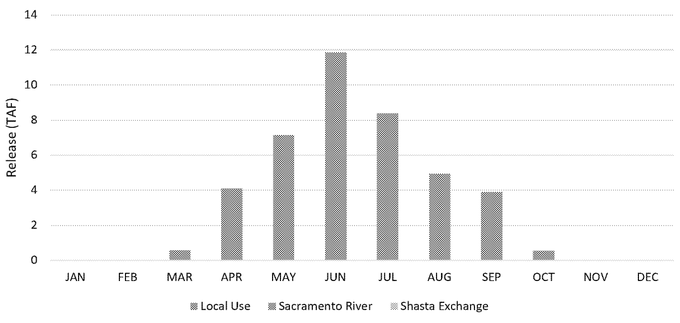


Figure 5 - Releases through Glenn-Colusa Canal

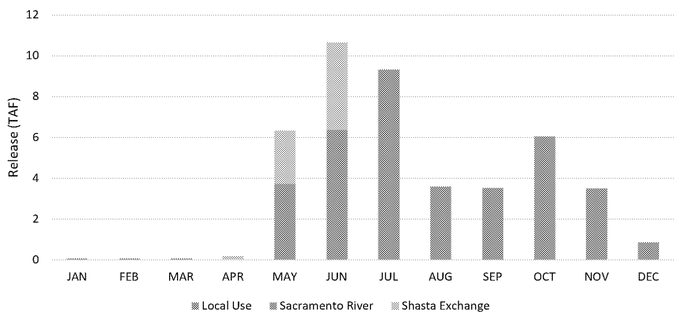
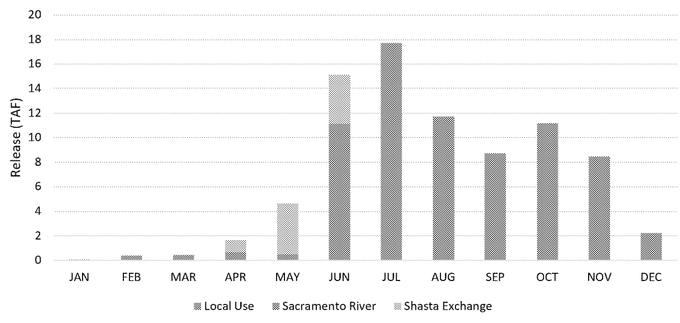


Figure 6 - Releases through Dunnigan Pipeline



ALT 1 111820 rev01 (91 TAF CVP OpFlex) PEA

Table 18 - Number of months when the Dunnigan Pipeline is above 95% of capacity (1922-2002)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Full Timeseries (81)	0	0	0	0	3	8	8	10	6	8	6	1	50
Wet Years (26)	0	0	0	0	0	0	0	0	0	0	0	1	1
Above Normal Years (11)	0	0	0	0	0	0	0	0	0	0	0	0	0
Below Normal Years (14)	0	0	0	0	0	1	0	0	1	3	0	0	5
Dry Years (18)	0	0	0	0	2	4	4	6	2	3	5	0	26
Critically Dry Years (12)	0	0	0	0	1	3	4	4	3	2	1	0	18

Table 19 - Number of months when the Dunnigan Pipeline is below 95% of capacity (1922-2002)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Full Timeseries (81)	0	2	3	13	10	18	17	39	47	36	15	8	208
Wet Years (26)	0	2	1	1	0	0	0	17	22	20	8	5	76
Above Normal Years (11)	0	0	0	0	1	2	0	10	11	6	0	1	31
Below Normal Years (14)	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry Years (18)	0	0	0	4	1	10	12	9	12	7	3	1	59
Critically Dry Years (12)	0	0	2	8	8	6	5	3	2	3	4	1	42

Figure 7 - Dunnigan Pipeline Flow - April

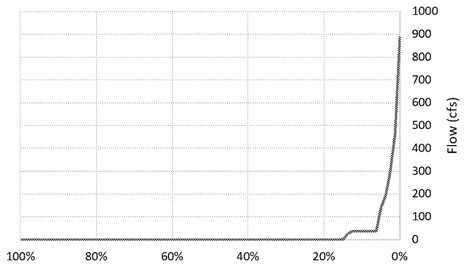


Figure 8 - Dunnigan Pipeline Flow - May

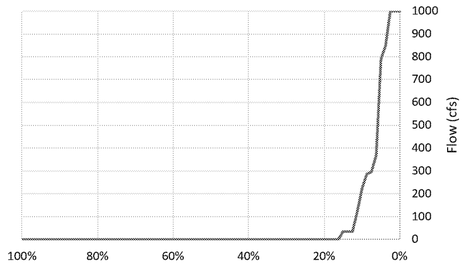


Figure 9 - Dunnigan Pipeline Flow - June

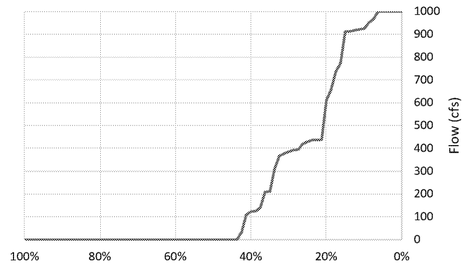


Figure 10 - Dunnigan Pipeline Flow - July

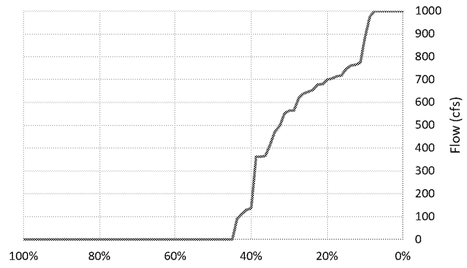


Figure 11 - Dunnigan Pipeline Flow - August

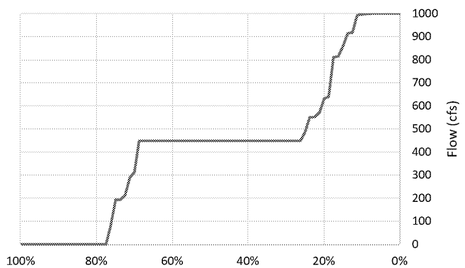


Figure 12 - Dunnigan Pipeline Flow - September

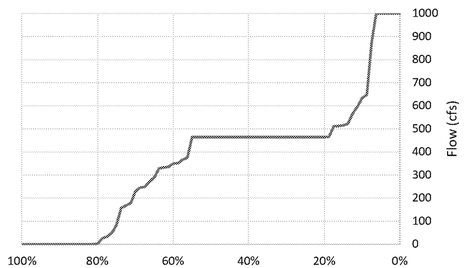


Figure 13 - Dunnigan Pipeline Flow - October

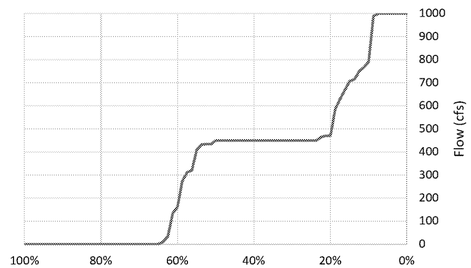


Figure 14 - Dunnigan Pipeline Flow - November

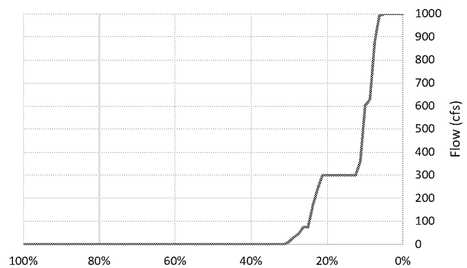


Figure 15 - Total Release to Sac R - April

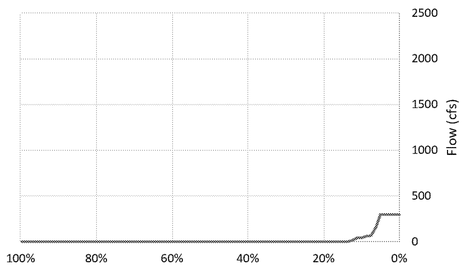


Figure 16 - Total Release to Sac R - May

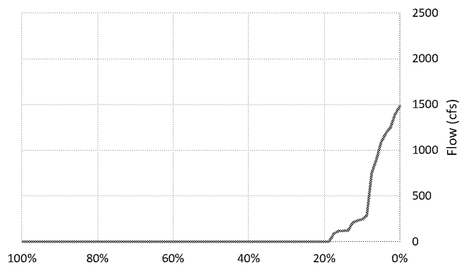


Figure 17 - Total Release to Sac R - June

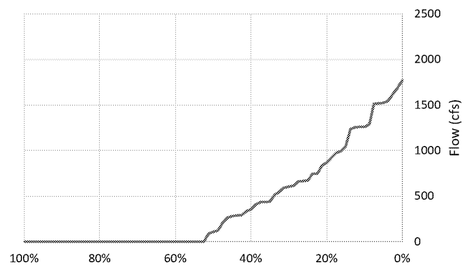


Figure 18 - Total Release to Sac R - July

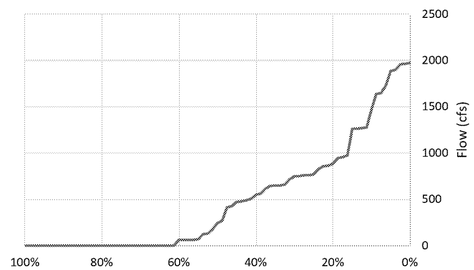


Figure 19 - Total Release to Sac R - August

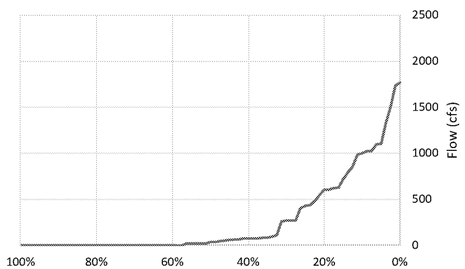


Figure 20 - Total Release to Sac R - September

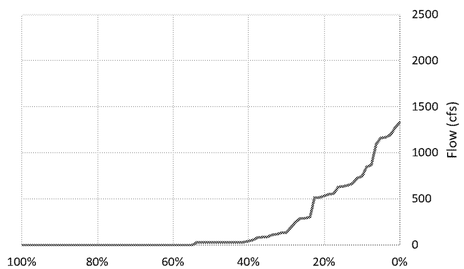


Figure 21 - Total Release to Sac R - October

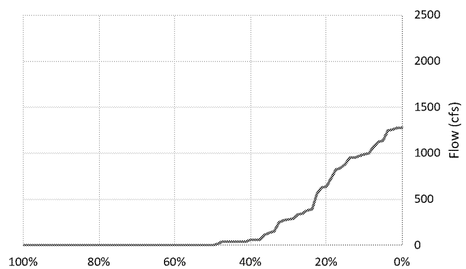
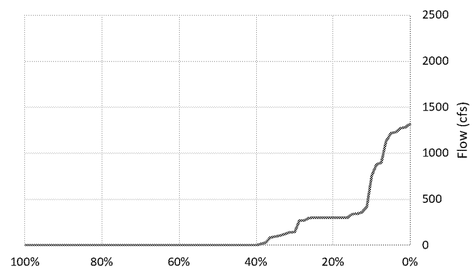


Figure 22 - Total Release to Sac R - November



Sites Reservoir Project Update Agenda

Affordable Water, Sustainably Managed

Our Core Values – Safety, Trust and Integrity, Respect for Local Communities, Environmental Stewardship, Shared Responsibility and Shared Benefits, Accountability and Transparency, Proactive Innovation, Diversity and Inclusivity
Our Commitment – To live up to these values in everything we do

Meeting Information:

Date:	December 14, 2020	**Location:**	Microsoft Teams
Start Time:	3:00 p.m.	**Finish Time:**	4:00 p.m.
Purpose:	Provide an Update and Opportunity for Questions on the Sites Reservoir Project		

Agenda:

Discussion Topic	Topic Leader	Time Allotted
1. Welcome	Ali Forsythe	5 min
2. Project History and Current Status a. Original Proposed Project and 2017 EIR/EIS – Comments and Key Issues b. Ongoing Coordination with Wildlife Agencies c. Value Planning Process – Finding the "Right-Sized" Project d. Designation of the Authority's Preferred Project	Ali Forsythe	20 min
3. CEQA/NEPA Process a. Decision to Recirculate the Draft EIR b. Coordination with Reclamation to Continue Joint Document – Revised Draft EIR/Supplemental Draft EIS (RDEIR/SDEIS) c. Ongoing Consultation with Tribes d. Schedule for Release of the RDEIR/SDEIS and Opportunity to Provide Comments	Laurie Warner Herson / Kevin Spesert	15 min
4. Open Discussion / Questions from the Group	All	15 min
5. Next Steps a. Survey and Focused Technical Meetings	Ali Forsythe	5 min

From: Micko, Steve/SAC [Steve.Micko@jacobs.com]
Sent: 12/8/2020 12:34:40 PM
To: Heydinger, Erin [erin.heydinger@hdrinc.com]; Spranza, John [john.spranza@hdrinc.com]; Lecky, Jim [jim.lecky@icf.com]; Hendrick, Mike [mike.hendrick@icf.com]; Hassrick, Jason [jason.hassrick@icf.com]; Leaf, Rob/SAC [Rob.Leaf@jacobs.com]; Chris Fitzer [CFitzer@esassoc.com]; Wilder, Rick [rick.wilder@icf.com]; Thayer, Reed/SAC [Reed.Thayer@jacobs.com]; Greenwood, Marin [Marin.Greenwood@icf.com]
CC: Briard, Monique [Monique.Briard@icf.com]; Alicia Forsythe [aforsythe@sitesproject.org]
Subject: RE: Sites Modeling & Diversion Criteria
Attachments: NODOS_Trend_Reporting_rev30dpcy_DV5_HistClim_CALSIM_NAA_ALTA1_111820_PEA_NoFrpt_WS6_WSv01.xlsm

Hi all,

Trend reporting spreadsheet, discussed today, is attached.

More information to come soon.

Best,
Steve

-----Original Appointment-----
From: Heydinger, Erin <Erin.Heydinger@hdrinc.com>
Sent: Monday, October 5, 2020 5:11 AM
To: Heydinger, Erin; Spranza, John; Lecky, Jim; Hendrick, Mike; Hassrick, Jason; Leaf, Rob/SAC; Micko, Steve/SAC; Chris Fitzer; Wilder, Rick; Thayer, Reed/SAC; Greenwood, Marin
Cc: Briard, Monique; Alicia Forsythe
Subject: Sites Modeling & Diversion Criteria
When: Tuesday, December 8, 2020 10:30 AM-11:30 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Webex

Extending this through our next workshop, but skipping this week as we wait for the next iteration of modeling.

-- Do not delete or change any of the following text. --

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Meeting password: F4vm7x3UxW3

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Sent: 12/8/2020 9:50:03 PM
To: Greenwood, Marin [Marin.Greenwood@icf.com]
CC: Briard, Monique [Monique.Briard@icf.com]; Alicia Forsythe [aforsythe@sitesproject.org]; Heydinger, Erin [erin.heydinger@hdrinc.com]; Spranza, John [john.spranza@hdrinc.com]; Lecky, Jim [jim.lecky@icf.com]; Hendrick, Mike [mike.hendrick@icf.com]; Hassrick, Jason [jason.hassrick@icf.com]; Leaf, Rob/SAC [Rob.Leaf@jacobs.com]; Chris Fitzer [CFitzer@esassoc.com]; Wilder, Rick [rick.wilder@icf.com]; Thayer, Reed/SAC [Reed.Thayer@jacobs.com]
Subject: RE: Sites Modeling & Diversion Criteria
Attachments: SPJPA_Sites_DailyFreeportFlowsDCCOps_20201201__NAA_111820_ALT1_111820_PEA_NoFrpt_WS6k_WSv01.xlsx

Hi Marin,

Attached spreadsheet contains the daily DCC operations and Sacramento River at Freeport flow for all pertinent simulations.

Can you please run the STARS model with the data on the following sheets:

- ALT1_111820_NoFrpt
- ALT1_111820_WS6k
- ALT1_111820_WSv01

A brief description of diversion criteria for each of the simulations discussed earlier today is provided below:

- NAA_111820
  - Preliminary No Action Alternative
- ALT1_111820_PEA
  - Preliminary effects analysis with following diversion criteria:
    - Bend Bridge Pulse Protection: First Pulse
    - Wilkins Slough Bypass
      - Apr – May: 8,000 cfs
      - All other months: 5,000 cfs
    - Freeport Bypass Criteria:
      - January: 15,000 cfs
      - February – June: 13,000 cfs
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- Dec – Jan: 7,000 cfs
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- All other months: 6,000 cfs

Please let me know if you have any questions.

Apologies for the late-evening email,
Steve

From: Micko, Steve/SAC
Sent: Tuesday, December 8, 2020 12:35 PM
To: Heydinger, Erin <Erin.Heydinger@hdrinc.com>; Spranza, John <john.spranza@hdrinc.com>; Lecky, Jim <jim.lecky@icf.com>; Hendrick, Mike <mike.hendrick@icf.com>; Hassrick, Jason <jason.hassrick@icf.com>; Leaf, Rob/SAC <Rob.Leaf@jacobs.com>; Chris Fitzer <CFitzer@esassoc.com>; Wilder, Rick <rick.wilder@icf.com>; Thayer, Reed/SAC <Reed.Thayer@jacobs.com>; Greenwood, Marin <Marin.Greenwood@icf.com>
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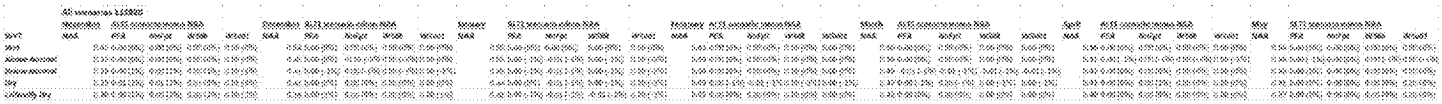
From: Greenwood, Marin [Marin.Greenwood@icf.com]
Sent: 12/9/2020 9:19:20 AM
To: steve.micko@jacobs.com
CC: Briard, Monique [Monique.Briard@icf.com]; Alicia Forsythe [aforsythe@sitesproject.org]; Heydinger, Erin [erin.heydinger@hdrinc.com]; Spranza, John [john.spranza@hdrinc.com]; Lecky, Jim [Jim.Lecky@icf.com]; Hendrick, Mike [Mike.Hendrick@icf.com]; Hassrick, Jason [Jason.Hassrick@icf.com]; Leaf, Rob/SAC [Rob.Leaf@jacobs.com]; Chris Fitzer [cfitzer@esassoc.com]; Wilder, Rick [Rick.Wilder@icf.com]; Thayer, Reed/SAC [Reed.Thayer@jacobs.com]
Subject: RE: Sites Modeling & Diversion Criteria

Thanks, Steve – below is the tabular summary by month from application of the STARS spreadsheet model, showing absolute survival estimates for NAA and differences between the ALT1 scenarios and NAA by water year type. Please let me know if there any questions.



MARIN GREENWOOD | **ICF** | marin.greenwood@icf.com | +1.530.400.8081 mobile

From: Micko, Steve/SAC <Steve.Micko@jacobs.com>
Sent: Tuesday, December 8, 2020 21:50
To: Greenwood, Marin <Marin.Greenwood@icf.com>
Cc: Briard, Monique <Monique.Briard@icf.com>; Alicia Forsythe <aforsythe@sitesproject.org>; Heydinger, Erin <erin.heydinger@hdrinc.com>; John Spranza <John.Spranza@hdrinc.com>; Lecky, Jim <Jim.Lecky@icf.com>; Hendrick, Mike <Mike.Hendrick@icf.com>; Hassrick, Jason <Jason.Hassrick@icf.com>; Leaf, Rob/SAC <Rob.Leaf@jacobs.com>; Chris Fitzer <cfitzer@esassoc.com>; Wilder, Rick <Rick.Wilder@icf.com>; Thayer, Reed/SAC <Reed.Thayer@jacobs.com>
Subject: RE: Sites Modeling & Diversion Criteria

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To: Greenwood, Marin [Marin.Greenwood@icf.com]
CC: Briard, Monique [Monique.Briard@icf.com]; Alicia Forsythe [aforsythe@sitesproject.org]; Heydinger, Erin [erin.heydinger@hdrinc.com]; Spranza, John [john.spranza@hdrinc.com]; Lecky, Jim [jim.lecky@icf.com]; Hendrick, Mike [mike.hendrick@icf.com]; Hassrick, Jason [jason.hassrick@icf.com]; Leaf, Rob/SAC [Rob.Leaf@jacobs.com]; Chris Fitzer [cfitzer@esassoc.com]; Wilder, Rick [rick.wilder@icf.com]; Thayer, Reed/SAC [Reed.Thayer@jacobs.com]
Subject: RE: Sites Modeling & Diversion Criteria

Thank you for the quick turnaround Marin!

Additional analysis of flow and water quality is below..

When reviewing Wilkins Slough Bypass Flow magnitudes, I considered the following:

- flow split of Sacramento River and Georgiana Slough,
- Delta water quality, and
- impacting CVP/SWP operations to meet Delta water quality.

For context, I reviewed Sacramento River – Georgianna Slough flow split as a function of Sacramento River at Freeport flow (Figure 1).
As Sacramento River at Freeport flow reduces, the proportion of flow entering Georgianna Slough increases exponentially.
I also reviewed X2 position (Figures 2 through 4) as an indicator for Delta water quality, and the potential for impacting CVP/SWP operations to meet Delta water quality.
Figures 2 through 4 display X2 position at the end of December, January and February, respectively.
December and January are the months at lead up to the Spring X2 requirement. Minimizing increases to X2 in December and January prevents impacting CVP/SWP operations to meet Delta water quality in February.

Sacramento River at Wilkins Slough flow bypass criteria for each sensitivity analysis are tabulated in Table 1.

I reviewed:

- Figures 2 through 4 to observe changes in X2,
- Tables 2 through 5 to observe changes in monthly average flow at Sacramento River at Freeport,
- Figures 5 through 8 to observe frequency distribution of daily average flow at Sacramento River at Freeport, and
- Tables 6 through 9 to observe median daily proportion of negative velocity at Sacramento River downstream of Georgianna Slough.

As I tested Sacramento River at Wilkins Slough bypass criteria, I looked to minimize changes in X2 (as compared to NAA) in December and January, Sacramento River inflow to the Delta, and occurrence of negative flows in the Sacramento River downstream of Georgianna Slough.

Please let me know if you have any questions.

Best,
Steve

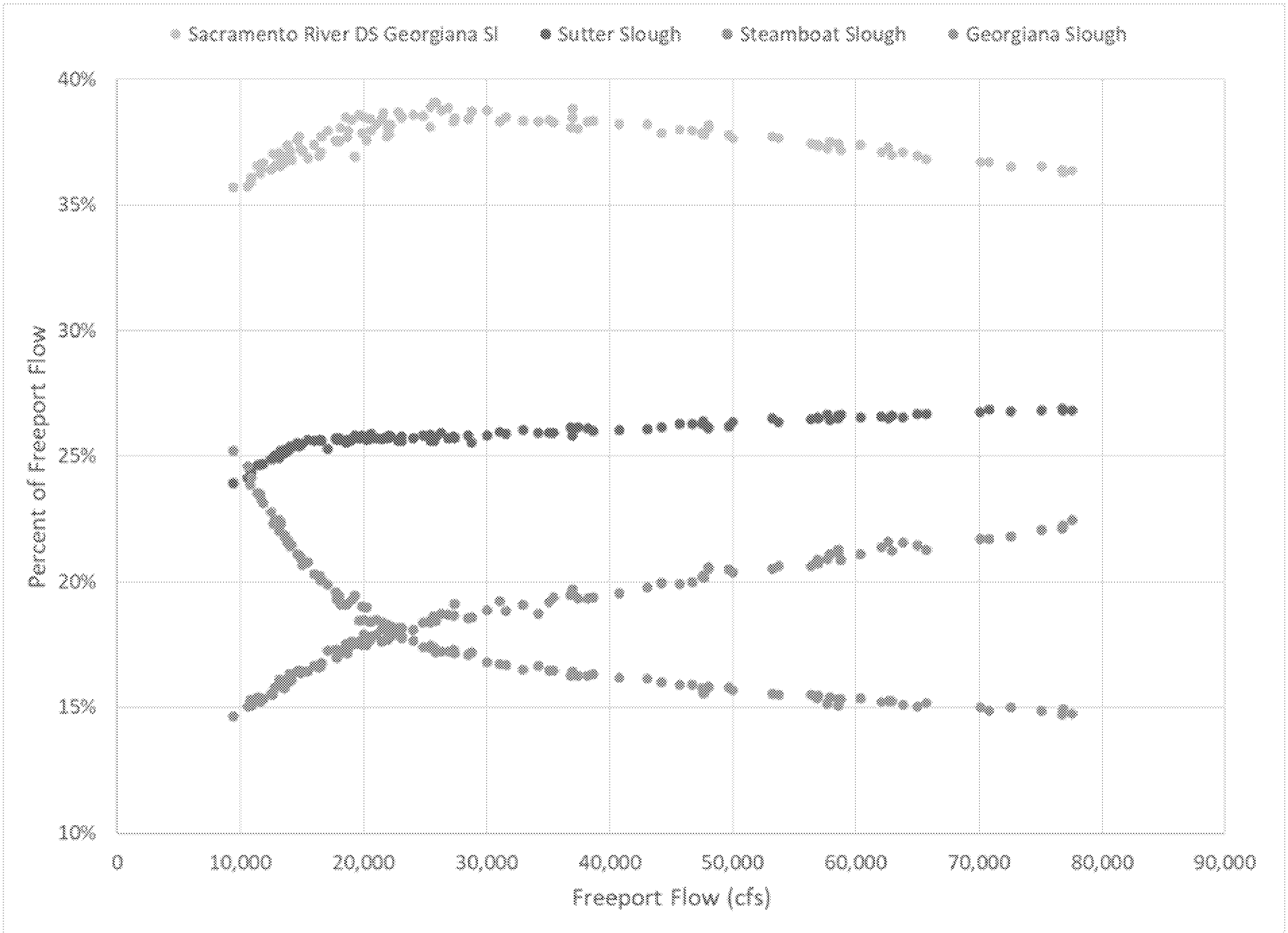

Figure 1. Sacramento River Flow Splits as a Function of Sacramento River at Freeport Flow (only plotting months when DCC gates are closed)

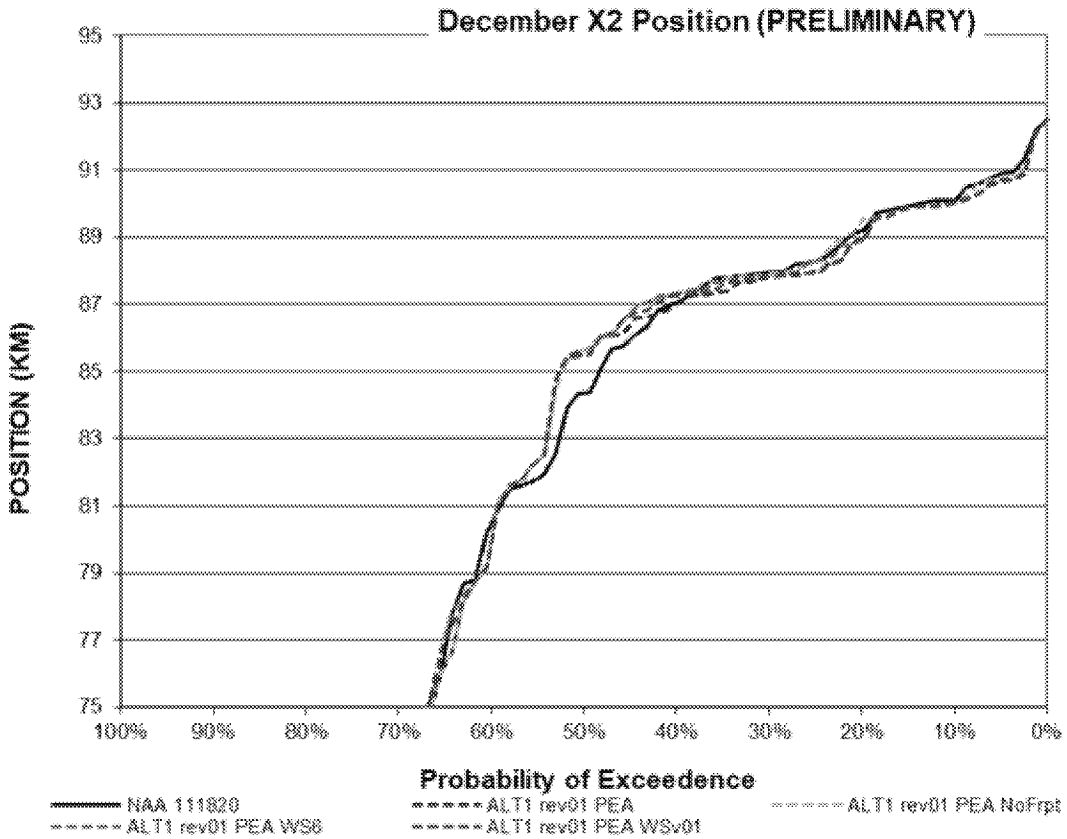

Figure 2. End of December X2 Position

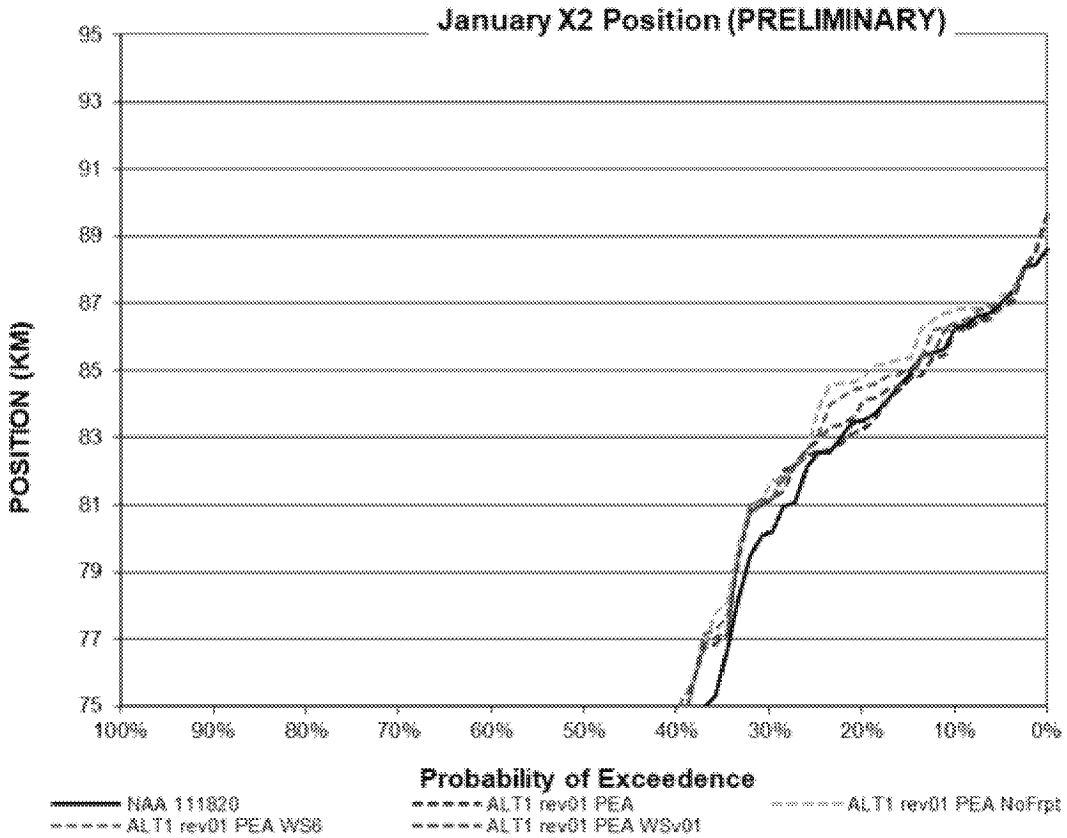

Figure 3. End of January X2 Position

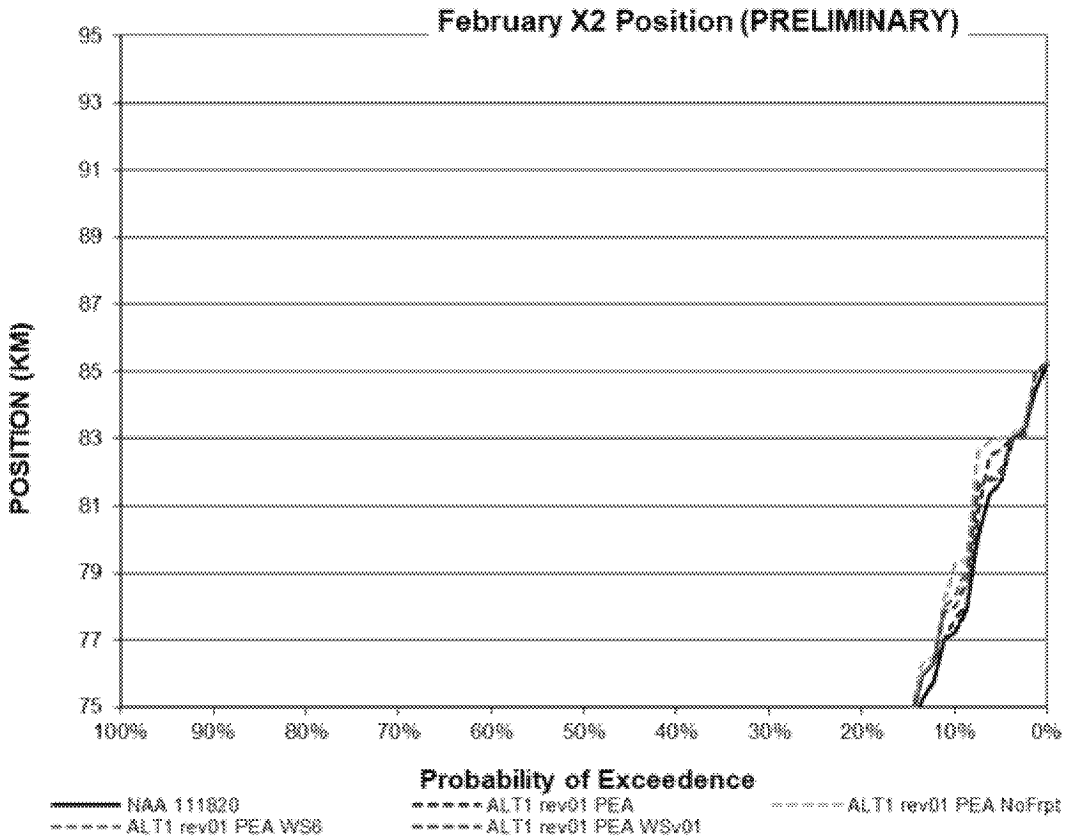

Figure 4. End of February X2 Position

Table 1. Sites Alt 1 PEA Sacramento River at Wilkins Slough Bypass Criteria (cfs)

Month	ALT1 111820 rev01 PEA	ALT1 111820 rev01 PEA WS 6k cfs	ALT1 111820 rev01 PEA WS v01
October	5,000	6,000	6,000
November	5,000	6,000	6,000
December	5,000	6,000	7,000
January	5,000	6,000	7,000
February	5,000	6,000	6,000
March	5,000	6,000	6,000
April	8,000	8,000	8,000
May	8,000	8,000	8,000
June	5,000	6,000	6,000
July	5,000	6,000	6,000

August	5,000	6,000	6,000
September	5,000	6,000	6,000

Table 2. Monthly Averaged Flows at Sacramento River at Freeport, December

WYT	Flow (cfs)					Difference from NAA (cfs)				Percent Difference from NAA			
	NAA	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01
W	25,808	25,823	25,831	25,830	25,858	15	23	22	50	0.1%	0.1%	0.1%	0.2%
AN	22,997	23,070	23,136	22,903	22,930	73	139	-95	-68	0.3%	0.6%	-0.4%	-0.3%
BN	26,051	26,001	26,035	25,898	25,877	-50	-15	-153	-174	-0.2%	-0.1%	-0.6%	-0.7%
D	21,511	21,566	21,441	21,550	21,550	55	-70	38	39	0.3%	-0.3%	0.2%	0.2%
C	12,515	12,355	11,918	12,039	12,182	-160	-597	-476	-332	-1.3%	-4.8%	-3.8%	-2.7%
LT	22,550	22,545	22,472	22,456	22,486	-5	-78	-94	-64	0.0%	-0.3%	-0.4%	-0.3%

Table 3. Monthly Averaged Flows at Sacramento River at Freeport, January

WYT	Flow (cfs)					Difference from NAA (cfs)				Percent Difference from NAA			
	NAA	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01
W	48,674	48,186	48,195	48,136	48,172	-487	-479	-538	-501	-1.0%	-1.0%	-1.1%	-1.0%
AN	36,298	35,391	35,213	35,242	35,389	-907	-1,085	-1,056	-908	-2.5%	-3.0%	-2.9%	-2.5%
BN	22,354	21,919	21,613	21,711	21,810	-435	-741	-643	-544	-1.9%	-3.3%	-2.9%	-2.4%
D	16,494	16,148	15,772	15,963	16,148	-346	-722	-532	-346	-2.1%	-4.4%	-3.2%	-2.1%

C	13,992	13,751	13,199	13,451	13,569	-241	-792	-540	-422	-1.7%	-5.7%	-3.9%	-3.0%
LT	30,230	29,757	29,518	29,599	29,707	-473	-712	-631	-523	-1.6%	-2.4%	-2.1%	-1.7%

Table 4. Monthly Averaged Flows at Sacramento River at Freeport, February

WYT	Flow (cfs)					Difference from NAA (cfs)				Percent Difference from NAA			
	NAA	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01
W	56,079	55,582	55,588	55,584	55,569	-497	-490	-495	-510	-0.9%	-0.9%	-0.9%	-0.9%
AN	42,877	42,146	42,189	42,131	42,126	-731	-688	-746	-751	-1.7%	-1.6%	-1.7%	-1.8%
BN	32,896	32,436	32,491	32,442	32,366	-459	-405	-454	-530	-1.4%	-1.2%	-1.4%	-1.6%
D	23,054	22,347	22,333	22,491	22,471	-707	-721	-563	-583	-3.1%	-3.1%	-2.4%	-2.5%
C	16,845	16,785	16,661	16,903	16,902	-59	-184	59	57	-0.4%	-1.1%	0.3%	0.3%
LT	37,198	36,691	36,687	36,739	36,716	-507	-511	-458	-482	-1.4%	-1.4%	-1.2%	-1.3%

Table 5. Monthly Averaged Flows at Sacramento River at Freeport, March

WYT	Flow (cfs)					Difference from NAA (cfs)				Percent Difference from NAA			
	NAA	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01	PEA	PEA No Frpt	PEA WS 6k cfs	PEA WS v01
W	48,408	48,054	48,062	48,064	48,060	-354	-346	-344	-348	-0.7%	-0.7%	-0.7%	-0.7%
AN	41,737	41,139	41,144	41,135	41,138	-598	-593	-602	-599	-1.4%	-1.4%	-1.4%	-1.4%
BN	22,420	21,751	21,743	21,773	21,777	-669	-677	-647	-643	-3.0%	-3.0%	-2.9%	-2.9%

D	20,472	19,924	19,865	19,911	19,878	-548	-607	-561	-594	-2.7%	-3.0%	-2.7%	-2.9%
C	13,815	13,605	13,703	13,609	13,648	-210	-112	-206	-166	-1.5%	-0.8%	-1.5%	-1.2%
LT	31,800	31,335	31,339	31,339	31,338	-465	-462	-461	-463	-1.5%	-1.5%	-1.5%	-1.5%

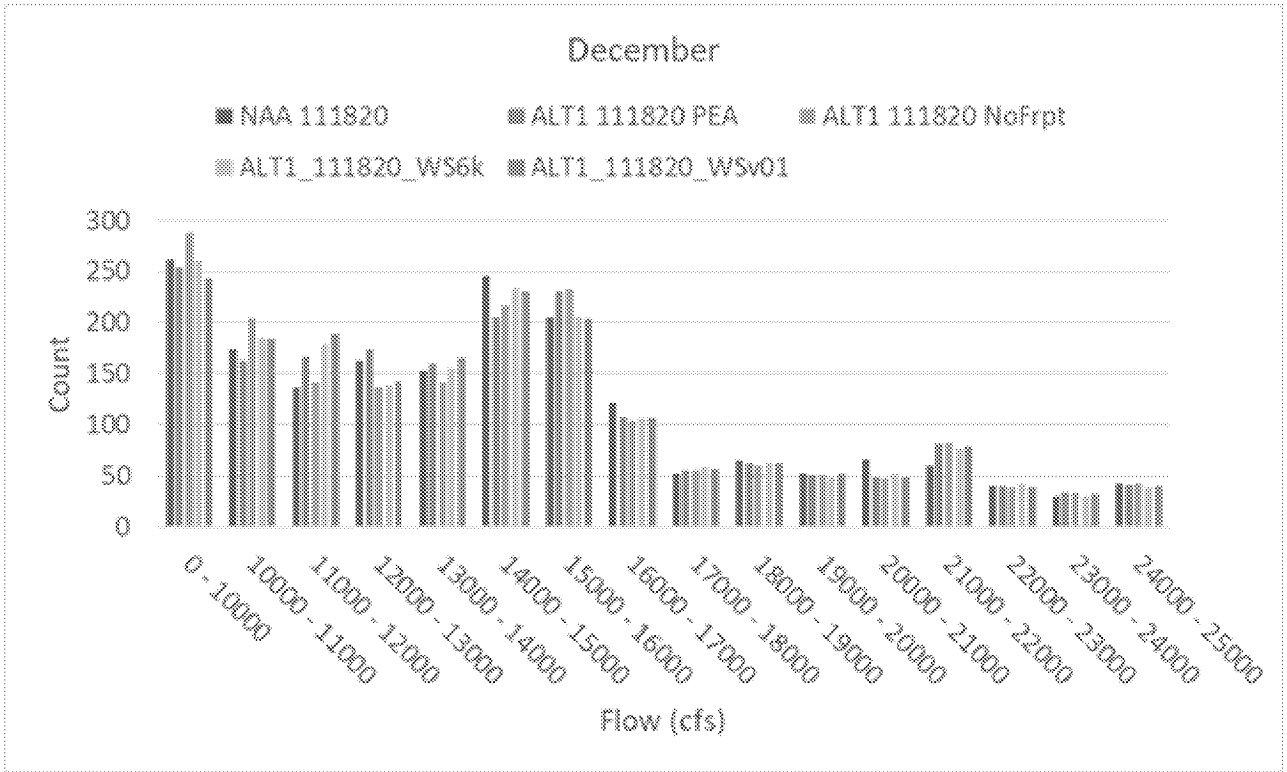

Figure 5. Daily Average Flow at Freeport Frequency Distribution, December

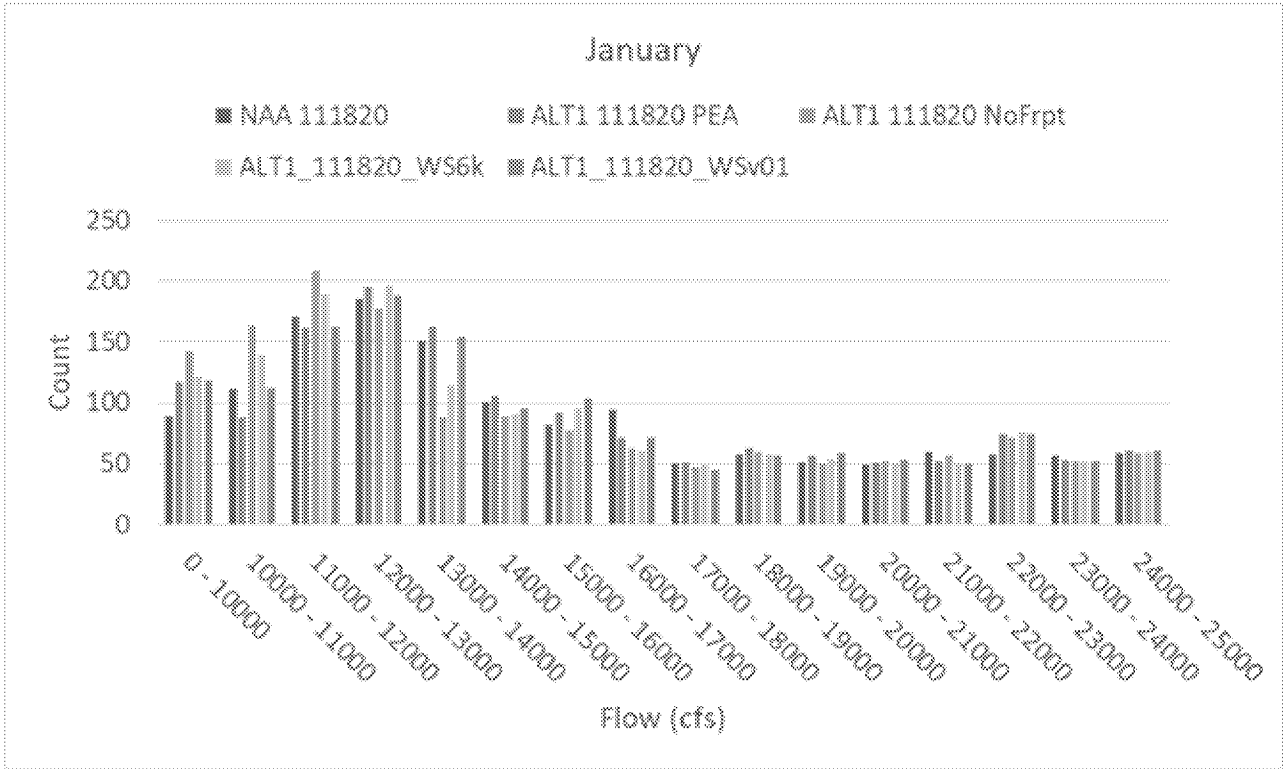

Figure 6. Daily Average Flow at Freeport Frequency Distribution, January

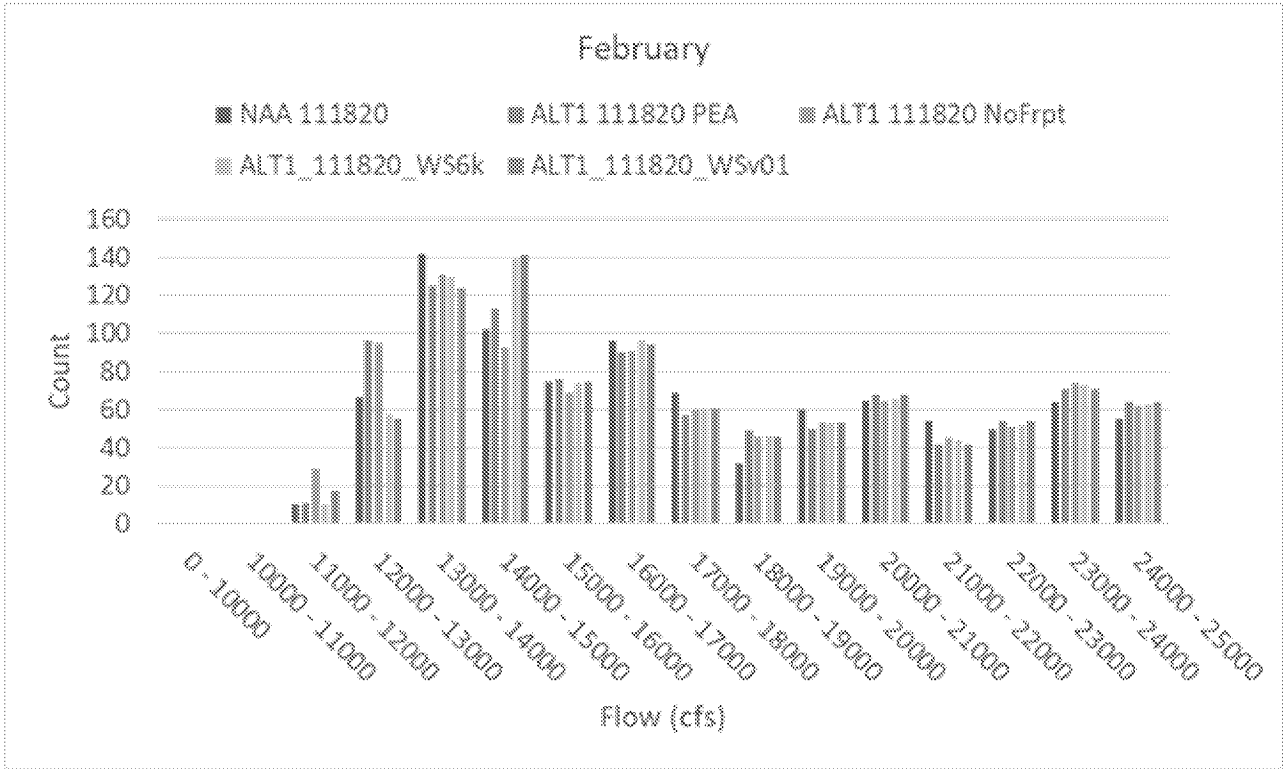

Figure 7. Daily Average Flow at Freeport Frequency Distribution, February

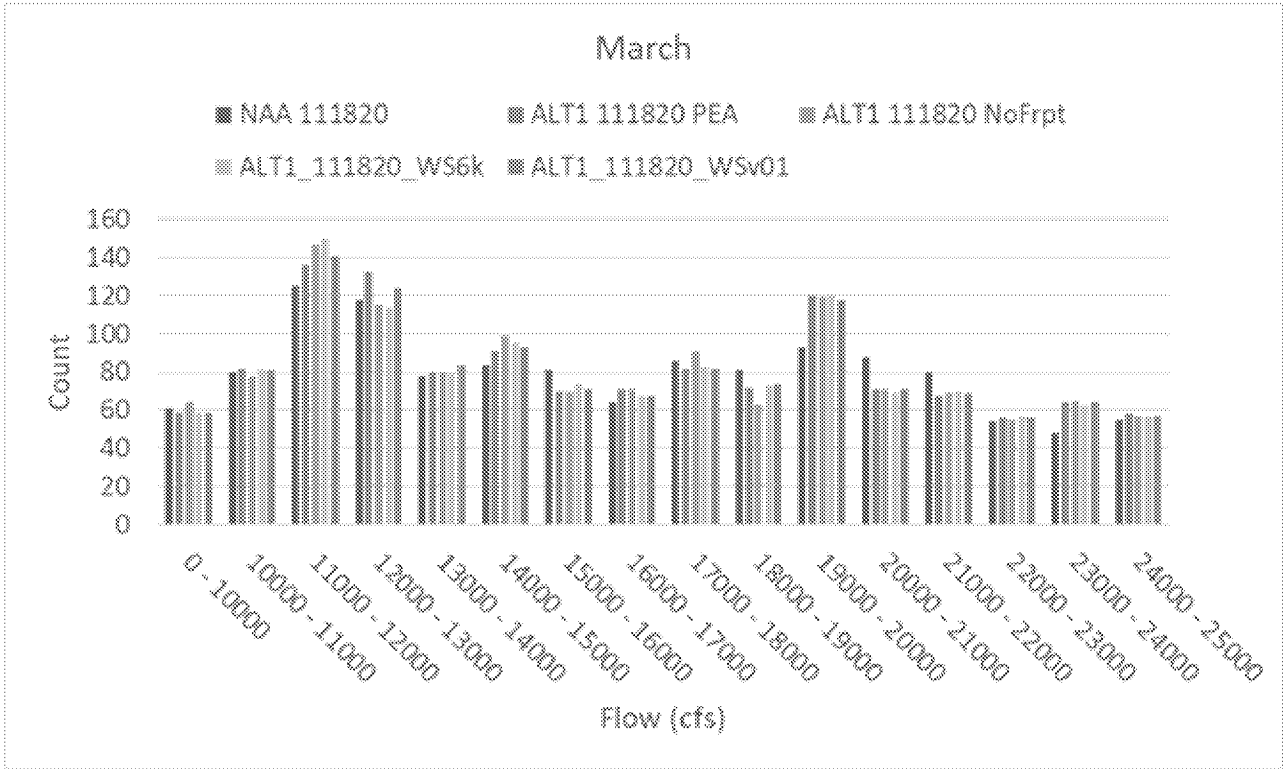

Figure 8. Daily Average Flow at Freeport Frequency Distribution, March

Table 6. NAA and ALT1 11820 PEA Median Daily Proportion of Negative Velocity at Sacramento River downstream of Georgianna Slough, from DSM2-HYDRO Modeling (green shading indicates a reduction in occurrence of negative flow by 5% or more, red shading indicates an increase in occurrence of negative flow by 5% or more)

Location	Water Year Type	December			January		
		NAA	PEA	NAA vs. PEA	NAA	PEA	NAA vs. PEA
Sacramento River Downstream of Georgianna Slough	W	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)
	AN	0.125	0.135	0.010 (8%)	0.000	0.000	0.000 (0%)
	BN	0.208	0.229	0.021 (10%)	0.000	0.000	0.000 (0%)
	D	0.156	0.156	0.000	0.151	0.156	0.005

				(0%)			(3%)
	C	0.302	0.302	0.000 (0%)	0.198	0.198	0.000 (0%)

February			March			April			May			June		
NAA	PEA	NAA vs. PEA	NAA	PEA	NAA vs. PEA	NAA	PEA	NAA vs. PEA	NAA	PEA	NAA vs. PEA	NAA	PEA	NAA vs. PEA
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.167	0.167	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.104	0.104	0.000 (0%)	0.302	0.302	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.042	0.052	0.010 (25%)	0.198	0.198	0.000 (0%)	0.302	0.302	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.208	0.208	0.000 (0%)	0.250	0.250	0.000 (0%)	0.323	0.323	0.000 (0%)
0.115	0.125	0.010 (9%)	0.219	0.219	0.000 (0%)	0.271	0.271	0.000 (0%)	0.333	0.333	0.000 (0%)	0.354	0.354	0.000 (0%)

Table 7. NAA and ALT1 111820 NoFrpt Median Daily Proportion of Negative Velocity at Sacramento River downstream of Georgianna Slough, from DSM2-HYDRO Modeling (green shading indicates a reduction in occurrence of negative flow by 5% or more, red shading indicates an increase in occurrence of negative flow by 5% or more)

Location	Water Year Type	December			January		
		NAA	No Frpt	NAA vs. No Frpt	NAA	No Frpt	NAA vs. No Frpt
Sacramento River Downstream of Georgianna Slough	W	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)
	AN	0.125	0.135	0.010 (8%)	0.000	0.000	0.000 (0%)
	BN	0.208	0.229	0.021 (10%)	0.000	0.000	0.000 (0%)
	D	0.156	0.156	0.000 (0%)	0.151	0.167	0.016 (10%)
	C	0.302	0.302	0.000	0.198	0.240	0.042

				(0%)		

February			March			April			May			June		
NAA	No Frpt	NAA vs. No Frpt	NAA	No Frpt	NAA vs. No Frpt	NAA	No Frpt	NAA vs. No Frpt	NAA	No Frpt	NAA vs. No Frpt	NAA	No Frpt	NAA vs. No Frpt
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.167	0.167	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.104	0.104	0.000 (0%)	0.302	0.302	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.042	0.052	0.010 (25%)	0.198	0.198	0.000 (0%)	0.302	0.302	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.208	0.198	-0.010 (-5%)	0.250	0.250	0.000 (0%)	0.323	0.323	0.000 (0%)
0.115	0.125	0.010 (9%)	0.219	0.219	0.000 (0%)	0.271	0.271	0.000 (0%)	0.333	0.333	0.000 (0%)	0.354	0.354	0.000 (0%)

Table 8. NAA and ALT1 111820 WS 6k Median Daily Proportion of Negative Velocity at Sacramento River downstream of Georgianna Slough, from DSM2-HYDRO Modeling (green shading indicates a reduction in occurrence of negative flow by 5% or more, red shading indicates an increase in occurrence of negative flow by 5% or more)

Location	Water Year Type	December			January		
		NAA	WS 6k	NAA vs. WS 6k	NAA	WS 6k	NAA vs. WS 6k
Sacramento River Downstream of Georgianna Slough	W	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)
	AN	0.125	0.146	0.021 (17%)	0.000	0.000	0.000 (0%)
	BN	0.208	0.229	0.021 (10%)	0.000	0.000	0.000 (0%)
	D	0.156	0.156	0.000 (0%)	0.151	0.167	0.015 (10%)
	C	0.302	0.302	0.000 (0%)	0.198	0.219	0.021 (11%)

February			March			April			May			June		
NAA	WS 6k	NAA vs. WS 6k	NAA	WS 6k	NAA vs. WS 6k	NAA	WS 6k	NAA vs. WS 6k	NAA	WS 6k	NAA vs. WS 6k	NAA	WS 6k	NAA vs. WS 6k
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.167	0.167	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.104	0.104	0.000 (0%)	0.302	0.302	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.042	0.052	0.010 (25%)	0.198	0.198	0.000 (0%)	0.302	0.302	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.208	0.208	0.000 (0%)	0.250	0.250	0.000 (0%)	0.323	0.323	0.000 (0%)
0.115	0.115	0.000 (0%)	0.219	0.219	0.000 (0%)	0.271	0.271	0.000 (0%)	0.333	0.333	0.000 (0%)	0.354	0.354	0.000 (0%)

Table 9. NAA and ALT1 111820 WS v01 Median Daily Proportion of Negative Velocity at Sacramento River downstream of Georgianna Slough, from DSM2-HYDRO Modeling (green shading indicates a reduction in occurrence of negative flow by 5% or more, red shading indicates an increase in occurrence of negative flow by 5% or more)

Location	Water Year Type	December			January		
		NAA	WS v01	NAA vs. WS v01	NAA	WS v01	NAA vs. WS v01
Sacramento River Downstream of Georgianna Slough	W	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)
	AN	0.125	0.135	0.010 (8%)	0.000	0.000	0.000 (0%)
	BN	0.208	0.229	0.021 (10%)	0.000	0.000	0.000 (0%)
	D	0.156	0.156	0.000 (0%)	0.151	0.156	0.005 (3%)
	C	0.302	0.302	0.000 (0%)	0.198	0.219	0.021 (11%)

February	March	April	May	June

NAA	WS v01	NAA vs. WS v01	NAA	WS v01	NAA vs. WS v01	NAA	WS v01	NAA vs. WS v01	NAA	WS v01	NAA vs. WS v01	NAA	WS v01	NAA vs. WS v01
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.167	0.167	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.104	0.104	0.000 (0%)	0.302	0.302	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.042	0.042	0.000 (0%)	0.198	0.198	0.000 (0%)	0.302	0.302	0.000 (0%)
0.000	0.000	0.000 (0%)	0.000	0.000	0.000 (0%)	0.208	0.208	0.000 (0%)	0.250	0.250	0.000 (0%)	0.323	0.318	-0.005 (-2%)
0.115	0.115	0.000 (0%)	0.219	0.219	0.000 (0%)	0.271	0.271	0.000 (0%)	0.333	0.333	0.000 (0%)	0.354	0.354	0.000 (0%)

From: Greenwood, Marin <Marin.Greenwood@icf.com>
Sent: Wednesday, December 9, 2020 9:19 AM
To: Micko, Steve/SAC <Steve.Micko@jacobs.com>
Cc: Briard, Monique <Monique.Briard@icf.com>; Alicia Forsythe <aforsythe@sitesproject.org>; Heydinger, Erin <erin.heydinger@hdrinc.com>; Spranza, John <john.spranza@hdrinc.com>; Lecky, Jim <jim.lecky@icf.com>; Hendrick, Mike <mike.hendrick@icf.com>; Hassrick, Jason <jason.hassrick@icf.com>; Leaf, Rob/SAC <Rob.Leaf@jacobs.com>; Chris Fitzer <cfitzer@esassoc.com>; Wilder, Rick <rick.wilder@icf.com>; Thayer, Reed/SAC <Reed.Thayer@jacobs.com>
Subject: [EXTERNAL] RE: Sites Modeling & Diversion Criteria

Thanks, Steve – below is the tabular summary by month from application of the STARS spreadsheet model, showing absolute survival estimates for NAA and differences between the ALT1 scenarios and NAA by water year type. Please let me know if there any questions.

All scenarios 111820

	November	ALT1 scenario minus NAA				December	ALT1 scenario minus NAA				January	ALT1 scenario minus NAA				February	ALT1 scenario minus NAA				March	ALT1 scenario minus NAA				April	ALT1 scenario minus NAA				May	ALT1 scenario minus NAA			
WYT	NAA	PEA	NoEpt	WSdk	WSv01	NAA	PEA	NoEpt	WSdk	WSv01	NAA	PEA	NoEpt	WSdk	WSv01	NAA	PEA	NoEpt	WSdk	WSv01	NAA	PEA	NoEpt	WSdk	WSv01	NAA	PEA	NoEpt	WSdk	WSv01	NAA	PEA	NoEpt	WSdk	WSv01
Wet	0.42	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.59	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.68	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.63	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.80	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.89	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.94	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)
Above Normal	0.37	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.43	0.00 (0%)	-0.01 (-1%)	0.00 (-1%)	0.00 (0%)	0.56	0.00 (-1%)	-0.01 (-1%)	0.00 (-1%)	0.00 (-1%)	0.39	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.59	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.81	0.00 (-1%)	0.00 (-1%)	0.00 (-1%)	0.00 (-1%)	0.48	0.00 (-1%)	0.00 (0%)	0.00 (-1%)	0.00 (-1%)
Below Normal	0.33	0.00 (1%)	0.00 (1%)	0.00 (1%)	0.00 (1%)	0.41	0.00 (-1%)	0.00 (-1%)	0.00 (-1%)	0.00 (-1%)	0.48	0.00 (-1%)	-0.01 (-1%)	0.00 (-1%)	0.00 (-1%)	0.54	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.49	-0.01 (-1%)	-0.01 (-1%)	-0.01 (-1%)	-0.01 (-1%)	0.47	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.43	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)
Dry	0.33	0.01 (2%)	0.01 (3%)	0.01 (3%)	0.01 (3%)	0.42	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.48	0.00 (0%)	-0.01 (-2%)	0.00 (-1%)	0.00 (-1%)	0.48	0.00 (-1%)	-0.01 (-2%)	0.00 (-1%)	0.00 (-1%)	0.47	0.00 (-1%)	0.00 (-1%)	0.00 (-1%)	0.00 (-1%)	0.83	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.41	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)
Critically Dry	0.30	0.00 (1%)	0.00 (1%)	0.00 (2%)	0.00 (2%)	0.39	0.00 (1%)	0.00 (0%)	0.00 (0%)	0.00 (-1%)	0.42	0.00 (-1%)	-0.01 (-2%)	-0.01 (-1%)	0.00 (-1%)	0.46	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.42	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.80	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.17	0.00 (0%)	0.00 (0%)	0.00 (0%)	0.00 (0%)

MARIN GREENWOOD | **ICF** | marin.greenwood@icf.com | +1.530.400.8081 mobile

From: Micko, Steve/SAC <Steve.Micko@jacobs.com>
Sent: Tuesday, December 8, 2020 21:50
To: Greenwood, Marin <Marin.Greenwood@icf.com>
Cc: Briard, Monique <Monique.Briard@icf.com>; Alicia Forsythe <aforsythe@sitesproject.org>; Heydinger, Erin <erin.heydinger@hdrinc.com>; John Spranza <John.Spranza@hdrinc.com>; Lecky, Jim <Jim.Lecky@icf.com>; Hendrick, Mike <Mike.Hendrick@icf.com>; Hassrick, Jason <Jason.Hassrick@icf.com>; Leaf, Rob/SAC <Rob.Leaf@jacobs.com>; Chris Fitzer <cfitzer@esassoc.com>; Wilder, Rick <Rick.Wilder@icf.com>; Thayer, Reed/SAC <Reed.Thayer@jacobs.com>
Subject: RE: Sites Modeling & Diversion Criteria

Hi Marin,

Attached spreadsheet contains the daily DCC operations and Sacramento River at Freeport flow for all pertinent simulations.

Can you please run the STARS model with the data on the following sheets:

- ALT1_111820_NoFrpt
- ALT1_111820_WS6k
- ALT1_111820_WSv01

A brief description of diversion criteria for each of the simulations discussed earlier today is provided below:

- NAA_111820
  - Preliminary No Action Alternative
- ALT1_111820_PEA
  - Preliminary effects analysis with following diversion criteria:
    - Bend Bridge Pulse Protection: First Pulse
    - Wilkins Slough Bypass
      - Apr – May: 8,000 cfs
      - All other months: 5,000 cfs
    - Freeport Bypass Criteria:
      - January: 15,000 cfs
      - February – June: 13,000 cfs
      - July – November: 11,000 cfs
      - December: 13,000 cfs
- ALT1_111820_NoFrpt (aka No Freeport Bypass criteria)
  - Assumes the following diversion criteria
    - Bend Bridge Pulse Protection: First Pulse
    - Wilkins Slough Bypass
      - Apr – May: 8,000 cfs
      - All other months: 5,000 cfs
- ALT1_111820_WS6k (aka No Freeport Bypass criteria and base Wilkins Slough bypass of 6,000 cfs)
  - Assumes the following diversion criteria

- Bend Bridge Pulse Protection: First Pulse
- Wilkins Slough Bypass
- Apr – May: 8,000 cfs
- All other months: 6,000 cfs
- ALT1_111820_WSv01 (aka No Freeport Bypass criteria and modified Wilkins Slough bypass criteria)
  - Assumes the following diversion criteria
    - Bend Bridge Pulse Protection: First Pulse
    - Wilkins Slough Bypass
    - Dec – Jan: 7,000 cfs
    - Apr – May: 8,000 cfs
    - All other months: 6,000 cfs

Please let me know if you have any questions.

Apologies for the late-evening email,
Steve

From: Micko, Steve/SAC
Sent: Tuesday, December 8, 2020 12:35 PM
To: Heydinger, Erin <Erin.Heydinger@hdrinc.com>; Spranza, John <john.spranza@hdrinc.com>; Lecky, Jim <jim.lecky@icf.com>; Hendrick, Mike <mike.hendrick@icf.com>; Hassrick, Jason <jason.hassrick@icf.com>; Leaf, Rob/SAC <Rob.Leaf@jacobs.com>; Chris Fitzer <CFitzer@esassoc.com>; Wilder, Rick <rick.wilder@icf.com>; Thayer, Reed/SAC <Reed.Thayer@jacobs.com>; Greenwood, Marin <Marin.Greenwood@icf.com>
Cc: Briard, Monique <Monique.Briard@icf.com>; Alicia Forsythe <aforsythe@sitesproject.org>
Subject: RE: Sites Modeling & Diversion Criteria

Hi all,

Trend reporting spreadsheet, discussed today, is attached.

More information to come soon.

Best,
Steve

-----Original Appointment-----
From: Heydinger, Erin <Erin.Heydinger@hdrinc.com>
Sent: Monday, October 5, 2020 5:11 AM
To: Heydinger, Erin; Spranza, John; Lecky, Jim; Hendrick, Mike; Hassrick, Jason; Leaf, Rob/SAC; Micko, Steve/SAC; Chris Fitzer; Wilder, Rick; Thayer, Reed/SAC;

Greenwood, Marin
Cc: Briard, Monique; Alicia Forsythe
Subject: Sites Modeling & Diversion Criteria
When: Tuesday, December 8, 2020 10:30 AM-11:30 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Webex

Extending this through our next workshop, but skipping this week as we wait for the next iteration of modeling.

-- Do not delete or change any of the following text. --

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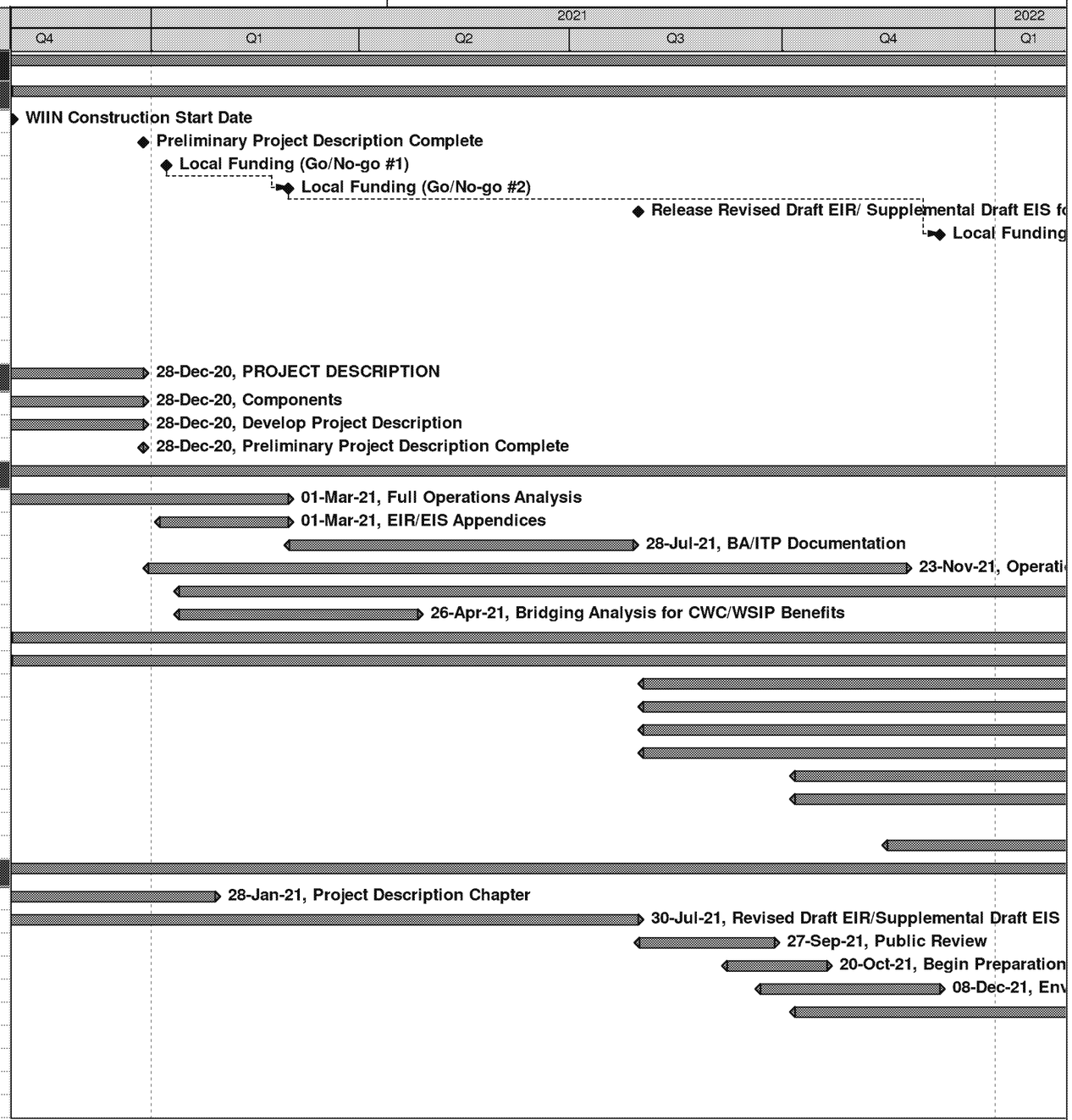
SITES PROJECT

Date: 09-Dec-20

Activity ID	Activity Name	Remaining Duration	Start	Finish
SITES PROJECT		**2393**	**25-Mar-20 A**	**02-Jan-30**
MILESTONES		**2393**	**02-Nov-20**	**02-Jan-30**
MS-020-CS	WIIN Construction Start Date	0		02-Nov-20*
MS-007-PD	Preliminary Project Description Complete	0		28-Dec-20
MS-001-LF	Local Funding (Go/No-go #1)	0		07-Jan-21
MS-002-LF	Local Funding (Go/No-go #2)	0		01-Mar-21
MS-011-DE	Release Revised Draft EIR/ Supplemental Draft EIS for Public I	0		30-Jul-21
MS-003-LF	Local Funding (Go/No-go #3)	0		08-Dec-21
MS-250-FE	Final EIR/EIS	0		01-Jul-22
MS-450-RD	ROD Signed	0		04-Oct-22
MS-500-CS	Construction Starts	0		23-Sep-24
MS-510-CC	Construction Complete	0		23-Feb-29
MS-600-PB	Public Benefits	0		02-Jan-30
PROJECT DESCRIPTION		**37**	**14-Apr-20 A**	**28-Dec-20**
Components		37	14-Apr-20 A	28-Dec-20
Develop Project Description		37	29-Apr-20 A	28-Dec-20
Preliminary Project Description Complete		0	28-Dec-20	28-Dec-20
OPERATIONS MODELING		**2133**	**15-Jun-20 A**	**03-Jan-29**
Full Operations Analysis		86	15-Jun-20 A	01-Mar-21
EIR/EIS Appendices		38	05-Jan-21	01-Mar-21
BA/ITP Documentation		104	02-Mar-21	28-Jul-21
Operations Plan, Ver 1		225	31-Dec-20	23-Nov-21
Operational Agreements		466	13-Jan-21	23-Nov-22
Bridging Analysis for CWC/WSIP Benefits		71	13-Jan-21	26-Apr-21
Final Sites-Reclamation Operating Agreement		513	02-Nov-20	23-Nov-22
Final Sites-DWR Operating Agreement		513	02-Nov-20	23-Nov-22
Final TCCA Facility Use Agreement		328	02-Aug-21	23-Nov-22
Final GCID Facility Use Agreement		328	02-Aug-21	23-Nov-22
Final CBDA Facility Use Agreement		328	02-Aug-21	23-Nov-22
Operations Plan, Version 2		370	02-Aug-21	30-Dec-22
Annual Operating Plan Process and Procedures		519	06-Oct-21	02-Oct-23
Develop Organizational Operating Roles and Responsibilities		519	06-Oct-21	02-Oct-23
Member Portal/Accounting System		0	03-Jan-29	03-Jan-29
Operations Support		727	15-Nov-21	27-Aug-24
EIR/EIS		**1072**	**01-Sep-20 A**	**10-Dec-24**
Project Description Chapter		58	22-Sep-20 A	28-Jan-21
Revised Draft EIR/Supplemental Draft EIS		185	01-Sep-20 A	30-Jul-21
Public Review		41	31-Jul-21	27-Sep-21
Begin Preparation of the Admin Revised Final EIR/Supplemental Final EIS		30	07-Sep-21	20-Oct-21
Environmental Feasibility Report For CWC		52	21-Sep-21	08-Dec-21
Final EIR/Final EIS		193	06-Oct-21	01-Jul-22
NOD, Findings of Fact, Statement of Overriding Considerations, Mitigation Monitoring		32	13-Jun-22	26-Jul-22
Authority Certifies EIR and Approves Project and File NOD		1	26-Jul-22	27-Jul-22
ROD		67	04-Jul-22	04-Oct-22
Additional NEPA/CEQA Review, if needed		570	05-Oct-22	10-Dec-24



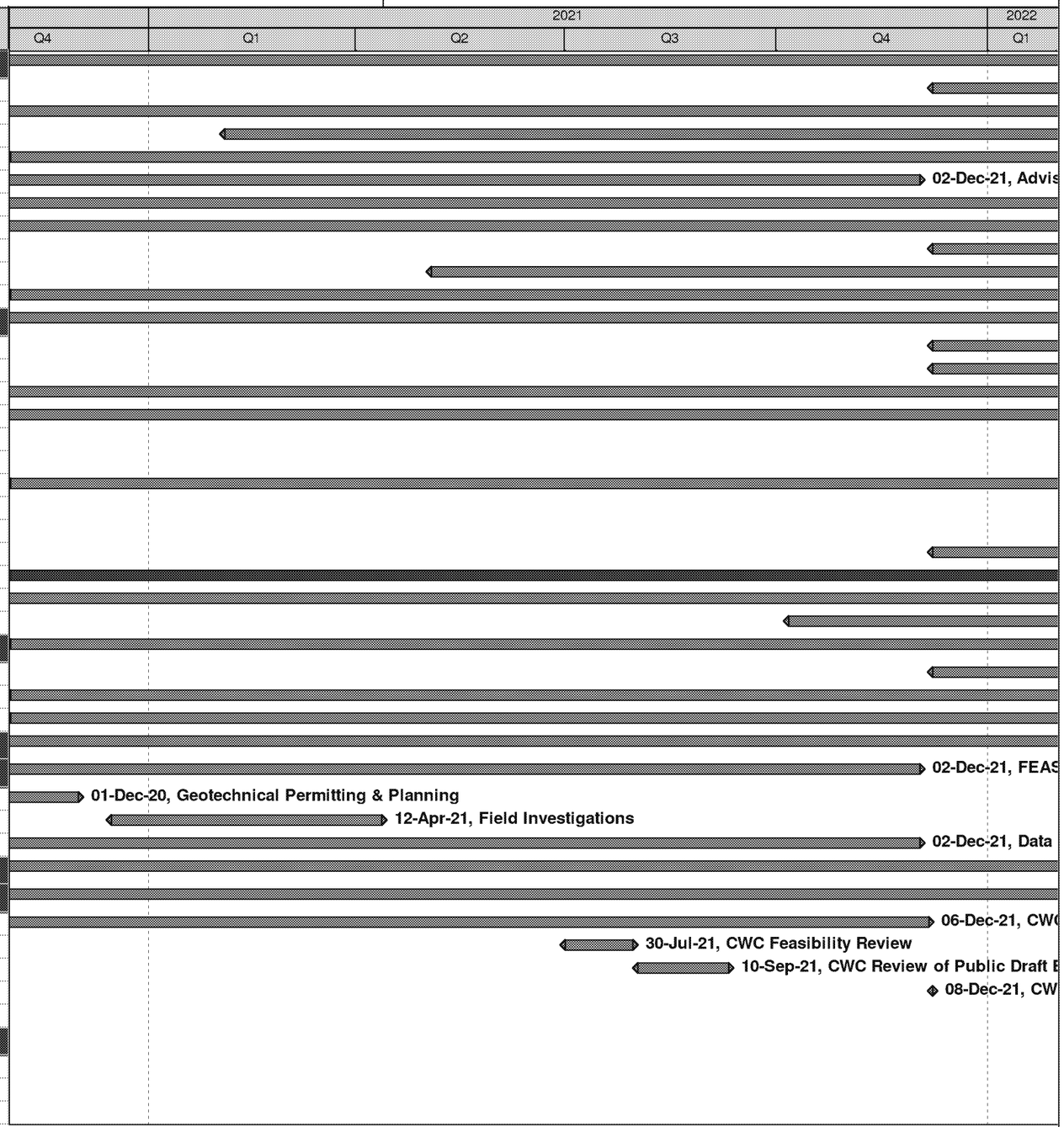
Critical Remaining Work
Milestone
Summary

SITES MASTER SUMMARY SCHEDULE

SITES PROJECT

Date: 09-Dec-20

Activity ID	Activity Name	Remaining Duration	Start	Finish
FEDERAL PERMITS AND AGREEMENTS		1050	14-Apr-20 A	11-Nov-24
	Phase 1 Environmental Site Assessments	763	08-Dec-21	11-Nov-24
	U.S. Army Corps of Engineers CWA 404, Rivers and Harbors Act Section 10	658	05-May-20 A	10-May-23
	U.S. Army Corps of Engineers Rivers and Harbors Act Section 14, Section 408	873	03-Feb-21	07-Jun-24
	U.S. EPA and U.S. Army Corps of Engineers LEDPA Review	591	02-Nov-20	06-Feb-23
	Advisory Council on Historic Preservation NHPA Section 106	284	01-Sep-20 A	02-Dec-21
	USFWS and NMFS ESA Section 7	366	14-Apr-20 A	28-Mar-22
	USFWS Bald Eagle Protection Act	610	01-Sep-20 A	17-Apr-23
	U.S. Coast Guard Navigability Determination	239	08-Dec-21	22-Nov-22
	USBR Warren Act	356	04-May-21	04-Oct-22
	USBR - Land Agreement	485	02-Nov-20	13-Oct-22
STATE PERMITS AND AGREEMENTS		2291	01-Sep-20 A	13-Aug-29
	Caltrans Encroachment & Transportation	733	08-Dec-21	07-Nov-24
	State Lands Commission/State Lands Lease, if needed	242	08-Dec-21	29-Nov-22
	Central Valley Flood Protection Board Levee Encroachment	520	01-Sep-20 A	10-May-23
	SWRCB Water Rights Permit	653	01-Sep-20 A	03-May-23
	SWRCB NPDES and CWA Section 402 (Multiple permits based on construction packa	1234	04-Sep-23	25-May-28
	SWRCB Waste Discharge Requirements (Multiple permits based on constr. package	1234	04-Sep-23	25-May-28
	SWB CWA Section 401 Water Quality Certification	1295	02-Nov-20	17-Oct-25
	DWR DSOD (Multiple permits based on construction packages and/or ROW access)	210	10-Jun-24	28-Mar-25
	Cal OSHA Permits (Multiple permits based on construction packages and/or ROW ac	1541	18-Sep-23	13-Aug-29
	CDFW Streambed Alteration Agreements	591	08-Dec-21	14-Mar-24
	CDFW Incidental Take Permits	435	01-Sep-20 A	01-Jul-22
	NAHC/Local Tribes AB 52 Consultation	355	01-Sep-20 A	08-Apr-22
	SMARA	126	06-Oct-21	12-Apr-22
LOCAL AGENCY PERMITS AND APPROVALS		687	02-Nov-20	21-Jun-23
	Colusa County	400	08-Dec-21	21-Jun-23
	Glenn County	400	02-Nov-20	13-May-22
	Yolo County	400	02-Nov-20	13-May-22
MITIGATION		2393	28-Aug-20 A	02-Jan-30
FEASIBILITY LEVEL GEOTECH		269	25-Mar-20 A	02-Dec-21
	Geotechnical Permitting & Planning	19	25-Mar-20 A	01-Dec-20
	Field Investigations	79	16-Dec-20	12-Apr-21
	Data Evaluation and Reporting	269	30-Oct-20 A	02-Dec-21
FEASIBILITY ENGINEERING		695	01-Sep-20 A	30-Jun-23
PROP 1		1005	30-Oct-20 A	08-Sep-24
	CWC Feasibility Report	270	30-Oct-20 A	06-Dec-21
	CWC Feasibility Review	22	01-Jul-21	30-Jul-21
	CWC Review of Public Draft EIR/EIS	30	02-Aug-21	10-Sep-21
	CWC Determination of Feasibility	0	08-Dec-21	08-Dec-21
	CWC All Permits Acquired for Construction Funding	65	07-Jun-24	08-Sep-24
RIGHT OF WAY (ROW)		1426	05-Sep-23	20-Feb-29
	Rights of Entry	218	05-Sep-23	17-Jul-24
	Acquisitions (Phased)	298	05-Sep-23	06-Nov-24
	Relocation Assistance, as needed	1119	07-Nov-24	20-Feb-29



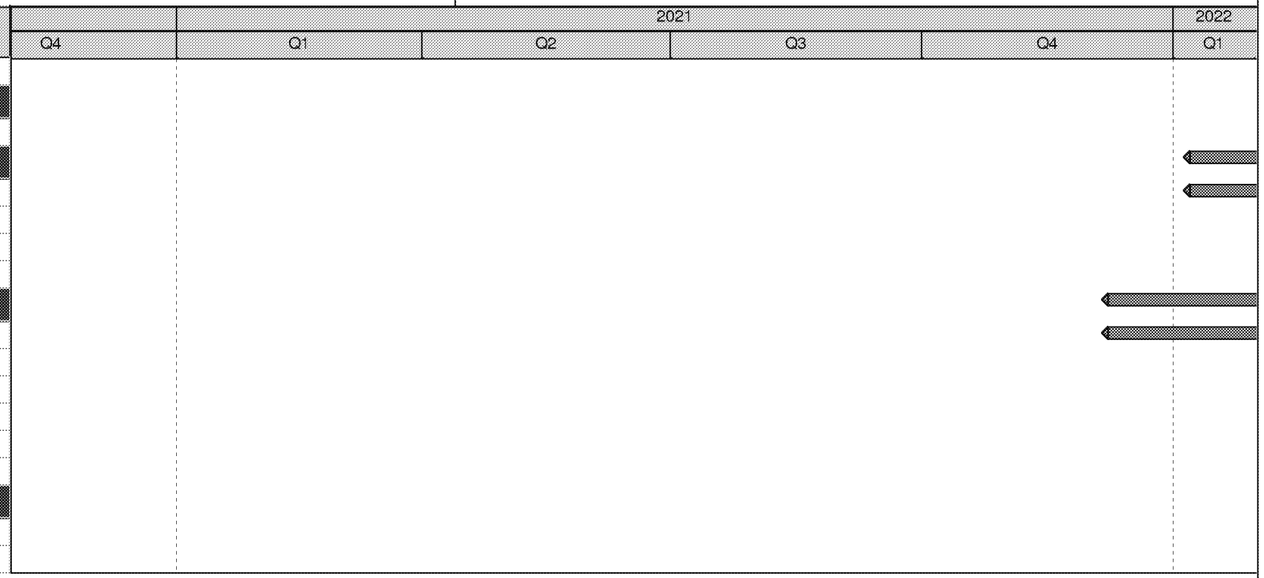
Critical Remaining Work
Milestone
Summary

SITES MASTER SUMMARY SCHEDULE

SITES PROJECT

Date: 09-Dec-20

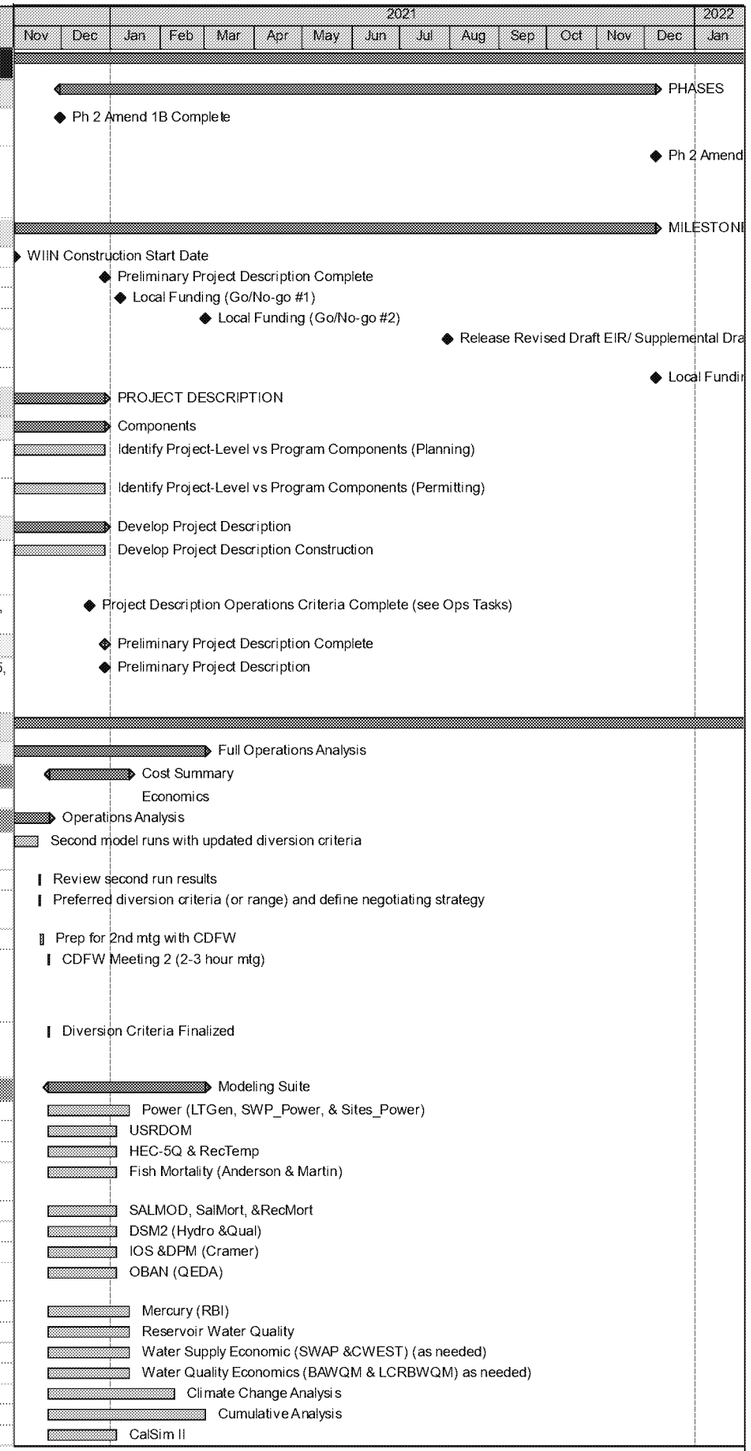
Activity ID	Activity Name	Remaining Duration	Start	Finish
	Acquistion Closeout and Transfer of Jurisdiction as needed	90	07-Nov-24	12-Mar-25
	DESIGN LEVEL GEOTECH & SURVEY	**260**	**04-Jul-22**	**30-Jun-23**
	Design Level Geotech	260	04-Jul-22	30-Jun-23
	PRELIMINARY AND FINAL ENGINEERING	**937**	**07-Jan-22**	**11-Aug-25**
	Project Delivery Method (assumes mixed contracting)	118	07-Jan-22	22-Jun-22
	Preliminary Engineering	195	05-Dec-22	01-Sep-23
	Final Engineering	275	04-Sep-23	20-Sep-24
	Recreation Facilities Design/Engineering	506	04-Sep-23	11-Aug-25
	CONSTRUCTION	**1883**	**08-Dec-21**	**23-Feb-29**
	Procurement Designers/Design Builders/Design Assist	119	08-Dec-21	24-May-22
	Procurement - Contractors	639	11-Mar-24	20-Aug-26
	Conveyance Features	1008	23-Sep-24	02-Aug-28
	Reservoir Features	1155	23-Sep-24	23-Feb-29
	Recreational Features	520	21-Aug-26	17-Aug-28
	Roads & Bridges	650	04-Sep-23	27-Feb-26
	OPERATIONS	**223**	**26-Feb-29**	**02-Jan-30**
	Early Operations (Commissioning)	222	26-Feb-29	01-Jan-30
	Full Operations Begins	0	02-Jan-30	02-Jan-30



Critical Remaining Work
Milestone
Summary

SITES MASTER SUMMARY SCHEDULE

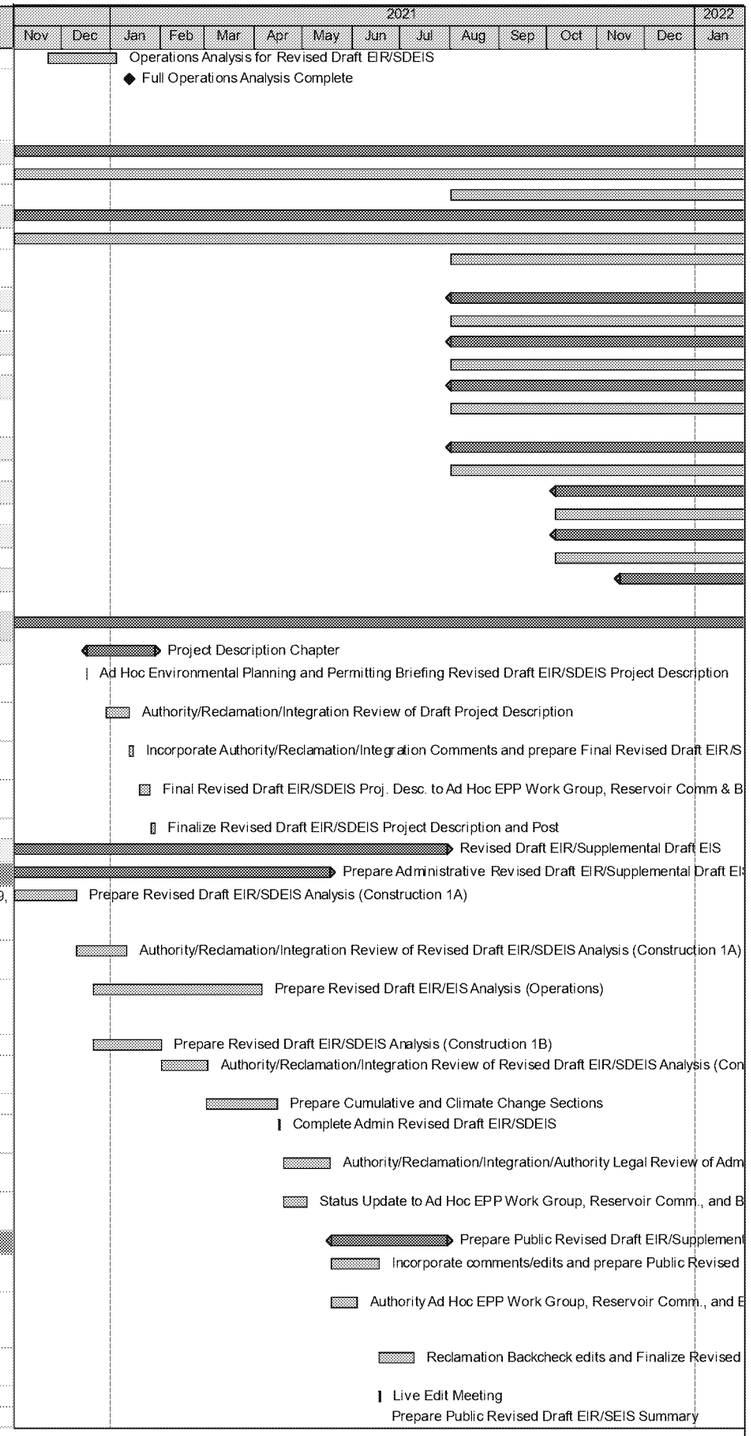
Activity ID	Activity Name	Remaining Duration	Duration % Complete	Start	Finish	Total Float	Predecessors	Successors
SITES PROJECT		1050	17.13%	01-02-20 A	11-11-24	1343		
PHASES		266	0%	11-30-20	12-08-21	17		
MS-004-P1b	Ph 2 Amend 1B Complete	0	0%		11-30-20*	196	OP-00-1B, VP-00-1B, OP-00-00, CON-010, ORA-000, CG-000, TM-98	MS-004-P2
MS-004-P2	Ph 2 Amendment 2	0	0%		12-08-21*	16	OP-490, PS-020, PS-030, MB-010, AP-012, INV-00-30, INV-033, EXD-010, STP-010, BUS-00-00, MGT-070, RA-010, GC-020, MGT-030, MGT-040, MGT-050, MGT-060,	PDC-1000, DB-100, STA-100
MILESTONES		287	0%	11-02-20	12-08-21	2106		
MS-020-CS	WIIN Construction Start Date	0	0%		11-02-20*	294		
MS-007-PD	Preliminary Project Description Complete	0	0%		12-28-20	2352	PDE-60	EIR-018
MS-001-LF	Local Funding (Go/No-go #1)	0	0%		01-07-21	386	PA-160	MS-002-LF
MS-002-LF	Local Funding (Go/No-go #2)	0	0%		03-01-21	349	OP-320, MS-001-LF	MS-003-LF
MS-011-DE	Release Revised Draft EIR/ Supplemental Draft EIS for Public Review	0	0%		07-30-21	2198	EIR-080	
MS-003-LF	Local Funding (Go/No-go #3)	0	0%		12-08-21	148	CWC-500, MS-002-LF	WP3-010
PROJECT DESCRIPTION		37	79.1%	04-14-20 A	12-28-20	68		
Components		37	62.24%	04-14-20 A	12-28-20	68		
PDE-45	Identify Project-Level vs Program Components (Planning)	37	62.24%	04-14-20 A	12-28-20	68	VP-095, MS-005-VP, ENG-210, OP-1100	EIR-018, PDE-60
PDE-47	Identify Project-Level vs Program Components (Permitting)	37	62.24%	04-14-20 A	12-28-20	68	VP-095, ENG-210, OP-1100	EIR-018, PDE-60
Develop Project Description		37	77.02%	04-29-20 A	12-28-20	68		
PDE-50	Develop Project Description Construction	37	57.47%	04-29-20 A	12-28-20	68	PDE-20, PDE-30, PDE-10, VP-095, PDE-25, PDE-35, VP-090, PDE-00-00, OP-1100	PDE-60, BA-024, EIR-021
PDE-55	Project Description Operations Criteria Complete (see Ops Tasks)	0	0%		12-18-20	23	VP-090, OP-220, OP-1100, ENG-233, ENG-236	EIR-020, PDE-60, BA-022, EIR-021, EIR-019
Preliminary Project Description Complete		0	0%	12-28-20	12-28-20	68		
PDE-60	Preliminary Project Description	0	0%		12-28-20	68	PDE-50, ENG-190, ENG-200, PDE-55, ENG-195, PDE-45, PDE-47	EIR-018, BA-001, 106-001, WR-025, MS-007-PD, EIR-021
OPERATIONS MODELING		761	0%	10-26-20 A	10-02-23	1632		
Full Operations Analysis		86	0%	10-26-20 A	03-01-21	349		
Cost Summary		36	0%	11-24-20	01-12-21	383		
OP-$-315	Economics	36	0%	11-24-20	01-12-21	383	OP-1070, OP-0700, OP-0710	
Operations Analysis		15	0%	10-26-20 A	11-16-20	16		
OP-1030	Second model runs with updated diversion criteria	10	33.33%	10-26-20 A	11-16-20	16	OP-1020	OP-1040, OP-1050, FO-1110, FO-1120
OP-1040	Review second run results	2	0%	11-17-20	11-18-20	16	OP-1030	OP-1060
OP-1050	Preferred diversion criteria (or range) and define negotiating strategy	2	0%	11-17-20	11-18-20	17	OP-1030	OP-1060
OP-1060	Prep for 2nd mtg with CDFW	2	0%	11-18-20	11-19-20	16	OP-1040, OP-1050	OP-1070
OP-1070	CDFW Meeting 2 (2-3 hour mtg)	1	0%	11-23-20	11-23-20	15	OP-1060, RCB-20-118	OP-1100, OP-0690, OP-0600, OP-0610, OP-0620, OP-0630, OP-0640, OP-0650, OP-0660, OP-0670, OP-0680, OP-0700,
OP-1100	Diversion Criteria Finalized	1	0%	11-23-20	11-23-20	15	OP-1020, OP-1070, OP-1080, OP-1090	PDE-55, BA-022, OP-460, OP-455, EIR-021, PDE-50, PDE-45, PDE-47
Modeling Suite		65	0%	11-23-20	03-01-21	349		
OP-0690	Power (LTGen, SWP_Power, & Sites_Power)	33	0%	11-23-20	01-12-21	367	OP-425, OP-1070	OP-446
OP-0600	USRDOM	27	0%	11-23-20	01-04-21	373	OP-1070	OP-446, BA-025
OP-0610	HEC-5Q & RecTemp	27	0%	11-23-20	01-04-21	373	OP-1070	OP-446, BA-025
OP-0620	Fish Mortality (Anderson & Martin)	27	0%	11-23-20	01-04-21	373	OP-1070	OP-446, OP-$-452, BA-025
OP-0630	SALMOD, SalMort, &RecMort	27	0%	11-23-20	01-04-21	373	OP-1070	OP-446, BA-025
OP-0640	DSM2 (Hydro &Qual)	27	0%	11-23-20	01-04-21	373	OP-1070	OP-446, BA-025
OP-0650	IOS &DPM (Cramer)	27	0%	11-23-20	01-04-21	373	OP-1070	OP-446, BA-025
OP-0660	OBAN (QEDA)	27	0%	11-23-20	01-04-21	47	OP-1070	OP-320, OP-446, BA-025, OP-320
OP-0670	Mercury (RBI)	33	0%	11-23-20	01-12-21	367	OP-1070	OP-446, OP-$-500
OP-0680	Reservoir Water Quality	33	0%	11-23-20	01-12-21	59	OP-1070	OP-446, EIR-019
OP-0700	Water Supply Economic (SWAP &CWEST) (as needed)	33	0%	11-23-20	01-12-21	367	OP-1070	OP-446, OP-$-315
OP-0710	Water Quality Economics (BAWQM & LCRBWQM) as needed)	33	0%	11-23-20	01-12-21	367	OP-1070	OP-446, OP-$-315
OP-460	Climate Change Analysis	52	0%	11-23-20	02-09-21	28	OP-1100	OP-455, OP-470, EIR-025
OP-455	Cumulative Analysis	65	0%	11-23-20	03-01-21	15	OP-1100, OP-460	EIR-025
OP-0665	CalSim II	27	0%	11-23-20	01-04-21	373	OP-1070	OP-446



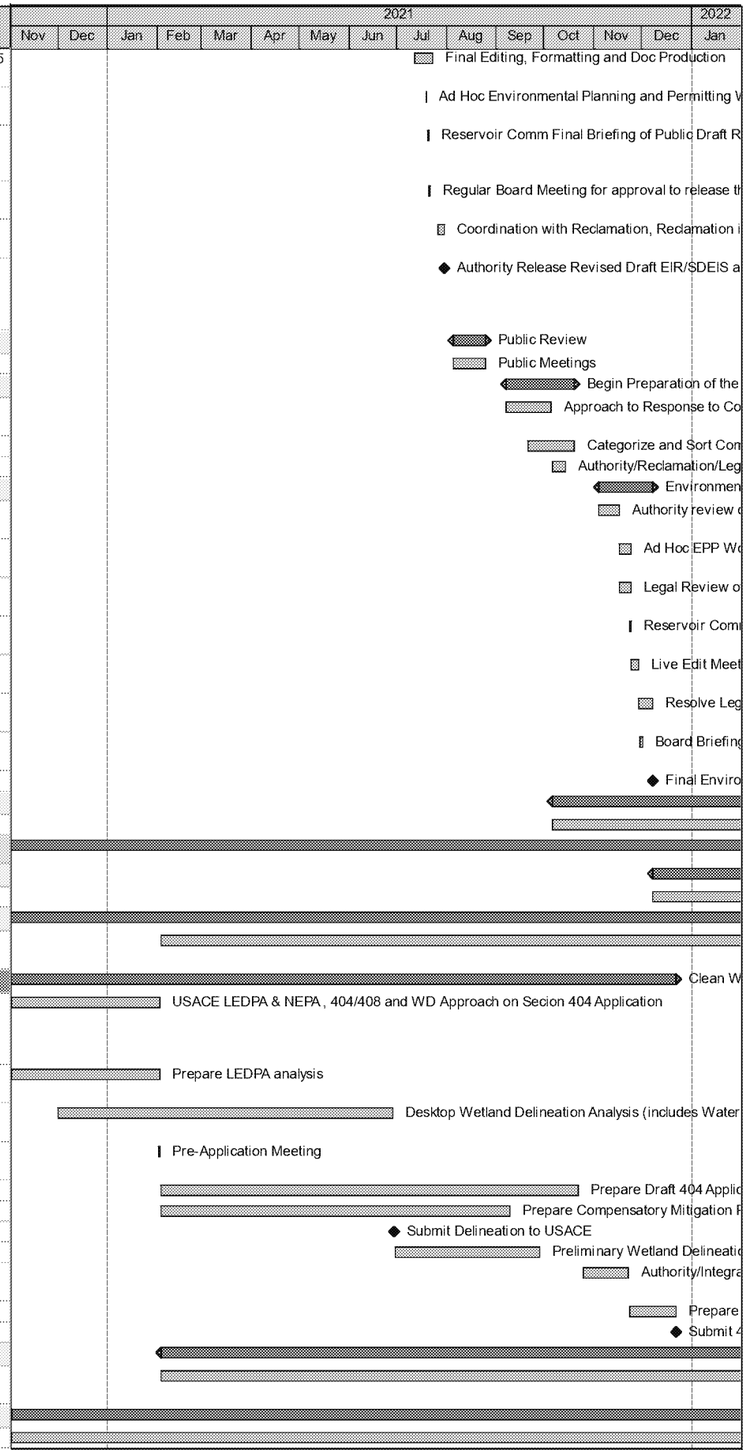
Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone

Sites Master Summary Schedule

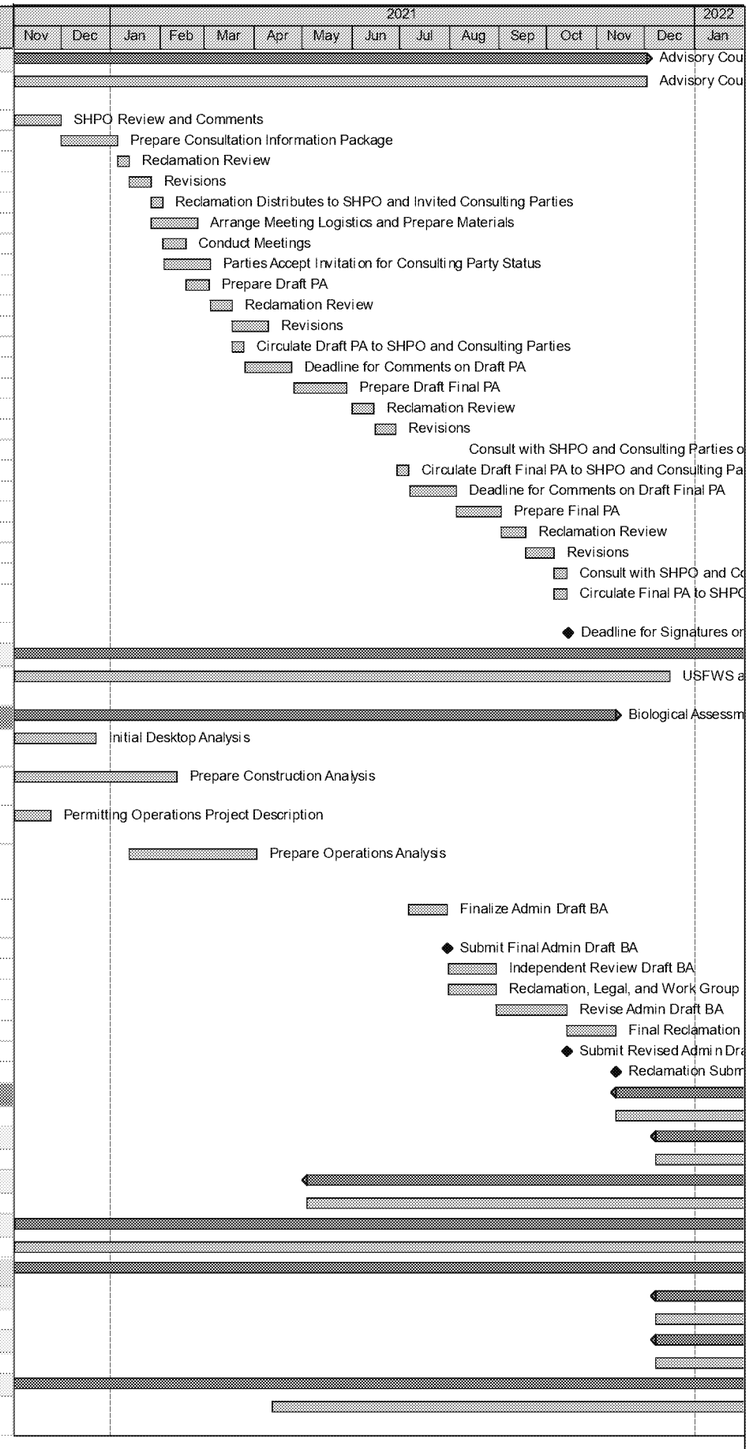
Activity ID	Activity Name	Remaining Duration	Duration % Complete	Start	Finish	Total Float	Predecessors	Successors
OP-445	Operations Analysis for Revised Draft EIR/SDEIS	27	0%	11-23-20	01-04-21	85	OP-1070	EIR-020
OP-446	Full Operations Analysis Complete	0	0%		01-12-21	367	OP-0600, OP-0610, OP-0620, OP-0630, OP-0640, OP-0650, OP-0660, OP-0670, OP-0680, OP-0690, OP-0700, OP-0710, OP-$-455, OP-$-460, OP-0665	CES-090, CFS-010, OP-480, OP-$-445, ENG-390, CFS-020, BA-025
Final Sites-Reclamation Operating Agreement		513	0%	11-02-20	11-23-22	1837		
FO-1110	Sites-Reclamation Operating Agreement Term Sheet	401	0%	11-02-20	06-14-22	1949	OP-1030	FO-1120, FO-1000
FO-1000	Final Sites-Reclamation Operating Agreement	328	0%	08-02-21	11-23-22	1837	POF-040, POF-570, EIR-080, FO-1110	FO-1010
Final Sites-DWR Operating Agreement		513	0%	11-02-20	11-23-22	1837		
FO-1120	Sites-DWR Operating Agreement Term Sheet	401	0%	11-02-20	06-14-22	1949	OP-1030, FO-1110	FO-1010
FO-1010	Final Sites-DWR Operating Agreement	328	0%	08-02-21	11-23-22	1837	POF-040, POF-510, POF-530, 106-071, EIR-080, FO-1000, FO-1120	
Final TCCA Facility Use Agreement		328	0%	08-02-21	11-23-22	1837		
FO-1020	Final TCCA Facility Use Agreement	328	0%	08-02-21	11-23-22	1837	EIR-080, POF-040, POF-510	
Final GCID Facility Use Agreement		328	0%	08-02-21	11-23-22	1837		
FO-1030	Final GCID Facility Use Agreement	328	0%	08-02-21	11-23-22	1837	EIR-080, POF-040, POF-510	
Final CBDA Facility Use Agreement		328	0%	08-02-21	11-23-22	1614		
FO-1040	Final CBDA Facility Use Agreement	328	0%	08-02-21	11-23-22	1614	EIR-080, POF-040, POF-510, OP-480, OP-490	FO-1050
Operations Plan, Version 2		370	0%	08-02-21	12-30-22	1605		
FO-1050	Operations Plan, Version 2	370	0%	08-02-21	12-30-22	1605	EIR-080, FO-1040	FO-1060
Annual Operating Plan Process and Procedures		519	0%	10-06-21	10-02-23	1409		
FO-1060	Annual Operating Plan Processes and Procedures	519	0%	10-06-21	10-02-23	1409	EIR-100, FO-1050	FO-1070
Develop Organizational Operating Roles and Responsibilities		519	0%	10-06-21	10-02-23	1409		
FO-1070	Develop Organizational Operating Roles and Responsibilities	519	0%	10-06-21	10-02-23	1409	FO-1060	OS-1150
Operations Support		165	0%	11-15-21	07-01-22	0		
OS-1120	Operations Support for Permitting	165	0%	11-15-21	07-01-22	0	BA-1110, STA-110	
EIR/EIS		323	0%	09-01-20 A	02-22-22	2027		
Project Description Chapter		28	0%	12-17-20	01-28-21	68		
EIR-480	Ad Hoc Environmental Planning and Permitting Briefing Revised Draft EIR/SDEIS Project Description	1	0%	12-17-20	12-17-20	92	EIR-021	EIR-490
EIR-485	Authority/Reclamation/Integration Review of Draft Project Description	10	0%	12-29-20	01-12-21	68	EIR-021	EIR-487, EIR-490
EIR-487	Incorporate Authority/Reclamation/Integration Comments and prepare Final Revised Draft EIR/SDEIS Project Desc. Live Edit	3	0%	01-13-21	01-15-21	68	EIR-485	EIR-490
EIR-490	Final Revised Draft EIR/SDEIS Proj. Desc. to Ad Hoc EPP Work Group, Reservoir Comm & Board for Review & Approval to Post	5	0%	01-19-21	01-25-21	68	EIR-480, EIR-485, EIR-487	EIR-501
EIR-501	Finalize Revised Draft EIR/SDEIS Project Description and Post	3	0%	01-26-21	01-28-21	68	EIR-490	EIR-030
Revised Draft EIR/Supplemental Draft EIS		185	0%	09-01-20 A	07-30-21	2165		
Prepare Administrative Revised Draft EIR/Supplemental Draft EIS		104	0%	09-01-20 A	03-15-21	2165		
EIR-018	Prepare Revised Draft EIR/SDEIS Analysis (Construction 1A)	26	62.86%	09-01-20 A	12-10-20	29	PDE-40, PDE-60, PDE-45, PDE-42, EIR-010, WP2-120, ENG-220, WP2-130, PDE-47, OP-420, MS-007-PD	EIR-020, EIR-005, TM-E98, TM-E99, TM-E97, EIR-018A
EIR-018A	Authority/Reclamation/Integration Review of Revised Draft EIR/SDEIS Analysis (Construction 1A)	20	0%	12-11-20	01-11-21	80	EIR-018	EIR-030
EIR-020	Prepare Revised Draft EIR/EIS Analysis (Operations)	71	0%	12-21-20	04-05-21	23	WP2-120, OP-0230, OP-0240, OP-0250, OP-0260, PDE-55, EB-00-00, OP-320, ENG-510, EIR-018, OP-445	EIR-030
EIR-019	Prepare Revised Draft EIR/SDEIS Analysis (Construction 1B)	28	0%	12-21-20	02-01-21	46	OP-0680, PDE-55	EIR-019A
EIR-019A	Authority/Reclamation/Integration Review of Revised Draft EIR/SDEIS Analysis (Construction 1B)	20	0%	02-02-21	03-02-21	46	EIR-019	EIR-030
EIR-025	Prepare Cumulative and Climate Change Sections	32	0%	03-02-21	04-15-21	15	OP-460, OP-455	EIR-030
EIR-030	Complete Admin Revised Draft EIR/SDEIS	1	0%	04-16-21	04-16-21	15	EIR-021, EIR-501, EIR-018A, EIR-019A, EIR-020, EIR-025	EIR-035, EIR-500, EIR-023
EIR-035	Authority/Reclamation/Integration/Authority Legal Review of Admin Revised Draft EIR/SDEIS	22	0%	04-19-21	05-18-21	15	EIR-030	EIR-040, EIR-500
EIR-023	Status Update to Ad Hoc EPP Work Group, Reservoir Comm., and Board	11	0%	04-19-21	05-03-21	1301	EIR-005, EIR-030	FED-090
Prepare Public Revised Draft EIR/Supplemental Draft EIS		31	0%	05-19-21	07-30-21	2165		
EIR-040	Incorporate comments/edits and prepare Public Revised Draft EIR/SDEIS	21	0%	05-19-21	06-17-21	15	EIR-035	EIR-045, EIR-050, EIR-026
EIR-500	Authority Ad Hoc EPP Work Group, Reservoir Comm., and Board Briefing on the Status of the Public Revised Draft EIR/SDEIS	12	0%	05-19-21	06-04-21	51	EIR-030, EIR-035	EIR-067, EIR-070
EIR-050	Reclamation Backcheck edits and Finalize Revised Draft EIR/SDEIS	15	0%	06-18-21	07-09-21	15	EIR-045, EIR-040	EIR-055, EIR-067, EIR-070
EIR-045	Live Edit Meeting	1	0%	06-18-21	06-18-21	29	EIR-040	EIR-050
EIR-055	Prepare Public Revised Draft EIR/SEIS Summary	0	0%	06-18-21	06-18-21	2195	EIR-050	



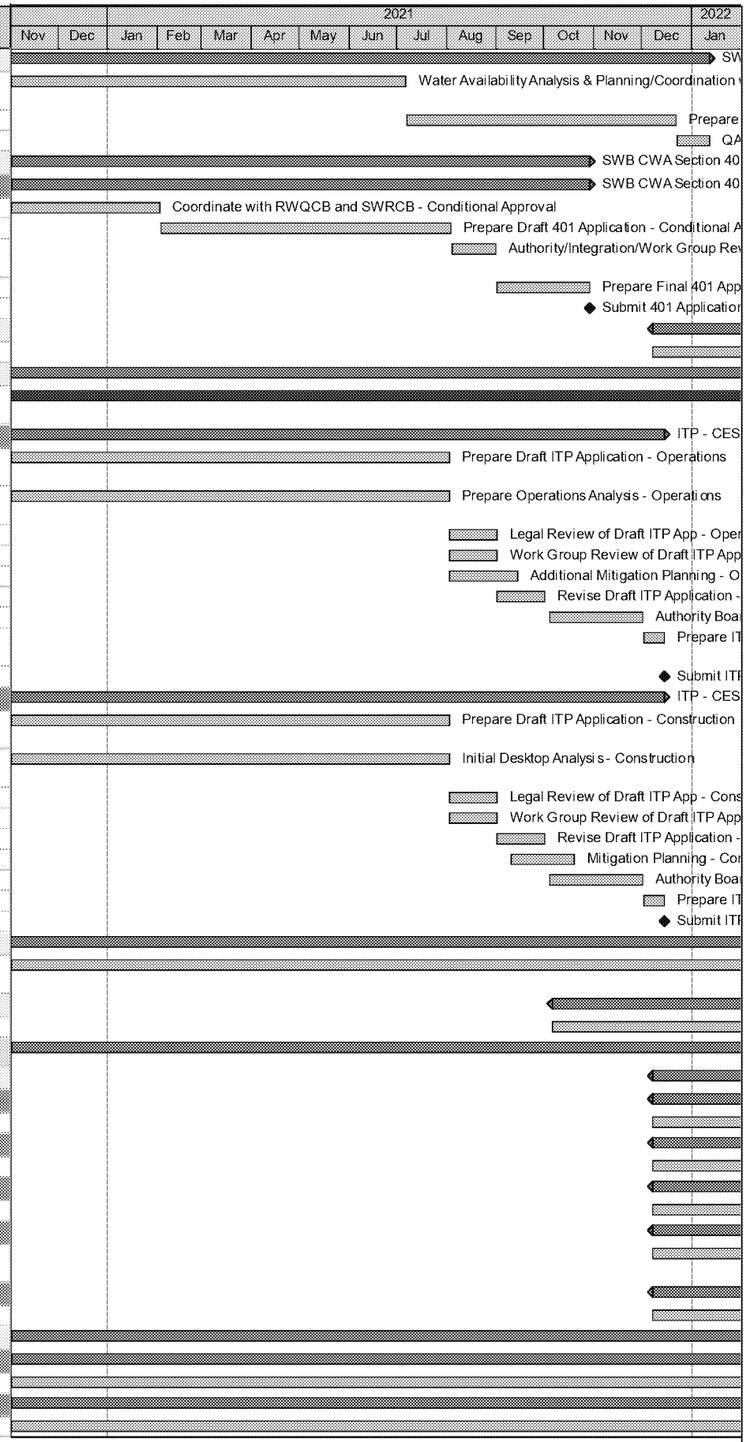
Activity ID	Activity Name	Remaining Duration	Duration % Complete	Start	Finish	Total Float	Predecessors	Successors
EIR-067	Final Editing, Formatting and Doc Production	10	0%	07-12-21	07-23-21	15	EIR-026, EIR-050, EIR-500	EIR-070, EIR-080, EIR-510, EIR-075
EIR-510	Ad Hoc Environmental Planning and Permitting Work Group Final Briefing of Public Draft Revised EIR/SDEIS	1	0%	07-19-21	07-19-21	22	EIR-067	EIR-520
EIR-520	Reservoir Comm Final Briefing of Public Draft Revised EIR/SDEIS & provide rec to Auth Board for release of Public Draft	1	0%	07-20-21	07-20-21	22	EIR-510	EIR-070
EIR-070	Regular Board Meeting for approval to release the Revised Draft EIR/SDEIS for Public Review	1	0%	07-21-21	07-21-21	22	EIR-067, EIR-520, EIR-050, EIR-500	EIR-080, POF-510
EIR-075	Coordination with Reclamation, Reclamation internal clearance, and public noticing	5	0%	07-26-21	07-30-21	15	EIR-067	EIR-080
EIR-080	Authority Release Revised Draft EIR/SDEIS and Issue Public Notices	0	0%		07-30-21	15	EIR-070, EIR-067, EIR-075	EIR-090, CWC-450, MS-011-DE, FO-1050, FO-1020, FO-1030, FO-1040, FO-1000, FO-1010
Public Review		15	0%	08-05-21	08-25-21	2147		
EIR-530	Public Meetings	15	0%	08-05-21	08-25-21	2147	EIR-090	
Begin Preparation of the Admin Revised Final EIR/Supplemental Final EIS		30	0%	09-07-21	10-20-21	27		
EIR-100	Approach to Response to Comments	21	0%	09-07-21	10-05-21	30	EIR-090	EIR-105, FO-1080, FO-1060, EIR-210
EIR-095	Categorize and Sort Comments by Topic	20	0%	09-21-21	10-20-21	16	EIR-090	EIR-110
EIR-105	Authority/Reclamation/Legal Review	6	0%	10-06-21	10-14-21	30	EIR-100, EIR-092	EIR-540
Environmental Feasibility Report For CWC		21	0%	11-04-21	12-08-21	2078		
EIR-540	Authority review of Draft Environmental Feasibility Report for CWC	8	0%	11-04-21	11-17-21	16	EIR-110, EIR-105	EIR-115, EIR-560
EIR-115	Ad Hoc EPP Work Group Briefing on Draft Environmental Feasibility Report	5	0%	11-17-21	11-24-21	16	EIR-540, EIR-110	EIR-550
EIR-560	Legal Review of Draft Environmental Feasbility Report for CWC	5	0%	11-17-21	11-24-21	16	EIR-540	EIR-550
EIR-550	Reservoir Committee Briefing on Draft Environmental Feasibility Report	1	0%	11-23-21	11-24-21	16	EIR-560, EIR-115	EIR-117
EIR-117	Live Edit Meeting of Draft Environmental Feasibility Report for CWC	1	0%	11-24-21	11-29-21	16	EIR-550	EIR-570, EIR-580
EIR-580	Resolve Legal Comments and prepare Final Feasibility Report for CWC	7	0%	11-29-21	12-08-21	16	EIR-117	EIR-120, EIR-570, MS-004-P2
EIR-570	Board Briefing of Draft Environmental Feasibility Report for CWC	1	0%	11-30-21	12-01-21	2083	EIR-117, EIR-580	
EIR-120	Final Environmental Feasibility Report Submittal to CWC	0	0%		12-08-21	16	EIR-580, EIR-00-SR	CWC-500
Final EIR/Final EIS		92	0%	10-06-21	02-22-22	42		
EIR-210	Preparation of Final EIR/EIS	92	0%	10-06-21	02-22-22	42	EIR-100	WR-125, EIR-212, STA-140
FEDERAL PERMITS AND AGREEMENTS		1050	12.06%	05-05-20 A	11-11-24	1343		
Phase 1 Environmental Site Assessments		763	0%	12-08-21	11-11-24	1343		
FED-010	Phase 1 Environmental Site Assessments	763	0%	12-08-21	11-11-24	1343	WP3-010	
U.S. Army Corps of Engineers CWA 404, Rivers and Harbors Act Section 10		658	17.96%	05-05-20 A	05-10-23	1735		
FED-020	U.S. Army Corps of Engineers CWA 404, Rivers and Harbors Act Section 10	591	0%	02-03-21	05-10-23	1735	EIR-021, 404-025	FED-030
Clean Water Act Section 404		258	12.09%	05-05-20 A	12-22-21	973		
404-003	USACE LEDPA & NEPA, 404/408 and WD Approach on Secion 404 Application	61	26.51%	05-05-20 A	02-02-21	973	WP-020, VP-070, BA-019	404-050, 401-130, 401-120, 106-000, 404-00-00, 404-015, TM-F107, 404-001, 404-025
404-001	Prepare LEDPA analysis	61	62.58%	09-01-20 A	02-02-21	973	VP-070, 404-003	404-010, 404-025
404-010	Desktop Wetland Delineation Analysis (includes Waters of the State)	144	0%	12-01-20	06-28-21	973	ENG-220, 404-001	404-020, 404-015, 404-025
404-025	Pre-Application Meeting	1	0%	02-02-21	02-02-21	973	404-010, 404-003, 404-001	404-050, FED-020, 401-120, 401-130
404-050	Prepare Draft 404 Application	182	0%	02-03-21	10-22-21	973	404-003, 404-025	404-060, 404-035
404-035	Prepare Compensatory Mitigation Plan	152	0%	02-03-21	09-09-21	1003	404-050	404-060
404-020	Submit Delineation to USACE	0	0%		06-29-21	2123	404-010	404-030
404-030	Preliminary Wetland Delineation Acceptance	90	0%	06-30-21	09-28-21	3019	404-020, 404-015	
404-060	Authority/Integration/Work Group Review of Draft 404 Application	20	0%	10-25-21	11-22-21	973	404-050, 404-035	404-070
404-070	Prepare Final 404 Application	20	0%	11-23-21	12-22-21	973	404-060	404-120
404-120	Submit 404 Application	0	0%		12-22-21	973	404-070, 404-00-00	CWC-510
U.S. Army Corps of Engineers Rivers and Harbors Act Section 14, Section 408		591	0%	02-03-21	05-10-23	1735		
FED-030	U.S. Army Corps of Engineers Rivers and Harbors Act Section 14, Section 408	591	0%	02-03-21	05-10-23	1735	FED-020	STA-030
U.S. EPA and U.S. Army Corps of Engineers LEDPA Review		591	0%	11-02-20	02-06-23	1802		
FED-040	U.S. EPA and U.S. Army Corps of Engineers LEDPA Review	591	0%	11-02-20	02-06-23	1802	WP2-130	



Activity ID	Activity Name	Remaining Duration	Duration % Complete	Start	Finish	Total Float	Predecessors	Successors
Advisory Council on Historic Preservation NHPA Section 106		284	24.47%	09-01-20 A	12-02-21	1782		
FED-050	Advisory Council on Historic Preservation NHPA Section 106	269	20.41%	09-01-20 A	12-02-21	19	106-001	MS-004-P2
106-006	SHPO Review and Comments	30	0%	11-02-20	12-01-20	1484	106-003	106-021
106-021	Prepare Consultation Information Package	23	0%	12-01-20	01-05-21	1020	106-006	106-022
106-022	Reclamation Review	5	0%	01-05-21	01-12-21	1020	106-021	106-024
106-024	Revisions	9	0%	01-12-21	01-26-21	1020	106-022	106-025, 106-032
106-025	Reclamation Distributes to SHPO and Invited Consulting Parties	5	0%	01-26-21	02-02-21	1021	106-024	106-026, 106-033
106-032	Arrange Meeting Logistics and Prepare Materials	20	0%	01-26-21	02-24-21	1020	106-024	106-042
106-033	Conduct Meetings	10	0%	02-02-21	02-17-21	1021	106-025	106-042, 106-041
106-026	Parties Accept Invitation for Consulting Party Status	30	0%	02-03-21	03-04-21	1494	106-025	106-052
106-041	Prepare Draft PA	10	0%	02-17-21	03-03-21	1021	106-033	106-042
106-042	Reclamation Review	10	0%	03-04-21	03-18-21	1020	106-032, 106-033, 106-041	106-044, 106-052
106-044	Revisions	15	0%	03-18-21	04-09-21	1030	106-042	106-061
106-052	Circulate Draft PA to SHPO and Consulting Parties	5	0%	03-18-21	03-25-21	1020	106-026, 106-042	106-053
106-053	Deadline for Comments on Draft PA	30	0%	03-26-21	04-24-21	1478	106-052	106-061
106-061	Prepare Draft Final PA	25	0%	04-26-21	05-28-21	1020	106-053, 106-044	106-062
106-062	Reclamation Review	10	0%	06-01-21	06-14-21	1020	106-061	106-064
106-064	Revisions	10	0%	06-15-21	06-28-21	1020	106-062	106-072
106-071	Consult with SHPO and Consulting Parties on Draft Final PA	27	0%	06-29-21	08-05-21	1834	106-072	106-073, FO-1010
106-072	Circulate Draft Final PA to SHPO and Consulting Parties	5	0%	06-29-21	07-06-21	1020	106-064	106-071, 106-073
106-073	Deadline for Comments on Draft Final PA	30	0%	07-07-21	08-05-21	1474	106-072, 106-071	106-081
106-081	Prepare Final PA	20	0%	08-05-21	09-02-21	1019	106-073	106-082
106-082	Reclamation Review	10	0%	09-02-21	09-17-21	1019	106-081	106-084
106-084	Revisions	12	0%	09-17-21	10-05-21	1019	106-082	106-091, 106-092
106-091	Consult with SHPO and Consulting Parties on Final PA	5	0%	10-05-21	10-13-21	1020	106-084	106-093
106-092	Circulate Final PA to SHPO and Consulting Parties for Signatures	5	0%	10-05-21	10-13-21	1019	106-084	106-093
106-093	Deadline for Signatures on Final PA	0	0%		10-14-21	1470	106-092, 106-091	CWC-510
USFWS and NMFS ESA Section 7		366	0%	09-01-20 A	03-28-22	2028		
FED-060	USFWS and NMFS ESA Section 7	279	17.46%	09-01-20 A	12-16-21	2071	WP2-130	
Biological Assessment		279	0%	09-30-20 A	11-12-21	992		
BA-001	Initial Desktop Analysis	34	43.33%	09-30-20 A	12-22-20	1033	PDE-60, WP2-130, ENG-220, BA-019	BA-024, CES-010
BA-024	Prepare Construction Analysis	68	29.9%	09-30-20 A	02-11-21	999	VP-070, BA-001, BA-019, PDE-50, BA-020, BA-010, ENG-220	BA-030
BA-022	Permitting Operations Project Description	16	20%	10-19-20 A	11-24-20	996	OP-220, OP-1100, PDE-55	BA-025, CES-190
BA-025	Prepare Operations Analysis	55	0%	01-13-21	04-02-21	965	VP-095, BA-022, BA-010, OP-0660, OP-0650, OP-0640, OP-0630, OP-0620, OP-0610, OP-0600, OP-446	BA-030
BA-030	Finalize Admin Draft BA	19	0%	07-06-21	07-30-21	901	BA-010, BA-015, BA-024, BA-025, BA-016, ENG-480	BA-035, BA-032
BA-032	Submit Final Admin Draft BA	0	0%		07-30-21	901	BA-030	BA-035
BA-035	Independent Review Draft BA	31	0%	07-31-21	08-30-21	1308	BA-030, BA-032	BA-055, BA-057
BA-055	Reclamation, Legal, and Work Group Review	31	0%	07-31-21	08-30-21	1308	BA-035	BA-057, BA-075
BA-057	Revise Admin Draft BA	30	0%	08-30-21	10-13-21	901	BA-055, BA-035, BA-011	BA-075, BA-060
BA-075	Final Reclamation and Solicitor Office Review	31	0%	10-13-21	11-13-21	1306	BA-055, BA-057, BA-060	BA-1110, BA-100
BA-060	Submit Revised Admin Draft BA to Reclamation	0	0%		10-13-21	901	BA-057	BA-075
BA-100	Reclamation Submit BA to USFWS & NMFS	0	0%		11-13-21	1306	BA-075, BA-000	BA-1110
BO Incidental Take Authorization		135	0%	11-13-21	03-28-22	1306		
BA-1110	BO Incidental Take Authorization	135	0%	11-13-21	03-28-22	1306	BA-075, BA-100	OS-1120, CWC-510
U.S. Coast Guard Navigability Determination		239	0%	12-08-21	11-22-22	1839		
FED-080	U.S. Coast Guard Navigability Determination	239	0%	12-08-21	11-22-22	1839	WP3-010	
USBR Warren Act		356	0%	05-04-21	10-04-22	1301		
FED-090	USBR Warren Act	356	0%	05-04-21	10-04-22	1301	EIR-023	EIR-450
USBR - Land Agreement		485	0%	11-02-20	10-13-22	222		
FED-100	USBR Land Agreements	485	0%	11-02-20	10-13-22	222		PD-100
STATE PERMITS AND AGREEMENTS		1048	0%	09-01-20 A	11-07-24	1345		
Caltrans Encroachment & Transportation		733	0%	12-08-21	11-07-24	1345		
STA-010	Caltrans Encroachment & Transportation	733	0%	12-08-21	11-07-24	1345	WP3-010	
State Lands Commission/State Lands Lease, if needed		242	0%	12-08-21	11-29-22	1836		
STA-020	State Lands Commission/State Lands lease, if needed	242	0%	12-08-21	11-29-22	1836	WP3-010	
Central Valley Flood Protection Board Levee Encroachment		520	12.01%	09-01-20 A	05-10-23	1723		
STA-030	Central Valley Flood Protection Board Levee Encroachment	520	12.01%	09-01-20 A	05-10-23	1723	WP2-130, FED-030	



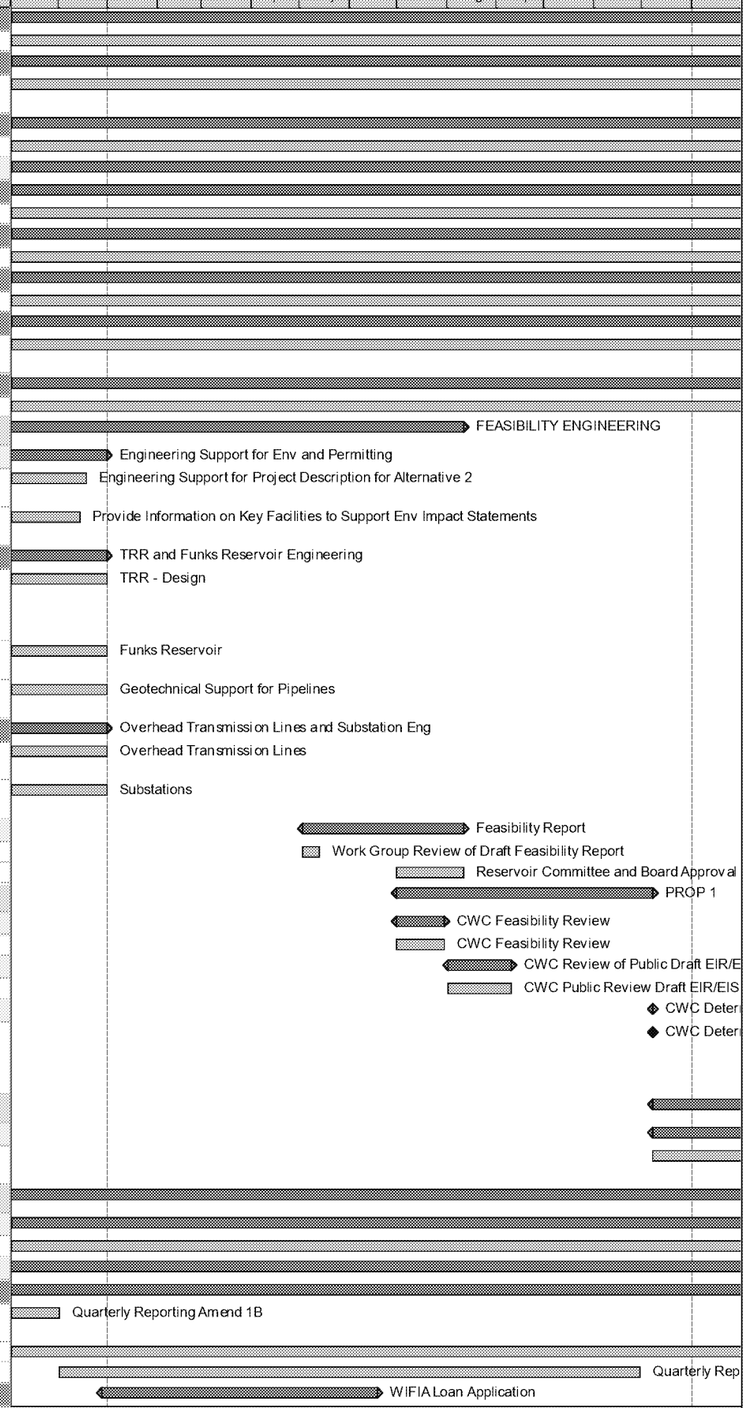
Activity ID	Activity Name	Remaining Duration	Duration % Complete	Start	Finish	Total Float	Predecessors	Successors
SWRCB Water Rights Permit		296	0%	09-01-20 A	01-12-22	632		
WR-005	Water Availability Analysis & Planning/Coordination with SWRCB	167	20.48%	09-01-20 A	07-06-21	632	WP2-130	WR-025, WR-00-00
WR-025	Prepare Water Right Application	116	0%	07-07-21	12-22-21	632	PDE-60, WR-005	WR-035
WR-035	QA/QC and Legal Review of Draft Water Right Application	13	0%	12-23-21	01-12-22	632	WR-025	WR-045
SWB CWA Section 401 Water Quality Certification		260	0%	11-02-20	10-29-21	1039		
SWB CWA Section 401 Water Quality Certification - Conditional Approval		260	0%	11-02-20	10-29-21	1039		
401-120	Coordinate with RWQCB and SWRCB - Conditional Approval	67	0%	11-02-20	02-02-21	1039	404-003, 404-025	401-130
401-130	Prepare Draft 401 Application - Conditional Approval	130	0%	02-03-21	08-03-21	1039	404-003, WP2-130, 401-120, 404-025	401-140
401-140	Authority/Integration/Work Group Review of Draft 401 - Conditional Approval	20	0%	08-04-21	08-31-21	1039	401-130	401-150
401-150	Prepare Final 401 Application - Conditional Approval	43	0%	09-01-21	10-29-21	1039	401-140	401-160
401-160	Submit 401 Application - Conditional Approval	0	0%		10-29-21	1039	401-150	CWC-510, 401-170
CDFW Streambed Alteration Agreements		591	0%	12-08-21	03-14-24	1515		
STA-100	CDFW Streambed Alteration	591	0%	12-08-21	03-14-24	1515	MS-004-P2	
CDFW Incidental Take Permits		435	0%	09-01-20 A	07-01-22	1958		
STA-110	CDFW Section 2081	435	0%	09-01-20 A	07-01-22	0	106-001	OS-1120, CES-010, EIR-250, STA-120
ITP - CESA (SB 2081) Operations		456	0%	09-30-20 A	12-15-21	978		
CES-210	Prepare Draft ITP Application - Operations	186	0%	09-30-20 A	08-02-21	978	VP-095	CES-220, CES-230, CES-200
CES-190	Prepare Operations Analysis - Operations	186	0%	09-30-20 A	08-02-21	2134	OP-0230, BA-022	CES-200, CES-00-10
CES-220	Legal Review of Draft ITP App - Operations	30	0%	08-03-21	09-01-21	1415	CES-210	CES-240
CES-230	Work Group Review of Draft ITP App - Operations	30	0%	08-03-21	09-01-21	1415	CES-210	CES-240
CES-200	Additional Mitigation Planning - Operations	30	0%	08-03-21	09-14-21	2134	CES-190, CES-210, OP-360	
CES-240	Revise Draft ITP Application - Operations	21	0%	09-01-21	10-01-21	978	CES-230, CES-220	CES-250
CES-250	Authority Board Approval of ITP App - Operations	39	0%	10-04-21	12-01-21	978	CES-240	CES-260, CES-260
CES-260	Prepare ITP Application to CDFW - Operations	10	0%	12-02-21	12-15-21	978	CES-250, CES-250	CWC-510, CES-00-10, CES-270
CES-270	Submit ITP Application to CDFW - Operations	0	0%		12-15-21	2072	CES-260	
ITP - CESA (SB 2081) Construction		260	0.38%	09-30-20 A	12-15-21	2072		
CES-030	Prepare Draft ITP Application - Construction	186	0%	09-30-20 A	08-02-21	2072	VP-095	CES-040, CES-060
CES-010	Initial Desktop Analysis - Construction	186	0%	09-30-20 A	08-02-21	2110	ENG-220, VP-095, STA-110, BA-001	CES-020, CES-00-00
CES-040	Legal Review of Draft ITP App - Construction	30	0%	08-03-21	09-01-21	2947	CES-030	CES-070
CES-060	Work Group Review of Draft ITP App - Construction	30	0%	08-03-21	09-01-21	2947	CES-030	CES-070
CES-070	Revise Draft ITP Application - Construction	21	0%	09-01-21	10-01-21	2072	CES-060, CES-040	CES-080
CES-025	Mitigation Planning - Construction	27	0%	09-10-21	10-19-21	2110	CES-020	
CES-080	Authority Board Approval of ITP App - Construction	39	0%	10-04-21	12-01-21	2072	CES-070	CES-090, CES-090
CES-090	Prepare ITP Application to CDFW - Construction	10	0%	12-02-21	12-15-21	2072	CES-080, OP-446, CES-080	CES-00-00, CES-280
CES-280	Submit ITP Application to CDFW - Construction	0	0%		12-15-21	2072	CES-090	
NAHC/Local Tribes AB 52 Consultation		355	15.27%	09-01-20 A	04-08-22	59		
STA-120	NAHC/Local Tribes AB 52 Consultation	355	15.27%	09-01-20 A	04-08-22	59	STA-110	EIR-250
SMARA		126	0%	10-06-21	04-12-22	1423		
STA-140	SMARA	126	0%	10-06-21	04-12-22	1423	EIR-210	MS-250-FE
LOCAL AGENCY PERMITS AND APPROVALS		687	0%	11-02-20	06-21-23	328		
Colusa County		400	0%	12-08-21	06-21-23	328		
Colusa County Air Pollution Control Districts		456	0%	12-08-21	06-21-23	328		
LOC-010	Colusa County Air Pollution Control Districts	400	0%	12-08-21	06-21-23	328	WP3-010	RC-100
Colusa County Public Works - Encroachments		456	0%	12-08-21	06-21-23	328		
LOC-020	Colusa County Public Works - Encroachments	400	0%	12-08-21	06-21-23	328	WP3-010	RC-100
Colusa County Transportation		456	0%	12-08-21	06-21-23	328		
LOC-030	Colusa County Transportation	400	0%	12-08-21	06-21-23	328	WP3-010	RC-100
Colusa County Public Works Building, Street Improvement, Grading Permits		456	0%	12-08-21	06-21-23	328		
LOC-040	Colusa County Public Works Building, Street Improvement, Grading Permits	400	0%	12-08-21	06-21-23	328	WP3-010	RC-100
Colusa County General Plan and Zoning		456	0%	12-08-21	06-21-23	328		
LOC-050	Colusa County General Plan and Zoning	400	0%	12-08-21	06-21-23	328	WP3-010	RC-100
Glenn County		400	0%	11-02-20	05-13-22	615		
Glenn County Air Pollution Control		456	0%	11-02-20	05-13-22	615		
LOC-100	Glenn County Air Pollution Control	400	0%	11-02-20	05-13-22	615		RC-100
Glenn County Public Works - Encroachments		456	0%	11-02-20	05-13-22	615		
LOC-110	Glenn County Public Works - Encroachments	400	0%	11-02-20	05-13-22	615		RC-100



Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone

Sites Master Summary Schedule

Activity ID	Activity Name	Remaining Duration	Duration % Complete	Start	Finish	Total Float	Predecessors	Successors
Glenn County Transportation		400	0%	11-02-20	05-13-22	615		
LOC-120	Glenn County Transportation	400	0%	11-02-20	05-13-22	615		RC-100
Glenn County Public Works Building, Street Improvement, Grading Permits		400	0%	11-02-20	05-13-22	615		
LOC-130	Glenn County Public Works Building, Street Improvement, Grading Permits	400	0%	11-02-20	05-13-22	615		RC-100
Glenn County General Plan and Zoning		400	0%	11-02-20	05-13-22	615		
LOC-140	Glenn County General Plan and Zoning	400	0%	11-02-20	05-13-22	615		RC-100
Yolo County		400	0%	11-02-20	05-13-22	615		
Yolo County Air Pollution Control		400	0%	11-02-20	05-13-22	615		
LOC-50	Yolo County Air Pollution Control	400	0%	11-02-20	05-13-22	615		RC-100
Yolo County Public Works - Encroachments		400	0%	11-02-20	05-13-22	615		
LOC-60	Yolo County Public Works - Encroachments	400	0%	11-02-20	05-13-22	615		RC-100
Yolo County Transportation		400	0%	11-02-20	05-13-22	615		
LOC-70	Yolo County Transportation	400	0%	11-02-20	05-13-22	615		RC-100
Yolo County Public Works Building, Street Improvement, Grading Permits		400	0%	11-02-20	05-13-22	615		
LOC-80	Yolo County Public Works Building, Street Improvement, Grading Permits	400	0%	11-02-20	05-13-22	615		RC-100
Yolo County General Plan and Zoning		400	0%	11-02-20	05-13-22	615		
LOC-90	Yolo County General Plan and Zoning	400	0%	11-02-20	05-13-22	615		RC-100
FEASIBILITY ENGINEERING		193	6.76%	09-01-20 A	08-11-21	2157		
Engineering Support for Env and Permitting		40	60.78%	09-01-20 A	12-31-20	2310		
ENG-236	Engineering Support for Project Description for Alternative 2	32	63.64%	09-01-20 A	12-18-20	23	RCB-20-038, PDE-40, WP2-130	ENG-370, PDE-55
ENG-210	Provide Information on Key Facilities to Support Env Impact Statements	28	0%	10-12-20 A	12-14-20	177	ENG-200, ENG-190, ENG-195	ENG-380, ENG-470, ENG-290, PDE-45, PDE-47
TRR and Funks Reservoir Engineering		40	51.81%	09-01-20 A	12-31-20	2310		
ENG-501	TRR - Design	40	51.81%	09-01-20 A	12-31-20	2310	WP2-130	ENG-502, ENG-503, ENG-510, ENG-530, ENG-560, ENG-580, ENG-590
ENG-502	Funks Reservoir	40	51.81%	09-01-20 A	12-31-20	248	ENG-501	CWC-500, ENG-590
ENG-503	Geotechnical Support for Pipelines	40	51.81%	09-01-20 A	12-31-20	248	ENG-501	CWC-500
Overhead Transmission Lines and Substation Eng		40	54.55%	09-01-20 A	12-31-20	2310		
ENG-530	Overhead Transmission Lines	40	54.55%	09-01-20 A	12-31-20	2310	ENG-501	ENG-540
ENG-540	Substations	40	54.55%	09-01-20 A	12-31-20	248	ENG-530	CWC-500
Feasibility Report		71	0%	05-03-21	08-11-21	2157		
ENG-385	Work Group Review of Draft Feasibility Report	9	0%	05-03-21	05-13-21	250	ENG-380	ENG-390
ENG-392	Reservoir Committee and Board Approval	29	0%	07-01-21	08-11-21	2157	ENG-390	
PROP 1		114	0%	07-01-21	12-08-21	2106		
CWC Feasibility Review		22	0%	07-01-21	07-30-21	2198		
CWC-403	CWC Feasibility Review	22	0%	07-01-21	07-30-21	2198	ENG-390	
CWC Review of Public Draft EIR/EIS		30	0%	08-02-21	09-10-21	2168		
CWC-450	CWC Public Review Draft EIR/EIS	30	0%	08-02-21	09-10-21	2168	EIR-080	
CWC Determination of Feasibility		0	0%	12-08-21	12-08-21	18		
CWC-500	CWC Determination of Feasibility	0	0%		12-08-21*	18	EIR-120, ENG-410, ENG-406, ENG-404, OP-070, ENG-470, ENG-480, ENG-440, ENG-560, ENG-570, ENG-580, ENG-540, ENG-503, ENG-502	MS-003-LF
CONSTRUCTION		119	0%	12-08-21	05-24-22	29		
Procurement Designers/Design Builders/Design Assist		119	0%	12-08-21	05-24-22	29		
PDC-1000	Procurement - Designers, Design Builders & Design Assists (CMAR)	119	0%	12-08-21	05-24-22	29	MS-004-P2	PD-100, DLG-010, MIT-015
PROJECT OPERATIONS AND FINANCES		338	39.1%	01-02-20 A	02-16-22	2055		
COMMUNICATIONS & GOVERNMENT AFFAIRS		338	0%	11-02-20	02-16-22	2055		
GS-C60	Outreach to NGO's	338	0%	11-02-20	02-16-22	2055	WP2-130	
FUNDING		338	39.1%	01-02-20 A	02-16-22	2055		
Local Funding		338	39.1%	01-02-20 A	02-16-22	2055		
REP-005	Quarterly Reporting Amend 1B	19	88.89%	01-02-20 A	12-01-20	22		REP-010
INV-010	CWC Invoicing Amend 2	338	0%	11-02-20	02-16-22	2055	WP2-130	
REP-010	Quarterly Reporting Amend 2	247	0%	12-02-20	11-29-21	22	WP2-130, REP-005	MS-004-P2
WIFIA Loan Application		125	0%	12-28-20	05-13-21	18		



Actual Work
Remaining Work
Critical Remaining Work
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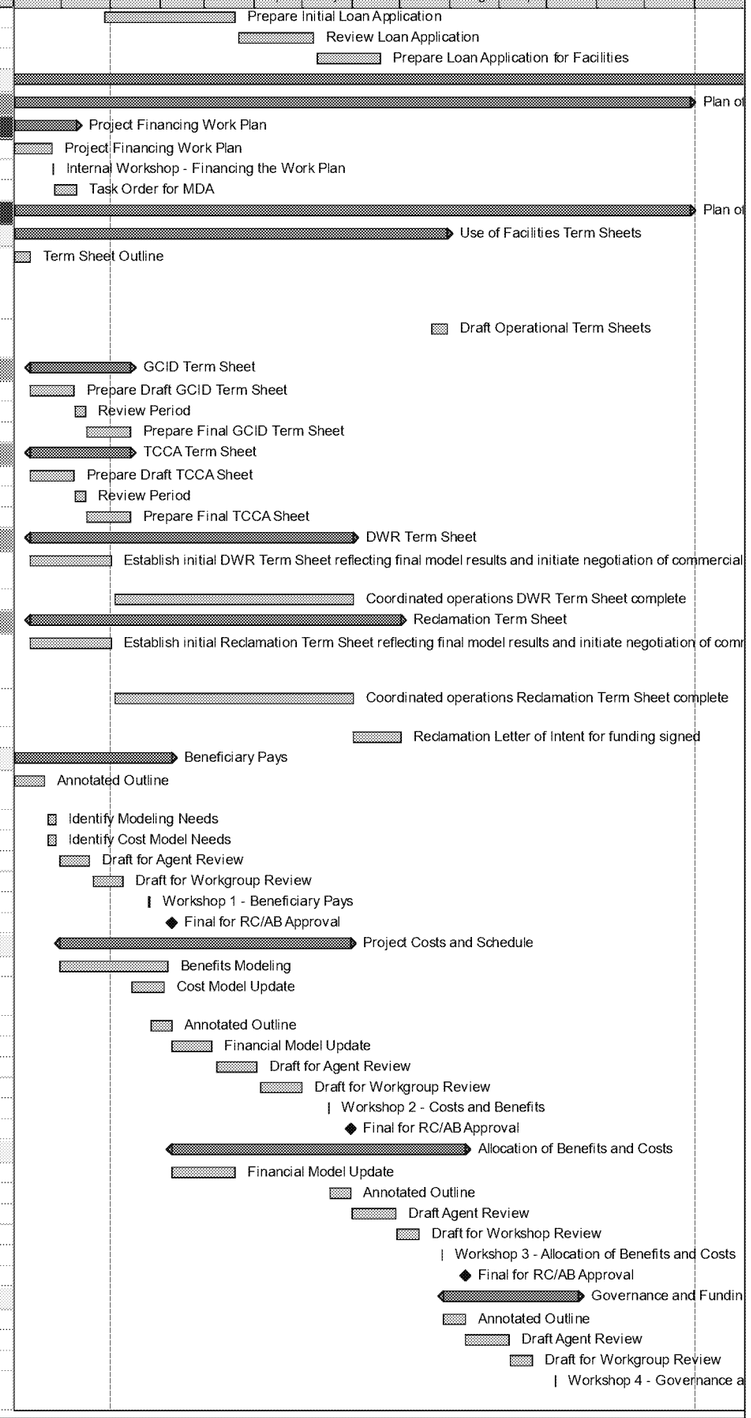
Summary

Sites Master Summary Schedule

Activity ID	Activity Name	Remaining Duration	Duration % Complete	Start	Finish	Total Float	Predecessors	Successors
WL-005	Prepare Initial Loan Application	60	0%	12-28-20	03-19-21	139	WP2-130	WL-010, WL-00-010
WL-010	Review Loan Application	35	0%	03-22-21	05-07-21	139	WL-005	WL-015
WL-015	Prepare Loan Application for Facilities	30	0%	05-10-21	06-18-21	139	WL-010	MS-004-P2
GROWTH		332	32.93%	03-18-20 A	02-08-22	2061		
Plan of Finance		332	0%	11-02-20	12-29-21	2090		
Project Financing Work Plan		29	0%	11-02-20	12-10-20	2059		
POF-010	Project Financing Work Plan	18	0%	11-02-20	11-25-20	2059	WP2-130	POF-020
POF-020	Internal Workshop - Financing the Work Plan	1	0%	11-26-20	11-26-20	2059	POF-010	POF-030
POF-030	Task Order for MDA	10	0%	11-27-20	12-10-20	2059	POF-020	POF-200
Plan of Finance		303	0%	11-02-20	12-29-21	2090		
Use of Facilities Term Sheets		195	0%	11-02-20	07-30-21	1893		
POF-040	Term Sheet Outline	8	0%	11-02-20	11-11-20	1842	ENG-190, WP2-130	POF-060, POF-090, FO-1000, FO-1010, FO-1020, FO-1030, FO-1040, POF-520, POF-550
POF-510	Draft Operational Term Sheets	8	0%	07-21-21	07-30-21	1655	EIR-070	FO-1010, FO-1020, FO-1030, FO-1040
GCID Term Sheet		45	0%	11-12-20	01-13-21	2035		
POF-060	Prepare Draft GCID Term Sheet	20	0%	11-12-20	12-09-20	2035	POF-040	POF-070
POF-070	Review Period	5	0%	12-10-20	12-16-20	2035	POF-060	POF-080
POF-080	Prepare Final GCID Term Sheet	20	0%	12-17-20	01-13-21	2035	POF-070	POF-200
TCCA Term Sheet		45	0%	11-12-20	01-13-21	2035		
POF-090	Prepare Draft TCCA Sheet	20	0%	11-12-20	12-09-20	2035	POF-040	POF-100
POF-100	Review Period	5	0%	12-10-20	12-16-20	2035	POF-090	POF-110
POF-110	Prepare Final TCCA Sheet	20	0%	12-17-20	01-13-21	2035	POF-100	POF-200
DWR Term Sheet		144	0%	11-12-20	06-01-21	1913		
POF-520	Establish initial DWR Term Sheet reflecting final model results and initiate negotiation of commercial terms	37	0%	11-12-20	01-01-21	1913	POF-040	POF-530
POF-530	Coordinated operations DWR Term Sheet complete	107	0%	01-04-21	06-01-21	1913	POF-520	FO-1010
Reclamation Term Sheet		166	0%	11-12-20	07-01-21	1891		
POF-550	Establish initial Reclamation Term Sheet reflecting final model results and initiate negotiation of commercial terms	37	0%	11-12-20	01-01-21	1891	POF-040	POF-560
POF-560	Coordinated operations Reclamation Term Sheet complete	107	0%	01-04-21	06-01-21	1891	POF-550	POF-570
POF-570	Reclamation Letter of Intent for funding signed	22	0%	06-02-21	07-01-21	1891	POF-560	FO-1000
Beneficiary Pays		71	0%	11-02-20	02-08-21	2322		
POF-120	Annotated Outline	15	0%	11-02-20	11-20-20	2033	WP2-130	POF-130, POF-140, POF-150
POF-130	Identify Modeling Needs	5	0%	11-23-20	11-27-20	2033	POF-120	POF-150, POF-190
POF-140	Identify Cost Model Needs	5	0%	11-23-20	11-27-20	2052	POF-120	POF-150, POF-200
POF-150	Draft for Agent Review	15	0%	11-30-20	12-18-20	2052	POF-120, POF-130, POF-140	POF-160
POF-160	Draft for Workgroup Review	15	0%	12-21-20	01-08-21	2052	POF-150	POF-170
POF-170	Workshop 1 - Beneficiary Pays	1	0%	01-25-21	01-25-21	2052	POF-160	POF-180, POF-220
POF-180	Final for RC/AB Approval	0	0%		02-08-21	2322	POF-170	
Project Costs and Schedule		131	0%	11-30-20	05-31-21	2033		
POF-190	Benefits Modeling	50	0%	11-30-20	02-05-21	2033	POF-130	POF-210, POF-270
POF-200	Cost Model Update	15	0%	01-14-21	02-03-21	2035	POF-140, POF-110, POF-080, POF-030	POF-210
POF-220	Annotated Outline	10	0%	01-26-21	02-08-21	2052	POF-170	POF-230
POF-210	Financial Model Update	20	0%	02-08-21	03-05-21	2033	POF-190, POF-200	POF-230
POF-230	Draft for Agent Review	20	0%	03-08-21	04-02-21	2033	POF-220, POF-210	POF-240
POF-240	Draft for Workgroup Review	20	0%	04-05-21	04-30-21	2033	POF-230	POF-250
POF-250	Workshop 2 - Costs and Benefits	1	0%	05-17-21	05-17-21	2033	POF-240	POF-260, POF-280
POF-260	Final for RC/AB Approval	0	0%		05-31-21	2033	POF-250	PA-220
Allocation of Benefits and Costs		132	0%	02-08-21	08-10-21	2191		
POF-270	Financial Model Update	30	0%	02-08-21	03-19-21	2093	POF-190	POF-280
POF-280	Annotated Outline	10	0%	05-18-21	05-31-21	2052	POF-250, POF-270	POF-290
POF-290	Draft Agent Review	20	0%	06-01-21	06-28-21	2052	POF-280	POF-300
POF-300	Draft for Workshop Review	10	0%	06-29-21	07-12-21	2052	POF-290	POF-310
POF-310	Workshop 3 - Allocation of Benefits and Costs	1	0%	07-27-21	07-27-21	2052	POF-300	POF-320, POF-330
POF-320	Final for RC/AB Approval	0	0%		08-10-21	2191	POF-310	
Governance and Funding		61	0%	07-28-21	10-20-21	2140		
POF-330	Annotated Outline	10	0%	07-28-21	08-10-21	2052	POF-310	POF-340
POF-340	Draft Agent Review	20	0%	08-11-21	09-07-21	2052	POF-330	POF-350
POF-350	Draft for Workgroup Review	10	0%	09-08-21	09-21-21	2052	POF-340	POF-360
POF-360	Workshop 4 - Governance and Funding	1	0%	10-06-21	10-06-21	2052	POF-350	POF-370, POF-420, POF-460



Actual Work | Critical Remaining Work | Summary
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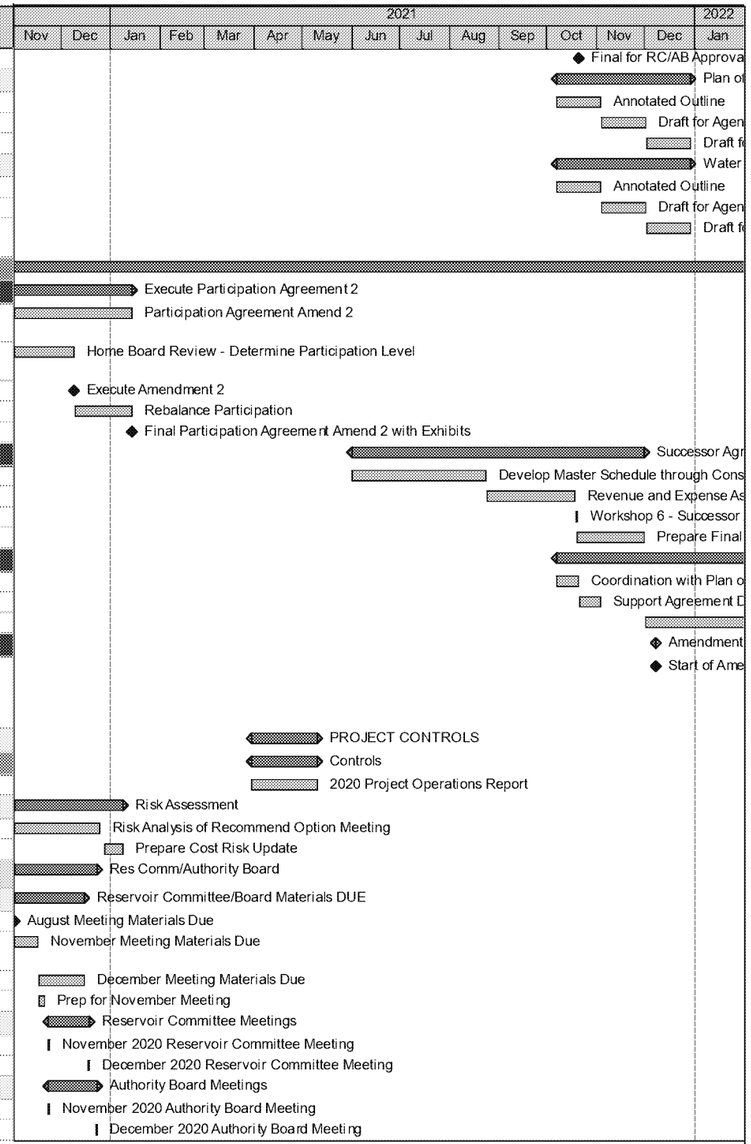
Activity ID	Activity Name	Remaining Duration	Duration % Complete	Start	Finish	Total Float	Predecessors	Successors
POF-370	Final for RC/AB Approval	0	0%		10-20-21	2140	POF-360	
Plan of Finance Document		60	0%	10-07-21	12-29-21	2080		
POF-420	Annotated Outline	20	0%	10-07-21	11-03-21	2052	POF-360	POF-430, PA-410
POF-430	Draft for Agent Review	20	0%	11-04-21	12-01-21	2080	POF-420	POF-440
POF-440	Draft for Workgroup Review	20	0%	12-02-21	12-29-21	2080	POF-430	POF-450
Water Service Agreement Term Sheet		60	0%	10-07-21	12-29-21	2069		
POF-460	Annotated Outline	20	0%	10-07-21	11-03-21	2069	POF-360	POF-470
POF-470	Draft for Agent Review	20	0%	11-04-21	12-01-21	2069	POF-460	POF-480
POF-480	Draft for Workgroup Review	20	0%	12-02-21	12-29-21	2069	POF-470, TM-E98, TM-E97, TM-E99	POF-490
Agreements		297	32.69%	03-18-20 A	02-08-22	2061		
Execute Participation Agreement 2		54	75.12%	03-18-20 A	01-14-21	2339		
PA-00-2A	Participation Agreement Amend 2	54	75.12%	03-18-20 A	01-14-21	2339		
PA-130	Home Board Review - Determine Participation Level	28	72.55%	04-17-20 A	12-09-20	386	PA-120, RCB-20-044	PA-140, PA-160
PA-160	Execute Amendment 2	0	0%		12-09-20	386	PA-130	MS-001-LF
PA-140	Rebalance Participation	26	0%	12-10-20	01-14-21	2339	PA-130	PA-150
PA-150	Final Participation Agreement Amend 2 with Exhibits	0	0%		01-14-21	2339	PA-140	RCB-20-070
Successor Agreement Work Plan Amend 2		131	0%	06-01-21	11-30-21	2033		
PA-220	Develop Master Schedule through Construction	60	0%	06-01-21	08-23-21	2033	POF-260	PA-230
PA-230	Revenue and Expense Assumptions	40	0%	08-24-21	10-18-21	2033	PA-220	PA-240
PA-240	Workshop 6 - Successor Agreement Work Plan	1	0%	10-19-21	10-19-21	2033	PA-230	PA-300
PA-300	Prepare Final Draft	30	0%	10-20-21	11-30-21	2033	PA-240	PA-430
Successor Agreement Amend 2		89	0%	10-07-21	02-08-22	2033		
PA-410	Coordination with Plan of Finance	10	0%	10-07-21	10-20-21	2052	POF-420	PA-420
PA-420	Support Agreement Development	10	0%	10-21-21	11-03-21	2052	PA-410	PA-430
PA-430	Rebalancing Support	50	0%	12-01-21	02-08-22	2033	PA-420, PA-300	PA-440
Amendment 3		0	0%	12-08-21	12-08-21	142		
WP3-010	Start of Amend 3 (January 2, 2022)	0	0%		12-08-21	142	MS-003-LF	ENG-450, ENG-460, PD-100, FED-010, FED-080, STA-010, STA-020, LOC-010, LOC-020, LOC-030, LOC-040, LOC-050,
PROJECT CONTROLS		30	0%	03-30-21	05-10-21	168		
Controls		30	0%	03-30-21	05-10-21	168		
AR-040	2020 Project Operations Report	30	0%	03-30-21	05-10-21	168	AR-030	MS-004-P2
Risk Assessment		50	0%	11-02-20	01-08-21	254		
RA-005	Risk Analysis of Recommend Option Meeting	40	0%	11-02-20	12-25-20	254	VP-013	RA-010, RA-00-1B
RA-010	Prepare Cost Risk Update	10	0%	12-28-20	01-08-21	254	RA-005	MS-004-P2
Res Comm/Authority Board		38	0%	11-02-20 A	12-23-20	2355		
Reservoir Committee/Board Materials DUE		32	0%	11-02-20 A	12-15-20	2361		
RCB-20-080	August Meeting Materials Due	0	0%		11-02-20*	0	RCB-20-070	RCB-20-084, RCB-20-090
RCB-20-110	November Meeting Materials Due	11	0%	11-02-20	11-16-20*	-4	RCB-20-100	RCB-20-114, RCB-20-120, RCB-20-138
RCB-20-120	December Meeting Materials Due	21	0%	11-17-20	12-15-20*	0	RCB-20-110	RCB-20-124
RCB-20-138	Prep for November Meeting	4	0%	11-17-20	11-20-20*	-4	RCB-20-110	RCB-20-114, RCB-20-118
Reservoir Committee Meetings		20	0%	11-23-20	12-18-20	266		
RCB-20-114	November 2020 Reservoir Committee Meeting	1	0%	11-23-20	11-23-20	17	RCB-20-110, RCB-20-138	RCB-20-118
RCB-20-124	December 2020 Reservoir Committee Meeting	1	0%	12-18-20	12-18-20	266	RCB-20-120	RCB-20-128
Authority Board Meetings		23	0%	11-23-20	12-23-20	266		
RCB-20-118	November 2020 Authority Board Meeting	1	0%	11-23-20	11-23-20	17	RCB-20-114, RCB-20-138	RCB-20-128, OP-1070
RCB-20-128	December 2020 Authority Board Meeting	1	0%	12-23-20	12-23-20	266	RCB-20-124, RCB-20-118	MS-004-P2



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Ad Hoc Environmental Planning and Permitting Work Group Agenda

Affordable Water, Sustainably Managed

Our Core Values – Safety, Trust and Integrity, Respect for Local Communities, Environmental Stewardship, Shared Responsibility and Shared Benefits, Accountability and Transparency, Proactive Innovation, Diversity and Inclusivity
Our Commitment – To live up to these values in everything we do

Meeting Information:

Date:	December 10, 2020	**Location:**	Webex meeting
Start Time:	11:00 a.m.	**Finish Time:**	12:30 a.m.
Purpose:	Ongoing update for the Ad Hoc Environmental Planning and Permitting Work Group for 2020		

Meeting Participants:

Mike Azevedo, Colusa County	Cindy Kao, Valley Water	Jerry Brown, Sites Authority
Ben Barker, PCWA	Rob Kunde, WR-M WSD	Linda Fisher, Sites Integration
Thad Bettner, GCID	Eric Leitterman, Valley Water	Ali Forsythe, Sites Authority
Dee Bradshaw, MWD	Jason Marks, City of Roseville	Charles Gardiner, Catalyst
Robert Cheng, CVWD	Randall Neudeck, MWD	Jim Lecky, ICF
Jeff Davis, SGPWA	Jeff Sutton, TCCA	John Spranza, Sites Integration
Heather Dyer, SBVMWD	Bill Vanderwaal, RD 108	Laurie Warner Herson, Sites Integration
Katrina Jessup, Valley Water	Chuching Wang, MWD	
Trevor Joseph, City of Roseville	Jelica Arsenijevic, Sites Integration	

Agenda:

Discussion Topic	Topic Leader	Time Allotted
1. Introductory Remarks and Review of Agenda	Thad / Heather / Ali	5 min
2. Revised Draft EIR/Supplemental Draft EIS a. Schedule and Progress Reporting Dashboard b. Alternative 3 – Reclamation investment at 25% Feedback needed: Review and provide input on schedule, progress reporting dashboard, and proposed Alternative 3.	Laurie / Ali	30 min
3. Permitting a. Section 404/401 – Update on Application and Agency Discussions	Jelica / Mike/ Monique	25 min

	Feedback needed: Provide input on approach to developing the 404 application and resolving uncertainties due to lack of field data.		
4.	Schedule and Dashboard Update	John	10 min
5.	Upcoming Priorities and Timing of Next Meeting	Ali	5 min

AD-HOC OPERATIONS AND ENGINEERING WORK GROUP

DECEMBER 14, 2020

Sites

Introductory Remarks

Rob Kunde

Mike Azevedo

Sites

Agenda

- Modeling update:
  - Operating criteria
  - Cost analysis
- Action item recap and next meeting

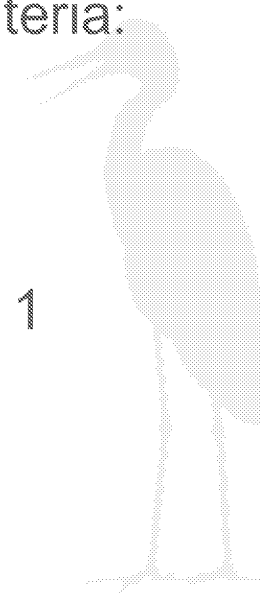
Modeling Update

Ali Forsythe & Erin Heydinger

Sites

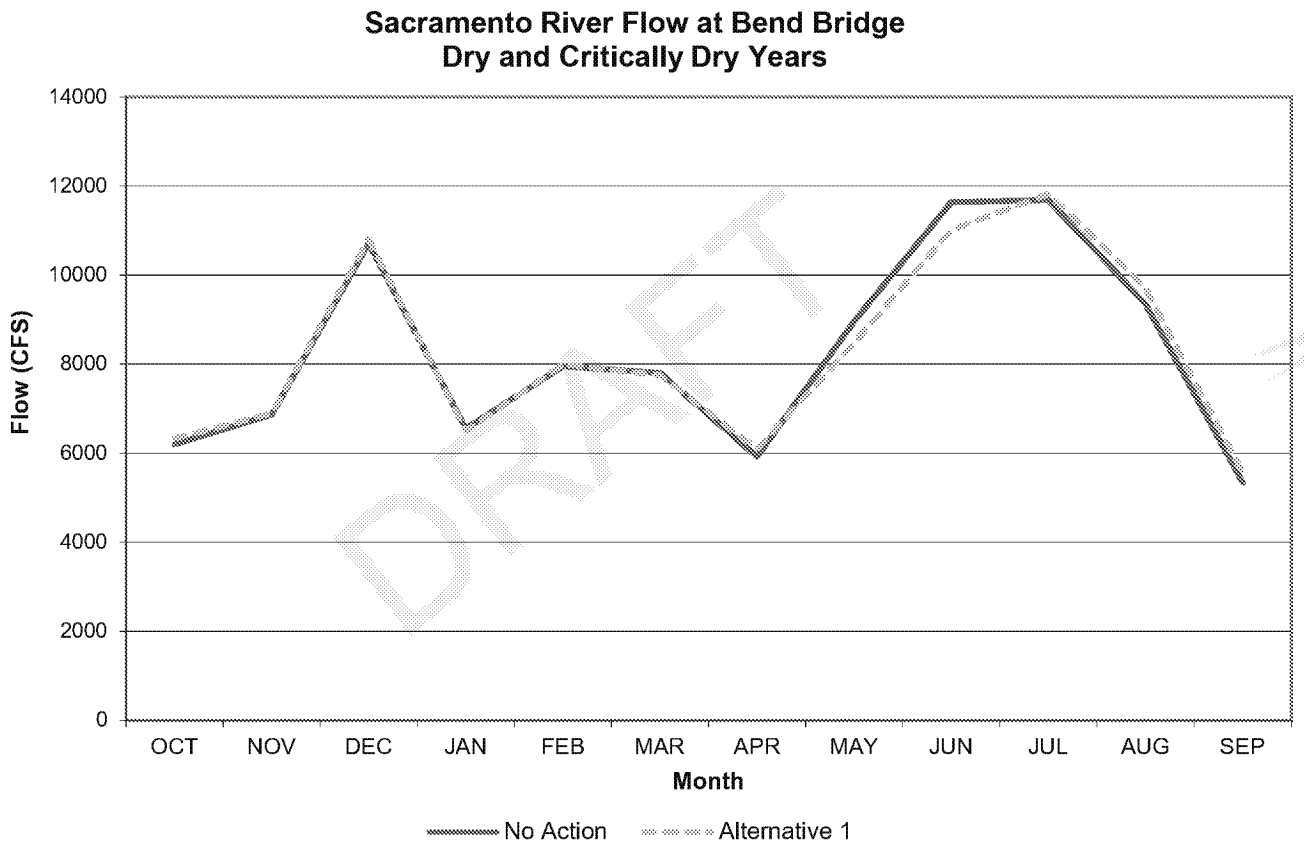
Modeling Update

- Last results presented to you were “Iteration 1”
- Iteration 2 is now complete:
  - Shasta and Oroville integration
  - Conveyance through state and federal facilities
- Additional analysis has been performed on diversion criteria:
  - Shift to Sacramento River focused criteria
  - Evaluation of flow thresholds over Fremont Weir
  - Evaluation of pulse protections
- All analysis to date has been conducted on Alternative 1 (preferred alternative)



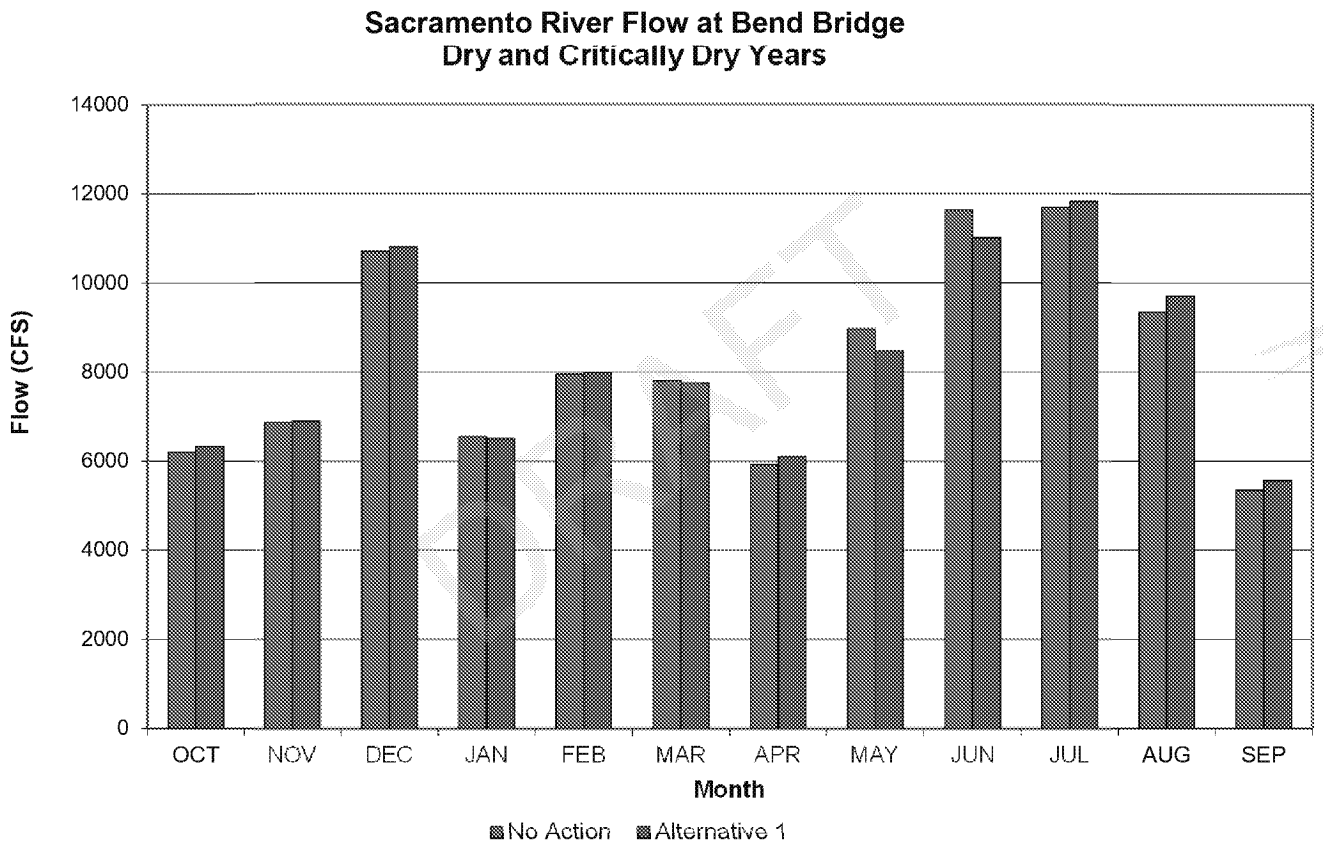
Sites

Modeling Update – Shasta Exchanges



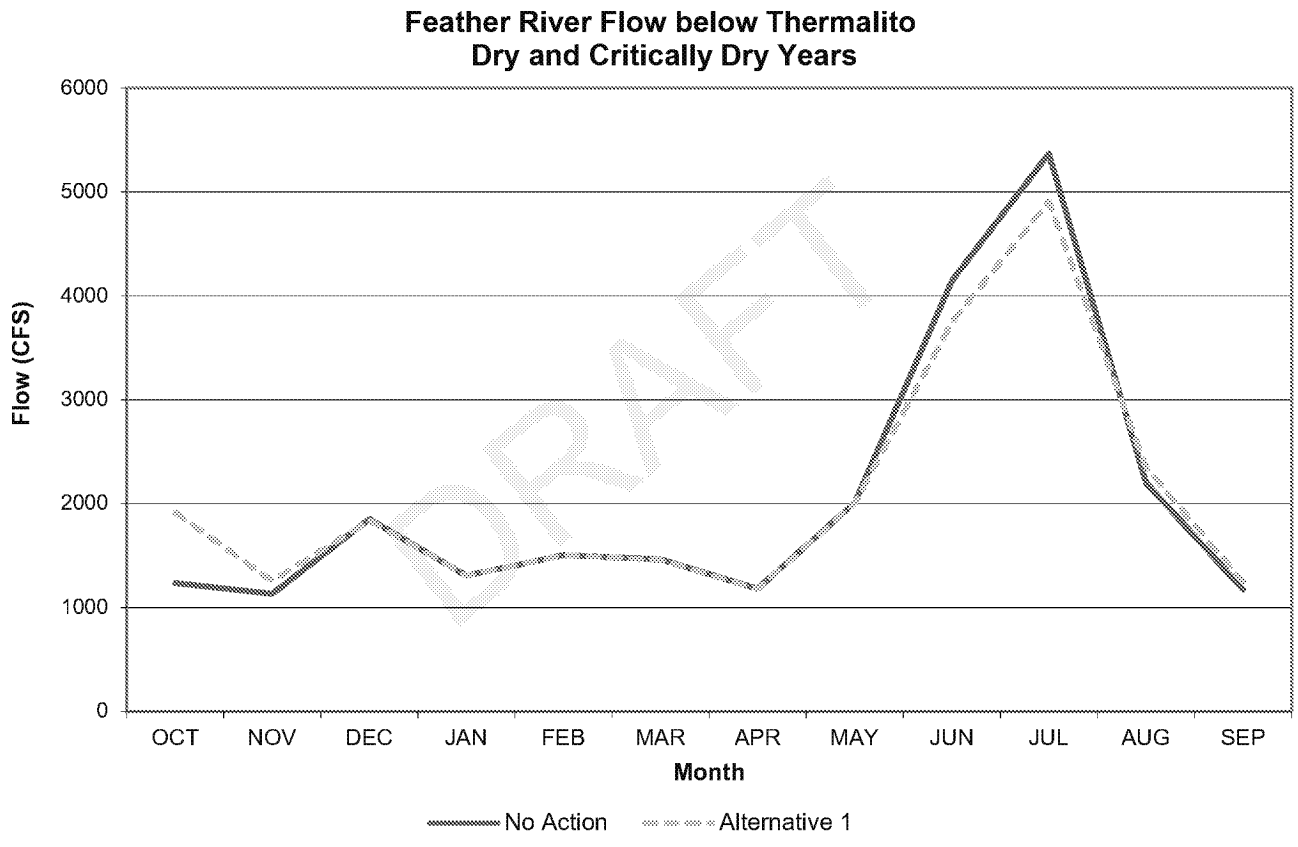
Sites

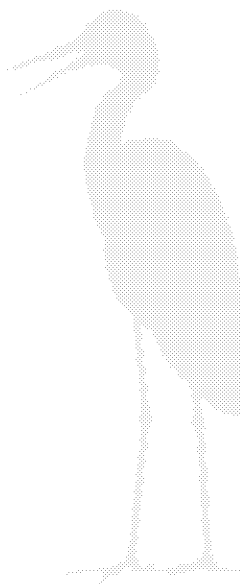
Modeling Update – Shasta Exchanges



Sites

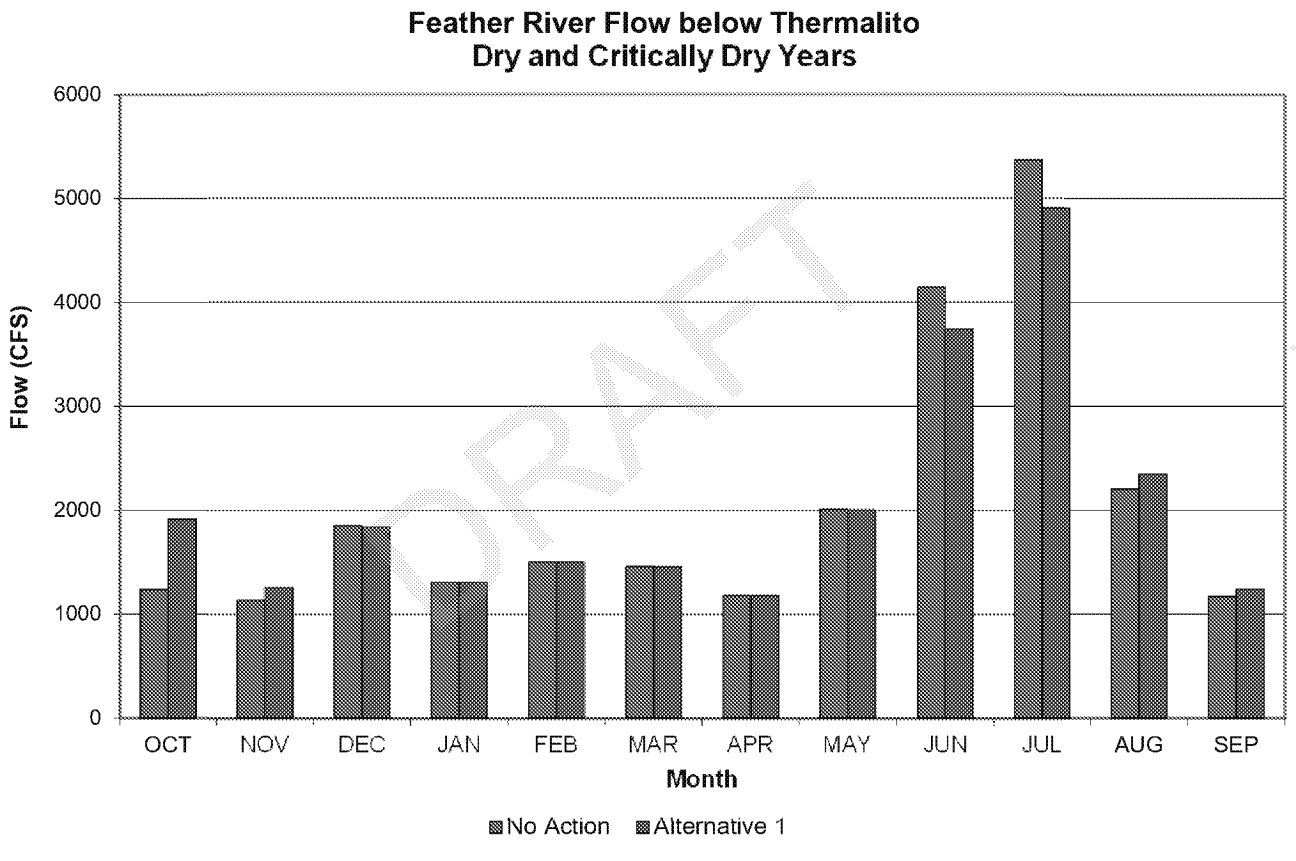
Modeling Update – Oroville Exchanges





Sites

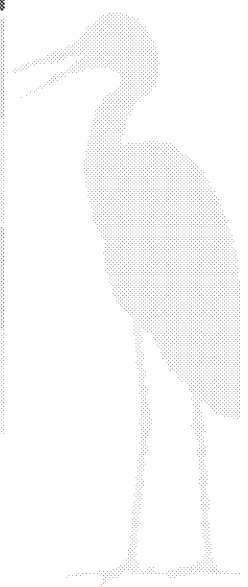
Modeling Update – Oroville Exchanges



Diversion Criteria

- Modeling and fisheries teams performed additional analysis, preliminary project effects
- Re-evaluation of "Scenario B" included in Value Planning

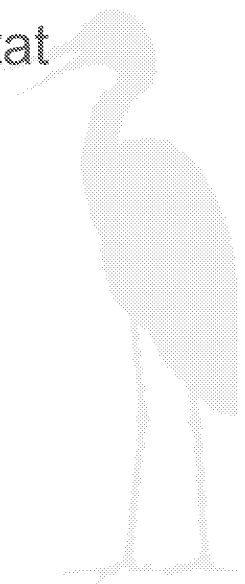
Scenario B and Value Planning	Amendment 2
Developed without full CalSim and effects modeling	Modeling performed, quantitative impacts analysis performed
Post-processing of federal participation, Shasta Exchanges	Shasta Exchanges fully coded and modeled
Included downstream criteria, unable to operate to in real-time	Criteria upstream, near project
Relied on criteria from other projects (e.g. WaterFix) that are not finalized	Sites-specific criteria – does not rely on decisions related to other projects



Sites

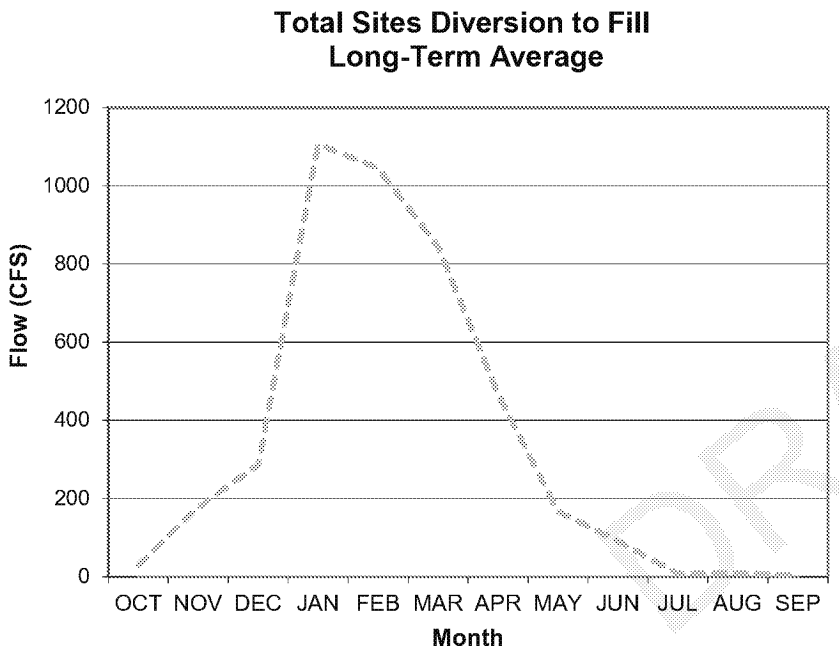
Preliminary Draft Effects Analysis

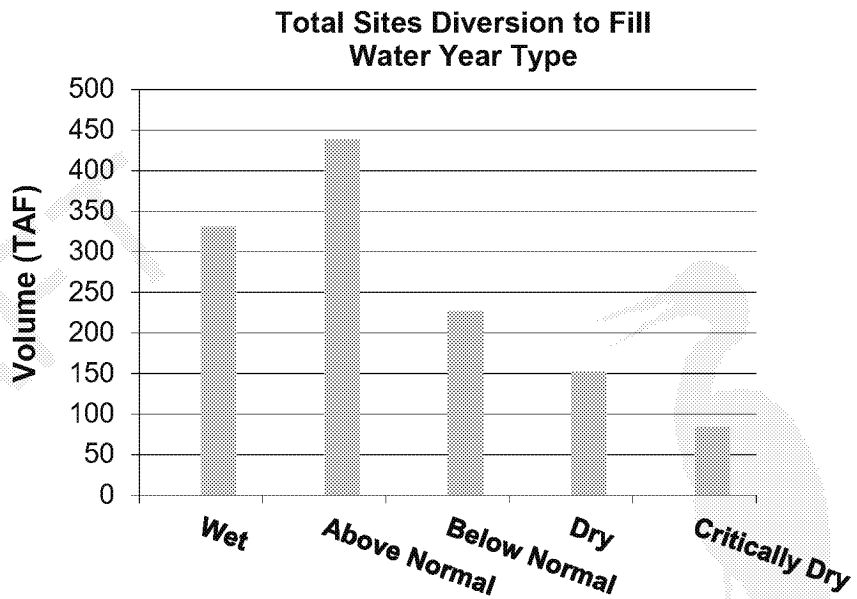
- Preliminary effects analysis of temperature and salmonid survival show limited effects with some possible salmonid survival improvements
- No significant impacts have been shown with model results to date
- Additional impacts analysis (reservoir temperature, habitat suitability) will be conducted as part of Revised Draft EIR/Supplemental Draft EIS



Sites

Iteration 2 Results – Diversions to Fill

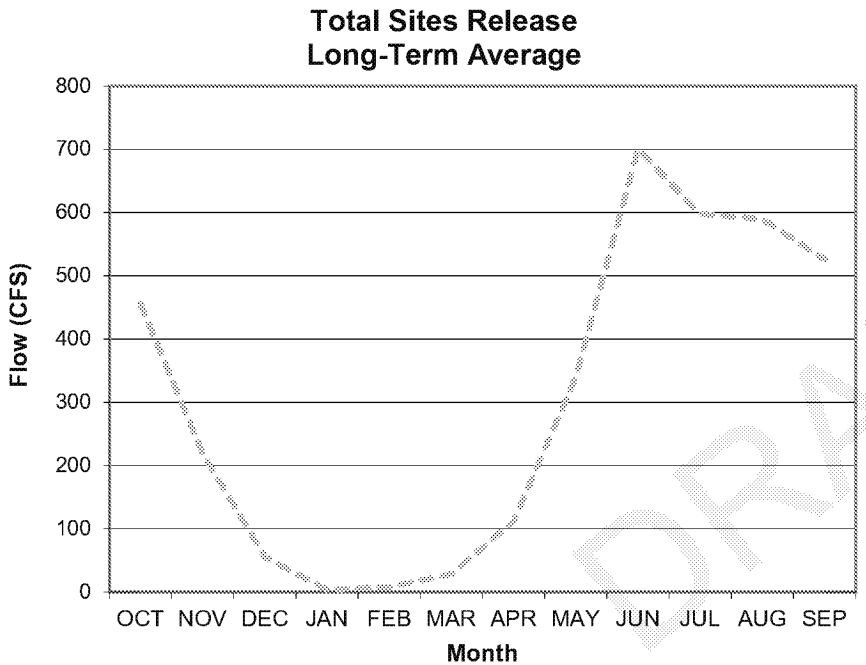


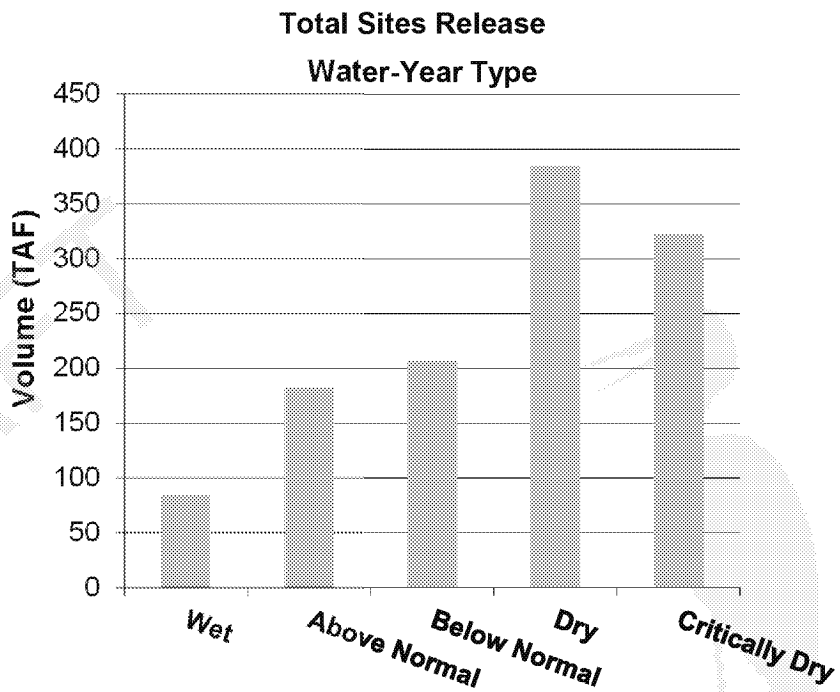


	Long-term Average (TAF)	Dry and Critically Dry Average (TAF)
Total Sites Diversion to Fill	253	125

Sites

Iteration 2 Results - Releases





	Long-term Average (TAF)	Dry and Critically Dry Average (TAF)
Total Sites Release	220	360

Sites

Modeling Results – Value Planning Comparison

Year Type	Frequency	Value Planning* (TAF per year)	Amendment 2 Modeling (TAF per year)
Wet	32%	85-115	80-90
Above Normal	15%	255-285	180-190
Below Normal	17%	245-275	185-215
Dry	22%	355-385	355-385
Critically Dry	15%	205-235	285-325
Long-Term Average	100%	213-243	205-225

*Value Planning Appraisal recommended report values less 30 TAF per year to account for uncertainty.

Takeaways:

- Results are within Value Planning uncertainty
- Averages go down, but not in dry and critically dry years
- Wetter years reduced due to ability to convey water SOD and lower demands in those years

Preliminary Results – Value Planning Comparison

Release Amount (TAF)	243 (VP7)	225	216	206
Without WIFIA $/AF (2020$)	661	710	737	771
With WIFIA $/AF (2020$)	611	656	682	712

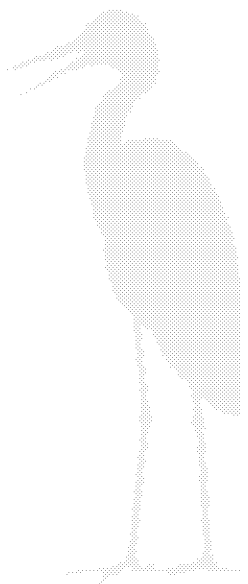
Caveats:

- Assumes capital costs from Value Planning
- Cost per acre foot is very dependent on our current assumptions for water use
- Overall numbers increase and cost per AF decreases if you use water in wetter year types
- Will be able to better assess true costs and assist members in optimizing performance after moving to storage-based participation

Sites

Next Steps

- Incorporate refined criteria for pulse protections
- Run full analysis for EIR/EIS with all alternatives
  - Complete early January
- Run analysis for CWC Feasibility Study
  - Preferred alternative only
  - 2030 and 2070 climate conditions
- Storage Policy and Storage-Based Participation



Sites

QUESTIONS?

Sites

Recap Action Items & Next Meeting

Erin Heydinger

Sites

From: Janis Offermann [janis@horizonh2o.com]
Sent: 12/16/2020 4:38:25 PM
To: Kevin Spesert [kspesert@sitesproject.org]
CC: Alicia Forsythe [aforsythe@sitesproject.org]; Laurie Warner Herson [laurie.warner.herson@phenixenv.com]
Subject: RE: AB 52 Consultation

Sounds good

From: Kevin Spesert <kspesert@sitesproject.org>
Sent: Wednesday, December 16, 2020 4:38 PM
To: Janis Offermann <janis@horizonh2o.com>
Cc: Alicia Forsythe <aforsythe@sitesproject.org>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Subject: Re: AB 52 Consultation

Yeah...please call both Ali and myself...

From: Janis Offermann <janis@horizonh2o.com>
Sent: Wednesday, December 16, 2020 4:36 PM
To: Kevin Spesert
Cc: Alicia Forsythe; Laurie Warner Herson
Subject: RE: AB 52 Consultation

OK , thanks. I will cc you. Ali, too?

From: Kevin Spesert <kspesert@sitesproject.org>
Sent: Wednesday, December 16, 2020 4:35 PM
To: Janis Offermann <janis@horizonh2o.com>
Cc: Alicia Forsythe <aforsythe@sitesproject.org>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Subject: Re: AB 52 Consultation

Yes...please follow-up with them

From: Janis Offermann <janis@horizonh2o.com>
Sent: Wednesday, December 16, 2020 2:53 PM
To: Kevin Spesert
Cc: Alicia Forsythe; Laurie Warner Herson
Subject: RE: AB 52 Consultation

Hi, Kevin
Just thought I would follow up with my earlier email. If it is OK with you, I would like to contact the tribes via email to follow up on the letters we sent.
Thanks
janis

From: Janis Offermann <janis@horizonh2o.com>
Sent: Tuesday, December 08, 2020 9:39 AM
To: 'Kevin Spesert' <kspesert@sitesproject.org>
Cc: 'Alicia Forsythe' <aforsythe@sitesproject.org>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Subject: RE: AB 52 Consultation

Hi, Kevin

Thanks for sending Molly's response.

It has now been almost 3 weeks since the notified tribes have been in receipt of their letters. I think it is time to follow up with the other tribes with an email. If it is OK with you, I will send emails to each of the tribes reminding them of the letter (and also including a PDF of the letter), and that the Authority would like to hear from them. I thought I would do that early next week since the holiday may have caused more of a delay in response than usual.

Also, I have not received return receipts from Mechoopda or Grindstone. I can understand Grindstone since they are a very small tribe and don't have much administrative support. (I can ask Laverne about how to get in touch, if we need to.) I am surprised about Mechoopda, though, since they are very organized and generally well-staffed; however, COVID may have reduced personnel going in to the office to check mail, or going to pick up mail at the post office.

Let me know if it is OK to email the tribes about the letter. We can wait until the full 30 days are almost up, if you would prefer.
Thanks
janis

From: Kevin Spesert <kspesert@sitesproject.org>
Sent: Tuesday, December 08, 2020 9:22 AM
To: Molly West <mwest@colusa-nsn.gov>; Hazel Longmire <hlongmire@colusa-nsn.gov>
Cc: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; Janis Offermann <janis@horizonh2o.com>; Alicia Forsythe <aforsythe@sitesproject.org>
Subject: RE: AB 52 Consultation

Good Morning Ms. West,

Thank you for your response. We look forward to continue working with the CICC on the Sites Reservoir Project.

Please feel free to give me a call if you have any questions on my cell at (530) 632-4071

Thanks!

Kevin

Kevin Spesert
External Affairs Manager
Sites Project Authority
Phone: 530.632.4071
Email: kspesert@sitesproject.org
Web: www.SitesProject.org
P.O. Box 517
122 Old Hwy 99W
Maxwell, CA 95955

From: Molly West <mwest@colusa-nsn.gov>
Sent: Monday, December 7, 2020 2:55 PM
To: Kevin Spesert <kspesert@sitesproject.org>

Cc: Hazel Longmire <hlongmire@colusa-nsn.gov>
Subject: AB 52 Consultation

Colusa Indian Community Council (CICC) would like to request to continue consultation on the Sites project.

Please contact myself and Hazel Longmire (hlongmire@colusa-nsn.gov) on all future correspondence.

Thank you,

Molly West
Tribal Project Administrator
Colusa Indian Community Council
3730 Hwy 45
Colusa, CA 95932
Phone (530) 458-8231
Fax (530) 458-3866

From: Janis Offermann [janis@horizonh2o.com]
Sent: 12/17/2020 8:19:41 AM
To: dramirez@mechoopda-nsn.gov; mit@mechoopda-nsn.gov
CC: Kevin Spesert [kspesert@sitesproject.org]; Alicia Forsythe [aforsythe@sitesproject.org]
Subject: Sites Reservoir Project
Attachments: revRamirez_Mechoopda_AB 52_REIR_Notification Letter_11132020.pdf; 02-03 EIR_EIS Selection of Preferred Project for Purposes of CEQA (1).pdf

Good morning, Chairman Ramirez
I am writing on behalf of the Sites Project Authority (Authority) regarding a project notification letter dated November 13, 2020, sent to you pursuant to Public Resources Code § 21080.3.1(d), also known as Assembly Bill 52. A copy of the letter and the letter enclosure are attached.

The Authority is preparing a revised Draft Environmental Impact Report for the Sites Reservoir Project, which is anticipated to be released for public review in the summer of 2021. Additional details about the revised project are provided in the accompanying letter and preliminary project description.

If you wish to consult on this project, please contact Kevin Spesert, External Affairs Manager for the Authority, at (530) 632-4071 or kspesert@sitesproject.org by January 18, 2021.

Best regards

Janis Offermann
Cultural Resources Practice Leader
Horizon Water and Environment
400 Capitol Mall, Suite 2500
Sacramento, CA 95814
916.465.8076 – office
530.220.4918 – mobile

November 13, 2020

Mr. Dennis Ramirez, Chairperson
Mechoopda Indian Tribe
125 Mission Ranch Blvd.
Chico, CA 95926

From: Fritz Durst/ Sites Project Authority Board Chair

Subject: Tribal Cultural Resources under the California Environmental Quality Act, Assembly Bill (AB) 52. Formal Notification of the Preferred Project for the Purposes of the California Environmental Quality Act (CEQA) Analysis and Notification of Consultation Opportunity for the Sites Reservoir Project, Colusa, Tehama, Glenn, and Yolo Counties, California, pursuant to Public Resources Code § 21080.3.1

Dear Honorable Chairperson Ramirez,

The Sites Project Authority (Authority) initially contacted you in February 2017 in compliance with the project notification requirements pursuant to Public Resources Code § 21080.3.1(d) for the Sites Reservoir Project. A Draft Environmental Impact Report (EIR) was published for public review in August 2017. After receipt of public comments on the Draft EIR, the Authority reconsidered elements of the project. In October 2019, representatives from both the Authority Board and Reservoir Committee began undertaking a "value planning" process, an effort to identify and evaluate additional alternatives. As a result of the the "value planning process," the Authority identified a project that redueced the size of the proposed Sites ReserviorReservoir from 1.8 million acre feet to 1.5 million acre feet, removed the Delevan Pipeline and associated facilities, and made minor adjustments to other project features.

On April 22, 2020, the Authority directed staff to revise and recirculate a Draft EIR consistent with the California Environmental Quality Act (CEQA) to analyze the environmental effects of the facility options identified in the Sites Project Value Planning Report.[1] The Revised Draft EIR is anticipated to be released for public review in the summer of 2021. In response to preparing the Revised Draft EIR, the Authority is providing you with a description of the revised project for your consideration pursuant to Public Resources Code § 21080.3.1(d).

Description of the Proposed Project

The Authority proposes to construct the revised Sites Reservoir Project, which includes a new off-stream storage reservoir and associated water conveyance facilities located in Colusa, Tehama, Glenn, and Yolo counties, California. The new reservoir would be located in Antelope Valley, on the eastern edge of the North Coast Ranges and approximately 10 miles west of the town of Maxwell.

[1] https://3hm5en24txyp2e4cxyxaklbs-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/02-01.a-Authority-Board_Value-Planning.pdf

P.O. Box 517
Maxwell, CA 95955
530.438.2309

The Sites Reservoir Project is proposed to provide storage and operational benefits including water supply resiliency, water dedicated to environmental uses, and other programs throughout California.

Two alternatives (Alternative 1 and Alternative 2) are currently under consideration. The primary differences in the alternatives is that Alternative 1 will impound up to 1.5 million acre feet of water and discharge water into the Colusa Drain, via the Tehama Colusa Canal, in the vicinity of Dunnigan, Yolo County. In contrast, Alternative 2 will hold up to 1.3 million acre feet of water and discharge water via the Tehama Colusa Canal into the Sacramento River; again, in the vicinity of Dunnigan. Alternative 1 also includes a bridge to extend the Sites Lodoga Road directly across the reservoir, while Alternative 2 re-routes the road around the south end of the reservoir and continues to Lodoga along the west side of the reservoir. Alternative 1 was designated by the Authority as the preferred project for the purposes of the CEQA analysis and permit development on September 17, 2020.

For more information regarding the proposed project alternatives, please see the attached Preliminary Project Description.

Pursuant to PRC § 21080.3.1 (b), please respond, in writing, within 30 days if you wish to request consultation. If you have any questions or wish to consult on this project, please contact the Authority's Lead Agency Point of Contact for AB 52 consultations:

Kevin Spesert, External Affairs Manager
Sites Project Authority
P.O. Box 517
Maxwell, CA 95955
Phone: (530) 632-4071
Email: kspesert@sitesproject.org

If consultation is requested, please provide the name and contact information of the designated lead contact person as part of your request. The Authority will contact the designated person to set a meeting date to begin consultation within 30 days of our receipt of your request.

Thank you for giving this matter your prompt attention.

Sincerely,

Fritz Durst
Sites Project Authority

Sites

Topic: **Joint Authority Board and Reservoir Committee Meeting Agenda Item 2.3** **2020 September 17**

Subject: **Preferred Project for the Purposes of the CEQA Analysis and Federal/State ESA Analysis**

Requested Action:

Designate Alternative 1, based on VP-7 of the Sites Project Value Planning Alternatives Appraisal Report (Value Planning Report), as the Authority's preferred project for the purposes of the Revised Draft Environmental Impact Report (EIR) analysis and for the purposes of the Biological Assessment and State Incidental Take Permit applications.

Detailed Description/Background:

In April 2020, the Authority accepted the Value Planning Report and its findings and directed staff to analyze the environmental effects of the new alternatives in the Value Planning Report, including VP7. The Authority also directed that a revised and recirculated Draft EIR be prepared for public review[1]. Staff began development of the revised Draft EIR and is at the point where the Board needs to identify a preferred alternative based on a more complete project description (see attachment A).

During the Reservoir Committee and Board meetings in June, staff provided an overview of the alternatives under consideration as well as revised draft objectives for the project, requesting review and input in order to focus efforts in developing a more complete project description. At that time, staff presented Alternatives 1 and 2 which combined components of VP5, VP6, and VP7 from the Value Planning Report. Staff recommended these two alternatives as they define the reasonable range of alternatives given the previous analyses of the project and potential alternatives.

Staff is returning to the Reservoir Committee and Authority Board with a Preliminary Project Description (Attachment A), and revised objectives (Attachment B). Changes have been made to both the alternatives and objectives in response to Reservoir Committee and Authority Board input and in further development of project details and information by the project team. The key changes to the alternatives are as follows:

- Transportation/circulation components have been clarified. Both alternatives provide access to residents at the south end of the reservoir via a realigned Huffmaster Road. To provide access to the west side of the reservoir, Alternative 1 crosses the reservoir with a bridge on Sites Lodoga

[1] Staff has worked cooperatively with the Bureau of Reclamation to identify the appropriate approach to proceed with the Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act, and a Supplemental EIS will be prepared as part of the joint California Environmental Quality Act/National Environmental Policy Act documentation.

Road. Alternative 2 includes a south road continuing from Huffmaster Road around the west side of the reservoir to Ladoga, with no bridge.

- The Dunnigan pipeline alignment and proposal to release into the Colusa Basin Drain has been further assessed and confirmed as the proposed component for conveyance release under Alternative 1.

Key changes to the objectives are as follows:

- All objectives have been revised to focus on the statewide benefits of the Project and the needs of all Participants.

- Objective 1 addresses the amount of water supply required to meet participants' water demands and the need for an affordable, cost-effective Project.

- Objective 2 addresses the Water Storage and Investment Program public benefits.

- Objective 3 addresses federal participation and clarifies the intent of the Project to provide operational flexibility to the Central Valley Project.

- Objective 4 addresses intended benefits to the Delta ecosystem beyond the requirements of the Water Storage and Investment Program public benefits.

- Minor changes have also been made to Objective 5 regarding roadway connectivity.

Due to the project schedule, staff is preparing the Revised EIR at the same time as the engineering team is conducting preliminary design activities. The following assumptions represent the variations being taken from the project described in VP7 of the Value Planning Report and have been incorporated in the development of Alternative 1 to allow the EIR/EIS and engineering activities to move forward simultaneously and achieve the project schedule:

- Bridge – The EIR/EIS will move forward with Bridge Option 1B, Shorter Bridge with Fill Prisms, including the Cast-in-Place Prestressed Concrete Box Girder bridge type. This option was identified as a lowest cost bridge alternative in the Value Planning Report while meeting the functional requirements for efficient traffic flow.

- Dam Fill materials – The EIR/EIS will move forward with Dam Fill Option 1A, Earth and Rockfill, which is anticipated to be preferred by California Division of Safety of Dams and will assist in meeting the schedule and affordability goals; it also provides maximum coverage for potential environmental effects as the rockfill involves blasting associated with rock quarrying.

- Terminal Regulating Reservoir – The EIR/EIS will continue to analyze the original proposed location for this reservoir and carries forward additional potential locations as more is learned in the coming months regarding soils conditions.

- Glenn-Colusa Irrigation District and Colusa Basin Drain Facility Improvements – The EIR/EIS will address the type and magnitude of improvements needed to convey Sites water through existing facilities, pending future agreements on any specific improvements that may be warranted by the Project.

- Emergency Releases – In the rare and unanticipated condition that the Sites Reservoir has to conduct emergency releases, these releases are currently planned to be made into Funks Creek, Stone Corral Creek, and into the Hunters Creek watershed via Saddle Dam 3, 5, and 8b. Emergency release locations and the extent of potential impacts will be evaluated in further detail as part of the on-going feasibility study.

- Dunnigan Release – Based on preliminary hydraulic study, the EIR/EIS will assume release to the Colusa Basin Drain under Alternative 1 and will carry forward an extension to the Sacramento River under Alternative 2.

- Hydropower Generation – Based on the current Project information, the EIR/EIS will address incidental in-line conduit hydropower generation at a level that is below the threshold for Federal Energy Regulatory Commission license.

- Temporary Water Supply for Construction – Based on the current Project information, the EIR/EIS will evaluate obtaining water temporarily for construction supply on site via existing groundwater or surface water facilities or existing or new groundwater wells, including any onsite treatment that may be warranted depending on water quality.

It is important to note that the engineering team will continue to consider and analyze options for various facility components in order to optimize design and reduce costs, including potentially considering alternatives to account for reduced participation levels to maintain affordability. In the event that the final project facilities are different than the assumptions above, staff will consider appropriate modifications to the process and documents consistent with the California Environmental Quality Act, National Environmental Policy Act, and the Federal and State Endangered Species Acts. The goal is to make any modifications on a timeline that does not impact the ability to deliver the EIR/EIS documents for public review any later than July 2021.

The California Environmental Quality Act Guidelines require that an EIR analyze a reasonable range of alternatives to the project which would feasibly attain most of the basic objectives of the project while avoiding or substantially lessening significant effects of the project. While an EIR must analyze reasonable alternatives, it also needs to identify a proposed project, which is also referred to as the preferred alternative. At this time, staff is recommending the designation of Alternative 1 as the Authority's proposed project based on its meeting the intent and the goals of the Value Planning effort, its close alignment with VP-7, and its ability to meet the project objectives. The EIR/EIS will also analyze Alternative 2 and the No Project/No Action Alternative.

If designated by the Reservoir Committee and Authority Board, Alternative 1 would also be used as the proposed project for the purposes of the Biological Assessment under the Federal Endangered Species Act and State Incidental Take Permit applications under the California Endangered Species Act.

Prior Action:

April 22, 2020: The Authority directed staff to revise and recirculate a Draft Environmental Impact Report (EIR) to analyze the environmental effects of the options identified in the Final Sites Project Value Planning Alternatives Appraisal Report dated April 2020, including VP7.

April 22, 2020: The Authority accepted: the final report titled "Sites Project Value Planning Alternatives Appraisal Report, dated April 13, 2020" and the recommendations presented within, and; a recommendation to the Sites Project Authority to approve the final report titled "Sites Project Value Planning Alternatives Appraisal Report, April 13, 2020" and the recommendations presented within.

February 26, 2020: The Authority approved a recommendation to re-start efforts on the EIR for the Sites Reservoir Project and assess the most appropriate approach for completing the EIR pursuant to the California Environmental Quality Act.

July 20, 2017: The Reservoir Committee approved a recommendation to forward the Draft EIR/EIS to the Authority Board for its consideration to formally receive and adopt the document for inclusion in the Authority's Water Storage Investment Project application.

July 31, 2017: The Authority approved the release of the Draft EIR for public and agency review, in connection with the Authority's application to the California Water Commission by August 14, 2017. The document was published as joint Draft EIR/EIS by the Authority under the California Environmental Quality Act and Reclamation under the National Environmental Policy Act.

December 19, 2016: The Authority approved release of a Supplemental Notice of Preparation (released February 2, 2017) to transfer the California Environmental Quality Act lead agency status from the Department of Water Resources to the Sites Project Authority. Public scoping meetings were conducted on February 14 and 15, 2017.

Fiscal Impact/Funding Source:

Actual costs to prepare the project description and the supporting evaluations were within the amounts budgeted in the Phase 1B Work Plan which was approved by the Sites Project Authority at its January 22, 2020 Board meeting.

Sufficient funds to complete the recirculated Draft EIR/EIS and begin preparation of the Final EIR/EIS are included in the Amendment 2 Work Plan (Budget), which was approved by the Authority at its August 26, 2020 Board meeting.

Costs to complete and circulate the Final EIR/EIS will be considered in a future Work Plan.

Staff Contact:

Ali Forsythe

Attachments:

Attachment A – Sites Reservoir Project, Preliminary Project Description – September 8, 2020.

Attachment B – Revised Recommended EIR Objectives.

Sites Reservoir Project
Preliminary Project Description
September 2020

On April 22, 2020, the Sites Project Authority (Authority) directed staff to revise and recirculate a Draft Environmental Impact Report (EIR) consistent with the California Environmental Quality Act (CEQA) to analyze the environmental effects of the facility options identified in the Sites Project Value Planning Report (Value Planning Report), dated April 2020. Since that time, Authority staff and environmental, engineering and modeling consultants have been developing and refining alternatives. In June, staff recommended that the Draft Revised EIR[1]/Supplemental Environmental Impact Statement (EIS)[2] (Revised EIR/Supplemental EIS) evaluate two action alternatives, Alternative 1 and Alternative 2, and provided an initial overview of the two alternatives.

This preliminary project description summarizes the alternatives presented in the preliminary Revised EIR/Supplemental EIS Chapter 2, Alternatives Description, which was completed on August 31, 2020. That preliminary draft Chapter 2 reflects preliminary design efforts, including the preparation of technical memos and preliminary drawings, and coordination between the service providers and staff. Modeling and engineering efforts are ongoing, and additional information related to operations and construction means and methods will likely supplement the preliminary Draft Chapter 2 in the coming weeks.

1.0 Overview of Alternatives

The following table compares facilities and operational considerations under Alternatives 1 and 2. This table is an updated version of a table provided at the June 24 Authority Board meeting (Agenda Item 3.3 Attachment B) and identifies existing as well as new facilities that will be constructed to implement each alternative.

Table 1. Revised Alternatives Summary Table

Facilities/Operations	Alternative 1	Alternative 2
Diversion/Reservoir Infrastructure Details		
Reservoir Size	1.5 million acre feet (MAF)	1.3 MAF
Dams [Scaled to the size of the reservoir]	2 main dams, Golden Gate Dam and Sites Dam 7 saddle dams 2 saddle dikes	2 main dams, Golden Gate and and Sites Dam 6 saddle dams 2 saddle dikes
Spillway	One spillway on Saddle Dam 8b	Similar to Alternative 1
Funks Reservoir and Funks Pumping Generating Plant	Funks Reservoir excavated to original capacity; same footprint as existing Funks Reservoir. New Funks Pump Generating Plant (PGP). New Funks pipeline alignment with 2 pipelines.	Similar to Alternative 1

[1] The Revised EIR/Supplemental EIS will also address the No Project/No Action Alternative.

[2] A Supplemental EIS will be prepared to comply with the National Environmental Policy Act (NEPA).

Table 1. Revised Alternatives Summary Table

Facilities/Operations	Alternative 1	Alternative 2
Terminal Regulating Reservoir (TRR); TRR Pumping Generating Plant; TRR Pipeline	New TRR facilities (TRR and TRR PGP) adjacent to the Glenn Colusa Irrigation District (GCID) Main Canal. New TRR pipeline alignment with 2 pipelines.	Same as Alternative 1
Hydropower	Power generation incidental upon release.	Same as Alternative 1
Diversion(s)	Diversion from Sacramento River into existing Tehama-Colusa Canal at Red Bluff and the existing GCID Main Canal at Hamilton City. Adding 2 pumps in existing bays at the plant at the Red Bluff Pumping Plant.	Same as Alternative 1
Emergency Release Flow	Releases into Funks Creek via Inlet/Outlet Works. Releases into Stone Corral Creek via Site Dam permanent discharge outlet. Emergency outflow pipeline and structures in Saddle Dam 3 and 5 to release north to Hunters Creek Watershed. Release from spillway on Saddle Dam 8b.	Similar to Alternative 1
Flood Control	Flood damage reduction benefit for local watersheds from reservoir storage.	Same as Alternative 1
Reservoir Management	Reservoir Management Plan and Reservoir Operations Plan.	Same as Alternative 1
Electrical Facilities	Transmission Lines, substations, switchyards; interconnection with Western Area Power Administration or Pacific Gas and Electric.	Same as Alternative 1
Recreation		
Multiple Facilities Consistent with WSIP Application	Two primary areas with infrastructure (with phased construction): 1. Peninsula Hills Area 2. Stone Corral Creek One day-use boat ramp w/parking located on the west side of the reservoir and south of the bridge.	Same as Alternative 1
Transportation/Circulation		
Provide Route to West Side of Reservoir	Bridge crossing the reservoir as a result of the relocation of existing Sites Lodoga Road. Relocation of Huffmaster Road with gravel road to residents at the south end of the reservoir terminating at the south end of the reservoir.	No bridge. Relocation of Sites Lodoga Road to residents at south end of the reservoir continues to Lodoga. Huffmaster Road is integrated into Sites Lodoga Road and is paved the entire way.
Mulitple Maintenance and Local Access Roads	Approximately 46 miles of new paved and unpaved roads would provide construction and maintenance access to the proposed facilities, as well as provide public access to the proposed recreation areas.	Similar to Alternative 1

Table 1. Revised Alternatives Summary Table

Facilities/Operations	Alternative 1	Alternative 2
	Approximate number of roads related to the reservoir: 5 local/construction roads 2 construction/maintenance roads 7 local roads 4 maintenance roads Approximate number of access roads related to conveyance facilities: 1 to the TRR 1 to Funks complex Multiple within pipeline easements	
Operations		
Operational Criteria	Option based on Value Planning Report, Table 3.1 Scenario B, anticipated to be modified by future modeling efforts.	Same as Alternative 1
Reclamation Involvement	Two Options: 1. Funding Partner 2. Operational Exchanges a. Within Year Exchanges b. Real-time Exchanges	Same as Alternative 1
State Water Project (SWP) Involvement	Operational Exchanges with Oroville and storage in SWP facilities South-of-Delta.	Same as Alternative 1
Bypass Releases into Funks Creek and Stone Corral Creek	Develop specific bypass criteria to protect downstream water right holders and ecological function.	Same as Alternative 1
Conveyance Dunnigan Release	Release 1,000 cubic feet per second (cfs) into new pipeline to Colusa Basin Drain to meet member participant demands and Proposition 1 needs.	Release into new pipeline to Sacramento River to meet member participant demands. Partial release into the Colusa Basin Drain to fulfill the Proposition 1 needs.

2.0 Facilities

The project will utilize both existing and proposed new facilities, all of which will be located within northern California in Glenn, Colusa, Tehama and Yolo Counties (see Figures 1 and 2 at the end of this document). As summarized in the Table 1 above, most facilities are the same or similar under Alternatives 1 and 2 although features may differ in scale or location due to the size of the reservoir. Facilities that have substantial differences between alternatives, such as the proposed dams, Dunnigan Pipeline and the Sites Lodoga Road realignment/relocation, are described in more detail below.

2.1 Existing Facilities

The project will utilize certain existing water supply infrastructure, including:

- Existing Bureau of Reclamation infrastructure operated by the Tehama-Colusa Canal Authority (TCCA):
  - Red Bluff Pumping Plant
  - Tehama-Colusa Canal

    - Funks Reservoir located approximately 65 miles south of the Red Bluff Pumping Plant
- Existing GCID Hamilton City Diversion and the GCID Main Canal
- Colusa Basin Drain (CBD)

Both action alternatives would require pumping capacity that exceeds the existing total installed capacity of 2,000 cfs of the Red Bluff Pumping Plant to convey flow to Funks Reservoir and ultimately Sites Reservoir. Both action alternatives would require installation of two additional 250-cfs vertical axial-flow pumps into existing concrete pump bays at the pumping plant.

Both action alternatives would also require a new 3,000-cfs GCID Main Canal headgate structure about 0.25 mile downstream of Hamilton City Pump Station. The existing headgate structure would be inadequate for proposed winter operation during high river flows. To streamline maintenance during the winter shutdown period (i.e., reduce it from the current shutdown window of 6 weeks to 2 weeks), smaller improvements would be required to integrate Sites Reservoir into the GCID system.

Use of the existing Funks Reservoir would require excavation of sediment to return it to its original capacity. The bottom of Funks Reservoir would be reshaped to allow large, unimpeded flows to and from the new Funks PGP.

Proposed access during construction will avoid the town of Maxwell, utilizing County Roads 68 and 69, McDermott Road, Maxwell Sites Road and Sites Lodoga Road. Several of these existing roads would require improvement to support construction activities. Other local roads would need to be relocated or developed to accommodate access due to the construction of reservoir facilities. These include portions of Sites Lodoga Road, Huffmaster Road, and Communication Road.

2.2 Proposed Conveyance Facilities

Implementation of either Alternative 1 or 2 would require various facilities to control the conveyance of water between Sites Reservoir and the Tehama-Colusa Canal and GCID Main Canal. These facilities would include regulating reservoirs, pipelines, PGPs, electrical substations, and administration and maintenance buildings.

The two regulating reservoirs would be the existing Funks Reservoir and the new Terminal Regulating Reservoir (TRR). Both regulating reservoirs would have two 12-foot-diameter pipelines extending to and from Sites Reservoir just below Golden Gate Dam. At each regulating reservoir, the pipelines would be connected to a pumping generating plant that pumps water from the regulating reservoir to Sites Reservoir, as well as turbines that would generate power when flows were released from Sites Reservoir. There would also be energy dissipation equipment adjacent to each PGP (e.g., fixed cone valve[s]) to throttle the flow of water into each regulating reservoir when the turbines are not being used.

A transition manifold would be constructed at the base of Golden Gate Dam to connect pipelines from Sites Reservoir to Funks Reservoir and the TRR pipelines. In

addition, a point of interconnection to a high-voltage electric transmission line would be required to power the facilities at the proposed TRR and Funks electrical substations.

Water released from Sites Reservoir would be conveyed south of Sites Reservoir using the existing Tehama-Colusa Canal and a new Dunnigan pipeline. The water would flow south about 40 miles to the end of the Tehama-Colusa Canal, where it would be diverted into the proposed Dunnigan Pipeline. Under Alternative 1, the flows would subsequently be conveyed to the CBD and released through the proposed CBD Outlet Structure, eventually reaching the Sacramento River at Knights Landing or to the Yolo Bypass/Cache Slough complex through the Knights Landing Ridge Cut. Under Alternative 2 water would flow south to the end of the Tehama-Colusa Canal but would be diverted into an extended Dunnigan Pipeline, with release directly to the Sacramento River with some flows released to the CBD to flow into the Yolo Bypass/Cache Slough complex through the Knights Landing Ridge Cut for environmental benefits under Proposition 1.

2.3 Proposed Reservoir Facilities

Under either alternative, water would be impounded by the Golden Gate Dam on Funks Creek and the Sites Dam on Stone Corral Creek; a series of saddle dams along the eastern and northern rims of reservoir would close off topographic saddles in the surrounding ridges to form Sites Reservoir. Two saddle dikes are also needed at topographic saddle low points along the northern end of the reservoir. These components of the reservoir would be scaled according to the alternative.

Under Alternative 1, the proposed 1.5-MAF reservoir would have a Normal Maximum Water Surface (NMWS) elevation of 498 feet. Under Alternative 2, the proposed 1.3-MAF reservoir would have an NMWS elevation of 482 feet. Nominal crest would be at elevation 517 feet for all dams for 1.5-MAF capacity, and at elevation 500 feet for 1.3-MAF capacity. Table 2 presents a summary of dam heights required to impound Sites Reservoir for the 1.5-MAF capacity and 1.3-MAF capacity.

Table 2. Dam Heights for 1.5-MAF and 1.3-MAF Sites Reservoir Alternatives

Dam/Dike	1.5-MAF Reservoir Maximum Height Above Streambed (feet)	1.3-MAF Reservoir Maximum Height Above Streambed (feet)
Golden Gate Dam	287	270
Sites Dam	267	250
Saddle Dam 1	27	None
Saddle Dam 2	57	40
Saddle Dam 3	107	90
Saddle Dam 5	77	60
Saddle Dam 6	47	None
Saddle Dam 8A	82	65
Saddle Dam 8B	37	5
Saddle Dike 1	12	10 (near Saddle Dam 1)
Saddle Dike 2	12	10 (near Saddle Dam 6)
Saddle Dam 10 [a]	Not required for 1.5-MAF Reservoir	30

[a] For the1.3-MAF Reservoir, Golden Gate Dam would be reconfigured and Saddle Dam 10 added to close off a topographic saddle in the ridge that is closed in the 1.5-MAF Golden Gate Dam configuration.

The engineering team is continuing to evaluate different options for dam fill that would be utilized under either Alternative 1 or Alternative 2. One option is an earth- and rockfill dam and another option is an earthfill dam. The proposed inlet/outlet works for an earthfill dam would be located to the south of Golden Gate Dam and would be used both to fill the reservoir through conveyance facilities located to the East and to make releases from Sites Reservoir. The inlet/outlet works include:

1. A multi-level intake tower including a low-level intake.
2. Two 23 foot inside diameter inlet/outlet tunnels through the ridge on the right abutment of Golden Gate Dam.

2.4 Proposed Recreational Facilities

As specified in the Sites Water Storage Investment Program application, either alternative would include two primary recreation areas and a day-use boat ramp which are to be phased in over a period of time. Located on the northwest shore of the proposed Sites Reservoir, to the north of the existing Sites Lodoga Road, the Peninsula Hills Recreation Area would include approximately:

- 200 campsites (car and recreational vehicle)
- one group camp area
- 10 picnic sites (with parking at each site)
- hiking trails
- electricity
- potable water
- one kiosk
- 19 vault toilets

Located on the eastern shore of the Sites Reservoir, north of the existing Maxwell Sites Road and proposed Sites Dam, the Stone Corral Creek Recreational Area would include:

- 50 campsites (car and recreational vehicle)
- electricity

- 10 picnic sites (with parking at each site)
- six-lane boat launch site
- hiking trails
- potable water
- one kiosk
- 10 vault toilets

Each alternative would also include a Day-Use Boat Ramp/Parking Recreation Area, located on the western side of the reservoir where the existing Sites Lodoga Road intersects with the proposed inundation area for the reservoir. Facilities would include:

- one kiosk
- one vault toilet
- potable water
- parking area

2.5 Proposed Roads and South Bridge

In addition to modifying existing roads for construction access, the project will require up to 46 miles of new paved and unpaved roads to provide construction and maintenance access to the proposed facilities, as well as public access to the proposed recreation areas. Sites Lodoga Road provides access to and from the town of Maxwell, which is adjacent to Interstate 5. Sites Lodoga Road becomes Maxwell Sites Road east of the rural community of Sites that is within the inundation area. The reservoir would eliminate east-west access to Interstate 5 (east of the reservoir) from the rural communities of Stonyford and Lodoga (west of the reservoir) because it would inundate the current route of Sites Lodoga Road. The current Sites Lodoga Road is an east-west, two-lane rural collector road and provides an emergency and evacuation route to and from these rural communities. Because construction of the Sites Dam would eliminate access on the Sites Lodoga Road, this collector road would need to be relocated/realigned prior to project construction.

Under Alternative 1, the realigned Sites Lodoga Road would include the construction of a bridge across the reservoir. Various bridge types and options have been evaluated. One option for a bridge is a full-length bridge that would offer navigational passage along the entire width of the reservoir. Another option for a bridge is a causeway with partial fill, which would limit the navigational passage within the reaches of the shorter bridges; however, the approach to implementing fill prism in the reservoir would significantly reduce construction cost. Alternative 1 would also include the realignment of the existing Huffmaster Road to provide access to properties otherwise inaccessible due to reservoir construction.

Under Alternative 2, the realignment of Sites Lodoga Road would result in a road that ultimately extends from Maxwell to the community of Lodoga around the southern end and western side of the proposed Sites Reservoir. This road, referred to as the Maxwell Lodoga Road, would include the realignment and repavement of the existing Huffmaster Road.

2.6 Project Buffer

The proposed project buffer would consist of the total amount of land that would be acquired beyond the facility footprints for each alternative. The preliminary approach to the buffer is outlined below.

- The buffer would include 100 feet around all buildings and most ground facilities (e.g., substations, any aboveground pipelines) along with 100 feet around the Sites Reservoir Complex and recreation areas.
- The buffer may be less than 100 feet if the facility is near a property boundary and the proposed uses do not conflict with the adjacent land uses.
- No project buffers are anticipated for underground or buried facilities (i.e., Dunnigan Pipeline), overhead power lines, or roads (both public and project maintenance access roads).
- The Authority would evaluate the need for the buffer (and if implemented, an appropriate width) on a case-by-case basis in coordination with adjacent landowners. The buffer would likely be acquired in fee title by the Authority; however, acquisition of buffer areas in an easement may be feasible under certain circumstances.
- The lands within the buffer would generally remain undeveloped. Limited features may be installed to reduce future maintenance activities and fire hazards. These features may include limited fencing, regrading to construct fire breaks or fire trails, or similar actions.
- The lands within the buffer would be maintained by the Authority. Maintenance activities that are proposed to be undertaken within the project buffer include vegetation maintenance and periodic fire break maintenance. Such activities may include grazing, periodic tilling or disking, and performing limited controlled/prescribed burns. Where appropriate, the buffer may be managed as wildlife habitat. Fence maintenance would occur within the buffer.

3.0 Operations

The operation of the project under each alternative will be defined in upcoming months as the modeling and development of diversion criteria are further advanced. The member participants of the Authority have a collective demand of approximately 240,000 acre-feet, of which 192,892 acre-feet is needed by participating public water agencies[3]. Reclamation is also a participant through funding and/or operational exchanges with Shasta Lake. The State would also be involved through operational exchanges with Oroville Reservoir and storage in State Water Project facilities south-of-Delta.

Sites Reservoir would be filled by diverting unregulated/unappropriated flow in the Sacramento River. This water originates during winter storm events, which increase flows in the tributaries to the Sacramento River below Keswick Dam and avoiding any effects on the Trinity River. Water would be available for diversion after senior water rights are met, in-river aquatic species protection requirements are met, and delta water quality requirements have been met. Diversions would occur at the fish screened Red Bluff Pumping Plant and the GCID Hamilton City location when applicable regulatory requirements are met and existing pumping and conveyance capacity is available to convey water through the canals to the reservoir. TRR and Funks Reservoir, PGPs, and pipelines connect directly to the inlet/outlet works and would be operated in parallel to

[3] April 2020 Sites Project Value Planning Alternatives Appraisal Report.

pump water into and out of Sites Reservoir. Water would enter (and be released from) the reservoir through the inlet/outlet works.

Reservoir releases include releases to meet participant demands and to deliver water for a range of environmental benefits that will be finalized during project development and permitting.

- Sites Reservoir would be operated in cooperation with Central Valley Project (CVP) and SWP operations to coordinate with releases made with the CVP and SWP from Shasta Lake, Lake Oroville, and Folsom Lake. Sites Reservoir releases could supplement and/or allow reduced releases from other reservoirs while maintaining minimum instream flow objectives, Sacramento River temperature requirements, and Delta salinity control requirements assigned to CVP and SWP.
- Releases would be made mostly in dry and critical water years. Water users north of the Delta would mostly receive deliveries from the TCCA canal and GCID canal. Water users south of the Delta would receive water primarily via SWP pumping facilities.
- Using the CBD for conveyance of Sites Reservoir water would include coordination with the local landowners regarding the project operation and timing of the additional flows.

Releases would also be made to Funks and Stone Corral Creeks for downstream water right holders and to maintain ecological function in the sections of these creeks affected by the project. A proposed Reservoir Operations Plan would describe the management of water operations, including releases to Funks and Stone Corral Creeks.

Operation of either alternative would require power to run facilities and pump water. The identification of a power source and the location of transmission facilities is pending coordination with Western Area Power Administration and/or Pacific Gas and Electric. Each of the alternatives would also generate incidental power when water is released from Sites Reservoir at the Funks PGP and TRR PGP. The capacity of the project power generation facilities is anticipated to be below the threshold such that no license would be required from the Federal Energy Regulatory Commission and the facilities would satisfy the criteria for a "Qualifying Conduit Hydropower Facility" under the Hydropower Regulatory Efficiency Act of 2013, as amended by America's Water Infrastructure Act of 2018.

4.0 Maintenance and Management

Under either alternative, maintenance activities for the project facilities would include debris removal, dredging, vegetation control, rodent control, erosion control and protection, routine inspections (dams, tunnels, pipelines, PGPs, inlet/outlet works, fencing, signs, and gates), painting, cleaning, repairs, and other routine tasks to maintain facilities in accordance with design standards after construction and commissioning. Routine visual inspection of the facilities would be conducted to monitor performance and prevent mechanical and structural failures of project elements. Maintenance activities associated with proposed river intakes could include

cleaning, removal of sediment, debris, and biofouling materials. These maintenance actions could require dewatering; suction dredging or mechanical excavation around intake structures; or the use of underwater diving crews, boom trucks, rubber-wheel cranes, and raft- or barge-mounted equipment. Proposed maintenance activities could occur on a daily, annually, periodically (as needed), and long-term basis.

The Authority would also develop and implement a Reservoir Management Plan to define the land uses of project lands controlled by the Authority, fish stocking and vector control practices, and the resources associated with project lands. The Reservoir Management Plan would include the following types of information:

- **Fisheries Management.** This would target species composition for Sites Reservoir, including stocking strategies, habitat enhancement measures, and monitoring efforts.
- **Land Use Management and Recreation.** This would outline how decisions regarding future amenities would be made and what land use considerations would be factored into Authority operations and activities.
- **Easement Management:** Right-of-ways and/or permanent easements would be required for long-term operation and maintenance of all the large-diameter pipelines. This would outline management and maintenance activities for easement areas.
- **Emergency Management**. This would establish protocol on how the Authority would be involved in controlling and resolving emergency situations, including those arising as a result of recreationists.
- **Vector Management.** This would establish protocols and practices for communicating and coordinating with vector control authorities in determining how vector control would be managed at the project facilities.
- **Sediment Management and Removal.** This would consolidate information on the frequency and locations of dredging, testing of sediment before disposal, disposal locations, and procedures to follow if sediment contaminant levels exceed regulatory standards for constituents of concern (e.g., pesticides).

5.0 Best Management Practices

A number of Best Management Practices and environmental commitments are proposed to be included in Project design, construction and operation/maintenance. The following proposed list of Best Management Practices and environmental commitments would be considered part of the Project.

- Conform with Applicable Design Standards and Building Codes
- Perform Geotechnical Evaluations and Prepare Geotechnical Data Reports
- Utility and Infrastructure Verification and/or Relocation
- Natural Gas Well Decommissioning
- Water Wells Decommissioning
- Road Abandonment
- Environmental Site Assessment(s)

- Salvage, Stockpile, and Replace Topsoil and Prepare a Topsoil Storage and Handling Plan
- Stormwater Pollution Prevention Plan(s) and Best Management Practices (storm water and non-storm water)
- Stormwater Pollution Prevention Plan for Operation and Maintenance
- Spill Prevention and Hazardous Materials Management / Accidental Spill Prevention, Containment, and Countermeasure Plans and Response Measures
- Minimize Soil Disturbance
- Comply with Requirements of RWQCB Order 5-00-175
- Groundwater/ Dewatering Water Supply
- Construction Equipment, Truck, and Traffic Management Plan
- Visual/Aesthetic Design, Construction, and Operation Practices
- Fire Safety and Suppression / Fire Prevention and Control Plan
- Worker Health and Safety Plan
- Blasting Standard Requirements
- Mosquito and Vector Control During Construction
- Construction Noise Management
- Operation and Maintenance Noise Management
- Construction Emergency Action Plan
- Emergency Action Plan for Reservoir Operations
- Electrical Power Guidelines and EMF Field Management Plan
- Construction Equipment Exhaust Reduction Plan
- Fugitive Dust Control Plans
- Construction Best Management Practices to Reduce Greenhouse Gas Emissions
- Hazardous Materials Management Plans
- Construction Site Security
- Notification of Maintenance Activities in Waterways
- Worker Environmental Awareness Program
- Fish Rescue and Salvage Plans for Funks Reservoir, Stone Corral Creek, and Funks Creek for Alternative 1; for Sacramento River for Alternative 2
- Construction Best Management Practices and Monitoring for Fish, Wildlife, and Plant Species Habitats, and Natural Communities
- Control of Invasive Plant Species during Construction and Operation

6.0 Pre-Construction Activities

In addition to items/activities addressed in the above list of proposed BMPs and ECs, there are other activities that would be required prior to the initiation of construction of the different physical components of either Alternative 1 or Alternative 2. These activities include: finalizing criteria and standards used for final design, including emergency management/release requirements; preparing a Dam Monitoring Program; conducting additional geotechnical and related field investigations to support design; relocation of two private cemeteries (Sites Cemetery and a Rancheria Cemetery); and the development and implementation of a Resident Relocation Program.

7.0 Timing of Environmental Review and Feasibility Report

The current schedule contemplates release of the Revised EIR/Supplemental EIS in July 2021. This is roughly the same timing for the engineering team's finalization of the Feasibility Report for the California Water Commission. As such, preparation of the Revised EIR/Supplemental EIS and Feasibility Report are proceeding simultaneously. To accommodate the project schedule and the simultaneous preparation of the Revised EIR/Supplemental EIS and Feasibility Report, the following project components will be utilized for the analysis:

- Sites Lodoga Road and Bridge – Under Alternative 1, the Revised EIR/Supplemental EIS will include the option of the shorter bridge with fill prisms, including the cast-in-place prestressed concrete box girder bridge type. This option was identified as a lowest cost bridge alternative in the Value Planning Report while meeting the functional requirements for efficient traffic flow.
- Dam Fill Materials – Under Alternative 1 and 2, the Revised EIR/Supplemental EIS will include the option of using earth and rockfill. This option is anticipated to be preferred by the Division of Safety of Dams and will assist in meeting the schedule and affordability goals; it also provides maximum coverage for potential environmental effects as the rockfill involves blasting associated with rock quarrying.
- Terminal Regulating Reservoir (TRR) – Under Alternative 1 and 2, it is anticipated that the Revised EIR/Supplemental EIS will include the current TRR location. Other locations currently are under review due to the extent and costs associated with ground preparation needed for construction at the current site.
- GCID and Colusa Basin Drain Facility Improvements – Under Alternative 1 and 2, the Revised EIR/Supplemental EIS will describe the types of improvements needed to convey water through existing facilities and reduce GCID's current maintenance winter shutdown period from 6 weeks to 2 weeks, pending agreement between GCID and the Authority on any specific improvements that may be warranted due to implementation of the project. Improvements may also be needed to the Colusa Basin Drain to convey Sites water.
- Emergency Releases – In the rare and unanticipated condition that the Sites Reservoir has to conduct emergency releases, these releases are currently planned to be made into Funks Creek, Stone Corral Creek, and into the Hunters Creek watershed via Saddle Dam 3, 5, and 8b. Emergency release locations and the extent of potential impacts will be evaluated in further detail as part of the on-going feasibility study.
- Dunnigan Release – Under Alternative 1, the Revised EIR/Supplemental EIS will evaluate a release to the CBD based on a preliminary hydraulic analysis. Alternatives 2 will carry forward an extension of the Dunnigan pipeline to the Sacramento River.
- Hydropower Generation – Under Alternative 1 and 2, the Revised EIR/Supplemental EIS will evaluate incidental in-line conduit hydropower generation below the threshold for a Federal Energy Regulatory Commission license.
- Temporary Water Supply for Construction – Under Alternative 1 and 2, the Revised EIR/Supplemental EIS will evaluate options for obtaining temporary water supply for construction, such as obtaining water on site via existing groundwater

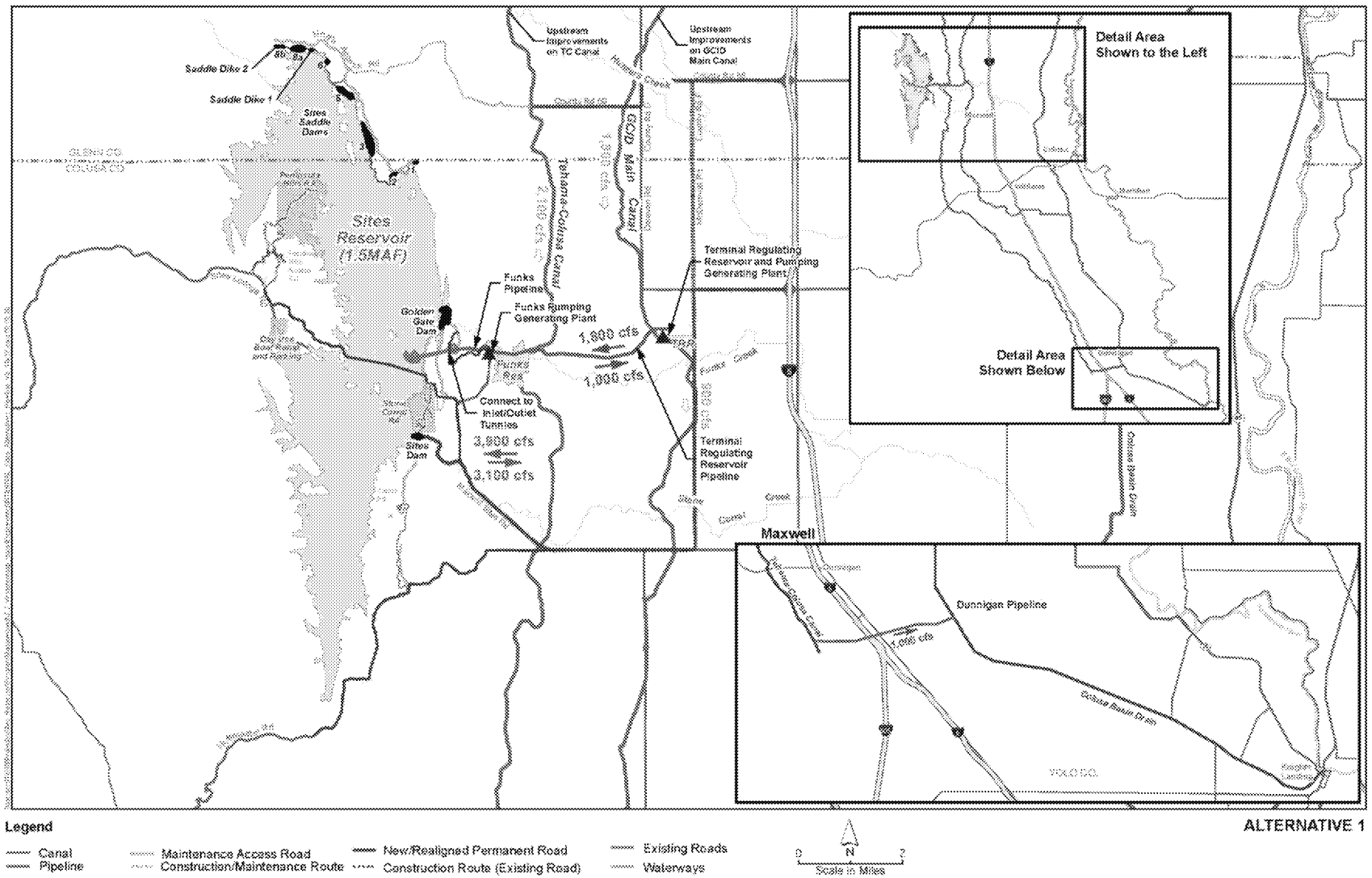
or surface water facilities and/or utilizing existing or drilling new wells, including any necessary treatment depending on the water quality.

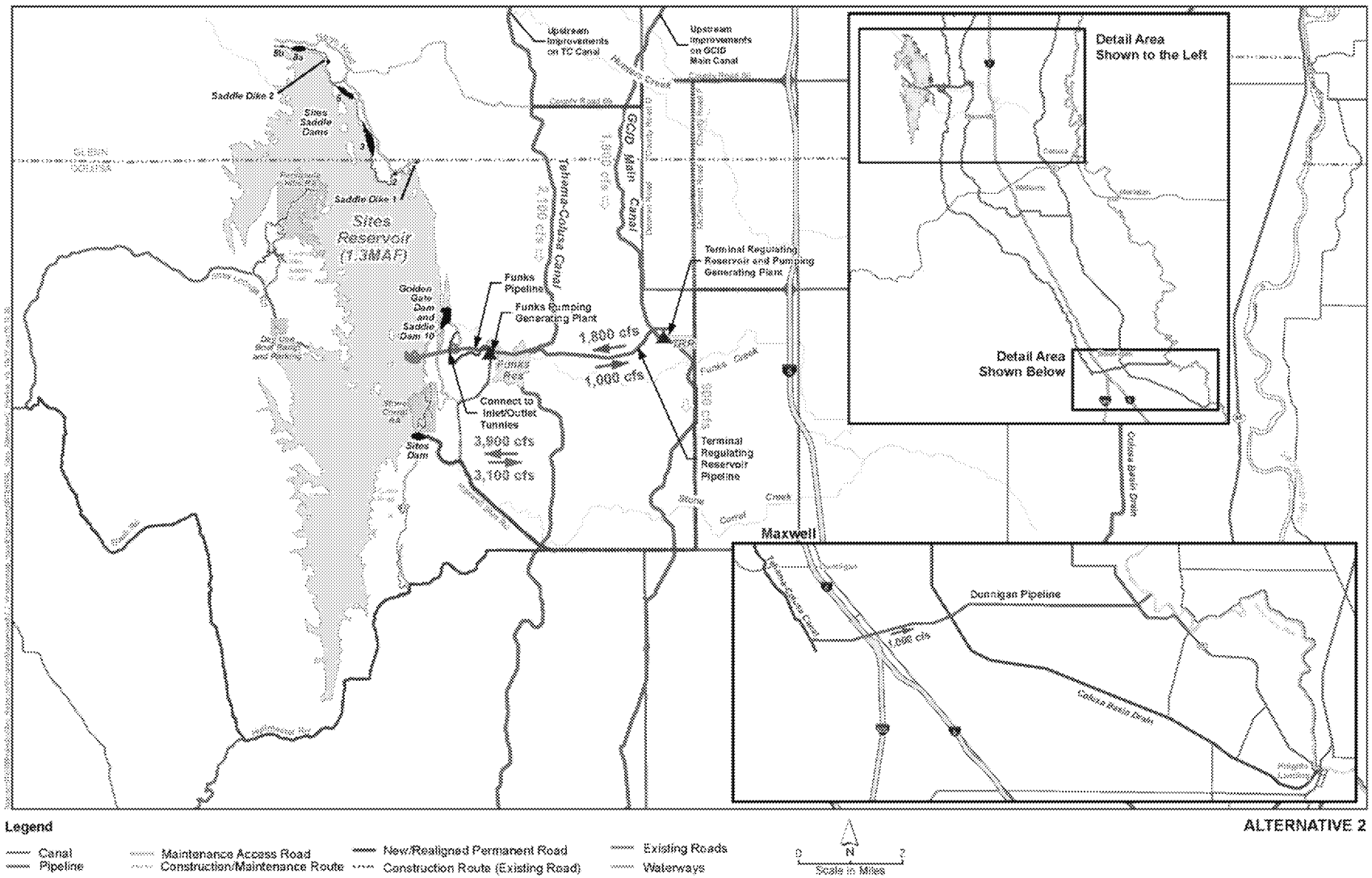
The engineering team will continue to consider and analyze options for various facility components, consistent with CEQA and NEPA requirements, in order to optimize design considerations and reduce costs.

It should also be noted that in the upcoming weeks, there will be further definition of project operations through modeling, clarification of water rights, and consultation with resource agencies. This information and any resulting changes to the alternatives described in the preliminary draft will be incorporated into the complete Chapter 2, Alternatives Description, to be completed by December 2020.

8.0 Identification of the Preferred Alternative for the Revised EIR/Supplemental EIS Analysis

The CEQA Guidelines require that an EIR analyze a reasonable range of alternatives to the project which would feasibly attain most of the basic objectives of the project and avoid or substantially lessen the significant effects of the project. An EIR also needs to identify a proposed project, i.e., a preferred alternative. At this time, Authority staff is recommending the designation of Alternative 1 as the Authority's proposed project based on it meeting the objectives identified in the Value Planning Report and being most closely aligned with Alternative VP-7, and its ability to meet the revised draft CEQA project objectives. The Revised EIR/Supplemental EIS will also evaluate Alternative 2 and the No Project/No Action Alternative.


Saddle Dike 2
Saddle Dike 1
Sites Saddle Dams
Sites Reservoir (1.5MAF)
Upstream Improvements on TC Canal
Downstream Improvements on GCID Main Canal
GCID Main Canal
Tehama-Colusa Canal
Terminal Regulating Reservoir and Pumping Generating Plant
Funks Pipeline
Funks Pumping Generating Plant
Golden Gate Dam
1,800 cfs
1,800 cfs
Connect to Inlet/Outlet Tunnels
3,800 cfs
3,100 cfs
Sites Dam
Terminal Regulating Reservoir Pipeline
Detail Area Shown to the Left
Detail Area Shown Below
Maxwell
Dunnigan Pipeline
1,886 cfs
Legend
Canal
Pipeline
Maintenance Access Road
Construction/Maintenance Route
New/Realigned Permanent Road
Construction Route (Existing Road)
Existing Roads
Waterways
N
Scale in Miles
ALTERNATIVE 1



ALTERNATIVE 2

Sites Reservoir Project
Revised Recommended EIR Objectives
September 8, 2020

- OBJ-1: Improve water supply reliability and resiliency to meet member participants' agricultural and municipal long-term average annual water demand in a cost-effective manner for all member participants', including those that are the most cost-sensitive.

- OBJ-2: Provide public benefits consistent with Proposition 1 of 2014 and use Water Storage Investment Program (WSIP) funds to improve statewide surface water supply reliability and flexibility to enhance opportunities for fisheries and habitat management for the public benefit through a designated long-term average annual water supply.

- OBJ-3: Provide public benefits consistent with the Water Infrastructure Improvements for the Nation Act (WIIN Act) of 2016 by using federal funds, if available, provided by Reclamation to improve Central Valley Project (CVP) operational flexibility in meeting CVP environmental and contractual water supply needs and improving cold pool management in Shasta Reservoir to benefit anadromous fish

- OBJ-4: Provide surface water to convey biomass from the floodplain to the Delta to enhance the Delta ecosystem for the benefit of pelagic fishes[1] in the north Delta (e.g., Cache Slough).

- OBJ-5: Provide local and regional amenities, such as developing recreational facilities, reducing local flood damage, and maintaining roadway connectivity through modifications.

[1] Pelagic fish are species that spend most of their life swimming in the water column, having little contact or dependency with the bottom.

From: Janis Offermann [janis@horizonh2o.com]
Sent: 12/17/2020 8:24:53 AM
To: Kevin Spesert [kspesert@sitesproject.org]
CC: Alicia Forsythe [aforsythe@sitesproject.org]
Subject: RE: Sites Reservoir Project

Hi, Kevin
I just want to let you know that (in the email below) I have given Mechoopda another 30 days to respond to the letter because I never received the return receipt from the original letter; therefore, it is possible that this is the first time they are seeing the letter. The same applies to the Grindstone Rancheria. For all others, I intend to request a response by the end of the year. If we don't hear from any of them, we can assume there is no interest.

Thanks
Janis

Janis Offermann
Cultural Resources Practice Leader
Horizon Water and Environment
400 Capitol Mall, Suite 2500
Sacramento, CA 95814
916.465.8076 – office
530.220.4918 – mobile

From: Janis Offermann <janis@horizonh2o.com>
Sent: Thursday, December 17, 2020 8:20 AM
To: 'dramirez@mechoopda-nsn.gov' <dramirez@mechoopda-nsn.gov>; 'mit@mechoopda-nsn.gov' <mit@mechoopda-nsn.gov>
Cc: 'Kevin Spesert' <kspesert@sitesproject.org>; 'Alicia Forsythe' <aforsythe@sitesproject.org>
Subject: Sites Reservoir Project

Good morning, Chairman Ramirez
I am writing on behalf of the Sites Project Authority (Authority) regarding a project notification letter dated November 13, 2020, sent to you pursuant to Public Resources Code § 21080.3.1(d), also known as Assembly Bill 52. A copy of the letter and the letter enclosure are attached.

The Authority is preparing a revised Draft Environmental Impact Report for the Sites Reservoir Project, which is anticipated to be released for public review in the summer of 2021. Additional details about the revised project are provided in the accompanying letter and preliminary project description.

If you wish to consult on this project, please contact Kevin Spesert, External Affairs Manager for the Authority, at (530) 632-4071 or kspesert@sitesproject.org by January 18, 2021.

Best regards

Janis Offermann
Cultural Resources Practice Leader
Horizon Water and Environment

400 Capitol Mall, Suite 2500
Sacramento, CA 95814
916.465.8076 – office
530.220.4918 – mobile

From: Janis Offermann [janis@horizonh2o.com]
Sent: 12/17/2020 9:18:34 AM
To: info@enterpriserancheria.org
CC: Kevin Spesert [kspesert@sitesproject.org]; Alicia Forsythe [aforsythe@sitesproject.org]
Subject: Sites Reservoir Project
Attachments: revNelson_Enterprise_AB 52_REIR_Notification Letter_11132020.pdf; 02-03 EIR_EIS Selection of Preferred Project for Purposes of CEQA (1).pdf

Good morning, Chairwoman Nelson

I am writing on behalf of the Sites Project Authority (Authority) regarding a project notification letter dated November 13, 2020, sent to you pursuant to Public Resources Code § 21080.3.1(d), also known as Assembly Bill 52. A copy of the letter and the letter enclosure are attached.

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If you wish to consult on this project, please contact Kevin Spesert, External Affairs Manager for the Authority, at (530) 632-4071 or kspesert@sitesproject.org by December 31, 2020.

Best regards

Janis Offermann
Cultural Resources Practice Leader
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400 Capitol Mall, Suite 2500
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November 13, 2020

Ms. Glenda Nelson, Chairperson
Estom Yumeka Maidu Tribe of the Enterprise Rancheria
2133 Monte Vista Avenue
Oroville, CA 95966

From: Fritz Durst/ Sites Project Authority Board Chair

Subject: Tribal Cultural Resources under the California Environmental Quality Act, Assembly Bill (AB) 52. Formal Notification of the Preferred Project for the Purposes of the California Environmental Quality Act (CEQA) Analysis and Notification of Consultation Opportunity for the Sites Reservoir Project, Colusa, Tehama, Glenn, and Yolo Counties, California, pursuant to Public Resources Code § 21080.3.1

Dear Honorable Chairperson Nelson,

The Sites Project Authority (Authority) initially contacted you in February 2017 in compliance with the project notification requirements pursuant to Public Resources Code § 21080.3.1(d) for the Sites Reservoir Project. A Draft Environmental Impact Report (EIR) was published for public review in August 2017. After receipt of public comments on the Draft EIR, the Authority reconsidered elements of the project. In October 2019, representatives from both the Authority Board and Reservoir Committee began undertaking a "value planning" process, an effort to identify and evaluate additional alternatives. As a result of the the "value planning process," the Authority identified a project that redueced the size of the proposed Sites ReserviorReservoir from 1.8 million acre feet to 1.5 million acre feet, removed the Delevan Pipeline and associated facilities, and made minor adjustments to other project features.

On April 22, 2020, the Authority directed staff to revise and recirculate a Draft EIR consistent with the California Environmental Quality Act (CEQA) to analyze the environmental effects of the facility options identified in the Sites Project Value Planning Report.[1] The Revised Draft EIR is anticipated to be released for public review in the summer of 2021. In response to preparing the Revised Draft EIR, the Authority is providing you with a description of the revised project for your consideration pursuant to Public Resources Code § 21080.3.1(d).

Description of the Proposed Project

The Authority proposes to construct the revised Sites Reservoir Project, which includes a new off-stream storage reservoir and associated water conveyance facilities located in Colusa, Tehama, Glenn, and Yolo counties, California. The new reservoir would be located in Antelope Valley, on the eastern edge of the North Coast Ranges and approximately 10 miles west of the town of Maxwell.

[1] https://3hm5en24txyp2e4cxyxaklbs-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/02-01.a-Authority-Board_Value-Planning.pdf

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The Sites Reservoir Project is proposed to provide storage and operational benefits including water supply resiliency, water dedicated to environmental uses, and other programs throughout California.

Two alternatives (Alternative 1 and Alternative 2) are currently under consideration. The primary differences in the alternatives is that Alternative 1 will impound up to 1.5 million acre feet of water and discharge water into the Colusa Drain, via the Tehama Colusa Canal, in the vicinity of Dunnigan, Yolo County. In contrast, Alternative 2 will hold up to 1.3 million acre feet of water and discharge water via the Tehama Colusa Canal into the Sacramento River; again, in the vicinity of Dunnigan. Alternative 1 also includes a bridge to extend the Sites Lodoga Road directly across the reservoir, while Alternative 2 re-routes the road around the south end of the reservoir and continues to Lodoga along the west side of the reservoir. Alternative 1 was designated by the Authority as the preferred project for the purposes of the CEQA analysis and permit development on September 17, 2020.

For more information regarding the proposed project alternatives, please see the attached Preliminary Project Description.

Pursuant to PRC § 21080.3.1 (b), please respond, in writing, within 30 days if you wish to request consultation. If you have any questions or wish to consult on this project, please contact the Authority's Lead Agency Point of Contact for AB 52 consultations:

Kevin Spesert, External Affairs Manager
Sites Project Authority
P.O. Box 517
Maxwell, CA 95955
Phone: (530) 632-4071
Email: kspesert@sitesproject.org

If consultation is requested, please provide the name and contact information of the designated lead contact person as part of your request. The Authority will contact the designated person to set a meeting date to begin consultation within 30 days of our receipt of your request.

Thank you for giving this matter your prompt attention.

Sincerely,

Fritz Durst

Fritz Durst
Sites Project Authority

Sites

Topic: **Joint Authority Board and Reservoir Committee Meeting Agenda Item 2.3** **2020 September 17**

Subject: **Preferred Project for the Purposes of the CEQA Analysis and Federal/State ESA Analysis**

Requested Action:

Designate Alternative 1, based on VP-7 of the Sites Project Value Planning Alternatives Appraisal Report (Value Planning Report), as the Authority's preferred project for the purposes of the Revised Draft Environmental Impact Report (EIR) analysis and for the purposes of the Biological Assessment and State Incidental Take Permit applications.

Detailed Description/Background:

In April 2020, the Authority accepted the Value Planning Report and its findings and directed staff to analyze the environmental effects of the new alternatives in the Value Planning Report, including VP7. The Authority also directed that a revised and recirculated Draft EIR be prepared for public review[1]. Staff began development of the revised Draft EIR and is at the point where the Board needs to identify a preferred alternative based on a more complete project description (see attachment A).

During the Reservoir Committee and Board meetings in June, staff provided an overview of the alternatives under consideration as well as revised draft objectives for the project, requesting review and input in order to focus efforts in developing a more complete project description. At that time, staff presented Alternatives 1 and 2 which combined components of VP5, VP6, and VP7 from the Value Planning Report. Staff recommended these two alternatives as they define the reasonable range of alternatives given the previous analyses of the project and potential alternatives.

Staff is returning to the Reservoir Committee and Authority Board with a Preliminary Project Description (Attachment A), and revised objectives (Attachment B). Changes have been made to both the alternatives and objectives in response to Reservoir Committee and Authority Board input and in further development of project details and information by the project team. The key changes to the alternatives are as follows:

- Transportation/circulation components have been clarified. Both alternatives provide access to residents at the south end of the reservoir via a realigned Huffmaster Road. To provide access to the west side of the reservoir, Alternative 1 crosses the reservoir with a bridge on Sites Lodoga

[1] Staff has worked cooperatively with the Bureau of Reclamation to identify the appropriate approach to proceed with the Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act, and a Supplemental EIS will be prepared as part of the joint California Environmental Quality Act/National Environmental Policy Act documentation.

Road. Alternative 2 includes a south road continuing from Huffmaster Road around the west side of the reservoir to Ladoga, with no bridge.

- The Dunnigan pipeline alignment and proposal to release into the Colusa Basin Drain has been further assessed and confirmed as the proposed component for conveyance release under Alternative 1.

Key changes to the objectives are as follows:

- All objectives have been revised to focus on the statewide benefits of the Project and the needs of all Participants.

- Objective 1 addresses the amount of water supply required to meet participants' water demands and the need for an affordable, cost-effective Project.

- Objective 2 addresses the Water Storage and Investment Program public benefits.

- Objective 3 addresses federal participation and clarifies the intent of the Project to provide operational flexibility to the Central Valley Project.

- Objective 4 addresses intended benefits to the Delta ecosystem beyond the requirements of the Water Storage and Investment Program public benefits.

- Minor changes have also been made to Objective 5 regarding roadway connectivity.

Due to the project schedule, staff is preparing the Revised EIR at the same time as the engineering team is conducting preliminary design activities. The following assumptions represent the variations being taken from the project described in VP7 of the Value Planning Report and have been incorporated in the development of Alternative 1 to allow the EIR/EIS and engineering activities to move forward simultaneously and achieve the project schedule:

- Bridge – The EIR/EIS will move forward with Bridge Option 1B, Shorter Bridge with Fill Prisms, including the Cast-in-Place Prestressed Concrete Box Girder bridge type. This option was identified as a lowest cost bridge alternative in the Value Planning Report while meeting the functional requirements for efficient traffic flow.

- Dam Fill materials – The EIR/EIS will move forward with Dam Fill Option 1A, Earth and Rockfill, which is anticipated to be preferred by California Division of Safety of Dams and will assist in meeting the schedule and affordability goals; it also provides maximum coverage for potential environmental effects as the rockfill involves blasting associated with rock quarrying.

- Terminal Regulating Reservoir – The EIR/EIS will continue to analyze the original proposed location for this reservoir and carries forward additional potential locations as more is learned in the coming months regarding soils conditions.

- Glenn-Colusa Irrigation District and Colusa Basin Drain Facility Improvements – The EIR/EIS will address the type and magnitude of improvements needed to convey Sites water through existing facilities, pending future agreements on any specific improvements that may be warranted by the Project.

- Emergency Releases – In the rare and unanticipated condition that the Sites Reservoir has to conduct emergency releases, these releases are currently planned to be made into Funks Creek, Stone Corral Creek, and into the Hunters Creek watershed via Saddle Dam 3, 5, and 8b. Emergency release locations and the extent of potential impacts will be evaluated in further detail as part of the on-going feasibility study.

- Dunnigan Release – Based on preliminary hydraulic study, the EIR/EIS will assume release to the Colusa Basin Drain under Alternative 1 and will carry forward an extension to the Sacramento River under Alternative 2.

- Hydropower Generation – Based on the current Project information, the EIR/EIS will address incidental in-line conduit hydropower generation at a level that is below the threshold for Federal Energy Regulatory Commission license.

- Temporary Water Supply for Construction – Based on the current Project information, the EIR/EIS will evaluate obtaining water temporarily for construction supply on site via existing groundwater or surface water facilities or existing or new groundwater wells, including any onsite treatment that may be warranted depending on water quality.

It is important to note that the engineering team will continue to consider and analyze options for various facility components in order to optimize design and reduce costs, including potentially considering alternatives to account for reduced participation levels to maintain affordability. In the event that the final project facilities are different than the assumptions above, staff will consider appropriate modifications to the process and documents consistent with the California Environmental Quality Act, National Environmental Policy Act, and the Federal and State Endangered Species Acts. The goal is to make any modifications on a timeline that does not impact the ability to deliver the EIR/EIS documents for public review any later than July 2021.

The California Environmental Quality Act Guidelines require that an EIR analyze a reasonable range of alternatives to the project which would feasibly attain most of the basic objectives of the project while avoiding or substantially lessening significant effects of the project. While an EIR must analyze reasonable alternatives, it also needs to identify a proposed project, which is also referred to as the preferred alternative. At this time, staff is recommending the designation of Alternative 1 as the Authority's proposed project based on its meeting the intent and the goals of the Value Planning effort, its close alignment with VP-7, and its ability to meet the project objectives. The EIR/EIS will also analyze Alternative 2 and the No Project/No Action Alternative.

If designated by the Reservoir Committee and Authority Board, Alternative 1 would also be used as the proposed project for the purposes of the Biological Assessment under the Federal Endangered Species Act and State Incidental Take Permit applications under the California Endangered Species Act.

Prior Action:

April 22, 2020: The Authority directed staff to revise and recirculate a Draft Environmental Impact Report (EIR) to analyze the environmental effects of the options identified in the Final Sites Project Value Planning Alternatives Appraisal Report dated April 2020, including VP7.

April 22, 2020: The Authority accepted: the final report titled "Sites Project Value Planning Alternatives Appraisal Report, dated April 13, 2020" and the recommendations presented within, and; a recommendation to the Sites Project Authority to approve the final report titled "Sites Project Value Planning Alternatives Appraisal Report, April 13, 2020" and the recommendations presented within.

February 26, 2020: The Authority approved a recommendation to re-start efforts on the EIR for the Sites Reservoir Project and assess the most appropriate approach for completing the EIR pursuant to the California Environmental Quality Act.

July 20, 2017: The Reservoir Committee approved a recommendation to forward the Draft EIR/EIS to the Authority Board for its consideration to formally receive and adopt the document for inclusion in the Authority's Water Storage Investment Project application.

July 31, 2017: The Authority approved the release of the Draft EIR for public and agency review, in connection with the Authority's application to the California Water Commission by August 14, 2017. The document was published as joint Draft EIR/EIS by the Authority under the California Environmental Quality Act and Reclamation under the National Environmental Policy Act.

December 19, 2016: The Authority approved release of a Supplemental Notice of Preparation (released February 2, 2017) to transfer the California Environmental Quality Act lead agency status from the Department of Water Resources to the Sites Project Authority. Public scoping meetings were conducted on February 14 and 15, 2017.

Fiscal Impact/Funding Source:

Actual costs to prepare the project description and the supporting evaluations were within the amounts budgeted in the Phase 1B Work Plan which was approved by the Sites Project Authority at its January 22, 2020 Board meeting.

Sufficient funds to complete the recirculated Draft EIR/EIS and begin preparation of the Final EIR/EIS are included in the Amendment 2 Work Plan (Budget), which was approved by the Authority at its August 26, 2020 Board meeting.

Costs to complete and circulate the Final EIR/EIS will be considered in a future Work Plan.

Staff Contact:

Ali Forsythe

Attachments:

Attachment A – Sites Reservoir Project, Preliminary Project Description – September 8, 2020.

Attachment B – Revised Recommended EIR Objectives.

Sites Reservoir Project
Preliminary Project Description
September 2020

On April 22, 2020, the Sites Project Authority (Authority) directed staff to revise and recirculate a Draft Environmental Impact Report (EIR) consistent with the California Environmental Quality Act (CEQA) to analyze the environmental effects of the facility options identified in the Sites Project Value Planning Report (Value Planning Report), dated April 2020. Since that time, Authority staff and environmental, engineering and modeling consultants have been developing and refining alternatives. In June, staff recommended that the Draft Revised EIR[1]/Supplemental Environmental Impact Statement (EIS)[2] (Revised EIR/Supplemental EIS) evaluate two action alternatives, Alternative 1 and Alternative 2, and provided an initial overview of the two alternatives.

This preliminary project description summarizes the alternatives presented in the preliminary Revised EIR/Supplemental EIS Chapter 2, Alternatives Description, which was completed on August 31, 2020. That preliminary draft Chapter 2 reflects preliminary design efforts, including the preparation of technical memos and preliminary drawings, and coordination between the service providers and staff. Modeling and engineering efforts are ongoing, and additional information related to operations and construction means and methods will likely supplement the preliminary Draft Chapter 2 in the coming weeks.

1.0 Overview of Alternatives

The following table compares facilities and operational considerations under Alternatives 1 and 2. This table is an updated version of a table provided at the June 24 Authority Board meeting (Agenda Item 3.3 Attachment B) and identifies existing as well as new facilities that will be constructed to implement each alternative.

Table 1. Revised Alternatives Summary Table

Facilities/Operations	Alternative 1	Alternative 2
Diversion/Reservoir Infrastructure Details		
Reservoir Size	1.5 million acre feet (MAF)	1.3 MAF
Dams [Scaled to the size of the reservoir]	2 main dams, Golden Gate Dam and Sites Dam 7 saddle dams 2 saddle dikes	2 main dams, Golden Gate and and Sites Dam 6 saddle dams 2 saddle dikes
Spillway	One spillway on Saddle Dam 8b	Similar to Alternative 1
Funks Reservoir and Funks Pumping Generating Plant	Funks Reservoir excavated to original capacity; same footprint as existing Funks Reservoir. New Funks Pump Generating Plant (PGP). New Funks pipeline alignment with 2 pipelines.	Similar to Alternative 1

[1] The Revised EIR/Supplemental EIS will also address the No Project/No Action Alternative.

[2] A Supplemental EIS will be prepared to comply with the National Environmental Policy Act (NEPA).

Table 1. Revised Alternatives Summary Table

Facilities/Operations	Alternative 1	Alternative 2
Terminal Regulating Reservoir (TRR); TRR Pumping Generating Plant; TRR Pipeline	New TRR facilities (TRR and TRR PGP) adjacent to the Glenn Colusa Irrigation District (GCID) Main Canal. New TRR pipeline alignment with 2 pipelines.	Same as Alternative 1
Hydropower	Power generation incidental upon release.	Same as Alternative 1
Diversion(s)	Diversion from Sacramento River into existing Tehama-Colusa Canal at Red Bluff and the existing GCID Main Canal at Hamilton City. Adding 2 pumps in existing bays at the plant at the Red Bluff Pumping Plant.	Same as Alternative 1
Emergency Release Flow	Releases into Funks Creek via Inlet/Outlet Works. Releases into Stone Corral Creek via Site Dam permanent discharge outlet. Emergency outflow pipeline and structures in Saddle Dam 3 and 5 to release north to Hunters Creek Watershed. Release from spillway on Saddle Dam 8b.	Similar to Alternative 1
Flood Control	Flood damage reduction benefit for local watersheds from reservoir storage.	Same as Alternative 1
Reservoir Management	Reservoir Management Plan and Reservoir Operations Plan.	Same as Alternative 1
Electrical Facilities	Transmission Lines, substations, switchyards; interconnection with Western Area Power Administration or Pacific Gas and Electric.	Same as Alternative 1
Recreation		
Multiple Facilities Consistent with WSIP Application	Two primary areas with infrastructure (with phased construction): 1. Peninsula Hills Area 2. Stone Corral Creek One day-use boat ramp w/parking located on the west side of the reservoir and south of the bridge.	Same as Alternative 1
Transportation/Circulation		
Provide Route to West Side of Reservoir	Bridge crossing the reservoir as a result of the relocation of existing Sites Lodoga Road. Relocation of Huffmaster Road with gravel road to residents at the south end of the reservoir terminating at the south end of the reservoir.	No bridge. Relocation of Sites Lodoga Road to residents at south end of the reservoir continues to Lodoga. Huffmaster Road is integrated into Sites Lodoga Road and is paved the entire way.
Mulitple Maintenance and Local Access Roads	Approximately 46 miles of new paved and unpaved roads would provide construction and maintenance access to the proposed facilities, as well as provide public access to the proposed recreation areas.	Similar to Alternative 1

Table 1. Revised Alternatives Summary Table

Facilities/Operations	Alternative 1	Alternative 2
	Approximate number of roads related to the reservoir: 5 local/construction roads 2 construction/maintenance roads 7 local roads 4 maintenance roads Approximate number of access roads related to conveyance facilities: 1 to the TRR 1 to Funks complex Multiple within pipeline easements	
Operations		
Operational Criteria	Option based on Value Planning Report, Table 3.1 Scenario B, anticipated to be modified by future modeling efforts.	Same as Alternative 1
Reclamation Involvement	Two Options: 1. Funding Partner 2. Operational Exchanges a. Within Year Exchanges b. Real-time Exchanges	Same as Alternative 1
State Water Project (SWP) Involvement	Operational Exchanges with Oroville and storage in SWP facilities South-of-Delta.	Same as Alternative 1
Bypass Releases into Funks Creek and Stone Corral Creek	Develop specific bypass criteria to protect downstream water right holders and ecological function.	Same as Alternative 1
Conveyance Dunnigan Release	Release 1,000 cubic feet per second (cfs) into new pipeline to Colusa Basin Drain to meet member participant demands and Proposition 1 needs.	Release into new pipeline to Sacramento River to meet member participant demands. Partial release into the Colusa Basin Drain to fulfill the Proposition 1 needs.

2.0 Facilities

The project will utilize both existing and proposed new facilities, all of which will be located within northern California in Glenn, Colusa, Tehama and Yolo Counties (see Figures 1 and 2 at the end of this document). As summarized in the Table 1 above, most facilities are the same or similar under Alternatives 1 and 2 although features may differ in scale or location due to the size of the reservoir. Facilities that have substantial differences between alternatives, such as the proposed dams, Dunnigan Pipeline and the Sites Lodoga Road realignment/relocation, are described in more detail below.

2.1 Existing Facilities

The project will utilize certain existing water supply infrastructure, including:

- Existing Bureau of Reclamation infrastructure operated by the Tehama-Colusa Canal Authority (TCCA):
  - Red Bluff Pumping Plant
  - Tehama-Colusa Canal

    - Funks Reservoir located approximately 65 miles south of the Red Bluff Pumping Plant
- Existing GCID Hamilton City Diversion and the GCID Main Canal
- Colusa Basin Drain (CBD)

Both action alternatives would require pumping capacity that exceeds the existing total installed capacity of 2,000 cfs of the Red Bluff Pumping Plant to convey flow to Funks Reservoir and ultimately Sites Reservoir. Both action alternatives would require installation of two additional 250-cfs vertical axial-flow pumps into existing concrete pump bays at the pumping plant.

Both action alternatives would also require a new 3,000-cfs GCID Main Canal headgate structure about 0.25 mile downstream of Hamilton City Pump Station. The existing headgate structure would be inadequate for proposed winter operation during high river flows. To streamline maintenance during the winter shutdown period (i.e., reduce it from the current shutdown window of 6 weeks to 2 weeks), smaller improvements would be required to integrate Sites Reservoir into the GCID system.

Use of the existing Funks Reservoir would require excavation of sediment to return it to its original capacity. The bottom of Funks Reservoir would be reshaped to allow large, unimpeded flows to and from the new Funks PGP.

Proposed access during construction will avoid the town of Maxwell, utilizing County Roads 68 and 69, McDermott Road, Maxwell Sites Road and Sites Lodoga Road. Several of these existing roads would require improvement to support construction activities. Other local roads would need to be relocated or developed to accommodate access due to the construction of reservoir facilities. These include portions of Sites Lodoga Road, Huffmaster Road, and Communication Road.

2.2 Proposed Conveyance Facilities

Implementation of either Alternative 1 or 2 would require various facilities to control the conveyance of water between Sites Reservoir and the Tehama-Colusa Canal and GCID Main Canal. These facilities would include regulating reservoirs, pipelines, PGPs, electrical substations, and administration and maintenance buildings.

The two regulating reservoirs would be the existing Funks Reservoir and the new Terminal Regulating Reservoir (TRR). Both regulating reservoirs would have two 12-foot-diameter pipelines extending to and from Sites Reservoir just below Golden Gate Dam. At each regulating reservoir, the pipelines would be connected to a pumping generating plant that pumps water from the regulating reservoir to Sites Reservoir, as well as turbines that would generate power when flows were released from Sites Reservoir. There would also be energy dissipation equipment adjacent to each PGP (e.g., fixed cone valve[s]) to throttle the flow of water into each regulating reservoir when the turbines are not being used.

A transition manifold would be constructed at the base of Golden Gate Dam to connect pipelines from Sites Reservoir to Funks Reservoir and the TRR pipelines. In

addition, a point of interconnection to a high-voltage electric transmission line would be required to power the facilities at the proposed TRR and Funks electrical substations.

Water released from Sites Reservoir would be conveyed south of Sites Reservoir using the existing Tehama-Colusa Canal and a new Dunnigan pipeline. The water would flow south about 40 miles to the end of the Tehama-Colusa Canal, where it would be diverted into the proposed Dunnigan Pipeline. Under Alternative 1, the flows would subsequently be conveyed to the CBD and released through the proposed CBD Outlet Structure, eventually reaching the Sacramento River at Knights Landing or to the Yolo Bypass/Cache Slough complex through the Knights Landing Ridge Cut. Under Alternative 2 water would flow south to the end of the Tehama-Colusa Canal but would be diverted into an extended Dunnigan Pipeline, with release directly to the Sacramento River with some flows released to the CBD to flow into the Yolo Bypass/Cache Slough complex through the Knights Landing Ridge Cut for environmental benefits under Proposition 1.

2.3 Proposed Reservoir Facilities

Under either alternative, water would be impounded by the Golden Gate Dam on Funks Creek and the Sites Dam on Stone Corral Creek; a series of saddle dams along the eastern and northern rims of reservoir would close off topographic saddles in the surrounding ridges to form Sites Reservoir. Two saddle dikes are also needed at topographic saddle low points along the northern end of the reservoir. These components of the reservoir would be scaled according to the alternative.

Under Alternative 1, the proposed 1.5-MAF reservoir would have a Normal Maximum Water Surface (NMWS) elevation of 498 feet. Under Alternative 2, the proposed 1.3-MAF reservoir would have an NMWS elevation of 482 feet. Nominal crest would be at elevation 517 feet for all dams for 1.5-MAF capacity, and at elevation 500 feet for 1.3-MAF capacity. Table 2 presents a summary of dam heights required to impound Sites Reservoir for the 1.5-MAF capacity and 1.3-MAF capacity.

Table 2. Dam Heights for 1.5-MAF and 1.3-MAF Sites Reservoir Alternatives

Dam/Dike	1.5-MAF Reservoir Maximum Height Above Streambed (feet)	1.3-MAF Reservoir Maximum Height Above Streambed (feet)
Golden Gate Dam	287	270
Sites Dam	267	250
Saddle Dam 1	27	None
Saddle Dam 2	57	40
Saddle Dam 3	107	90
Saddle Dam 5	77	60
Saddle Dam 6	47	None
Saddle Dam 8A	82	65
Saddle Dam 8B	37	5
Saddle Dike 1	12	10 (near Saddle Dam 1)
Saddle Dike 2	12	10 (near Saddle Dam 6)
Saddle Dam 10 [a]	Not required for 1.5-MAF Reservoir	30

[a] For the1.3-MAF Reservoir, Golden Gate Dam would be reconfigured and Saddle Dam 10 added to close off a topographic saddle in the ridge that is closed in the 1.5-MAF Golden Gate Dam configuration.

The engineering team is continuing to evaluate different options for dam fill that would be utilized under either Alternative 1 or Alternative 2. One option is an earth- and rockfill dam and another option is an earthfill dam. The proposed inlet/outlet works for an earthfill dam would be located to the south of Golden Gate Dam and would be used both to fill the reservoir through conveyance facilities located to the East and to make releases from Sites Reservoir. The inlet/outlet works include:

1. A multi-level intake tower including a low-level intake.
2. Two 23 foot inside diameter inlet/outlet tunnels through the ridge on the right abutment of Golden Gate Dam.

2.4 Proposed Recreational Facilities

As specified in the Sites Water Storage Investment Program application, either alternative would include two primary recreation areas and a day-use boat ramp which are to be phased in over a period of time. Located on the northwest shore of the proposed Sites Reservoir, to the north of the existing Sites Lodoga Road, the Peninsula Hills Recreation Area would include approximately:

- 200 campsites (car and recreational vehicle)
- one group camp area
- 10 picnic sites (with parking at each site)
- hiking trails
- electricity
- potable water
- one kiosk
- 19 vault toilets

Located on the eastern shore of the Sites Reservoir, north of the existing Maxwell Sites Road and proposed Sites Dam, the Stone Corral Creek Recreational Area would include:

- 50 campsites (car and recreational vehicle)
- electricity

- 10 picnic sites (with parking at each site)
- six-lane boat launch site
- hiking trails
- potable water
- one kiosk
- 10 vault toilets

Each alternative would also include a Day-Use Boat Ramp/Parking Recreation Area, located on the western side of the reservoir where the existing Sites Lodoga Road intersects with the proposed inundation area for the reservoir. Facilities would include:

- one kiosk
- one vault toilet
- potable water
- parking area

2.5 Proposed Roads and South Bridge

In addition to modifying existing roads for construction access, the project will require up to 46 miles of new paved and unpaved roads to provide construction and maintenance access to the proposed facilities, as well as public access to the proposed recreation areas. Sites Lodoga Road provides access to and from the town of Maxwell, which is adjacent to Interstate 5. Sites Lodoga Road becomes Maxwell Sites Road east of the rural community of Sites that is within the inundation area. The reservoir would eliminate east-west access to Interstate 5 (east of the reservoir) from the rural communities of Stonyford and Lodoga (west of the reservoir) because it would inundate the current route of Sites Lodoga Road. The current Sites Lodoga Road is an east-west, two-lane rural collector road and provides an emergency and evacuation route to and from these rural communities. Because construction of the Sites Dam would eliminate access on the Sites Lodoga Road, this collector road would need to be relocated/realigned prior to project construction.

Under Alternative 1, the realigned Sites Lodoga Road would include the construction of a bridge across the reservoir. Various bridge types and options have been evaluated. One option for a bridge is a full-length bridge that would offer navigational passage along the entire width of the reservoir. Another option for a bridge is a causeway with partial fill, which would limit the navigational passage within the reaches of the shorter bridges; however, the approach to implementing fill prism in the reservoir would significantly reduce construction cost. Alternative 1 would also include the realignment of the existing Huffmaster Road to provide access to properties otherwise inaccessible due to reservoir construction.

Under Alternative 2, the realignment of Sites Lodoga Road would result in a road that ultimately extends from Maxwell to the community of Lodoga around the southern end and western side of the proposed Sites Reservoir. This road, referred to as the Maxwell Lodoga Road, would include the realignment and repavement of the existing Huffmaster Road.

2.6 Project Buffer

The proposed project buffer would consist of the total amount of land that would be acquired beyond the facility footprints for each alternative. The preliminary approach to the buffer is outlined below.

- The buffer would include 100 feet around all buildings and most ground facilities (e.g., substations, any aboveground pipelines) along with 100 feet around the Sites Reservoir Complex and recreation areas.
- The buffer may be less than 100 feet if the facility is near a property boundary and the proposed uses do not conflict with the adjacent land uses.
- No project buffers are anticipated for underground or buried facilities (i.e., Dunnigan Pipeline), overhead power lines, or roads (both public and project maintenance access roads).
- The Authority would evaluate the need for the buffer (and if implemented, an appropriate width) on a case-by-case basis in coordination with adjacent landowners. The buffer would likely be acquired in fee title by the Authority; however, acquisition of buffer areas in an easement may be feasible under certain circumstances.
- The lands within the buffer would generally remain undeveloped. Limited features may be installed to reduce future maintenance activities and fire hazards. These features may include limited fencing, regrading to construct fire breaks or fire trails, or similar actions.
- The lands within the buffer would be maintained by the Authority. Maintenance activities that are proposed to be undertaken within the project buffer include vegetation maintenance and periodic fire break maintenance. Such activities may include grazing, periodic tilling or disking, and performing limited controlled/prescribed burns. Where appropriate, the buffer may be managed as wildlife habitat. Fence maintenance would occur within the buffer.

3.0 Operations

The operation of the project under each alternative will be defined in upcoming months as the modeling and development of diversion criteria are further advanced. The member participants of the Authority have a collective demand of approximately 240,000 acre-feet, of which 192,892 acre-feet is needed by participating public water agencies[3]. Reclamation is also a participant through funding and/or operational exchanges with Shasta Lake. The State would also be involved through operational exchanges with Oroville Reservoir and storage in State Water Project facilities south-of-Delta.

Sites Reservoir would be filled by diverting unregulated/unappropriated flow in the Sacramento River. This water originates during winter storm events, which increase flows in the tributaries to the Sacramento River below Keswick Dam and avoiding any effects on the Trinity River. Water would be available for diversion after senior water rights are met, in-river aquatic species protection requirements are met, and delta water quality requirements have been met. Diversions would occur at the fish screened Red Bluff Pumping Plant and the GCID Hamilton City location when applicable regulatory requirements are met and existing pumping and conveyance capacity is available to convey water through the canals to the reservoir. TRR and Funks Reservoir, PGPs, and pipelines connect directly to the inlet/outlet works and would be operated in parallel to

[3] April 2020 Sites Project Value Planning Alternatives Appraisal Report.

pump water into and out of Sites Reservoir. Water would enter (and be released from) the reservoir through the inlet/outlet works.

Reservoir releases include releases to meet participant demands and to deliver water for a range of environmental benefits that will be finalized during project development and permitting.

- Sites Reservoir would be operated in cooperation with Central Valley Project (CVP) and SWP operations to coordinate with releases made with the CVP and SWP from Shasta Lake, Lake Oroville, and Folsom Lake. Sites Reservoir releases could supplement and/or allow reduced releases from other reservoirs while maintaining minimum instream flow objectives, Sacramento River temperature requirements, and Delta salinity control requirements assigned to CVP and SWP.
- Releases would be made mostly in dry and critical water years. Water users north of the Delta would mostly receive deliveries from the TCCA canal and GCID canal. Water users south of the Delta would receive water primarily via SWP pumping facilities.
- Using the CBD for conveyance of Sites Reservoir water would include coordination with the local landowners regarding the project operation and timing of the additional flows.

Releases would also be made to Funks and Stone Corral Creeks for downstream water right holders and to maintain ecological function in the sections of these creeks affected by the project. A proposed Reservoir Operations Plan would describe the management of water operations, including releases to Funks and Stone Corral Creeks.

Operation of either alternative would require power to run facilities and pump water. The identification of a power source and the location of transmission facilities is pending coordination with Western Area Power Administration and/or Pacific Gas and Electric. Each of the alternatives would also generate incidental power when water is released from Sites Reservoir at the Funks PGP and TRR PGP. The capacity of the project power generation facilities is anticipated to be below the threshold such that no license would be required from the Federal Energy Regulatory Commission and the facilities would satisfy the criteria for a "Qualifying Conduit Hydropower Facility" under the Hydropower Regulatory Efficiency Act of 2013, as amended by America's Water Infrastructure Act of 2018.

4.0 Maintenance and Management

Under either alternative, maintenance activities for the project facilities would include debris removal, dredging, vegetation control, rodent control, erosion control and protection, routine inspections (dams, tunnels, pipelines, PGPs, inlet/outlet works, fencing, signs, and gates), painting, cleaning, repairs, and other routine tasks to maintain facilities in accordance with design standards after construction and commissioning. Routine visual inspection of the facilities would be conducted to monitor performance and prevent mechanical and structural failures of project elements. Maintenance activities associated with proposed river intakes could include

cleaning, removal of sediment, debris, and biofouling materials. These maintenance actions could require dewatering; suction dredging or mechanical excavation around intake structures; or the use of underwater diving crews, boom trucks, rubber-wheel cranes, and raft- or barge-mounted equipment. Proposed maintenance activities could occur on a daily, annually, periodically (as needed), and long-term basis.

The Authority would also develop and implement a Reservoir Management Plan to define the land uses of project lands controlled by the Authority, fish stocking and vector control practices, and the resources associated with project lands. The Reservoir Management Plan would include the following types of information:

- **Fisheries Management.** This would target species composition for Sites Reservoir, including stocking strategies, habitat enhancement measures, and monitoring efforts.
- **Land Use Management and Recreation.** This would outline how decisions regarding future amenities would be made and what land use considerations would be factored into Authority operations and activities.
- **Easement Management:** Right-of-ways and/or permanent easements would be required for long-term operation and maintenance of all the large-diameter pipelines. This would outline management and maintenance activities for easement areas.
- **Emergency Management**. This would establish protocol on how the Authority would be involved in controlling and resolving emergency situations, including those arising as a result of recreationists.
- **Vector Management.** This would establish protocols and practices for communicating and coordinating with vector control authorities in determining how vector control would be managed at the project facilities.
- **Sediment Management and Removal.** This would consolidate information on the frequency and locations of dredging, testing of sediment before disposal, disposal locations, and procedures to follow if sediment contaminant levels exceed regulatory standards for constituents of concern (e.g., pesticides).

5.0 Best Management Practices

A number of Best Management Practices and environmental commitments are proposed to be included in Project design, construction and operation/maintenance. The following proposed list of Best Management Practices and environmental commitments would be considered part of the Project.

- Conform with Applicable Design Standards and Building Codes
- Perform Geotechnical Evaluations and Prepare Geotechnical Data Reports
- Utility and Infrastructure Verification and/or Relocation
- Natural Gas Well Decommissioning
- Water Wells Decommissioning
- Road Abandonment
- Environmental Site Assessment(s)

- Salvage, Stockpile, and Replace Topsoil and Prepare a Topsoil Storage and Handling Plan
- Stormwater Pollution Prevention Plan(s) and Best Management Practices (storm water and non-storm water)
- Stormwater Pollution Prevention Plan for Operation and Maintenance
- Spill Prevention and Hazardous Materials Management / Accidental Spill Prevention, Containment, and Countermeasure Plans and Response Measures
- Minimize Soil Disturbance
- Comply with Requirements of RWQCB Order 5-00-175
- Groundwater/ Dewatering Water Supply
- Construction Equipment, Truck, and Traffic Management Plan
- Visual/Aesthetic Design, Construction, and Operation Practices
- Fire Safety and Suppression / Fire Prevention and Control Plan
- Worker Health and Safety Plan
- Blasting Standard Requirements
- Mosquito and Vector Control During Construction
- Construction Noise Management
- Operation and Maintenance Noise Management
- Construction Emergency Action Plan
- Emergency Action Plan for Reservoir Operations
- Electrical Power Guidelines and EMF Field Management Plan
- Construction Equipment Exhaust Reduction Plan
- Fugitive Dust Control Plans
- Construction Best Management Practices to Reduce Greenhouse Gas Emissions
- Hazardous Materials Management Plans
- Construction Site Security
- Notification of Maintenance Activities in Waterways
- Worker Environmental Awareness Program
- Fish Rescue and Salvage Plans for Funks Reservoir, Stone Corral Creek, and Funks Creek for Alternative 1; for Sacramento River for Alternative 2
- Construction Best Management Practices and Monitoring for Fish, Wildlife, and Plant Species Habitats, and Natural Communities
- Control of Invasive Plant Species during Construction and Operation

6.0 Pre-Construction Activities

In addition to items/activities addressed in the above list of proposed BMPs and ECs, there are other activities that would be required prior to the initiation of construction of the different physical components of either Alternative 1 or Alternative 2. These activities include: finalizing criteria and standards used for final design, including emergency management/release requirements; preparing a Dam Monitoring Program; conducting additional geotechnical and related field investigations to support design; relocation of two private cemeteries (Sites Cemetery and a Rancheria Cemetery); and the development and implementation of a Resident Relocation Program.

7.0 Timing of Environmental Review and Feasibility Report

The current schedule contemplates release of the Revised EIR/Supplemental EIS in July 2021. This is roughly the same timing for the engineering team's finalization of the Feasibility Report for the California Water Commission. As such, preparation of the Revised EIR/Supplemental EIS and Feasibility Report are proceeding simultaneously. To accommodate the project schedule and the simultaneous preparation of the Revised EIR/Supplemental EIS and Feasibility Report, the following project components will be utilized for the analysis:

- Sites Lodoga Road and Bridge – Under Alternative 1, the Revised EIR/Supplemental EIS will include the option of the shorter bridge with fill prisms, including the cast-in-place prestressed concrete box girder bridge type. This option was identified as a lowest cost bridge alternative in the Value Planning Report while meeting the functional requirements for efficient traffic flow.
- Dam Fill Materials – Under Alternative 1 and 2, the Revised EIR/Supplemental EIS will include the option of using earth and rockfill. This option is anticipated to be preferred by the Division of Safety of Dams and will assist in meeting the schedule and affordability goals; it also provides maximum coverage for potential environmental effects as the rockfill involves blasting associated with rock quarrying.
- Terminal Regulating Reservoir (TRR) – Under Alternative 1 and 2, it is anticipated that the Revised EIR/Supplemental EIS will include the current TRR location. Other locations currently are under review due to the extent and costs associated with ground preparation needed for construction at the current site.
- GCID and Colusa Basin Drain Facility Improvements – Under Alternative 1 and 2, the Revised EIR/Supplemental EIS will describe the types of improvements needed to convey water through existing facilities and reduce GCID's current maintenance winter shutdown period from 6 weeks to 2 weeks, pending agreement between GCID and the Authority on any specific improvements that may be warranted due to implementation of the project. Improvements may also be needed to the Colusa Basin Drain to convey Sites water.
- Emergency Releases – In the rare and unanticipated condition that the Sites Reservoir has to conduct emergency releases, these releases are currently planned to be made into Funks Creek, Stone Corral Creek, and into the Hunters Creek watershed via Saddle Dam 3, 5, and 8b. Emergency release locations and the extent of potential impacts will be evaluated in further detail as part of the on-going feasibility study.
- Dunnigan Release – Under Alternative 1, the Revised EIR/Supplemental EIS will evaluate a release to the CBD based on a preliminary hydraulic analysis. Alternatives 2 will carry forward an extension of the Dunnigan pipeline to the Sacramento River.
- Hydropower Generation – Under Alternative 1 and 2, the Revised EIR/Supplemental EIS will evaluate incidental in-line conduit hydropower generation below the threshold for a Federal Energy Regulatory Commission license.
- Temporary Water Supply for Construction – Under Alternative 1 and 2, the Revised EIR/Supplemental EIS will evaluate options for obtaining temporary water supply for construction, such as obtaining water on site via existing groundwater

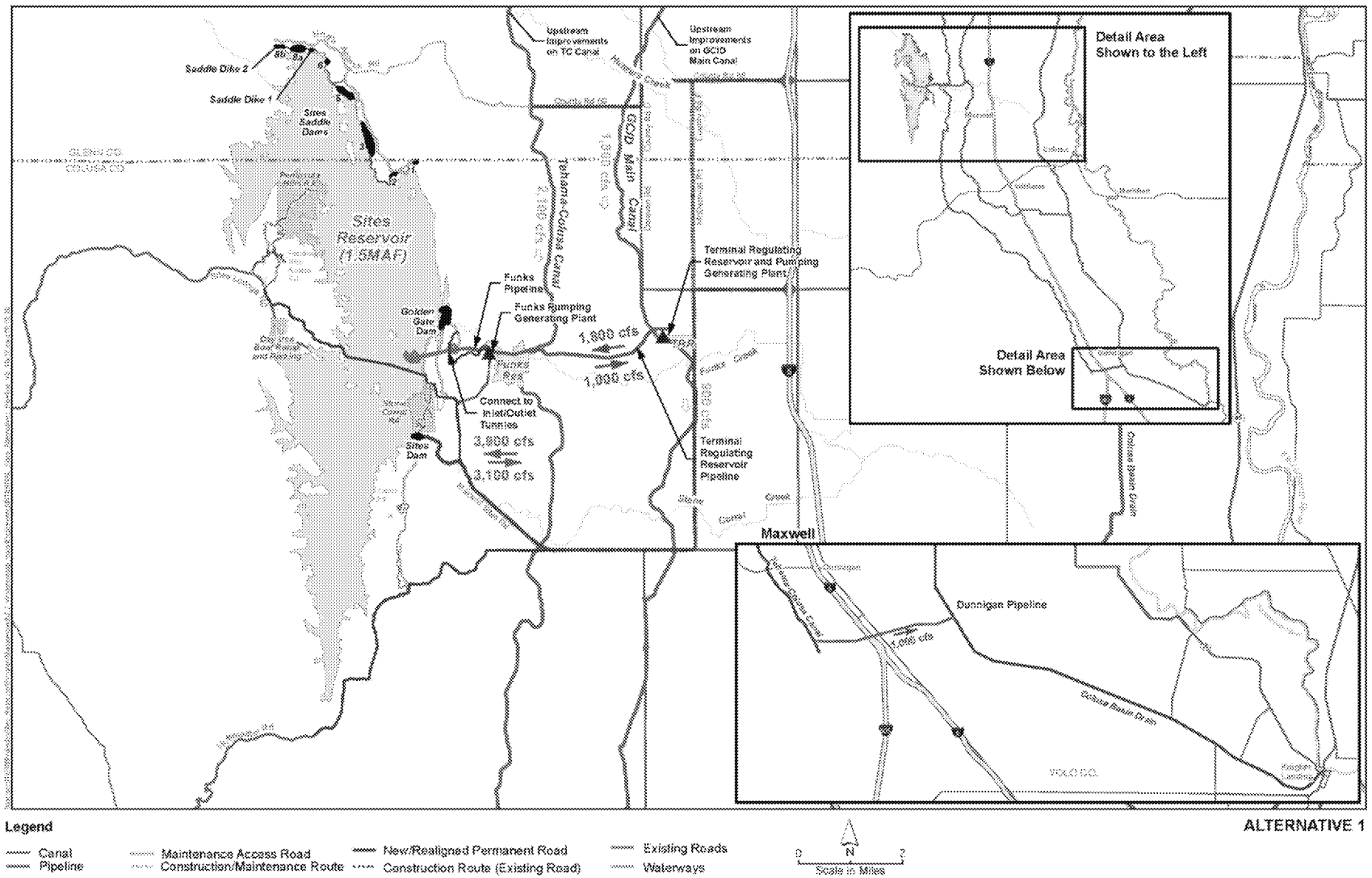
or surface water facilities and/or utilizing existing or drilling new wells, including any necessary treatment depending on the water quality.

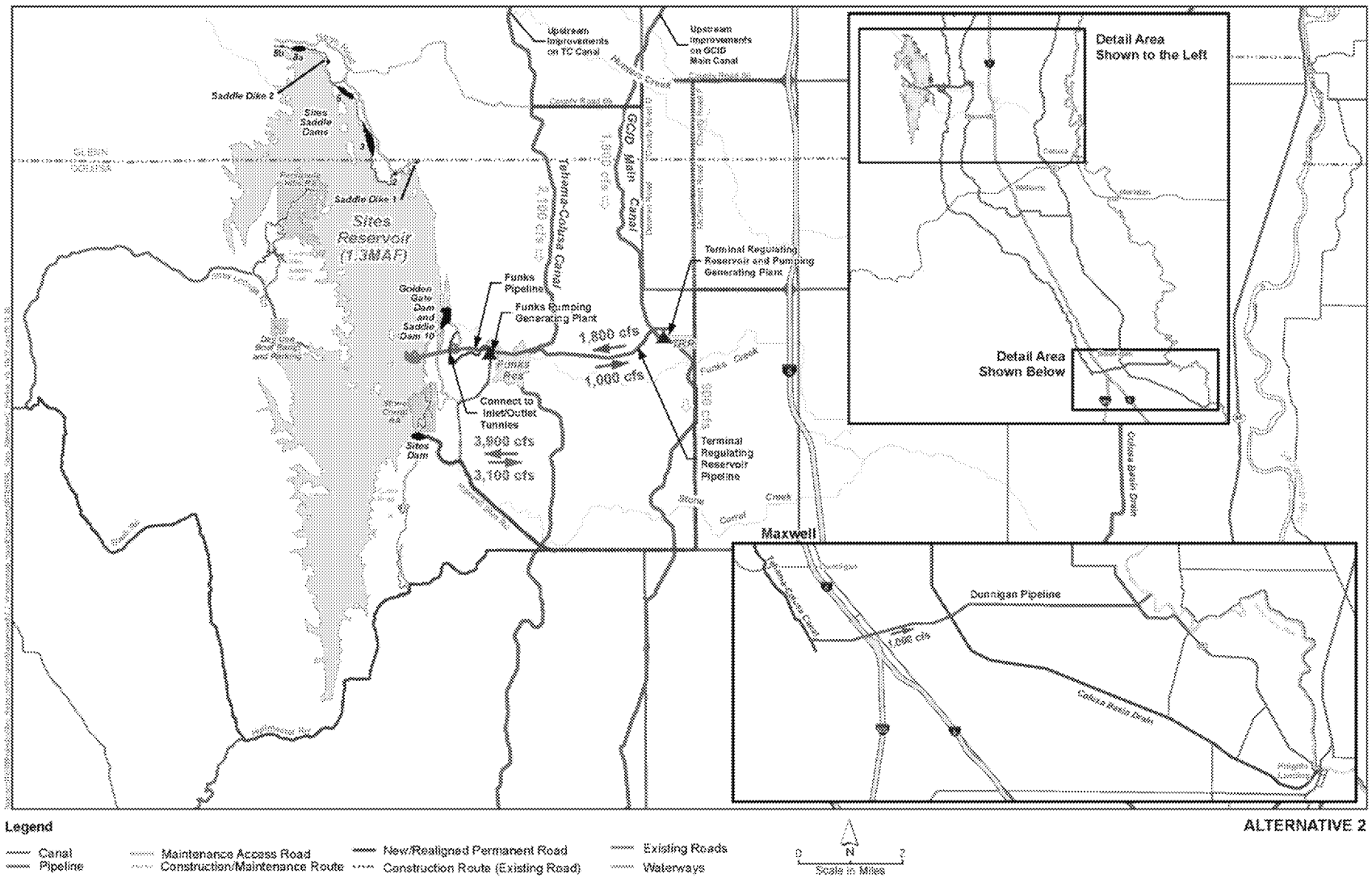
The engineering team will continue to consider and analyze options for various facility components, consistent with CEQA and NEPA requirements, in order to optimize design considerations and reduce costs.

It should also be noted that in the upcoming weeks, there will be further definition of project operations through modeling, clarification of water rights, and consultation with resource agencies. This information and any resulting changes to the alternatives described in the preliminary draft will be incorporated into the complete Chapter 2, Alternatives Description, to be completed by December 2020.

8.0 Identification of the Preferred Alternative for the Revised EIR/Supplemental EIS Analysis

The CEQA Guidelines require that an EIR analyze a reasonable range of alternatives to the project which would feasibly attain most of the basic objectives of the project and avoid or substantially lessen the significant effects of the project. An EIR also needs to identify a proposed project, i.e., a preferred alternative. At this time, Authority staff is recommending the designation of Alternative 1 as the Authority's proposed project based on it meeting the objectives identified in the Value Planning Report and being most closely aligned with Alternative VP-7, and its ability to meet the revised draft CEQA project objectives. The Revised EIR/Supplemental EIS will also evaluate Alternative 2 and the No Project/No Action Alternative.


Saddle Dike 2
Saddle Dike 1
Sites Saddle Dams
Sites Reservoir (1.5MAF)
Golden Gate Dam
Funks Pipeline
Funks Pumping Generating Plant
Funks Reach
Connect to Inlet/Outlet Tunnels
Sites Dam
3,800 cfs
3,100 cfs
1,800 cfs
1,800 cfs
Upstream Improvements on TC Canal
Downstream Improvements on GCID Main Canal
Tehama-Colusa Canal
GCID Main Canal
Terminal Regulating Reservoir and Pumping Generating Plant
Terminal Regulating Reservoir Pipeline
Detail Area Shown to the Left
Detail Area Shown Below
Maxwell
Dunnigan Pipeline
1,886 cfs
Colusa Basin Drain
Glenn Co.
Colusa Co.
Yolo Co.
Legend
Canal
Pipeline
Maintenance Access Road
Construction/Maintenance Route
New/Realigned Permanent Road
Construction Route (Existing Road)
Existing Roads
Waterways
N
0
2
Scale in Miles
ALTERNATIVE 1


Upstream Improvements on TC Canal
Upstream Improvements on GCID Main Canal
Detail Area Shown to the Left
Saddle Dike 2
Sites Saddle Dams
Saddle Dike 1
Sites Reservoir (1.3MAF)
Tehama-Colusa Canal
GCID Main Canal
Terminal Regulating Reservoir and Pumping Generating Plant
Funks Pipeline
Funks Pumping Generating Plant
Golden Gate Dam and Saddle Dam 10
1,800 cfs
1,000 cfs
Detail Area Shown Below
Connect to Inlet/Outlet Tunnles
3,900 cfs
3,100 cfs
Sites Dam
Terminal Regulating Reservoir Pipeline
Maxwell
Dunnigan Pipeline
1,800 cfs
Legend
Canal
Pipeline
Maintenance Access Road
Construction/Maintenance Route
New/Realigned Permanent Road
Construction Route (Existing Road)
Existing Roads
Waterways
N
0
2
Scale in Miles
ALTERNATIVE 2

Sites Reservoir Project
Revised Recommended EIR Objectives
September 8, 2020

- OBJ-1: Improve water supply reliability and resiliency to meet member participants' agricultural and municipal long-term average annual water demand in a cost-effective manner for all member participants', including those that are the most cost-sensitive.

- OBJ-2: Provide public benefits consistent with Proposition 1 of 2014 and use Water Storage Investment Program (WSIP) funds to improve statewide surface water supply reliability and flexibility to enhance opportunities for fisheries and habitat management for the public benefit through a designated long-term average annual water supply.

- OBJ-3: Provide public benefits consistent with the Water Infrastructure Improvements for the Nation Act (WIIN Act) of 2016 by using federal funds, if available, provided by Reclamation to improve Central Valley Project (CVP) operational flexibility in meeting CVP environmental and contractual water supply needs and improving cold pool management in Shasta Reservoir to benefit anadromous fish

- OBJ-4: Provide surface water to convey biomass from the floodplain to the Delta to enhance the Delta ecosystem for the benefit of pelagic fishes[1] in the north Delta (e.g., Cache Slough).

- OBJ-5: Provide local and regional amenities, such as developing recreational facilities, reducing local flood damage, and maintaining roadway connectivity through modifications.

[1] Pelagic fish are species that spend most of their life swimming in the water column, having little contact or dependency with the bottom.

November 13, 2020

Mr. Andrew Alejandre, Chairperson
Paskenta Band of Nomlaki Indians
P.O. Box 709
Corning, CA 96021

From: Fritz Durst/ Sites Project Authority Board Chair

Subject: Tribal Cultural Resources under the California Environmental Quality Act, Assembly Bill (AB) 52. Formal Notification of the Preferred Project for the Purposes of the California Environmental Quality Act (CEQA) Analysis and Notification of Consultation Opportunity for the Sites Reservoir Project, Colusa, Tehama, Glenn, and Yolo Counties, California, pursuant to Public Resources Code § 21080.3.1

Dear Honorable Chairperson Alejandre,

The Sites Project Authority (Authority) initially contacted you in February 2017 in compliance with the project notification requirements pursuant to Public Resources Code § 21080.3.1(d) for the Sites Reservoir Project. A Draft Environmental Impact Report (EIR) was published for public review in August 2017. After receipt of public comments on the Draft EIR, the Authority reconsidered elements of the project. In October 2019, representatives from both the Authority Board and Reservoir Committee began undertaking a "value planning" process, an effort to identify and evaluate additional alternatives. As a result of the the "value planning process," the Authority identified a project that reduced the size of the proposed Sites Reservoir from 1.8 million acre feet to 1.5 million acre feet, removed the Delevan Pipeline and associated facilities, and made minor adjustments to other project features.

On April 22, 2020, the Authority directed staff to revise and recirculate a Draft EIR consistent with the California Environmental Quality Act (CEQA) to analyze the environmental effects of the facility options identified in the Sites Project Value Planning Report.[1] The Revised Draft EIR is anticipated to be released for public review in the summer of 2021. In response to preparing the Revised Draft EIR, the Authority is providing you with a description of the revised project for your consideration pursuant to Public Resources Code § 21080.3.1(d).

Description of the Proposed Project

The Authority proposes to construct the revised Sites Reservoir Project, which includes a new off-stream storage reservoir and associated water conveyance facilities located in Colusa, Tehama, Glenn, and Yolo counties, California. The new reservoir would be located in Antelope Valley, on the eastern edge of the North Coast Ranges and approximately 10 miles west of the town of Maxwell.

[1] https://3hm5en24txyp2e4cxyxaklbs-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/02-01.a-Authority-Board_Value-Planning.pdf

P.O. Box 517
Maxwell, CA 95955
530.438.2309

The Sites Reservoir Project is proposed to provide storage and operational benefits including including water supply resiliency, water dedicated to environmental uses, and other programs throughout California.

Two alternatives (Alternative 1 and Alternative 2) are currently under consideration. The primary differences in the alternatives is that Alternative 1 will impound up to 1.5 million acre feet of water and discharge water into the Colusa Drain, via the Tehama Colusa Canal, in the vicinity of Dunnigan, Yolo County. In contrast, Alternative 2 will hold up to 1.3 million acre feet of water and discharge water via the Tehama Colusa Canal into the Sacramento River; again, in the vicinity of Dunnigan. Alternative 1 also includes a bridge to extend the Sites Lodoga Road directly across the reservoir, while Alternative 2 re-routes the road around the south end of the reservoir and continues to Lodoga along the west side of the reservoir. Alternative 1 was designated by the Authority as the preferred project for the purposes of the CEQA analysis and permit development on September 17, 2020.

For more information regarding the proposed project alternatives, please see the attached Preliminary Project Description.

Pursuant to PRC § 21080.3.1 (b), please respond, in writing, within 30 days if you wish to request consultation. If you have any questions or wish to consult on this project, please contact the Authority's Lead Agency Point of Contact for AB 52 consultations:

Kevin Spesert, External Affairs Manager
Sites Project Authority
P.O. Box 517
Maxwell, CA 95955
Phone: (530) 632-4071
Email: kspesert@sitesproject.org

If consultation is requested, please provide the name and contact information of the designated lead contact person as part of your request. The Authority will contact the designated person to set a meeting date to begin consultation within 30 days of our receipt of your request.

Thank you for giving this matter your prompt attention.

Sincerely,

Fritz Durst
Sites Project Authority

From: Laurie Warner Herson [laurie.warner.herson@phenixenv.com]
Sent: 12/17/2020 12:08:15 PM
To: Spranza, John [john.spranza@hdrinc.com]; Heydinger, Erin [erin.heydinger@hdrinc.com]
CC: Alicia Forsythe [aforsythe@sitesproject.org]
Subject: RE: NGO Outreach and Follow Up Survey

John, thanks very much for the additional detail. I can put together a more comprehensive summary of the meetings for the record.

From: Spranza, John [mailto:John.Spranza@hdrinc.com]
Sent: Thursday, December 17, 2020 11:02 AM
To: Heydinger, Erin <Erin.Heydinger@hdrinc.com>; Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Cc: Alicia Forsythe <aforsythe@sitesproject.org>
Subject: RE: NGO Outreach and Follow Up Survey

I sent this in an email to ICF yesterday to make sure that they had them on the radar:

Jim Brobeck from AquAlliance had several questions during today's workshop that I wanted to make you aware of.

1) Is the project assessing the potential for impounded water to exceed the current anti-degradation limits?
2) If the project exceeds the A-D limits, what would be done with the water and what are the effects?
3) Is the project analyzing the potential for evaporative concentration of heavy metals and salts within the reservoir (e.g., Na, Hg, As..) that are common within the watersheds that the lake receives water from?
4) Is the revised EIR addressing the 2017 comments made by Jerry Bowles? Specifically brought up were:
a. Source water quality concerns, specifically Cottonwood Creek.
b. Metals in lake and source water

It was also interesting that Jim McManis from Golden State Sportfish Assn asked about bypass flows, and specifically about the Michel paper and if we intend to establish 11K at Wilkins. Another individual, Mark Rockwell asked about our ability to actually operate to our proposed diversion criteria. It's like they were sitting in our last meeting with the Aquatics and modeling team…

John Spranza

D 916.679.8858 M 818.640.2487

From: Heydinger, Erin
Sent: Thursday, December 17, 2020 10:51 AM
To: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>; Spranza, John <John.Spranza@hdrinc.com>
Cc: Alicia Forsythe <aforsythe@sitesproject.org>
Subject: RE: NGO Outreach and Follow Up Survey

Wow that's a lot – sounds like there were some good questions! I have done a Smartsheet survey before and can help with that. I will put some thought into additional questions.

Erin

Erin Heydinger PE, PMP
D 916.679.8863 M 651.307.9758

From: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Sent: Thursday, December 17, 2020 10:44 AM
To: Heydinger, Erin <Erin.Heydinger@hdrinc.com>; Spranza, John <John.Spranza@hdrinc.com>
Cc: Alicia Forsythe <aforsythe@sitesproject.org>
Subject: FW: NGO Outreach and Follow Up Survey

Good morning,

We need to send out a follow up survey to the NGOs that participated in the two meetings this week. These are the topics raised during the meetings:

John's list from Monday:
1) Group would like a focused water rights discussion
2) Group would like a discussion of minimum flows in Sacramento river
3) Group would like a discussion of water quality in the lake and CBD.
a. Hg (methylation in lake and general Hg movement resulting from project)
b. Sediment from CBD to Sac River
c. Agricultural runoff
d. Temperature
4) A discussion of how the project would not affect the Trinity
5) A focused discussion of terrestrial effects of the project and proposed mitigation
6) A discussion of how the project is quantifying WSIP and WIIN act benefits

Additional items from yesterday:
1) Salt Lake – concentrations of salt in reservoir
2) Exceedance of degradation policy standard
3) Analysis individual effects on specific tributaries
4) Further degradation of Bay Delta and fisheries effects
5) What is the best way to provide input prior to release of the public RDEIR/SDEIS
6) Where will public meetings (if live) be held – can there be a meeting in No. CA

I reached out to Charles Gardner and JP about survey platforms they have used. Ali suggested we pursue the Smartsheet version that JP has recommended (see below, please open the link to the survey).

I will need your help in developing questions to include in the survey. Preliminary questions might include:

- The Sites Authority would like to follow up with focused technical meetings, what topics would you be interested in?
- Would you prefer one-on-one meetings or small group meetings?
- What other forms of outreach should the Authority consider to maintain contact with your organization (e.g., emails, monthly newsletters, etc.)?
- Public meetings on the Revised Draft EIR/Supplemental EIS will be held in August and September, where do you think those meetings should be held?

Let me know if you have any other suggestions.

Thank you,

Laurie

From: JP Robinette [mailto:JRobinette@BrwnCald.com]
Sent: Monday, December 7, 2020 7:22 AM
To: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Cc: Cheyanne Harris <CHarris@BrwnCald.com>
Subject: RE: NGO Outreach and Follow Up Survey

Hi Laurie,

Here is an example we used recently for the two-step cash call as an example. The results are put into a simple table which can be exported to excel if needed.

https://app.smartsheet.com/b/form/387c7986b0cd4be4b726dc853de50ac8

Example of the data format of responses collected:

Name	Agency	Participation Level (AF) Staff Recommendation	More Available (AF) Comment	Board date	Optional Comment
Zachary Lincoln Dennis	LaGrande Water District	1,000	No	05/13/20	
Jamie Traynham	Davis Water District	2,000	No	05/20/20	
Jeff Davis	San Gorgonio Pass Water Agency	14,000	Not at this time, but not out of the question.	06/01/20	I think I have the board meeting covered. We will discuss this at our May 11 engineering workshop and, depending on how it goes, take it to the Board on May 18 or June 1. The latest would be June 15.
Dirk Marks	Santa Clarita Valley Water Agency	5,000	Uncertain at this time. Probably no increase but not more than a 1,000 AF increase	06/02/20	A powerpoint presentation to modify for use at committee meeting on May 15th and Board Meeting on June 2nd.
Thaddeus Bettner	Glenn Colusa Irrigation District	5,000	No	06/04/20	
Dan Ruiz	Westside W.D.	2,000	Likely not	06/11/20	Today the Board approved going forward with a District-wide investment for 2,000 af in Sites for this next cash call (Sept 1). Now the Board has chosen a District position I can now proceed in meeting with Landowners to determine if any would like to invest more on an individual level. I will say, in just polling the folks in the room today, I heard an additional 3,000 af of participation on an individual level. Projecting that number to the rest of my Landowner sample, I would estimate an ultimate level of participation going forward with Sites, both individually and District-wide, at approximately 7,500 or roughly about a reduction of half our current participation level.
Bob Tincher	San Bernardino Valley Municipal Water District	21,400	Not at this time	06/16/20	Our schedule assumes we will have the "home board package" in May
Rick Kaufman	City of American Canyon	4,000	No	06/16/20	
Mike Azevedo	Colusa County	10,000	not at this time do to internal budget uncertainty	06/16/20	

JP Robinette, PE*
Brown and Caldwell
JRobinette@brwncald.com
T 916.853.5312 | **C** 801.819.4306
*Professional Registration in Specific States

From: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Sent: Sunday, December 06, 2020 5:15 PM

To: JP Robinette <JRobinette@BrwnCald.com>
Cc: Cheyanne Harris <CHarris@BrwnCald.com>
Subject: Re: NGO Outreach and Follow Up Survey

Ok, thank you!

On Dec 6, 2020, at 4:24 PM, JP Robinette <JRobinette@brwncald.com> wrote:

Hi Laurie,

Good thinking! We have used Smartsheet forms a bunch for surveys, even with participants. There may be better tools, but it's super easy to set one up and they are pretty flexible. Anyone with a link can fill them out which is nice in case the link gets forwarded. Let me know and one of us can set it up for you if needed (cc'd Cheyanne, a pro). When I get to my computer I can send you an example, too.

JP

Get Outlook for iOS

From: Laurie Warner Herson <laurie.warner.herson@phenixenv.com>
Sent: Sunday, December 6, 2020 4:20:34 PM
To: JP Robinette <JRobinette@BrwnCald.com>
Subject: FW: NGO Outreach and Follow Up Survey

Hi JP -

We are in the process of reaching out to NGOs that commented on the 2017 Draft EIR/EIS. Next week we will conduct a workshop to inform the NGOs of changes to the project ("right-sizing"), coordination with wildlife agencies (CDFW) and the Authority's CEQA process. After the workshop, we will be sending out a survey to gauge interest in focused, technical meetings, along with topics for the focused meetings.

Ali asked me to reach out to you to see if you have any suggestions on format/platform for the survey. Please let me know if you have any recommendations – I'll be reaching out to others as well.

Thanks,
Laurie

Laurie Warner Herson
Principal/Owner
<image002.png>
Environmental Planning

916.201.3935
laurie.warner.herson@phenixenv.com
State of California Small Business (#1796182)
Supplier Clearinghouse Women Business Enterprise (#16000323)

http://phenixenv.com/

Sites Reservoir Modeling

OVERVIEW AND STATUS

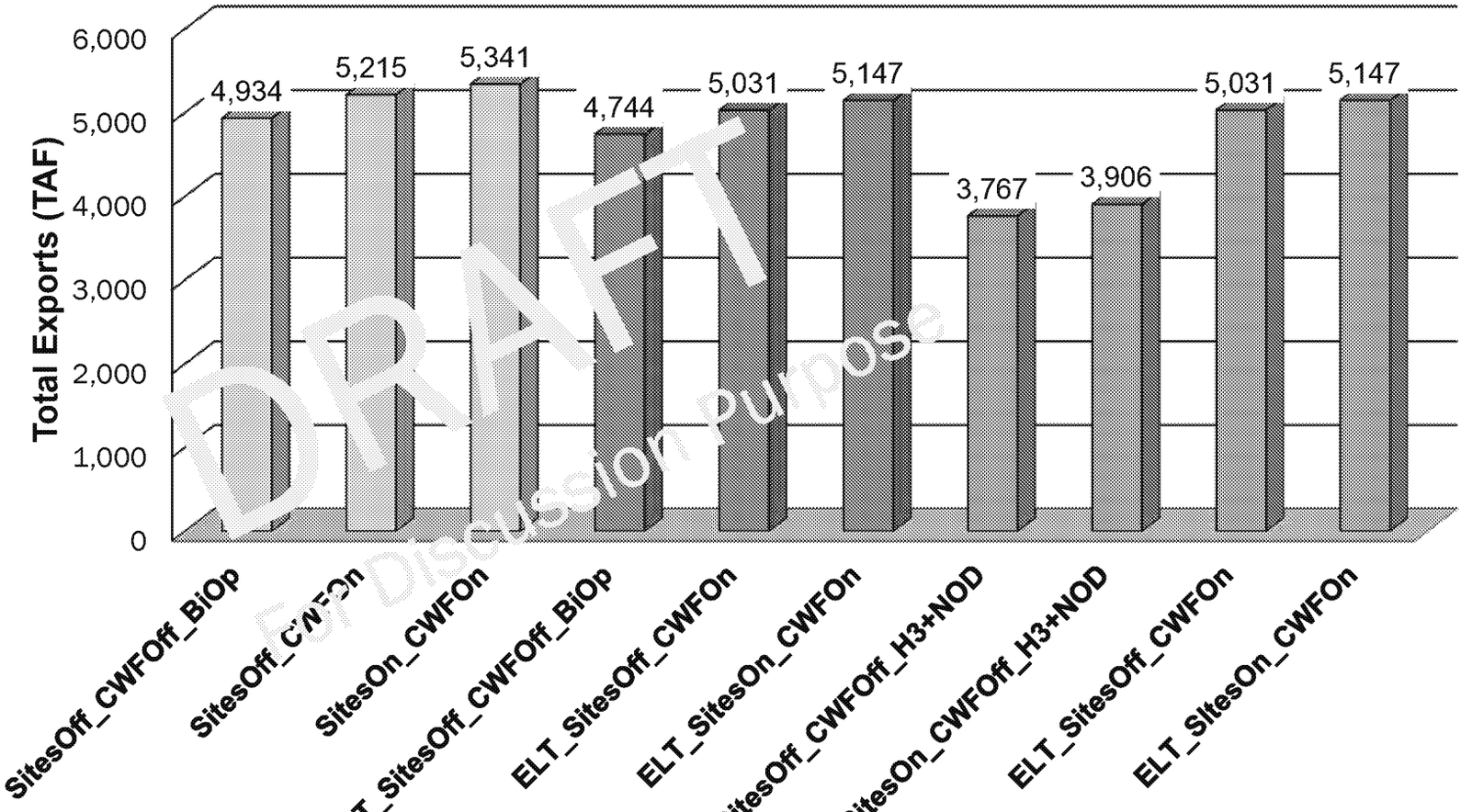
Metropolitan Water District
Minimum Modeling Set

	Current	Near Term (2030)	Long Term (2070)
1. Baseline (DCR 2019)	Yes	In progress	Not yet
2. Baseline (Additional Future Regs)	N/A	*(Thoughts needed)*	*(Thoughts needed)*
3. Sites only	Ye	In progress	Not yet
4. Delta Conveyance only	Not yet	Not yet	Not yet
5. Sites + DCP	Not yet	Not yet	Not yet

	SOC-LTO	SWP-ITP	Fremont Weir	Bypass flow
Regulatory Considerations	Yes	Yes	Yes	Yes

	Optimize Reservoir Yield	Individual Operation
Operation Policy	Yes	No (It is what we want.)

Average Annual Total Exports, TAF (2018 Sites 1.8 MAF/CWF 9Kcfs Analysis)



Sites Reservoir

2018 SWP Export Analysis (Assumes 1.8 maf reservoir)

	Existing Bio Op No Climate Change 4.9 maf SWP/CVP	Alt. H3 NOD No Climate Change 3.9 maf SWP/CVP	Existing Bio Op Early Long Term (ELT) 4.7 maf SWP/CVP	Alt. H3 NOD Early Long Term (ELT) 3.7 maf SWP/CVP
Sites Only	147,000 AF	125,000 AF	134,000 AF	139,000 AF
CWF Only	281,000 AF	1,332,000 AF	288,000 AF	1,264,000 AF
CWF + Sites	407,000 AF	1,458,000 AF	404,000 AF	1,380,000 AF
CWF_v2 + Sites	401,000 AF	1,453,000 AF	397,000 AF	1,374,000 AF

SUMMARY (with CWF priority in model)

- With Cal WaterFix: Sites = 110-116,000 AF/yr. export benefit
- Without Cal WaterFix: Sites = 139,000 AF/yr. export benefit
- Why?
  - CWF is a priority in the model
  - Enough capacity available to export Sites water at south Delta Banks PP under new Bio Op in summer/fall
  - Sites gets charged for carriage water for either proposed northern or existing southern intakes

Sites Reservoir
2020 Modeling Analysis (Based on CEQA Alt. VP7)

Sites Reservoir Diversion & Release (TAF/Annual)			
Period	Diversion into Reservoir	Evaporation Loss	Release from Reservoir
Long Term	264	27	243
• Iteration 1 Run	244	28	216
Drier	114	24	308
• Iteration 1 Run	108		337
Wet	457	28	116
Above Normal	404	32	286
Below Normal	151	25	273
Dry	124	26	382
Critical	57	20	237

Sites Reservoir

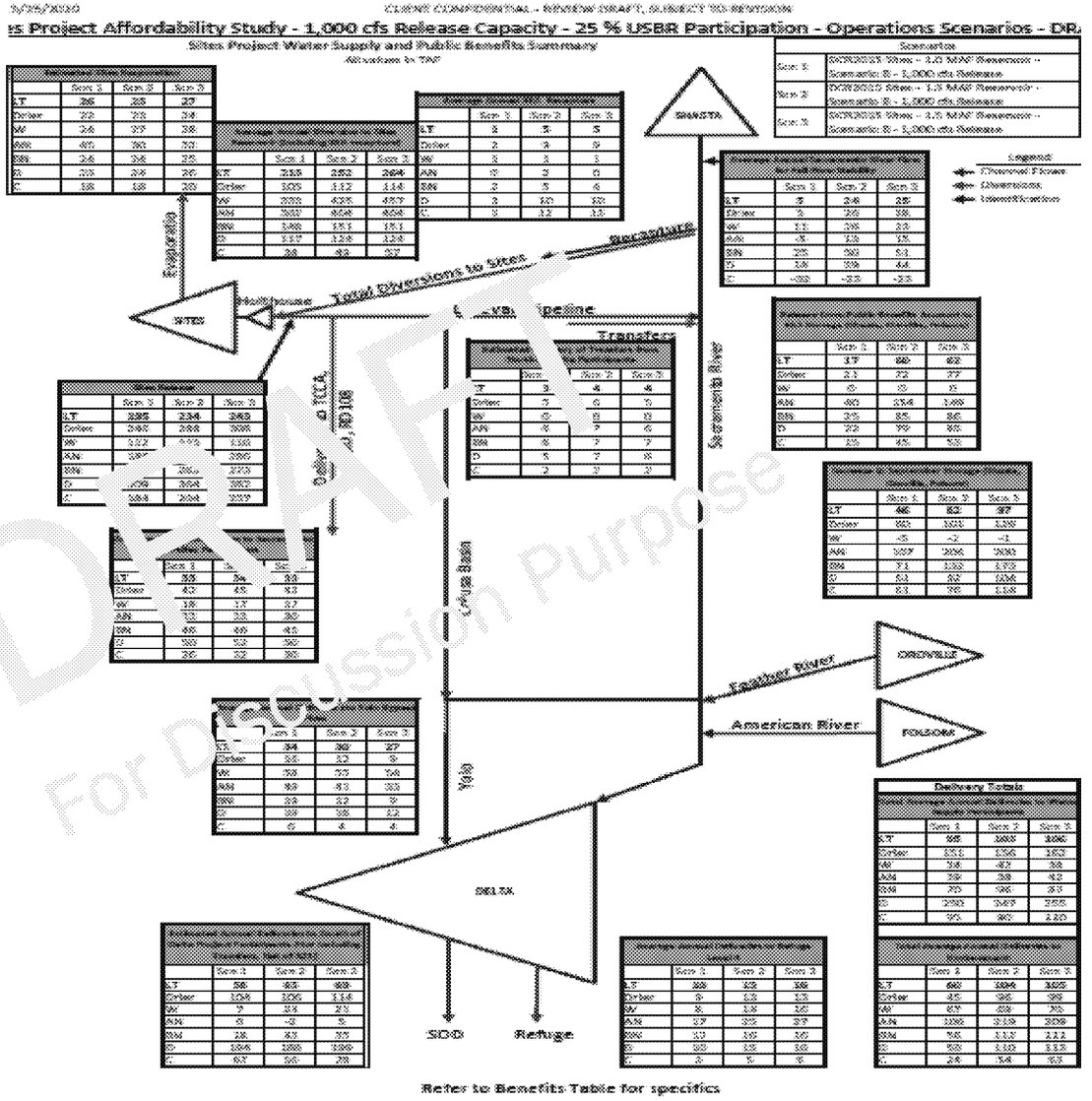
SAMPLE

SAMPLE

	Modeling Run 1 Assumptions	Modeling Run 2 Assumptions
Reservoir Size	1.5 MAF	1.5 MAF
GCC Maintenance Window	2 weeks (Jan/Feb)	2 weeks (Jan/Feb)
Tehama Colusa Canal Capacity Available	800 cfs min; 1,250 cfs by mid-August ??	800 cfs min; 1,250 cfs by mid-August ??
Wilkins Slough Bypass Flow	8,000 cfs April/May; 5,000 cfs all other	8,000 cfs April/May; 5,000 cfs all other
Fremont Weir Notch	Priorities flows into Yolo bypass Flow over weir within 5%	Priorities flows into Yolo bypass
Sutter Bypass Flows	No restrictions	No restrictions
Freeport Bypass Flow	Based on CWF Criteria Pulse: _____ Post-Pulse: (3 levels): Jan – Mar Level 1 is initiated by the pulse trigger	
Net Delta Outflow Index	44,500 cfs between 3/1 and 5/31	
SWP Participants Storage Release	SWP < 85% allocation	
Fill	244 TAF/Annual	
Releases	216 TAF/Annual	

Sites Reservoir Modeling Schedule

Sample Useful Output



File Provided Natively

From: Alicia Forsythe [aforsythe@sitesproject.org]
Sent: 12/28/2020 11:20:18 AM
To: Jerry Brown [jbrown@sitesproject.org]; Marcia Kivett [MKivett@sitesproject.org]
Subject: RE: Email Message You Sent Jeffrey Mount via the PPIC Website

Thanks Jerry. Here's the email address that I have for Jeff Mount in case its helpful: Jeffrey Mount mount.jeffrey@gmail.com

Added Marcia so she has it for her records also.

Ali

Alicia Forsythe | Environmental Planning and Permitting Manager | Sites Reservoir Project | 916.880.0676 | aforsythe@sitesproject.org | www.SitesProject.org

From: Jerry Brown <jbrown@sitesproject.org>
Sent: Wednesday, December 23, 2020 5:15 PM
To: Alicia Forsythe <aforsythe@sitesproject.org>
Subject: FW: Email Message You Sent Jeffrey Mount via the PPIC Website

FYI

From: Public Policy Institute of California <info@ppic.org>
Date: Wednesday, December 23, 2020 at 5:12 PM
To: Jerry Brown <jbrown@sitesproject.org>
Subject: Email Message You Sent Jeffrey Mount via the PPIC Website

Hi Jeff - I am the Executive Director of the Sites Reservoir Project Authority. We are scheduled to receive state P1 funding to deliver significant ecosystem benefits with the this project. All combined, the 7 P1 storage project are estimated to deliver ~$1.5B in ecosystem flexibility with new storage assets under the authority of CDFW and if operated under a "whole is greater than the sum of the parts" approach will make significant progress in meeting environmental goals for California. But if we take the traditional "regulator" approach where each project contracts and operates to a specific regime year after year, we will miss significant leveraging and climate adaptability opportunity. I have been following your work on the concept of an environmental water budget and would like to work with PPIC and NGO's, to develop a concept proposal we could take with the other P1 storage projects to CDFW where we optimize use of these valuable assets. This could make a logical stepping off platform to incorporate a similar concept into the voluntary agreements (when these get off the ground again). Please call me at 925-260-7417 so we can discuss at your earliest convenience.

Thanks,
Jerry

From: Heydinger, Erin [Erin.Heydinger@hdrinc.com]
Sent: 12/29/2020 8:08:05 AM
To: Alicia Forsythe [aforsythe@sitesproject.org]
Subject: RE: Alt 3
Attachments: SPJPA_Alternative3_StorageAccountAssumptions_20201228_rev03.docx

Hi Ali,

Here's a quick memo CH put together on the Alt 3 options. We can discuss at 9.

Erin

Erin Heydinger PE, PMP
D 916.679.8863 M 651.307.9758

hdrinc.com/follow-us

-----Original Appointment-----
From: Heydinger, Erin
Sent: Sunday, December 27, 2020 5:39 PM
To: Heydinger, Erin; Alicia Forsythe
Subject: Alt 3
When: Tuesday, December 29, 2020 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Webex

I had a chance to talk to CH last week about assumptions for Alt 3. We will need to direct them on how to reduce participation (e.g. SOD vs NOD) to accommodate Reclamation participation. They were going to write up some options; I'm hoping they have that done by the end of the day Monday.

-- Do not delete or change any of the following text. --

When it's time, join your Webex meeting here.

Join meeting

More ways to join:

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Meeting password: bqVmPMkb334

Tap to join from a mobile device (attendees only)
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Date: 12/28/20

Alternative 3 Storage Account Assumptions

This memo briefly describes assumptions for calculating the volume of Reclamation storage under Alternative 3, and the balancing of PWA and state accounts to accommodate the change in the Reclamation storage account.

Although this document focuses on storage accounts for Alternative 3, Sites operations, in addition to storage accounts, under Alternative 3 will have a significant influence on the effects analysis. Increased Reclamation investment could result is significantly different Sites operations. A greater portion of Sites reservoir may be operated for operational flexibility, especially cold water pool storage benefits at upstream reservoirs (Shasta and Folsom).

Assumptions for Reclamation Account

In Alternative 3, Reclamation investment increases to 25% of active Sites storage. Therefore, Reclamation storage account volume would be equal to one quarter of the total active storage at Sites reservoir (1,380 TAF), 345 TAF.

Assumptions for Account Balancing

Table 1 displays the Sites Account Volumes under Alternatives 1A (Sites Reservoir at 1.5 MAF), 1B (Sites Reservoir at 1.5 MAF and $200M of Reclamation investment) and 2 (Sites Reservoir at 1.27 MAF). Federal storage increases under Alternative 3 as compared to Alternative 1B. As such, PWA and state accounts must decrease to accommodate increased Reclamation investment. Three actions for balancing storage accounts are:

1. Reduction in Delta Participants Volumes
2. Reduction/removal of North of Delta Participants volumes who are also CVP or Settlement Contractors
3. Reduction of Prop 1 Ecosystem Volume for deliveries to:
    a. Incremental Level 4 Refuges
    b. Yolo Bypass

The actions listed above may be combined in order to reach a total active storage volume of 1,380 TAF and federal investment of 345 TAF.

Table 1. Sites Account Volumes under Alternatives 1A, 1B and 2

Sites Account Volumes (TAF)			
Account	**ALT 1A**	**ALT 1B**	**ALT 2**
PWA	***1136***	***1045***	***906***
TCCA	100	100	100
GCID	20	20	20
RD 108	20	20	20
Other Sac Valley	50	50	50
Delta Participants	946	855	716
State	***244***	***244***	***244***
Refuge L4 Deliveries	124	124	124
Yolo Bypass	120	120	120
Federal	***0***	***91***	***0***
CVP OpFlex	0	91	0

Three possible options for Alternative 3 are presented in Table 2. These options are not provided as recommendations for Sites storage account volumes under Alternative 3. Rather, the options present a range of assumptions for Alternative 3. Assumptions for the Alternative 3 options are discussed below:

ALT 3 (Action 1): A decrease in Delta Participants volumes (Action 1) may compensate for the increased federal investments.

ALT 3 (Actions 1 & 2): Alternatively, Delta Participants, North of Delta CVP Contractor Participants, and Settlement Contractor Participants could reduce account volumes (Actions 1 and 2). TCCA, GCID, and RD 108 are CVP or Settlement contractors. With increased Reclamation investment in Sites, CVP water supply reliability increases. Reclamation could agree to and operate to prioritize these contractors so that they would not need to invest in Sites, as Reclamation would invest on their behalf.

ALT 3 (Actions 1, 2, & 3): Thirdly, in combination with Actions 1 and 2, a portion of the federal investment may go to Incremental Level 4 (IL4) Refuge or Yolo Bypass deliveries (Actions 1, 2, &3). Therefore, the State account decreases to accommodate increased federal investment. Reclamation could operate to achieve similar IL4 benefits and the State investment would have to be directed to other benefits or otherwise justified.

In Table 2, State operation for IL4 deliveries is removed. In place of IL4 deliveries, an additional Proposition 1 Benefit ("Additional Prop 1" as an example) is included with limited storage.

Values are included to demonstrate allocation of Federal investment to various benefit operations.

Table 2. Sites Account Volumes of under Alternative 1B and 3 Possible Variants of Alternative 3

Sites Account Volumes (TAF)				
Account	**ALT 1B**	**ALT 3 (Action 1)**	**ALT 3 (Actions 1 & 2)**	**ALT 3 (Actions 1, 2, & 3)**
PWA	***1045***	***791***	***791***	***855***
TCCA	100	100	0	0
GCID	20	20	0	0
RD 108	20	20	0	0
Other Sac Valley	50	50	50	50
Delta Participants	855	601	741	805
State	***244***	***244***	***244***	***180***
Refuge L4 Deliveries	124	124	124	0
Yolo Bypass	120	120	120	120
Additional Prop 1[1]	0	0	0	60
Federal	***91***	***345***	***345***	***345***
CVP OpFlex	91	345	205[2]	141[2]
TCCA, GCID and RD108	0	0	140[2]	140[2]
Refuge L4 Deliveries	0	0	0	64[2]

[1]*Placeholder for Proposition 1 Ecosystem Benefit*

[2]*Placeholder values shown are an example allocation of Federal investment to various benefit operations*

Recommended Storage Account Assumptions

It is recommended that Other Sac Valley, Delta Participants and State accounts match the values in Alternative 2. Then, the Settlement Contractor accounts (GCID and RD 108) are removed and the CVP Contractor account (TCCA) is reduced to 25 TAF. Table 3 displays recommended Alternative 3 storage account assumptions.

This recommendation maintains consistent volume allocated to CVP Operational Flexibility (230 TAF) in Reclamation's Feasibility Report on Sites Reservoir. The remainder of Reclamation storage under Alternative 3 could be prioritized for delivery to North of Delta CVP and Settlement Contractors.

Table 3. Recommended Sites Account Volumes of under Alternative 1B and 3

Sites Account Volumes (TAF)		
Account	**ALT 1B**	**ALT 3**
PWA	***1045***	***791***
TCCA	100	25
GCID	20	0
RD 108	20	0
Other Sac Valley	50	50
Delta Participants	855	716
State	***244***	***244***
Refuge L4 Deliveries	124	124
Yolo Bypass	120	120
Additional Prop 1[1]	0	0
Federal	***91***	***345***
CVP OpFlex	91	230
TCCA, GCID and RD108	0	115[2]
Refuge L4 Deliveries	0	0

[1]*Placeholder for Proposition 1 Ecosystem Benefit*

[2]*Placeholder values shown are an example allocation of Federal investment to various benefit operations*

From: jerry brown [jerry@waterologyconsulting.com]
Sent: 12/30/2020 1:17:11 PM
To: Marcia Kivett [MKivett@sitesproject.org]
Subject: FW: Environmental Water Manager

Let's discuss tomorrow morning how best to proceed.

From: Jeffrey Mount <mount.jeffrey@gmail.com>
Reply-To: "mount.jeffrey@gmail.com" <mount.jeffrey@gmail.com>
Date: Wednesday, December 30, 2020 at 1:02 PM
To: jerry brown <jerry@waterologyconsulting.com>
Subject: Re: Environmental Water Manager

Jerry,

Both Brian and Ellen are more than happy to talk. Let's see if we can get this scheduled. If you like, we can have our scheduler (who has our three calendars) tackle this, but the PPIC offices are pretty much closed down until next week. Your call on whether to doodle poll this or not. In the interim:

Ellen Hanak: hanak@ppic.ord
Brian Gray: graybeg@gmail.com

Looking forward to the conversation!

Jeff

On Wed, Dec 30, 2020 at 11:12 AM jerry brown <jerry@waterologyconsulting.com> wrote:

> Thanks for the reply Jeff. I like the idea of a virtual meeting and appreciate the suggestion of involving your colleagues. I do see a role for PPIC if we can get this rolling, possibly as a participant, convenor, and/or author. I am also trying to identify a funding source to support the work (not PPIC, possibly water agencies, the state, or private donors). I know Ellen from my past as GM @ Contra Costa WD but don't believe I've had the pleasure of meeting Brian yet.
>
> Can you send me best email addresses for Ellen and Brian? I'll then reach out to them similar to what I've done with you and have my assistant Marcia doodle poll for a meeting date.
>
> Looking forward to further discussion.
>
> Jerry

From: Jeffrey Mount <mount.jeffrey@gmail.com>
Reply-To: "mount.jeffrey@gmail.com" <mount.jeffrey@gmail.com>
Date: Wednesday, December 30, 2020 at 10:15 AM
To: jerry brown <jerry@waterologyconsulting.com>
Subject: Re: Environmental Water Manager

Jerry,

Thanks for reaching out. You are facing an important challenge here, but also a great opportunity to pioneer how water is managed as an environmental asset.

I am happy to chat, but would suggest that we bring in two of my colleagues: Brian Gray (who came up with the idea of ecosystem water budgets) and Ellen Hanak (best water economist I know).

Both of them are out this week for the holiday break, but could conceivably be on a call/zoom/whatever next week if you like. Let me know how you would like to proceed.

Jeff

On Wed, Dec 30, 2020 at 7:08 AM jerry brown <jerry@waterologyconsulting.com> wrote:

> Hi Jeff - I am the Executive Director of the Sites Reservoir Project Authority. We are scheduled to receive state P1 funding to deliver significant ecosystem benefits with the this project. All combined, the 7 P1 storage project are estimated to deliver ~$1.5B in ecosystem flexibility with new storage assets under the authority of CDFW and if operated under a "whole is greater than the sum of the parts" approach will make significant progress in meeting environmental goals for California. But if we take the traditional "regulator" approach where each project contracts and operates to a specific regime year after year, we will miss significant leveraging and climate adaptability opportunity. I have been following your work on the concept of an environmental water budget and would like to work with PPIC and NGO's, to develop a concept proposal we could take with the other P1 storage projects to CDFW where we optimize use of these valuable assets. This could make a logical stepping off platform to incorporate a similar concept into the voluntary agreements (when these get off the ground again). Please call me at 925-260-7417 so we can discuss at your earliest convenience.
>
> Thanks,
> Jerry

--

Jeffrey Mount
Public Policy Institute of California and UC Davis
mount.jeffrey@gmail.com

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