

AGENDA
PANOCHÉ DRAINAGE DISTRICT
REGULAR BOARD OF DIRECTORS MEETING
August 09, 2022 – 9:00 a.m.

CONSISTENT WITH RESOLUTION NO. 812-22 PROCLAIMING A LOCAL EMERGENCY AND AUTHORIZING REMOTE TELECONFERENCE BOARD MEETINGS THROUGH AUGUST 11, 2022, PURSUANT TO AB 361, THE OPEN SESSION OF THIS MEETING MAY BE JOINED FROM YOUR COMPUTER, TABLET OR SMARTPHONE THROUGH THE FOLLOWING MEANS:

<https://meet.goto.com/249592309>

AND PLEASE DIAL

Conference call in number: (866) 705-2554 Passcode: 148 890

PRESIDENT’S ANNOUNCEMENT: Pursuant to Government Code Section 54952.3, let it be known that Board Members receive no compensation or stipend for simultaneous or serial order meetings of the Panoche Water District, Panoche Drainage District, Panoche Financing Authority, and/or the Panoche Resource Conservation District.

- 1. CALL TO ORDER**
- 2. REVIEW OF AGENDA:** The Board will consider corrections and/or additions to the Agenda of items requiring immediate action that came to the attention of the Board after the Agenda was posted.
- 3. ROLL CALL:** A quorum will be confirmed and the Board will consider appointment of an acting Officer(s) in the event the President, Vice-President, and/or Secretary is absent from the meeting.
- 4. POTENTIAL CONFLICTS OF INTEREST:** Any Board member who has a potential conflict of interest may now identify the Agenda Item and recuse themselves from discussing and voting on the matter. [Government Code Section 87105]
- 5. PUBLIC COMMENT:** The Board of Directors welcomes participation in Board meetings. The public may address matters under the jurisdiction of the Board that have not been posted in the Agenda. The public will be given the opportunity to address the Board on any item in the Agenda at this time or before the Board’s consideration of that item. If members of the public desire to address the Board relative to a particular Agenda item at the time it is to be considered, they should so notify the President of the Board at this time. Please note, California Law prohibits the Board from taking action on any matter during a regular meeting that is not on the posted Agenda unless the Board determines that it is an emergency or one of the other situations specified in Government Code Section 54954.2. During a special meeting, the Board may not take action on any matter that is not on the posted Agenda. The President may limit the total amount of time allocated for public comment on particular issues to 3 minutes for each individual speaker.

6. CONSENT CALENDAR

All matters listed on the Consent Calendar are considered to be routine and non-controversial and will be acted upon by a single action of the Board of Directors, unless a Board Member requests separate consideration of the item. If such a request is made, the item may be heard as an Action Item at this meeting. The Board will review and consider (Tab 2):

- Adopting a Resolution determining that during the proclaimed state of emergency due to the COVID-19 pandemic, meeting in person would present imminent risk to the health or safety of attendees;
- Approving DRAFT minutes from the August 10, 2021, regular meeting of the Board;
- Approving DRAFT minutes from the July 12, 2022, regular meeting of the Board;
- Accepting the monthly financial statements for the period ending July 31, 2022.

ACTION ITEMS

7. The Board to review and consider adopting a Resolution making certain findings under the California Environmental Quality Act regarding the execution of a sole source contract to McElvany, Inc., to install Proposition 84 grant funded collector drains in the San Joaquin River Improvement Project's "Periera Ranch", and authorizing related actions (Azhderian/Williams – Tab 3);
8. The Board to review and consider adopting a Resolution making certain findings under the California Environmental Quality Act, authorizing award of a contract to McElvany, Inc. to construct Proposition 84 grant funded Short-Term Storage Basins, Pump Stations, Earthwork, and Facilities, and authorizing related actions (Azhderian/Williams – Tab 4);
9. The Board to review and consider approving the accounts payable (Azhderian – Tab 5).

REPORT ITEMS

10. **FINANCIAL REPORTS** (Tab 6)
 - A. FYE 2023 Budget-to-Actual Report;
 - B. Other financial matters affecting the District.
11. **DRAINAGE MANAGEMENT REPORT** (Tab 7)
 - A. San Joaquin River Improvement Project;
 - B. Grassland Bypass Project;
 - C. Storm Water Management Water Quality Report;
 - D. Other Drainage Related Matters Affecting the District.
12. **GENERAL MANAGER'S REPORT** (Tab 8)
 - A. Prop 84 Grant for Westside Regional Drainage Plan:
 - i. Tile Sump SCADA Project;
 - ii. Land Acquisition;
 - iii. Stormwater Regulating Basins Expansion;
 - iv. Land Development;

- v. Conveyance Optimization.
- B. Grassland Basin Authority;
- C. Other Matters Affecting the District.

13. DIVISION REPORTS:

- A. Water Operations & Maintenance – Juan Cadena
- B. Administration – Ara Azhderian
- C. Ethics, Compliance, & Human Resources – Lorena Chagoya

14. PANOCHÉ WATER & DRAINAGE DISTRICTS JOINT CLOSED SESSION: Conference with Legal Counsel.

- A. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION
Significant Exposure to Litigation pursuant to Section 54956.9(d), paragraph (2) or (3):

Number of Cases: Ten

15. REPORT FROM JOINT CLOSED SESSION (GOVERNMENT CODE SECTION 54957.1)

16. REPORTS ON OTHER ITEMS PURSUANT TO GOVERNMENT CODE SECTION 54954.2(a)(3)

17. FUTURE MEETING DATES

- A. Board to Consider Action to Set Special Meeting Date(s): *No staff requests.*
- B. Next Regular Meeting Date: September 13, 2022.

18. ADJOURNMENT

- ❖ Items on the Agenda may be taken in any order.
- ❖ Action may be taken on any item listed on the Agenda.
- ❖ Writings relating to open session: Agenda items that are distributed to members of the Board of Directors will be available for inspection at the District office, excluding writings that are not public records or are exempt from disclosure under the California Public Records Acts.

Americans with Disabilities Act of 1990: Under this Act, a qualifying person may request that the District provide a disability-related modification or accommodation in order to participate in any public meeting of the District. Such assistance includes alternative formats for the agendas and agenda packets used for any public meetings of the District. Requests for assistance shall be made in person, in written form, or via telephone by calling (209) 364-6136. Requests must be received at least 18 hours prior to a scheduled public meeting.

PANOCHÉ DRAINAGE DISTRICT RESOLUTION NO. 815-22

**A RESOLUTION OF THE BOARD OF DIRECTORS PROCLAIMING A LOCAL EMERGENCY,
RATIFYING GOVERNOR NEWSOM’S MARCH 4, 2020, PROCLAMATION OF A
STATE OF EMERGENCY, AND AUTHORIZING REMOTE TELECONFERENCE MEETINGS OF THE
LEGISLATIVE BODIES OF PANOCHÉ DRAINAGE DISTRICT THROUGH SEPTEMBER 08, 2022
PURSUANT TO BROWN ACT PROVISIONS**

WHEREAS, the Panoche Drainage District is committed to preserving and nurturing public access and participation in meetings of the Board of Directors; and

WHEREAS, all meetings of Panoche Drainage District’s legislative bodies are open and public, as required by the Ralph M. Brown Act (Cal. Gov. Code 54950 – 54963), so that any member of the public may attend, participate, and watch the District’s legislative bodies conduct their business; and

WHEREAS, the Brown Act, Government Code section 54953(e), makes provisions for remote teleconferencing participation in meetings by members of a legislative body, without compliance with the requirements of Government Code section 54953(b)(3), subject to the existence of certain conditions; and

WHEREAS, a required condition is that a state of emergency is declared by the Governor pursuant to Government Code section 8625, proclaiming the existence of conditions of disaster or of extreme peril to the safety of persons and property within the state caused by conditions as described in Government Code section 8558; and

WHEREAS, a proclamation is made when there is an actual incident, threat of disaster, or extreme peril to the safety of persons and property within the jurisdictions that are within the District’s boundaries, caused by natural, technological, or human-caused disasters; and

WHEREAS, it is further required that state or local officials have imposed or recommended measures to promote social distancing, or, the legislative body meeting in person would present imminent risks to the health and safety of attendees; and

WHEREAS, such conditions now exist in the District, specifically, on March 4th, 2020, Governor Newsom proclaimed a State of Emergency due to the COVID-19 pandemic and such proclamation has not as of the date of this Resolution been lifted; and

WHEREAS, due to what may be the sensitivity of some members of the public as well as to members of the Board and District staff, the contagious nature of COVID-19, including variants of the virus, and current guidance from federal, state, and local agencies that social distancing reduces the transmission of the virus, meeting in person would present imminent risks to the health or safety of attendees; and

WHEREAS, the Board of Directors does hereby find that the current status of the COVID-19 pandemic has caused, and will continue to cause, conditions of peril to the safety of persons within the District that are likely to be beyond the control of services, personnel, equipment, and facilities of the District, and desires to proclaim a local emergency and ratify the Proclamation of a State of Emergency by the Governor of the State of California; and

WHEREAS, as a consequence of the local emergency, the Board of Directors does hereby find that the legislative bodies of Panoche Drainage District shall conduct their meetings without compliance with paragraph (3) of subdivision (b) of Government Code section 54953, as authorized by subdivision (e) of section 54953, and that such legislative bodies shall comply with the requirements to provide the public with access to the meetings as prescribed in paragraph (2) of subdivision (e) of section 54953; and

WHEREAS, District notices and agendas shall provide a reasonable means for members of the public to meaningful participate in public meetings of the District.

NOW, THEREFORE, BE IT HEREBY RESOLVED AS FOLLOWS:

1. The Board of Directors of the Panoche Drainage District hereby finds and determines the above Recitals are true and correct and are incorporated herein by this reference.
2. The Board hereby proclaims that a local emergency now exists throughout the District, and meeting in person would present a significant risk to the health and safety of those participating in person.
3. The Board hereby ratifies the Governor of the State of California's Proclamation of State of Emergency, effective as of its issuance on March 4, 2020.
4. The General Manager, or his designee, and legislative bodies of the District are hereby authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution including conducting open and public meetings in accordance with Government Code section 54953(e) and other applicable provisions of the Brown Act.
5. This Resolution shall take effect on August 09, 2022, and shall be effective until the earlier of (i) September 08, 2022, or (ii) such time as the Board of Directors adopts a subsequent resolution in accordance with Government Code section 54953(e)(3) to extend the time during which the legislative bodies of the District may continue to teleconference without strictly complying with certain provisions of the Brown Act due to the ongoing COVID-19 pandemic and resulting State of Emergency.

PASSED AND ADOPTED this 9th day of August 2022, in a duly noticed and open meeting of the Board of Directors by the following vote, to wit:

Ayes:
Nays:
Abstain:
Absent:

John Bennett, President

Attest: _____
Steve Fausone, Secretary

DRAFT

**CERTIFICATE OF SECRETARY
OF
PANOCHÉ DRAINAGE DISTRICT,
A California Drainage District**

I, Steve Fausone, do hereby certify that I am the duly authorized and appointed Secretary of the Panoche Drainage District, a California Drainage District (the “District”); that the foregoing is a true and correct copy of that certain resolution duly and unanimously adopted and approved by the Board of Directors of the District on the 9th day of August 2022; and that said resolution has not been modified or rescinded and remains in full force and effect as the date hereof:

IN WITNESS WHEREOF, I have executed this Certificate on this _____ day of August 2022.

Steve Fausone, Secretary

**PANOCHÉ DRAINAGE DISTRICT MEETING MINUTES
REGULAR MEETING OF THE BOARD OF DIRECTORS
August 10, 2021, at 9:00 A.M.**

A regular meeting of the Board of Directors was held in accordance with Governor Newsom’s Executive Order N-09-21 issued in response to the COVID-19 Pandemic, which allows local and state legislative bodies to hold meetings by web and teleconference, and to make meetings accessible to the public electronically. Those present at the meeting were:

- Directors Present: John Bennett, President
Sue Redfern-West, Vice-President
Mike Stearns, Secretary
Michael Linneman, Director
Ross Koda, Director
- Directors Absent: None
- District Staff Present: Ara Azhderian, General Manager
Juan Cadena, Water Resources Manager
John Paul Otollo, Treasurer & Controller
Lorena Chagoya, Ethics & Compliance Officer
- Others Present: Philip Williams, General Counsel
Diane Rathmann, Of Counsel
Aaron Barcellos, A-Bar Ag Enterprises
Will Gleason, West Hills Farms

ANNOUNCEMENT PURSUANT TO GOVERNMENT CODE SECTION 54952.3

Pursuant to the Brown Act, President Bennett announced that Directors do not receive compensation or a stipend for simultaneous or serial order meetings of Panoche Water District, Panoche Drainage District, Panoche Financing Authority, and/or the Panoche Resource Conservation District.

CALL TO ORDER

President Bennett called the regular meeting to order at 9:02 a.m.

REVIEW OF AGENDA

There were no correction or additions to the Agenda.

ROLL CALL

A quorum of the Board and presence of the District’s Officers were confirmed.

POTENTIAL CONFLICTS OF INTEREST

There were no conflicts reported.

PUBLIC COMMENT

There was no public comment.

DIVISION REPORTS

- A. Water Resources Manager Juan Cadena reported on various water delivery and maintenance activities. He said deliveries for July had averaged about 100 cfs and that flows were dropping in August as more fields come into harvest. He said crews were performing maintenance on the San Luis Canal turnout 96.15 in advance of Reclamation’s planned inspection of the facility in November and that routine excavation and grading had been performed on the 1144 drain and San Luis Drain, respectively. Lastly, Cadena stated staff had collected water quality samples from three well sites to test for boron, nitrates, and total dissolved solids, as well as performing depth-to-groundwater tests, as part of continuing implementation of the Sustainable Groundwater Management Act.

- B. Controller JP Otollo reported the water department was responding to requests for supplemental water following the District’s issuance of a letter to growers regarding price and availability. He noted the billing for the supplemental water will be sent along with the routine July usage billing. He said the Water District FYE2021 audit was ongoing and proceeding well. Lastly, Otollo said accounting staff were reassessing the Drainage District’s cash flow needs through the end of the fiscal-year to help inform preparation of the 2nd Drainage Service Fee installment.

- C. Ethics & Compliance Officer Lorena Chagoya reported on various risk management activities. Of note, she said there had been no worker’s compensation or liability insurance claims, nor COVID-19 cases, during the month, but there were two property claims. She said the Association of California Water Agency’s Joint Powers Insurance Agency visited the District to review the previous and current insurance claims and losses and introduced a job hazard analysis form to help mitigate risks, which staff was working to implement. She indicated four internal reports had been opened during the month, two of which had been closed. Regarding staffing, she explained the District’s certified welder had returned to work following a medical leave of absence and that one of the chemical applicators had resigned and there were no plans currently to back-fill the position. She also reported the District had received a poor response to advertising for a part-time janitor to facilitate compliance with the District’s COVID-19 policies more cost effectively than contract services and that staff was reassessing. Lastly, Chagoya updated the Board on staff trainings, such as the COVID-19 Prevention Program updates and the Injury, Illness & Prevention Program and reminded the Directors that Declaration of Candidacy forms for Water and Drainage Districts elections are due before August 13th.

At approximately 9:15 a.m., President Bennett suspended the Drainage District meeting and continued the Water District-only meeting.

At approximately 10:08 a.m., President Bennett suspended the Water District meeting and continued the Drainage District-only meeting.

CONSENT CALENDAR

General Manager Azhderian presented the Board with the Consent Calendar, which included the monthly financial statements for the period ending July 31, 2021. After consideration, on a motion by Director Stearns, seconded by Director Linneman, the Board accepted the Consent Calendar as presented.

The vote on the matter was as follows:

Ayes:	Bennett, Redfern-West, Stearns, Linneman, Koda
Nays:	None

Abstain: None
 Absent: None

THE BOARD TO REVIEW AND CONSIDER APPOINTING A DIRECTOR TO FILL A TERM ON THE BOARD FOLLOWING THE RETIREMENT OF DIRECTOR SUZANNE REDFERN-WEST, EFFECTIVE AUGUST 11, 2021

General Manager Azhderian explained that following Vice-President Suzanne Redfern-West’s announcement of her retirement in July, staff had posted and mailed to all of the District’s landowners a Notice of Appointment explaining that the Board may take action at the August 10th meeting to appoint a new Director. He reported that only Mr. Steven Fausone responded to the Notice and that he was eligible to serve as a designated agent of Redfern Ranches. After consideration, on a motion by Director Stearns, seconded by Director Linneman, the Board elected to appoint Mr. Fausone as Director to fill the term of Ms. Redfern-West.

The vote on the matter was as follows:

Ayes: Bennett, Stearns, Linneman, Koda
 Nays: None
 Abstain: Redfern-West
 Absent: None

THE BOARD TO REVIEW AND CONSIDER EXECUTING A COMMITMENT TO EXCELLENCE WITH THE ASSOCIATION OF CALIFORNIA WATER AGENCIES JOINT POWERS INSURANCE AUTHORITY

General Manager Azhderian explained the Commitment to Excellence program was aimed at reducing the District’s insurance costs by implementing best practices and preventative measures to reduce losses. After consideration, on a motion by Director Stearns, seconded by Director Linneman, the Board authorized execution of the program certificate.

The vote on the matter was as follows:

Ayes: Bennett, Redfern-West, Stearns, Linneman, Koda
 Nays: None
 Abstain: None
 Absent: None

THE BOARD TO REVIEW AND CONSIDER ADOPTING A RESOLUTION MAKING FINDINGS UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND AUTHORIZING EXECUTION OF A PURCHASE AGREEMENT WITH RONALD PEREIRA, AS SOLE TRUSTEE OF THE UNIFIED CREDIT TRUST OF THE ANTONE AND MADELINE PEREIRA 2000 TRUST DATED OCTOBER 4, 2000, AND AMK PEREIRA, LLC, A CALIFORNIA LIMITED LIABILITY COMPANY

General Manager Azhderian presented the Board the draft Resolution. He explained the Westside Regional Drainage Management Plan identified a number of strategies to manage subsurface drainage related to the Grassland Drainage Area, including the acquisition of land to expand the reuse area of the San Joaquin River Improvement Project. He noted funding for the acquisition would come from the District’s Proposition 84 grant awarded to assist financing the implementation of the WRDMP. He said the District had issued a notice in the fall of 2020 soliciting interest in selling land and received a response from the Pereira family in November, upon which the Board took action to authorize an engineer’s assessment and land value appraisal of the property. Subsequently, the Board authorized Christopher Brown to act as Real Property Negotiator on behalf of the District, which culminated in the successful negotiation of the Real Property Purchase and Sale Agreement and Escrow Instructions presently before the Board, Azhderian said. General Counsel Williams reviewed the lengthy California Environmental

Quality Act analytical history with the Board in detail. After consideration, on a motion by Director Stearns, seconded by Director Redfern-West, the Board adopted the Resolution making findings under CEQA, authorizing execution of the Purchase Agreement, and authorizing related actions.

The vote on the matter was as follows:

Ayes:	Bennett, Redfern-West, Stearns, Linneman, Koda
Nays:	None
Abstain:	None
Absent:	None

THE BOARD TO REVIEW AND CONSIDER ACCEPTING THE TREASURER’S QUARTERLY INVESTMENT REPORT FOR THE PERIOD ENDING JUNE 30, 2021

Treasurer Otollo presented the Board with the Quarterly Investment Report. He stated the majority of District funds were invested in the State of California Local Agency Investment Fund, other funds were deposited in Federal Deposit Insurance Corporation insured accounts at Mechanics Bank, and the remaining balance was held in the Fresno County Fund Account. Otollo reported the District’s financial portfolio was in compliance with the District’s Statement of Investment Policy and that he expected the District to be able to meet its expenditure requirements for the next six months based on projected revenues from Drainage Service charges, reimbursements for project costs, and with application of funds from Fresno County tax allocations. After consideration, on a motion by Director Redfern-West, seconded by Director Linneman, the Board accepted the Treasurer’s Report as presented.

The vote on the matter was as follows:

Ayes:	Bennett, Redfern-West, Stearns, Linneman, Koda
Nays:	None
Abstain:	None
Absent:	None

THE BOARD TO REVIEW AND CONSIDER APPROVING PAYMENT OF BILLS

Controller Otollo presented the Board with the District’s accounts payable. After consideration, on a motion by Director Stearns, seconded by Director Linneman, the Board unanimously approved payment of the bills.

The vote on the matter was as follows:

Ayes:	Bennett, Redfern-West, Stearns, Linneman, Koda
Nays:	None
Abstain:	None
Absent:	None

CONTROLLER’S REPORT

Controller Otollo reviewed the District’s Budget-to-Actual report with the Board.

DRAINAGE MANAGEMENT REPORT

General Manager Azhderian reported on various drainage management activities, noting that the Grassland Bypass Project water quality monitoring results remain well within the Regional Water Quality Control Board’s objectives.

GENERAL MANAGER’S REPORT

General Manager Azhderian reported on various Prop 84 grant administration activities.

THE BOARD TO REVIEW AND CONSIDER ACCEPTING AS FINAL THE PRICE, PAIGE & COMPANY DRAFT AUDITED FINANCIAL STATEMENTS OF THE PANOCHE DRAINAGE DISTRICT FOR THE FISCAL-YEAR ENDING FEBRUARY 29, 2020

General Manager Azhderian introduced Fausto Hinojosa, Audit Principal with Price, Paige & Company, to present the audit findings. He reviewed its key conclusions and reported that the audited financial statements presented fairly the respective financial position of the District and, as such, they were providing an unmodified, clean opinion. Hinojosa also reported that the prior year’s note about the District’s ability to continue as a going concern had been revised positively as a result of management’s plan to address its liabilities and he praised staff for the good, corrective work done over the past few years to achieve an audit absent of any findings. Hinojosa responded to questions from the Board. After consideration, on a motion by Director Redfern-West, seconded by Director Stearns, the Board accepted the accepted as final the Audited Financial Statements as presented.

The vote on the matter was as follows:

Ayes:	Bennett, Redfern-West, Stearns, Linneman, Koda
Nays:	None
Abstain:	None
Absent:	None

At approximately 11:07 a.m., President Bennett suspended the Drainage District meeting and continued the Panoche Financing Authority-only meeting.

At approximately 11:09 a.m., President Bennett adjourned the Panoche Financing Authority meeting and continued a joint meeting of the Panoche Water and Drainage Districts.

JOINT CLOSED SESSION

General Counsel Williams announced that the Panoche Water and Drainage Districts Boards would meet jointly in closed session for a conference with legal counsel on anticipated litigation pursuant to Government Code Section 54956.9, Subdivision (d), Paragraphs (2), or (3).

At approximately 11:09 a.m., President Bennett called the joint closed session to order.

At approximately 11:52 a.m., President Bennett adjourned the joint closed session.

JOINT CLOSED SESSION REPORT

General Counsel Williams reported the Boards met jointly with legal counsel in closed session and took no reportable action.

REPORTS ON OTHER ITEMS PURSUANT TO GOVERNMENT CODE SECTION 54954.2(a)(3)

No reports were given.

FUTURE MEETING DATES

The next regular meeting of the Board was scheduled for September 14, 2021, at 9:00 a.m.

ADJOURNMENT

With no further business on the agenda, President Bennett adjourned the meeting at 11:52 a.m.

John Bennett, President

Mike Stearns, Secretary

DRAFT

**PANOCHÉ DRAINAGE DISTRICT MEETING MINUTES
REGULAR MEETING OF THE BOARD OF DIRECTORS
July 12, 2022, at 9:00 A.M.**

A regular meeting of the Board of Directors was held in accordance with District Resolution 810-22 proclaiming a local emergency due to the COVID-19 pandemic and authorizing the District’s legislative body to hold meetings by web and teleconference, and to make meetings accessible to the public electronically, pursuant to Assembly Bill 361. Those present at the meeting were:

- Directors Present: John Bennett, President
Michael Linneman, Vice-President
Steve Fausone, Secretary
Aaron Barcellos, Director
Beau Correia, Director
- Directors Absent: None
- District Staff Present: Ara Azhderian, General Manager
Juan Cadena, Water Resources Manager
Lorena Chagoya, Ethics & Compliance Officer
- Others Present: Philip Williams, General Counsel

ANNOUNCEMENT PURSUANT TO GOVERNMENT CODE SECTION 54952.3

Pursuant to the Brown Act, President Bennett announced that Directors do not receive compensation or a stipend for simultaneous or serial order meetings of Panoche Water District, Panoche Drainage District, Panoche Financing Authority, and/or the Panoche Resource Conservation District.

CALL TO ORDER

President Bennett called the regular meeting to order at 9:02 a.m.

REVIEW OF AGENDA

There were no changes to the Agenda.

ROLL CALL

A quorum of the Board and presence of the District’s Officers were confirmed.

POTENTIAL CONFLICTS OF INTEREST

No conflicts were reported.

PUBLIC COMMENT

There was no public comment.

CONSENT CALENDAR

General Manager Azhderian presented the Board with the Consent Calendar items, which included a Resolution extending remote teleconference meetings through August 11th due to the COVID pandemic; draft meeting minutes from the July 13, 2021, regular meeting of the Board and draft meeting minutes from the June 22, 2022, adjourned regular meeting of the Board; and the monthly financial statements for the period ending June 30, 2022. Directors Bennett and Linneman affirmed the minutes from the July 13, 2021, meeting. After consideration, on a motion by Director Barcellos, seconded by Director Fausone, the Board accepted the Consent Calendar as presented.

The vote on the matter was as follows:

Ayes:	Bennett, Linneman, Fausone, Barcellos
Nays:	None
Abstain:	None
Absent:	Correia

Director Correia joined the meeting.

THE BOARD TO REVIEW AND CONSIDER ADOPTING A RESOLUTION MAKING CERTAIN FINDINGS UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AUTHORIZING EXECUTION OF AN ANNEXATION AGREEMENT WITH S3 GROUP, LLC, AND AUTHORIZING RELATED ACTIONS

General Manager Azhderian requested the Board adopt a Resolution to initiate efforts to annex lands owned by the S3 Group into the District. He explained that while the form of agreement for annexation had been previously approved by the Board, staff was seeking reconsideration following the Board’s approval to include a 5-year payment plan for the annexation “buy-in” fee. Azhderian reviewed the new payment plan language and sample amortization schedule. General Counsel Williams reviewed the CEQA findings with the Board. The Board asked if approving the final annexation agreement would affect the future possibility of dissolving the District. Azhderian responded that such an endeavor would be extraordinarily complex, with or without the annexation of these additional lands, which were already being served by the District. After consideration, on a motion by Director Barcellos, seconded by Director Fausone, the Board unanimously adopted the Resolution as presented.

The vote on the matter was as follows:

Ayes:	Bennett, Linneman, Fausone, Barcellos, Correia
Nays:	None
Abstain:	None
Absent:	None

THE BOARD TO REVIEW AND CONSIDER ADOPTING A RESOLUTION MAKING CERTAIN FINDINGS UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AUTHORIZING EXECUTION OF AN ANNEXATION AGREEMENT WITH A&H INVESTMENTS, LLC, AND AUTHORIZING RELATED ACTIONS

General Manager Azhderian requested the Board adopt a Resolution to initiate efforts to annex lands owned by the A&H Investments into the District. He explained this agreement was identical to the one just considered with the exception of the sample amortization schedule. General Counsel Williams reviewed the CEQA findings with the Board. After consideration, on a motion by Director Barcellos, seconded by Director Fausone, the Board unanimously adopted the Resolution as presented.

The vote on the matter was as follows:

Ayes:	Bennett, Linneman, Fausone, Barcellos, Correia
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Nays:	None
Abstain:	None
Absent:	None

THE BOARD TO REVIEW AND CONSIDER AUTHORIZING A SOLE SOURCE CONTRACT TO MCELVANY, INC., TO INSTALL PROPOSITION 84 GRANT FUNDED COLLECTOR DRAINS IN THE SAN JOAQUIN RIVER IMPROVEMENT PROJECT’S “PEREIRA RANCH”

General Manager Azhderian requested the Board authorize the sole source contract. He explained the recently acquired Pereira Ranch had a deep drain ditch running through it, which was the end point for a number of gravity tile lines that exist throughout the ranch. After discussions with Summers Engineering and the Grassland Basin Authority, Azhderian said staff were recommending filling the ditch so as to minimize potentially undesirable bird habitat and reduce operations and maintenance costs over time. He said in order to be able to fill the ditch, a connector drain would have to be installed to convey the existing gravity fed tile line subsurface drain water to existing drain ditches to the east and west in the San Joaquin River Improvement Project. Azhderian stated this work is highly specialized and presented the Board with a memorandum prepared by Summers Engineering justifying the sole source approach and cost estimate. After consideration, on a motion by Director Barcellos, seconded by Director Correia, the Board unanimously authorized the sole source contract.

The vote on the matter was as follows:

Ayes:	Bennett, Linneman, Fausone, Barcellos, Correia
Nays:	None
Abstain:	None
Absent:	None

THE BOARD TO REVIEW AND CONSIDER APPROVING PAYMENT OF BILLS

General Manager Azhderian presented the Board with the District’s accounts payable. After consideration, on a motion by Director Linneman, seconded by Director Fausone, the Board unanimously approved payment of the bills.

The vote on the matter was as follows:

Ayes:	Bennett, Linneman, Fausone, Barcellos, Correia
Nays:	None
Abstain:	None
Absent:	None

FINANCIAL REPORTS

No reports were given.

DRAINAGE MANAGEMENT REPORT

No report was given.

GENERAL MANAGER’S REPORT

No report was given.

DIVISION REPORTS

No reports were given.

PANOCHÉ WATER & DRAINAGE DISTRICTS' JOINT CLOSED SESSION

General Counsel Williams announced that the Panoche Water and Drainage Districts Boards would meet jointly in closed session for a conference with legal counsel on anticipated litigation pursuant to Government Code Section 54956.9, Subdivision (d), Paragraphs (2) or (3).

At approximately 9:30 a.m., President Bennett called the joint closed session to order.

At approximately 12:20 p.m., President Bennett adjourned the joint closed session.

JOINT CLOSED SESSION REPORT

General Counsel Williams reported the Boards met jointly with legal counsel in closed session and took no reportable action.

REPORTS ON OTHER ITEMS PURSUANT TO GOVERNMENT CODE SECTION 54954.2(A)(3)

No reports were given.

FUTURE MEETING DATES

The next regular meeting of the Board was scheduled for August 9, 2022, at 9:00 a.m.

ADJOURNMENT

With no further business on the agenda, President Bennett adjourned the meeting at 12:21 p.m.

John Bennett, President

Steve Fausone, Secretary

PANOCHÉ DRAINAGE DISTRICT		
TREASURER'S MONTHLY FINANCIAL REPORT		
BALANCE SHEET-CURRENT ASSETS & LIABILITIES		
DATE AS OF	<u>July 31, 2022</u>	<u>June 30, 2022</u>
<u>CURRENT LIABILITIES</u>		
ACCOUNTS PAYABLE	\$261,941	\$325,180
NOTE PAYABLE - PWD	\$83,827	\$95,683
CUSTOMER PREPAYMENTS		
TOTAL CURRENT LIABILITIES	\$345,768	\$420,863
<u>CASH AND INVESTMENT ACCOUNTS</u>		
CHECKING ACCOUNT	\$602,453	\$721,576
FRESNO COUNTY FUNDS	\$284,907	\$270,451
PROP 84 CHECKING	\$223,573	\$244,867
LAIF ACCOUNT	\$184,551	\$184,181
TOTAL CASH AND INVESTMENTS	\$1,295,484	\$1,421,075
<u>ACCOUNTS RECEIVABLES</u>		
DRAINAGE SERVICE CHARGES	\$92,596	\$588,276
OTHER RECEIVABLES	-	-
DELINQUENT ACCOUNT CHARGES	\$309,435	\$354,301
CASH ADVANCE - PROP 84	-	-
TOTAL ACCOUNTS RECEIVABLES	\$402,031	\$942,577
TOTAL CURRENT UNAUDITED ASSETS	\$1,697,515	\$2,363,652
NET CURRENT UNAUDITED ASSETS (NET CASH POSITION)	\$1,351,747	\$1,942,789

General Ledger Detail Report
 Aug 09 2022 - PDD Regular Board Meeting Packet
Summary Report for Period 01 Thru 05 Ending 7/31/2022

PANOCHÉ DRAINAGE DISTRICT (PDD)




Account Number/Description	Beginning Balance	Debit	Credit	Net Change	Ending Balance
1311-000 FRESNO COUNTY CASH ACCOUNT	152,667.51	132,247.36	8.14	132,239.22	284,906.73
1311-600 MECHANIC CKNG#*****0066	165,528.95	1,932,695.20	1,495,770.76	436,924.44	602,453.39
1312-010 MECHANIC-PROP 84 CK ACCT#*****6000	388,252.02	333,673.72	498,352.40	164,678.68-	223,573.34
1313-000 L. A. I. F.	283,957.40	817.01	100,223.76	99,406.75-	184,550.65
Report Total:	990,405.88	2,399,433.29	2,094,355.06	305,078.23	1,295,484.11

P.O. Box 6010
 Santa Maria, CA 93456-6010
 800.797.6324
 www.mechanicsbank.com

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WATCH OUT FOR ROMANCE SCAMS

Scammers create elaborate fake online identities or social media profiles in order to gain the victim's affection and trust. They exploit an older person's loneliness. **Learn how to spot this scam at www.MechanicsBank.com/Security.**

Summary of Accounts

Account Type	Account Number	Ending Balance
PUBLIC CHECKING	XXXXXXXX0066	\$604,869.27

PUBLIC CHECKING-XXXXXXXX0066
Account Summary

Date	Description	Amount
07/01/2022	Beginning Balance	\$722,576.37
	2 Credit(s) This Period	\$68,935.87
	9 Debit(s) This Period	\$186,642.97
07/29/2022	Ending Balance	\$604,869.27




Electronic Credits

Date	Description	Amount
07/12/2022	Remote Deposit	\$5,196.43
07/15/2022	Wire/In/121000248/WELLS FARGO SF/0055667196282480/USC FARMS, LLC	\$63,739.44

RETURN SERVICE REQUESTED

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 PROP 84 NO 4600012787
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Scammers create elaborate fake online identities or social media profiles in order to gain the victim's affection and trust. They exploit an older person's loneliness. **Learn how to spot this scam at www.MechanicsBank.com/Security.**

Summary of Accounts

Account Type	Account Number	Ending Balance
PUBLIC CHECKING	XXXXXXXX6000	\$223,573.34

PUBLIC CHECKING-XXXXXXXX6000

Account Summary

Date	Description	Amount
07/01/2022	Beginning Balance	\$244,867.03
	0 Credit(s) This Period	\$0.00
	4 Debit(s) This Period	\$21,293.69
07/29/2022	Ending Balance	\$223,573.34

Checks Cleared

Check Nbr	Date	Amount	Check Nbr	Date	Amount
10131	07/11/2022	\$3,082.79	10133	07/19/2022	\$1,700.00
10132	07/25/2022	\$600.00	10134	07/19/2022	\$15,910.90

* Indicates skipped check number

Fiscal Year 2022
 Through Period 12

Run Time 08:35:59

Fund: 4440 Panoche Drainage Subclass: 10000 General Subclass	Beginning Balance		Year-to-Date Transaction		Current Balances	
	Debit Accts	Credit Accts	Debits	Credits	Debits Accts	Credit Accts
0110 Cash In Treasury	124,758.89	0.00	159,301.62	0.00	284,060.51	0.00
0315 Interest Receivable	1,127.07	0.00	0.00	280.85	846.22	0.00
1435 Due To Other Governmental	0.00	128,358.44	0.00	0.00	0.00	128,358.44
1480 Fiduciary Closing	0.00	1,144,472.09	0.00	630,959.92	0.00	1,775,432.01
2230 Fund Balance - Unassigned	0.00	-1,146,944.57	731,567.00	0.00	0.00	-1,878,511.57
3009 Suppl-Current Unsecured	0.00	0.00	0.00	31.32	0.00	31.32
3010 Property Taxes-Current Sec	0.00	0.00	0.00	231,101.60	0.00	231,101.60
3011 Suppl-Current Secured	0.00	0.00	0.00	4,469.14	0.00	4,469.14
3013 Supplemental-Curr Unsec Pr	0.00	0.00	0.00	57.84	0.00	57.84
3015 Property Taxes-Current Uns	0.00	0.00	0.00	10,006.29	0.00	10,006.29
3017 Property Taxes-Curr Unsec	0.00	0.00	0.00	517.87	0.00	517.87
3046 Joint County Funds	0.00	0.00	0.00	9,011.72	0.00	9,011.72
3380 Interest	0.00	0.00	0.00	2,776.32	0.00	2,776.32
3565 State-I/L Homeowners Prop	0.00	0.00	0.00	1,655.75	0.00	1,655.75
SUB CLASS TOTAL	125,885.96	125,885.96	890,868.62	890,868.62	284,906.73	284,906.73

End of Report

PANOCHÉ DRAINAGE DISTRICT					
AGED ACCOUNTS RECEIVABLE, BY DUE DATE					
As of 7/31/2022					
	Name	31-60 Days	61-90 Days	Over 90 Days	Total A/R
	B & C Farms, c/o Francisco & Romelia Nunez	-	2,046.60	21,313.53	23,360.13
	Carbajal, Sylvia	-	414.72	4,283.41	4,698.13
	Cecilia Echeveste Survivor's Trust	-	10,974.60	12,862.07	23,836.67
	Imperial Merchants USA, LLC	-	5,304.24	14,954.90	20,259.14
	J&M Enterprises	-	16,754.40	-	16,754.40
	J&M Enterprises, Et Al	-	13,725.00	-	13,725.00
	Lupe Brown	-	74.52	85.91	160.43
	McGrath, Mary K.	-	5,144.04	6,028.74	11,172.78
	Olam West Coast, Inc.	-	10,515.96	13,183.52	23,699.48
	Panoche Drainage District	-	8,308.80	30,876.42	39,185.22
	PDD/Maverick	-	26,357.76	60,769.32	87,127.08
	S3 Group, LLC	24,069.60	-	-	24,069.60
	Yazd, LP	-	10,569.78	-	10,569.78
	Zagros Farms, LLC	-	10,817.10	-	10,817.10
	Total:	24,069.60	121,007.52	164,357.82	\$ 309,434.94

BACK

PANOCHÉ DRAINAGE DISTRICT RESOLUTION NO. 816-22

A RESOLUTION MAKING CERTAIN FINDINGS OF EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT FOR THE DISTRICT'S AWARD OF A CONTRACT TO INSTALL CONNECTOR DRAINS.

WHEREAS, since 1996, the Panoche Drainage District ("District") has managed water in its conveyance system in coordination with other Districts (referred to as the "Grassland Basin Drainers") organized under the San Luis & Delta-Mendota Water Authority ("SLDMWA") in approximately 97,000 acres termed the "Grassland Drainage Area," in order to reduce the quantity and improve the quality of agricultural subsurface drainage water that has been discharged outside the District boundaries into the San Joaquin River, under permits issued by the California Regional Water Quality Control Board, Central Valley Region ("Regional Board"); and

WHEREAS, until December 31, 2019, such drainage program was commonly referred to as the "Grassland Bypass Project" and currently is referred to as the Grassland Basin Drainers' Long-Term Storm Water Management Plan ("LTSWMP"); and

WHEREAS, as part of implementing the LTSWMP, on August 10, 2021, the District's Board of Directors ("Board") authorized the purchase of approximately two hundred and fifty-three acres (the "Pereira Property") in Merced County that are contiguous to the San Joaquin River Improvement Program ("SJRIIP") to expand the SJRIIP Reuse Area; and

WHEREAS, the October 2019 Addendum to the Final Environmental Impact Statement and Environmental Impact Report for the Grassland Bypass Project, 2010-2019, SCH No. 2007121110 ("2019 Addendum", attached as Exhibit A) contemplated the modification of drainage systems and evaluated the reuse of subsurface drain water within the SJRIIP; and

WHEREAS, on July 12, 2022, the Board awarded a contract to McElvany, Inc., to perform certain work to install a new subsurface drainage system on the Pereira Property ("Connector Drain") to capture subsurface drain water from tile lines that exist on the Pereira Property ("Pereira Drain") and divert it into the SJRIIP conveyance system for reuse; and

WHEREAS, the Pereira Drain is a potential source of undesirable bird habitat and installing the Connector Drain will mitigate this potential and has the added benefit of connecting fields and lowering future operations and maintenance costs for the District; and

WHEREAS, the Connector Drain will include installing a pipeline that is approximately 3,750 feet long in the existing Pereira Drain to connect the existing tile lines so that the subsurface drain water can flow into the SJRIIP conveyance system for reuse, for which the SJRIIP has sufficient existing capacity; and

WHEREAS, the Connector Drain will not result in any change in the volume or quality of subsurface drainage or in the manner by which it is currently managed within the Grassland Drainage Area; and

WHEREAS, the Connector Drain will be installed in developed agricultural land, and no land will be lost to agricultural use as part of the project; and

WHEREAS, the Board has reviewed the provisions of the California Environmental Quality Act (“CEQA”) and has considered whether any direct or indirect physical change to the environment will result from the project; and

WHEREAS, the Board has reviewed the 2019 Addendum.

NOW, THEREFORE, BE IT HEREBY RESOLVED AS FOLLOWS:

1. The Board of Directors of the Panoche Drainage District hereby finds and determines the above Recitals are true and correct and are incorporated herein by this reference.

2. The Board hereby finds that the Connector Drain is statutorily exempt from CEQA in accordance with 14 C.C.R. section 15282, which provides that the “installation of new pipeline or maintenance, repair, restoration, removal, or demolition of an existing pipeline as set forth in Section 21080.21 of the Public Resources Code,” is exempt from CEQA, “as long as the project does not exceed one mile in length.” The Board also hereby finds that the Connector Drain is categorically exempt from CEQA in accordance with 14 C.C.R. section 15301, subd. (d), which exempts the restoration or rehabilitation of deteriorated or damaged facilities. Furthermore, the Board finds that the Connector Drain is categorically exempt from CEQA in accordance with 14 C.C.R. section 15302, which exempts the replacement or reconstruction of existing utility systems and/ or facilities involving negligible or no expansion of capacity. The Board finds there will not be any cumulative impacts from the Connector Drain, as there are neither successive projects of the same type in the same place, over time, nor cumulative impacts of any kind associated with the Connector Drain, nor is there a reasonable possibility that the Connector Drain will have a significant effect on the environment due to unusual circumstances.

3. The General Manager, or his designee, shall file the attached Notice of Exemption with the appropriate County or Counties, and is hereby authorized to do all things necessary to effectuate the purposes of this Resolution.

PASSED AND ADOPTED this 9th day of August 2022, in a duly noticed and open meeting of the Board of Directors by the following vote, to wit:

Ayes:

Nays:

Abstain:

Absent:

BACK TO AGENDA

John Bennett, President

Attest: _____
Steve Fausone, Secretary

DRAFT

**CERTIFICATE OF SECRETARY
OF
PANOCHÉ DRAINAGE DISTRICT,
A California Drainage District**

I, Steve Fausone, do hereby certify that I am the duly authorized and appointed Secretary of the Panoche Drainage District, a California Drainage District (the “District”); that the foregoing is a true and correct copy of that certain resolution duly and unanimously adopted and approved by the Board of Directors of the District on the 9th day of August 2022; and that said resolution has not been modified or rescinded and remains in full force and effect as the date hereof:

IN WITNESS WHEREOF, I have executed this Certificate on this _____ day of August 2022.

Steve Fausone, Secretary

PDD RESO 816-22 EXHIBIT A

Grassland Bypass Project Long-Term Storm Water Management Plan 2020-2045

Addendum to

Final Environmental Impact Statement and
Environmental Impact Report for the
Grassland Bypass Project, 2010-2019

SCH No. 2007121110

October 2019

Prepared for:

San Luis & Delta-Mendota Water Authority
P. O. Box 2157
842 6th Street
Los Banos, CA 93635-4214

Prepared by:

Summers Engineering, Inc.
P. O. Box 1122
887 N. Irwin Street
Hanford, CA 93232-1122

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A P P E N D I C E S

Appendix A	Public Comments and Responses
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A C R O N Y M S & A B B R E V I A T I O N S

Authority	San Luis & Delta-Mendota Water Authority
CEQA	California Environmental Quality Act of 1970
Drain	San Luis Drain
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
GAF	Grassland Area Farmers
GBC	Grassland Bypass Channel
GBP	Grassland Bypass Project
GDA	Grassland Drainage Area
GWD	Grassland Water District
LTSWMP	Long-Term Storm Water Management Plan
NEPA	National Environmental Policy Act of 1969, as amended
ppb	parts per billion
Reclamation	U.S. Bureau of Reclamation, Mid-Pacific Region
Regional Board	Central Valley Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SJRIP	San Joaquin River Improvement Project (formerly the San Joaquin River Water Quality Improvement Project)
USFWS	U.S. Fish and Wildlife Service
WDR	Waste Discharge Requirement
Westside Plan	Westside Regional Drainage Plan

P A R T 1

Background and Purpose

1.1 BACKGROUND

The Grassland Bypass Project (GBP) covered in the 2010 Use Agreement and 2009 Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) (Reclamation 2009a and 2009b) did not include a long-term storm water management plan. The 2010 Use Agreement requires “developing a long-term storm water management plan, which may include evaluation of utilizing the San Luis Drain (Drain) to bypass storm water flows around some wetland areas.” This Long-Term Storm Water Management Plan is a culmination of that process. It has been developed by, the Grassland Area Farmers (GAF), who are organized under the umbrella of the San Luis & Delta-Mendota Water Authority (Authority,) to provide a long-term plan for management of storm water after expiration of the current use agreement on December 31, 2019. Such water had previously been handled under the terms of the 2010 Use Agreement by conveyance through the Drain along with the GBP’s subsurface drainage from agricultural operations except in unusually high storm water conditions, when it had to be discharged back into its historic pathways through wetland supply channels. This section presents background information including existing storm water flow conditions and issues relating to storm water, previous compliance with the California Environmental Quality Act (CEQA), and the current need to manage storm water originating within the Grassland Drainage Area (GDA).

The location of the upcoming Long-Term Storm Water Management Plan (LTSWMP or Proposed Project) is the Grasslands Watershed in Fresno and Merced Counties as shown on Figure 1, Watershed Location Map, which ultimately discharges into the Lower San Joaquin River. The inclusion of the San Joaquin River to Crows Landing for compliance monitoring adds Stanislaus County to the Project Area. The GDA and project features including the channels containing drainage flows along with downstream wetland areas and wildlife refuges are shown on Figure 2, Grassland Bypass Project Location Map.

1.1.1 History of Storm Water Management

In the period prior to 1990, the historic discharge of storm runoff was into the wetlands area at Agatha and Camp 13 (see Figure 2). The natural slope of the land in the GDA is to the north and east, and the storm water followed this path. With the implementation of the GBP, there was a major shift in the routing of the storm water. Starting with the first discharges under the first Use Agreement in 1997 compliance with selenium and salinity objectives had to be met for all water discharged from the Drain, including subsurface drainage water and storm water commingled in the system. Along with this change came an assumption that the GAF were somehow responsible for and could manage the storm water. The GBP has been very successful in reducing the discharge of subsurface drainage water and, after 2019, all agricultural subsurface drain water will be managed within the GDA boundaries. The tools implemented to manage subsurface drainage from irrigation also help to manage storm-induced drain flows; however, they are insufficient to completely eliminate storm-related discharges. Once sufficient rainfall has occurred, storm water and accreted shallow groundwater from irrigated lands will accumulate in the regional drains and will flow north. Without the Proposed Project, this water will pond against canal levees or discharge into sensitive wetland channels, and to avoid these undesirable outcomes, this water will need to be discharged through the Drain.

Figure 1

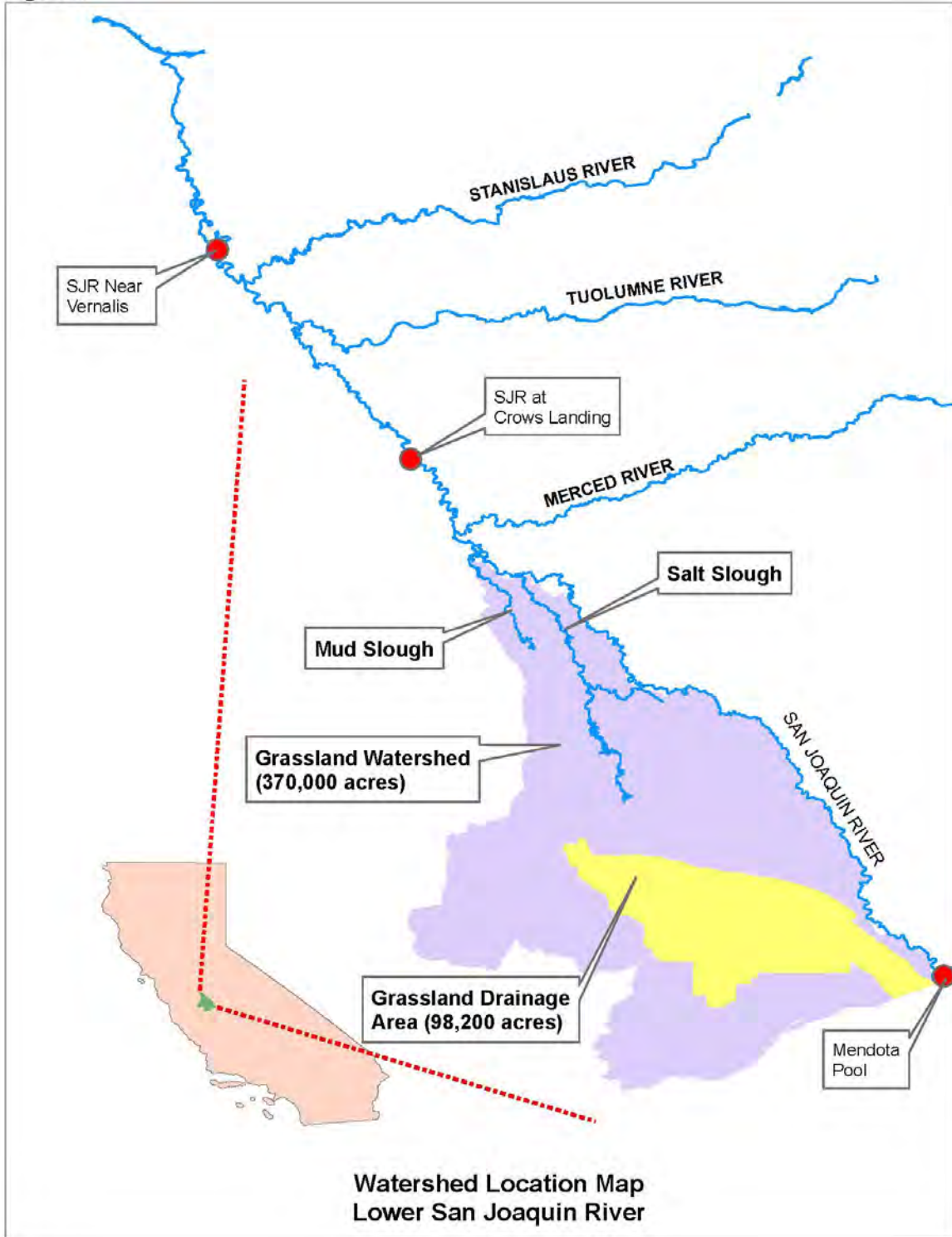
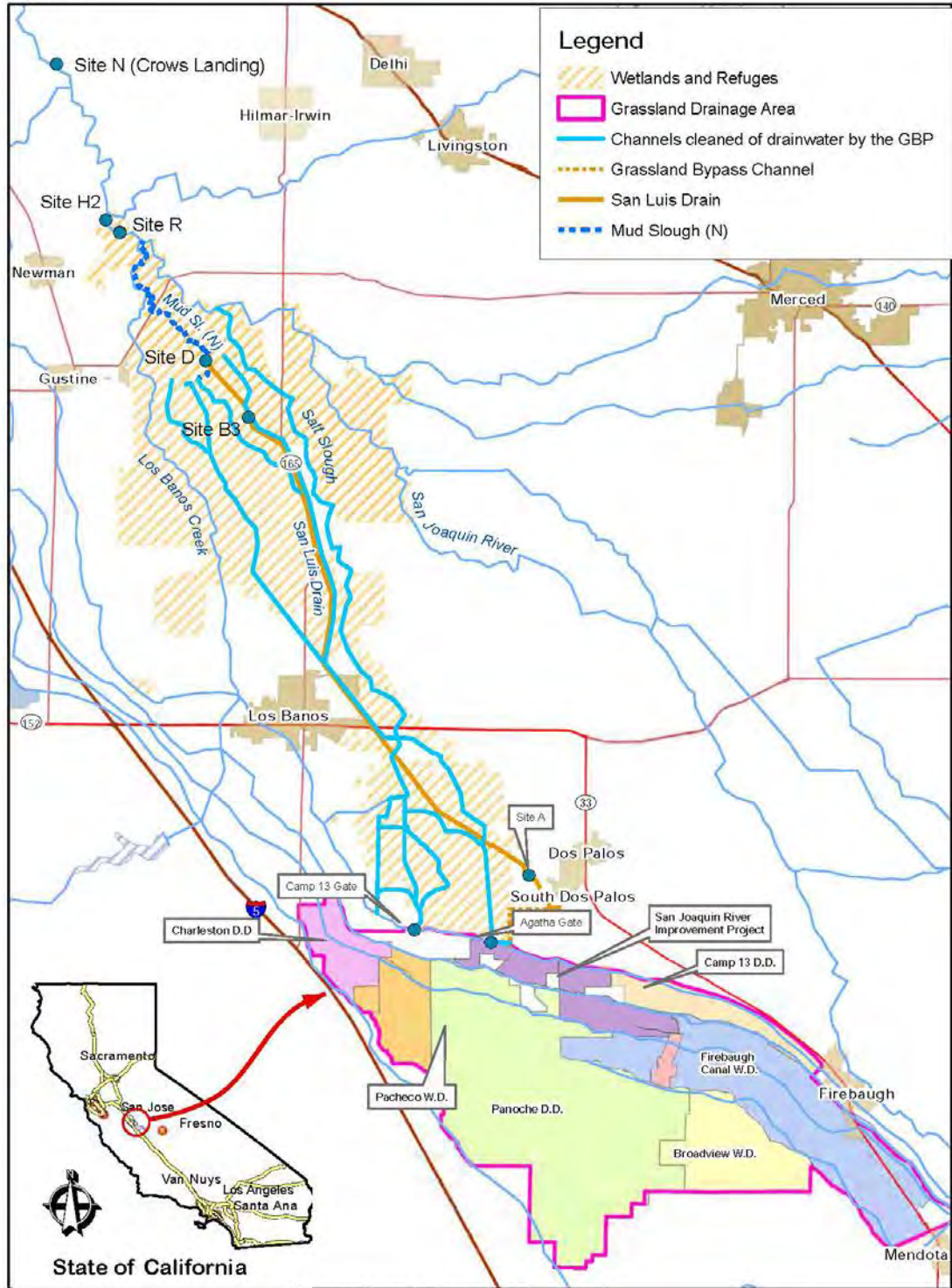


Figure 2



**Grassland Bypass Project
Location Map**

Prepared by:
Summers Engineering, Inc.
Consulting Engineers
Hanford California

The storm event problems described herein define the continuation of past problems/existing conditions (e.g., as in 2005 when storm flows could not be handled fully in the Drain) into the future if there is no project to resolve these problems. The GBP has faced high rainfall events since its inception. The first two years of the project, 1997 and 1998, were extremely wet years in which there was significant above normal rainfall within the GDA. During those years, flows through the GBP were projected to exceed the 150 cfs maximum permissible flow into the Drain as defined in the Use Agreement and discharges were made into the wetland channels. A subsequent wet year in 2005 also required discharge into the wetland channels. These discharges, although of short duration, brought selenium (Se) into the wetland channels at levels exceeding the 2 parts per billion (ppb) water quality objective for those channels, creating management issues for wetland managers and requiring prescribed post-event monitoring. These periodic discharge events would continue if the LTSWMP does not proceed. Table 1-1 (Maximum Storm Events of Record) shows storm event discharges from the GDA both through the GBP and into Grassland Water District (GWD) during storm event periods for 1997, 1998 and 2005. Recent storm periods are also shown for 2014/15 and 2015/16 even though no storm water was discharged into the wetland areas.

Table 1-1 Maximum Storm Events of Record

Maximum Flows (cfs)						
Date	Flows from GDA	To GWD	Drain Inlet (Site A)	Drain Outlet (Site B)	Site A + GWD	Site B + GWD
Jan-Feb 1997	185	Not Available	95	90	Not available	Not available
Feb 1998	230	90	140	150	230	240
Feb 2005	Not available	75	159	138	234	213
Dec 2014	Not available	0	98	102	98	102
March 2016	Not available	0	109	90	109	90

Source: Project records

The GAF have developed measures to manage irrigation-related drainage flows under the GBP. These practices have been a four-step process including: 1) source control and recirculation, 2) shallow groundwater pumping, 3) drainage water reuse, and 4) treatment and disposal. The final step remains in development; however, the combination of the first three items has led to the successful management of the region’s subsurface drainage. The GAF have been very successful in reducing the selenium load to the San Joaquin River, having reduced the flow by more than 90% in 2015 from what it was before the GBP started. Furthermore, in 2015, there was no flow in the Drain from March through October, and similar no-flow conditions held true in 2016 and 2017, despite the wet year and increased available irrigation supplies. Table 1-1 shows the storm flows that nonetheless were discharged. The normal drainage reduction measures are not applicable to storm water events because a substantial amount of water comes outside of the growing season, and the ability to apply drainwater to the Reuse Area for irrigation of salt-tolerant crops during that time of year is limited. Regulations to protect shorebirds preclude ponding of flood water in the reuse area, further limiting the reuse capacity during winter months.

1.1.2 Previous CEQA Compliance

The original GBP was designed to improve water quality in the channels used to deliver water to wetland habitat areas. It was for a maximum 5-year interim use of a portion of the Drain for conveyance of drainwater through the GWD and adjacent area. The original project was implemented in November 1995 through an “Agreement for Use of the San Luis Drain” (Agreement No. 6-07-20-w1319) between U.S. Bureau of Reclamation, Mid-Pacific Region (Reclamation) and the Authority (1995 Use Agreement). The 1995 Use Agreement and its renewal in 1999 allowed for use of the Drain for a 5-year period that concluded September 30, 2001. Continued use of the Drain after the term of

the existing 1995 Use Agreement required a revised Use Agreement and additional environmental compliance with the National Environmental Policy Act (NEPA) and CEQA.

On March 7, 1996, the Authority and certain of its members entered into the Grassland Basin Drainage Management Activity Agreement. The activity agreement members, along with certain outside participants, known as the GAF formed a regional drainage entity under the umbrella of the Authority to implement the GBP and manage subsurface drainage within the GDA. Participants included Broadview Water District, Charleston Drainage District, Firebaugh Canal Water District, Pacheco Water District, Panoche Drainage District, Widren Water District, and Camp 13 Drainers (an association of landowners located in the Central California Irrigation District). GAF's drainage area currently consists of approximately 97,400 gross acres of irrigated farmland on the west side of San Joaquin Valley and is known as the GDA. Discharges of subsurface drainage from this area contain salt, selenium, and boron.

Following completion of a Final EIS/EIR (SCH No. 1999091025; URS Corporation 2001), a new Use Agreement (Agreement No. 01-WC-20-2075) was completed on September 28, 2001, for the period through December 31, 2009 (Reclamation 2001), between Reclamation and the Authority acting on behalf of the GAF. In September 1998, the GAF and the Authority developed a long-term drainage management strategy and plan of implementation. The *Long-Term Drainage Management Plan for the Grassland Drainage Area* (Drainage Management Plan) was submitted to the Central Valley Regional Water Quality Control Board (Regional Board), as required by Waste Discharge Requirements (WDR) Order 98-171, for public review on September 30, 1998 (GAF and Authority 1998), and updated July 1, 1999. The Drainage Management Plan outlined several steps and measures to achieve water quality objectives in the 1998 Basin Plan and included continuation of the GBP. The 1998 Drainage Management Plan was incorporated into the Westside Regional Drainage Plan (Westside Plan) (San Joaquin River Exchange Contractors Water Authority et al. 2003). The Westside Plan seeks to manage subsurface drainage and achieve a salt balance on productive lands through several mechanisms, including the use of subsurface drainage water to irrigated salt-tolerant crops grown on approximately 6,000 acres of land known as the San Joaquin River Improvement Project (SJRIP) to reduce the volume of water discharged into Mud Slough (North) and improve the water quality of that discharge.

The current Use Agreement for the continuation of the GBP, 2010–2019, (2010 Use Agreement) was signed December 31, 2009, following compliance with NEPA and CEQA (SCH# 2007121110; Reclamation 2009). Reclamation was the lead agency under NEPA, and the Authority was the lead agency under CEQA.

Features of the original GBP that continued under the 2010-2019 project included the following:

- The removal of agricultural drainwater from 93 miles of conveyance channels in the Grassland wetlands and wildlife refuges, except during high rainfall conditions. Any discharges to these conveyance channels would be in accordance with the existing Storm Water Plan as modified consistent with the Use Agreement.
- The use of the Grassland Bypass Channel (GBC), a 4-mile-long constructed earthen ditch and an existing drain that was modified to convey drainwater from the Panoche and Main drains to the Drain at Russell Avenue.
- The use of 28 miles in the Drain to its northern terminus (Site B – the Drain near Gustine, California). From that point, the drainwater would enter Mud Slough (North) for 6 miles before reaching the San Joaquin River at a location 3 miles upstream of its confluence with the Merced River.

- Continuing current land retirement policies listed in the 1998 *Long-Term Drainage Management Plan for the GDA* (GAF and Authority 1998) and subsequent Westside Plan. Key among these is that land retirement should be voluntary.
- Continuing the operation of a regional drainage management entity to perform management, monitoring, and funding of necessary control functions.

Features that were added to the 2010-2019 project included the following:

- An updated compliance monitoring plan, revised selenium and salinity load limits, an enhanced incentive performance fee, a new WDR from the Regional Board, and mitigation for continued discharge to Mud Slough (North).
- In-Valley drainage reuse at the San Joaquin River Water Quality Improvement Project (SJRIP) facility.
- Other drainage management actions to meet water quality objectives/load limits.
- Utilizing and installing drainage recycling systems to mix subsurface drainwater with irrigation supplies under strict limits.
- Implementing a compliance monitoring program with biological, water quality, and sediment components. Results of the monitoring program would be reviewed by an Oversight Committee (established in the three use agreements), with a potential for expansion.
- A single WDR for the GDA.
- An active land management program to utilize subsurface drainage on salt-tolerant crops.
- Low-interest loans for irrigation system improvements, such as gated pipe, sprinkler, and drip irrigation systems.
- An economic incentive program including tiered water pricing and tradable loads.
- A no-tailwater policy that would minimize silt from being discharged into the Drain and promote the secondary benefits of irrigation water management.
- Implementing drainwater displacement projects such as using subsurface drainage for dust control on roadways.
- Meeting with landowners as necessary to implement projects and policies cited above.

The GAF have developed a long-term plan for managing storm water that, since the beginning of the GBP in 1996, has been conveyed through the Drain along with the GBP's subsurface drainage from irrigation. The discharge of agricultural subsurface drainage will cease by the end of 2019 (unless water quality objectives are met), and agricultural subsurface drainage will be managed by the GAF participating districts and at the SJRIP. Going forward, the Proposed Project to be modified is referred to as a Long-Term Storm Water Management Plan (LTSWMP) for the period January 1, 2020 through December 31, 2045.

1.1.3 Current Need to Manage Storm Water

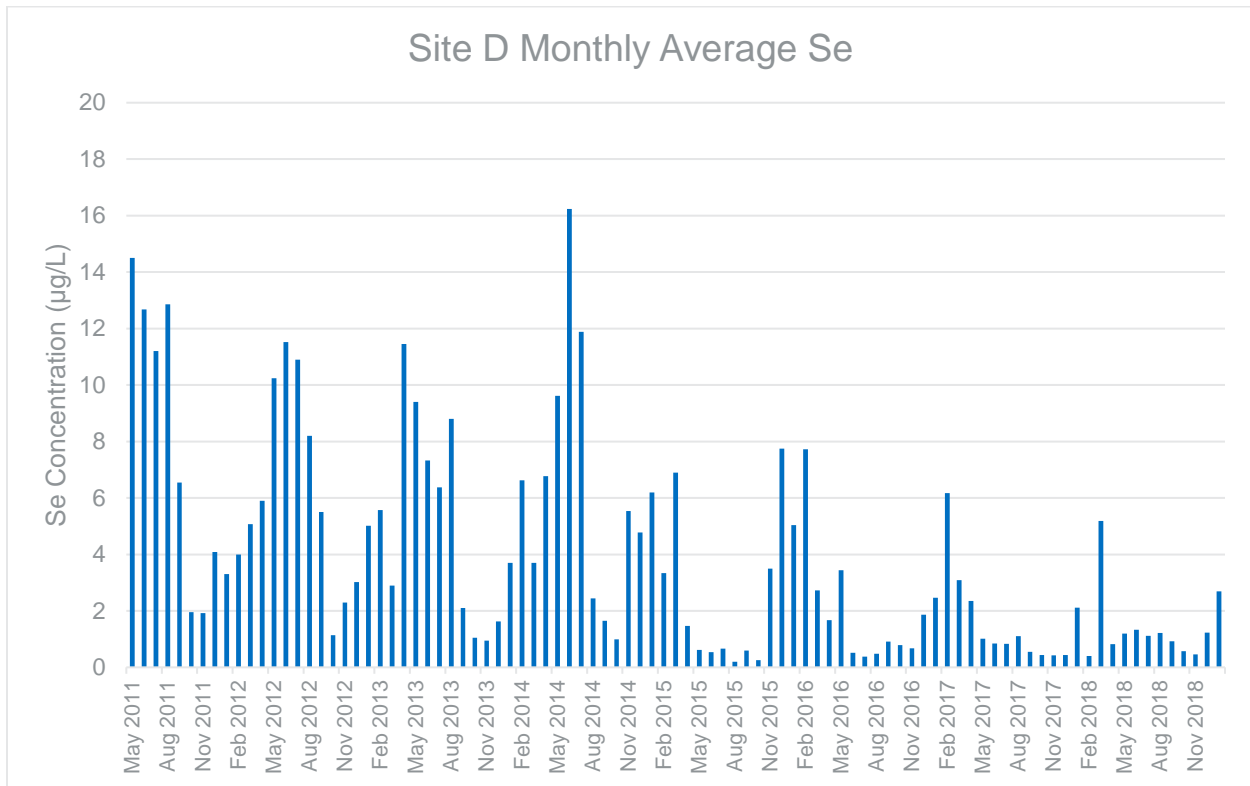
Early rain events tend to be absorbed in the soil profile. However, as significant rainfall occurs the soil profile becomes saturated; there is no longer room in the soil for the excess storm water and storm flows are generated. Once this occurs there will be discharge of storm water as well as accretion flows of shallow groundwater into regional drainage channels from adjacent fields. There is not a clear connection between the year type, amount or frequency of rainfall and the need to discharge to the San Luis Drain. Once the regional drains have reached their holding capacities and

the threat of ponding is imminent, discharge will occur. It should be further noted that the proposed SCADA sump shut-off system would be implemented prior to any release of storm-induced discharge.

During the February 1998 rainfall period, localized flooding occurred, which illustrates what happens if there is no outlet for the storm waters. Flooding that occurred along the Main Canal included lands on the downstream (left) side within GWD. Storm water may pond against the canal banks and ultimately break through the banks. This would be a significant event and could jeopardize water deliveries to agricultural areas outside of the GDA and to private, state and federal wetland areas.

Discharges from the GDA enter the San Joaquin River at the mouth of Mud Slough (North). Recent historical conditions reflect the result of the past projects on water quality. Specifically, selenium levels in Mud Slough (North) have reduced gradually each year since the implementation of the GBP and Westside Plan. The transition to the Long-Term Storm Water Plan Management Plan would continue this trend, resulting in significantly reduced discharges into Mud Slough (North). Figure 3 below shows the average monthly selenium concentrations at Mud Slough (North) (Site D) from 2011 to the end of 2018, illustrating a reducing trend in selenium concentrations, with recent spikes in concentrations occurring in months with significant rainfall.

Figure 3. Average Monthly Selenium Concentrations in Mud Slough (North), 2011 to 2018



1.2 PURPOSE OF THE ADDENDUM TO 2009 FINAL EIS/EIR (SCH # 2007121110)

1.2.1 CEQA Guidelines

Under section 15164(a) of the CEQA Guidelines, the lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the

conditions described in Section 15162 requiring preparation of a subsequent EIR have occurred. (See also Pub. Resources Code, § 21166.) Section 15162(a) of the Guidelines lists the conditions that would require the preparation of a subsequent EIR rather than an addendum.

- (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for the project unless the agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following
- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
 - (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
 - (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Accordingly, to comply with CEQA, the Authority prepared an Initial Study and accompanying technical reports to evaluate the proposed modifications to the GBP and evaluate whether the conditions described in CEQA Guidelines section 15162 and Public Resources Code section 21166 calling for further environmental review have occurred. Because substantial evidence demonstrates that the prior CEQA analyses retain their relevance; that the 2009 Final EIS/EIR fully analyzed and mitigated, where feasible, all potentially significant environmental impacts, if any, that would result from the modified Project; and that none of the conditions described in CEQA Guidelines section 15162 or Public Resources Code section 21166 have occurred as a result of the Proposed Project modifications, this Addendum has been prepared pursuant to section 15164 of the CEQA Guidelines.

1.2.2 Findings for this Addendum

This Addendum to the Grassland Bypass Project Final EIS/EIR (Reclamation 2009) is based on preparation of an Initial Study and accompanying technical reports under the CEQA Guidelines that covers all of the required environmental topics for an Initial Study (Authority 2019). The description of all of the project changes (Proposed Project) is provided in Section 2 of this Addendum, Description of Project Changes. The discussion of potential environmental impacts, mitigation measures, and

determination that an addendum is appropriate are provided in Section 3. References cited are contained in Section 4.

The analysis in this Addendum supplements the Initial Study findings and confirms that the Proposed Project, including proposed improvements at the SJRIP, would not result in any new significant impacts (adverse effects) nor in an increase in the severity of significant impacts previously identified in the Final EIS/EIR (Reclamation 2009b). Furthermore, the Proposed Project would not require the adoption of any new or substantially different mitigation measures (or project alternatives). While the current Proposed Project does propose changes to the SJRIP reuse facility not previously considered in 2009, including new short-term storage basins for 1,000 AF of temporary storm water containment and the SCADA system for tile sump control, these changes are considered to be minor technical changes given their size and the effectiveness of biological mitigation measures used since 2006. Additional surveys for cultural resources and construction monitoring are standard requirements for new construction.

This Addendum documents that the Proposed Project changes, since the GBP was evaluated in the 2009 Final EIS/EIR, do not trigger any of the conditions set forth in Public Resources Code section 21166 or CEQA Guidelines section 15162. Therefore, the preparation of an addendum for the LTSWMP as described in the CEQA Guidelines Section 15164 is appropriate.

P A R T 2

Description of Project Changes

2.1 PROJECT OVERVIEW

The GBP is proposed to continue after December 31, 2019 with local management of agricultural drainage and downstream coordination of rain-induced flows to the San Joaquin River utilizing the Drain as conveyance to avoid impacting wetland water delivery channels. The discharge of agricultural drainage to the Drain will cease by the end of 2019, and agricultural subsurface drainage will be managed by the GAF participating districts and by continued irrigation of salt-tolerant crops at the San Joaquin River Improvement Project (SJRIP). Going forward, the Project as proposed to be modified is referred to as a Long-Term Storm Water Management Plan (LTSWMP), for the period January 1, 2020 through December 31, 2045.

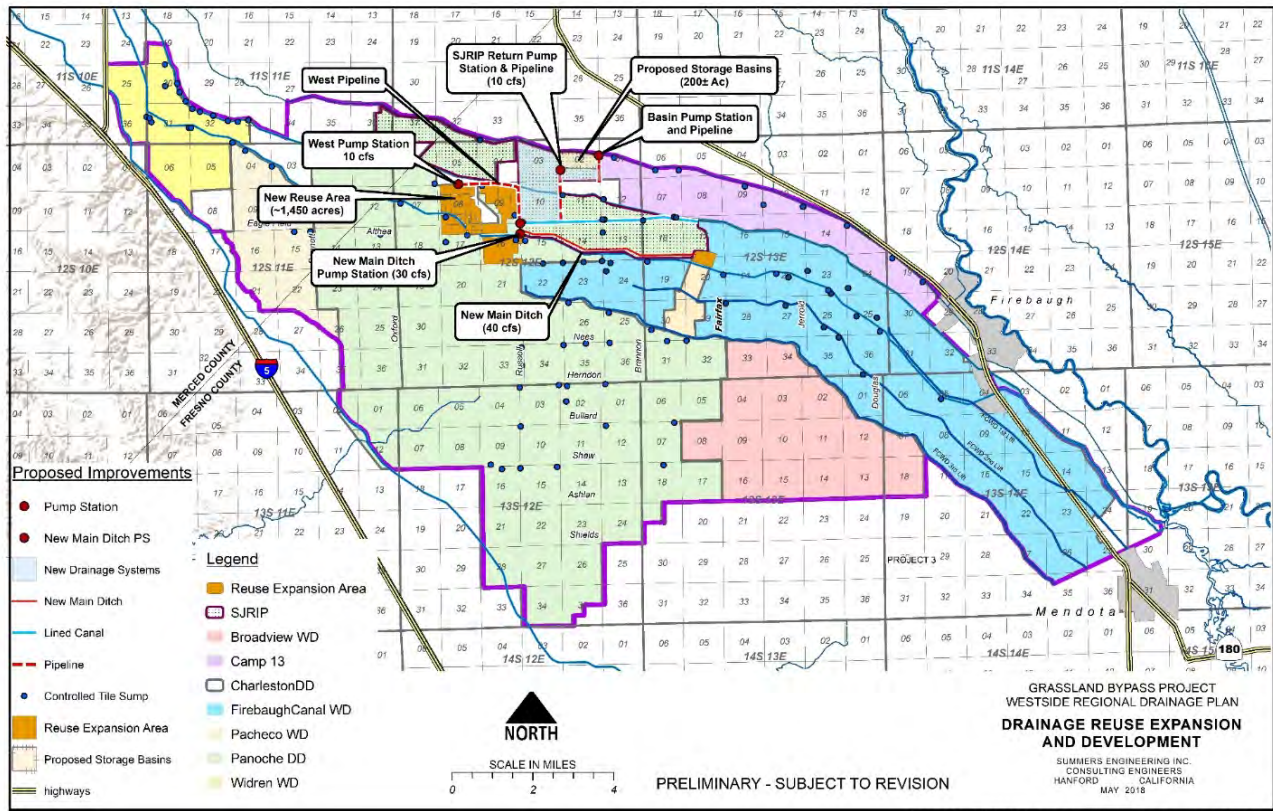
Therefore, the Proposed Project is continued use of the Drain at its current capacity (150 cfs) combined with the use of existing and new short-term storage basins to reduce storm-induced discharges to Mud Slough (North) in the San Luis National Wildlife Refuge and the California Fish and Wildlife Service China Island Refuge. The Proposed Project considers modifications to the previously analyzed project and includes measures to address the capacity limitations of the GBC and the Drain, storm event frequency and magnitude, and available storm water management tools to minimize discharges. It also considers some enhancements to existing facilities including securing ownership of land for purposes of the SJRIP, new pump/conveyance systems, additional storage basins, and a remote shut-off system for operation of tile sumps throughout the GDA.

The Project Area is primarily located in the northwestern portion of Fresno County and a portion of the south-central section of Merced County. This area consists of the GDA as well as adjacent land to the north through which subsurface drainage has historically flowed. The SJRIP is located in the north central section of the GDA on property containing approximately 6,000 acres with planned expansion of up to 1,500 additional acres of reuse area (including some acres already developed for salt-tolerant crops). See Figure 2, Grassland Bypass Project Location Map, contained in Section 1.

2.2 REVISED PROJECT DESCRIPTION

The 2010 Use Agreement has limited the permitted flow in the Drain to 150 cfs, because the connection facilities between the GDA and the Drain are limited to 150 cfs and to avoid the disturbance of sediments in the Drain. These facilities include a culvert underneath the Main Drain, Main Canal, and Helm Canal, the four-mile earth-lined GBC which connects the GDA drainage system to the Drain, the inlet to the Drain from the GBC and the outlet from the Drain to Mud Slough (North). The Proposed Project as modified would continue to use the existing GBC and related culvert, drain and canals to handle storm flows up to 150 cfs. Modifications to existing infrastructure would include a new automated system to turn off tile sumps within the GDA during storm events; improvements to the SJRIP delivery system to allow storm flows to be conveyed to more areas in order to make limited use of the SJRIP reuse area in the winter and of existing regulating ponds (with 500 acre feet [AF] capacity) that discharge to the reuse area; and new storage basins (approximately 200 acres) to handle up to 1,000 AF of storm water when storm flows are greater than 150 cfs (without ponding against canals or in the reuse area). The key project features are described in the following sections and shown on Figure 4, Drainage Reuse Expansion and Development.

Figure 4 – Drainage Reuse Expansion and Development



In addition, a Sediment Management Plan was evaluated in the 2009 Final EIS/EIR (SCH No. 2007121110; Reclamation 2009b) to return the Drain to its original capacity of 300 cfs. This plan allowed for placement of removed sediments on agricultural, industrial and/or residential lands. Removal commenced under the plan in 2015, 2016, 2017 and 2018 using excavators to remove the sediment and trucks to haul it to the SJRIP. As of August 2018, approximately 180,000 cubic yards of sediment has been removed for the Drain between the inlet to the Drain (Site A) and Henry Miller Avenue (approximately 14 miles). All removed sediment was hauled to the SJRIP and used to fill in unneeded drains. Future sediment removal will be accomplished similar to the 2017-2018 removal, but the location of the placement area likely will change due to the logistics of hauling material that is further away from the SJRIP. Measured selenium levels in the Drain sediment are below the threshold for application on industrial and residential sites. A planned industrial site has been located adjacent to the Drain at Highway 152, and an estimated 100,000 cubic yards could be placed at this location. This would be sufficient to store all of the remaining sediment in the Drain. Due to the narrow time-window available each year for sediment removal and the logistics related to hauling distances, the removal is expected to take an additional two years to accomplish, or by December 31, 2021. Approximately 95,000 cubic yards of sediment remain in the Drain and need to be removed, resulting in approximately 35 trips per day for approximately 2.5 months (70 working days total) over this time period. The nature and intensity of sedimentation and hauling activities associated with the Proposed Project modifications are consistent with, and well within the scope of, the activities previously analyzed in detail in the Grassland Bypass Project Final EIS/EIR for the 2010-2019 Project timeframe.

2.2.1 Available Storm Water Management Tools/Other Project Features

A small number of management tools are currently available to the GAF to minimize storm-related discharges and potential impacts to the wetland areas and the San Joaquin River. These include source

control projects, shallow groundwater pumping, and stormwater use for irrigation on the SJRIP. The Proposed Project would add specific enhancements and new facilities specified herein. Features associated with these management tools are shown on Figure 4.

2.2.1.1 Turn Off Tile Sumps

Subsurface drainage from irrigation in the GDA is collected in tile drain systems under farmers' fields that collect at a sump. Most tile discharges are controlled through a pump on each such tile sump that discharges into deep collector drains through which it flows to the GBP. As part of a Storm Event Plan, tile sumps would be turned off. Turning off tile sumps will utilize a portion of the shallow soil profile for storage and slow the rate at which shallow groundwater is discharged into the regional drains. This action alone is insufficient to completely eliminate the discharge of shallow groundwater from irrigated lands since, as the soil profile saturates, this water will overtop sumps and flow into the drain or seep through the soil and accrete into the drains, and would be discharged with the storm water. However, controlling sump discharge is a significant tool in reducing peak storm-related flows and improving water quality in storm-related discharges.

Remote tile sump control is a modification to existing sump control that will be provided through the implementation of a Supervisory Control and Data Acquisition (SCADA) system that will allow all of the tile pumps to be shut off from the appropriate district office. This improvement involves installation of radio and shutoff relays at each discharging tile pump throughout the GDA. Communications and repeater towers will be erected as required (two to four towers expected) to send the control signal from the SCADA computer at the district office to each of the pumps. These towers will range in height from 20 to 80 feet and are consistent with power line and other communication towers within the GDA, i.e., shorter than existing cellular communication and high-wire towers but taller than regular power poles. This will allow all discharging tile sumps to be remotely disabled prior to storm events and then reactivated after the storm event has passed. This enhancement improves the control and efficiency available for the measure of shutting off tile sumps.

2.2.2 Short-Term Storage Basin Usage

2.2.2.1 Existing Storage Basins

A storage basin or pond is defined most often as a small storage reservoir constructed to regulate an irrigation water supply by collecting and storing water for a relatively short period. There are currently some minimal storage basins within the GDA, including those in Panoche Drainage District and Pacheco Water District. These existing facilities provide approximately 500 AF capacity; storm water stored in these basins can be either diverted and reused for irrigation on the SJRIP reuse area, used at other areas within the GDA, or discharged into the Drain.

A concern with the use of storage basins in the GDA is the potential for possible exposure of waterfowl to water with elevated selenium if basins cannot promptly be drained. The plan is to accumulate storm water in the basins as needed to reduce peak flows during high rainfall events, typically beginning in December, for subsequent release of the storm water through the Drain or to the reuse area to the extent they can be used, given capacity constraints, to irrigate salt tolerant crops without ponding. To avoid impacts to wildlife, appropriate mitigation measures will be implemented for as long as the basins contain water (see Section 3.2.2). The basins would collect drainage during storm events as a tool to reduce peak flows and the associated discharge to the Drain, and then distribute the storm water to the reuse area during the early irrigation season and to the GBC outside of the irrigation season. The storage basins would be managed to prevent the evapo-concentration of selenium and other constituents and aggressively hazed to discourage water bird nesting. Water in the basins would be distributed to the SJRIP to meet irrigation demand as soon as practical. In rare cases, captured water may be discharged to the GBC to the Drain to prevent evapo-concentration if there is not sufficient

reuse capacity to drain the basins. Depending on water quality, some of the water may be blended into regional irrigation systems as well. By late May, the basins would be emptied.

2.2.2.2 Proposed Short Term Storage Basins and Pump Stations

The Proposed Project also includes new, short-term storage basins that total approximately 200 acres in size with the ability to hold an additional 1,000± AF of storm-induced drainage from the GDA. They would be operated in a similar manner as the existing basins explained above, i.e., filling begins with the first significant storms (typically December), and basins are emptied by May. The increased capacity reduces the quantity that must flow during the storm event to the GBC, the Drain, and ultimately to Mud Slough (North). This guards against both flow in the GBC exceeding the channel capacity as well as selenium concentrations in Mud Slough (North) exceeding the water quality objective established in 2016 by the Regional Board (Regional Board 2016).

The storage basins will consist of approximately four miles of levees (interior and exterior) amounting to approximately 300,000 cubic yards of compacted embankment and rip-rap for levee protection. Levees will have a top width of 12 to 16 feet and a depth of approximately 6 feet. The storage basins will be designed with clean and steep slopes, and water will be kept deep or the basins will be empty, in order to minimize attractiveness of the basins for waterbirds. A new pump station will be constructed to divert water from a major regional drain into the basins and a second pump station and conveyance pipeline (estimated 24" diameter) will be constructed to divert water out of the basins for reuse within the SJRIP.

Current land use at the proposed basin site is salt tolerant cropland (Jose Tall Wheatgrass) within the existing SJRIP. The conversion of 200 acres of this land to storage basins would provide a tool to reduce the amount of water discharged to the GBC and Drain during large storm events in the non-irrigation season. This loss of irrigable crops will be offset by planned SJRIP expansion.

The estimated construction time for the basins is approximately 4 months. The estimated construction time for the 2 pump stations and associated pipeline is approximately 3 months, and may or may not be concurrent with the basin construction. Construction periods would typically be limited to May through November (7 months) when storm events and flooding are unlikely, and adjusted according to the protective requirements for special status species as necessary.

Operations: A variety of factors will determine when storm induced drainage flows would be diverted into the basins. Local staff will consider soil saturation levels, forecasted rainfall amounts, water levels in regional drains, available capacity in the GBC and the flow rate in Mud Slough (North) (Site D) as factors for determining when to divert flows into the temporary storage basins. The goals of any diversion into the short-term storage basins would be to avoid exceeding capacity to discharge through the GBC into the Drain (so as to avoid any release into the historic path of the wetland conveyance channels), to prevent selenium water quality exceedances at Site D, and to minimize the overall discharge from the GDA. Water would be drained out of the basins as soon as the water could be utilized within the SJRIP.

2.2.2.3 Reuse Area Expansion

The Grassland Bypass Project Final EIS/EIR stated that the SJRIP facility would be implemented on up to 6,900 acres of land within the GDA (Reclamation 2009b, p. 2-14). It included the following description:

“To continue to apply the salty water to the lands developed in Phase I, it will be necessary to install subsurface drainage systems. Installation of tile drainage systems will be required to maintain salt balance in the root zones and to maintain the

productivity of the reuse area on a long-term basis. Such installation would not be a prerequisite for commencement of reuse, would be prioritized based upon available funding and the needs of particular crops, and would be expected to proceed throughout Phase II. Currently (and for the foreseeable future) any tile water captured within the reuse areas is blended back with the reuse area irrigation supply and used on whatever crop is located downslope. Salt, Se, and other drainage constituents would be collected in the water coming out of the subsurface drainage systems, continue to be recirculated and utilized on site or, during any continuation of the Grassland Bypass Project, be discharged subject to load reduction obligations.” (p. 2-18)

The proposed expansion of 1,450 acres will take the existing reuse facility from 6,100 acres analyzed in the 2009 Final EIS/EIR to 7,550 acres of usable reuse area. This is an additional 650 acres over the maximum size anticipated in the 2009 Final EIS/EIR. This additional acreage would be managed in the same manner as the existing acreage with the same biological monitoring requirements established by the U.S. Fish and Wildlife Service (USFWS) in their Biological Opinion (see USFWS 2009). Therefore, this Addendum addresses the additional acreage. Much of this additional acreage is already planted to salt tolerant Jose Tall Wheatgrass, and only a change in ownership (private to district) would be needed for implementation.

Because the salt tolerant crops within the SJRIP have very little water demand in the winter, reuse capacity for storm-related flow is very limited in the period between November and February with greater reuse in the March to May period, depending on hydrologic conditions. Small existing storage basins in Pacheco and Panoche Water District provide limited water storage capacity within the GDA (up to 500 AF). In combination with storage basin usage, the maximum managed flow with facilities within the GDA is approximately 50 cfs for 15 days¹. Once this maximum is reached, discharge of some sort is required.

The primary environmental concern is an increased potential for ponding of seleniferous water within the fields of the SJRIP, which could be an attractive nuisance to wildlife, particularly birds. The amount of water that could be discharged to the SJRIP is less than what would be needed (i.e., only a partial solution), and other impacts would be created if the area is not enlarged to handle agricultural drainage. Therefore, an additional reuse area of approximately 1,450 acres is proposed on farmed land generally on the southwest side of the existing SJRIP facility. Mitigation contained in the Grassland Bypass Project Final EIS/EIR for the existing reuse facility would apply to this area also. This mitigation includes a contingency plan² in the event of inadvertent flooding in the reuse area due to breakage of a water supply canal or delivery facility.

2.2.3 Conveyance Activities

Additional conveyance activities are proposed for agricultural drainage and storm water conveyance within the GDA for the existing reuse area and its expansion and for storm water conveyance to the GBC during the winter months. These improvements, when combined with the proposed short-term storage basins and other conveyance activities, will increase the GBP’s capacity to manage storm-induced flows. These activities are listed below.

- **RP-1 Ditch Extension and Lining** The existing 3 miles of RP-1 Ditch will be replaced with a concrete lined channel and the ditch will be extended 1.8± miles to the eastern side of the SJRIP. The channel’s capacity will also be increased from approximately 25 cfs to 45 cfs.

¹ The maximum diversion rate could be as high as 70 cfs but this assumes that some pumps will be inaccessible due to wet conditions. 15 days comes from 3” over 6000 acres.

² This plan is presented in the *San Joaquin River Water Quality Improvement Project, Phase I Wildlife Monitoring Report*, 2005 (H.T. Harvey & Associates 2006).

Construction work will involve the placement of approximately 34,000 cubic yards of compacted embankment to build the canal pad, excavation of approximately 38,000 cubic yards of material to cut the design cross section, and placement of approximately 470,000 square feet of unreinforced concrete lining, along with miscellaneous appurtenances such as turnouts and road crossings. As a delivery channel, most of the ditch would be above grade with the invert extending approximately 24" below the existing top of ground. The alignment of the existing and proposed ditch is within an area historically farmed. Estimated construction time is 4 months.

The RP-1 Ditch extension and lining activities would significantly improve operational flexibility of the SJRIP by extending conveyance capacity to the far east section of the SJRIP (near Fairfax Avenue). Currently, there is only limited conveyance capacity to that portion of the reuse area, which underutilizes the overall reuse capacity of the SJRIP.

- **RP-1 Pump Station Enlargement and Pipeline.** A new electric pump station with a capacity of approximately 25 cfs will be installed in the Russell Avenue Drain near the existing RP-1 Pump Station. The pump station will consist of a pre-cast concrete sump, two low lift pumps, a manifold to connect to the new pipeline, electrical controls, and necessary appurtenances. A new pipeline will transmit the pumped water from the new pump station to the RP-1 Ditch, a distance of approximately 750 feet. The trench for the new pipeline would be approximately 6 feet deep and would run parallel to an existing pipeline installed for a similar purpose. The construction area for this activity has been extensively disturbed during previous construction activities. The pipe is expected to be 30" or 36" in diameter and likely to be reinforced concrete or PVC. Estimated on-site construction time is expected to be three weeks.

The proposed increase in the RP-1 pump-rate capacity would significantly improve operational flexibility of the SJRIP by increasing the conveyance capacity to the far east section of the SJRIP (near Fairfax Avenue). Currently, there is only limited conveyance capacity to that portion of the Reuse Area, which underutilizes the overall reuse capacity of the SJRIP.

- **West Pump Station and Pipeline.** A new pump station and pipeline will be installed on the westside of the SJRIP that will allow water to be pumped to the easterly SJRIP, where there is more crop water demand. The pump station will consist of a pre-cast concrete sump, 2 pumps (5± cfs each), a manifold, electrical controls and miscellaneous appurtenances. The pipeline is expected to be 21" diameter PVC pipe. Approximately 2.5 miles of pipe will be installed along existing field roads at a depth of 5 feet, discharging ultimately at the Russell Drain near the RP-1 pump station. An encroachment permit from Fresno County will be required to cross Russell Avenue. Estimated total on-site construction time is expected to be 3 months. The proposed pump station and pipeline would connect the westerly portion of the SJRIP (~1,800 acres) with the 4,000 acres of the SJRIP east of Russell Avenue and increase the rate of drawdown for the storage basins. The construction area for this activity has been extensively disturbed during previous construction activities that have been analyzed under CEQA.
- **SJRIP Return System.** A new electric pump station and pipeline will be installed on a major return drain within the SJRIP that will convey that water to the RP-1 Ditch. The pump station will have a capacity of 10 cfs and will consist of a pre-cast concrete pump sump, 2 pumps, manifold, electrical controls and other appurtenances. The pipeline is expected to be 21" diameter PVC, approximately $\frac{3}{4}$ of a mile in length, in a trench 5 feet deep, and will discharge into the RP-1 Ditch. Estimated on-site construction time for both the pipeline and the pump station is approximately 3 months. The construction area for this activity has been extensively disturbed during previous construction activities that have been analyzed under CEQA.

The proposed pump station and pipeline would improve the operation efficiency of the SJRIP by capturing internal return flows and returning them to the RP-1 ditch, which will allow for recirculation of this water over the largest possible area.

- **New Subsurface Drainage.** New subsurface drainage systems are proposed for up to 1,100 acres within the existing reuse area. Drains are to be placed approximately 8 feet below the ground surface with a spacing of approximately 400 feet. This area historically has been farmed and is currently planted to Jose Tall Wheatgrass. Construction would occur over a 3-month period, and the fields would be re-planted.

The proposed subsurface drainage systems would be located on a series of fields with a shallow water table that inhibits cultivation and operations. Subsurface drain water collected by these systems would be discharged into the SJRIP conveyance system for reuse.

Environmental Impact Discussion

3.1 INTRODUCTION

This section discusses whether the proposed modifications to the Grassland Bypass Project (GBP) analyzed in the 2009 Final EIS/EIR (SCH No. 2007121110) would result in any new or substantially more severe environmental effects than were previously identified. This section also includes a discussion of the original mitigation measures from 2009 and the need for implementation of those measures to continue (with or without refinements) to allow for the continuation of storm water management practices including use of the Drain. The discharge of subsurface agricultural drainage to the Drain will cease by the end of 2019, and agricultural subsurface drainage will be managed by the GAF participating districts and at the SJRIP. Going forward, the Project as proposed to be modified is called the Long-Term Storm Water Management Plan (LTSWMP) for the period January 1, 2020 through December 31, 2045. It would be implemented through a new use agreement with the U.S. Department of the Interior, Bureau of Reclamation for use of the Drain and with new WDRs from the Regional Board for discharge to Mud Slough (North). The proposed West Pipeline affects Russell Avenue; a permit will need to be obtained from Fresno County to cross the road. Other related improvements and practices at the SJRIP to implement the LTSWMP are included as well, such that the entirety of the Project is evaluated under CEQA.

The proposed changes to the 2009 project are called the Proposed Project. As the lead agency under CEQA, the Authority prepared an Initial Study using the CEQA Environmental Checklist supported by four technical reports on plan formulation, biological resources, sediment removal and surface water resources. An analysis of cultural resources was also made.

Sections discussing significant impacts to environmental resources identified in the 2009 Final EIS/EIR are titled Final EIS/EIR (2009) and sections describing the resulting impacts from the proposed changes to the 2009 project are titled Initial Study (2019).

3.2 IMPACTS RELATED TO PROJECT CHANGES

The environmental topics considered to have the greatest potential for new or more severe significant environmental impacts were surface water resources and biological resources. Differences in the potential impacts associated with the Proposed Project relative to those for the GBP described in the 2009 Final EIS/EIR (Proposed Action) are discussed below. For this CEQA discussion, the Proposed Project is compared to existing conditions for the 2015-2019 period, and the 2009 project was compared to existing conditions at the time of the issuance of the Notice of Preparation (December 20, 2007) for that project. The focus in this section is on impacts (adverse effects) identified as potentially significant in 2009 and mitigation to reduce those impacts to less than significant for surface water and biological resources. It also discusses the significant and unavoidable impacts to soils and groundwater resources identified in the 2009 Final EIS/EIR and how the Proposed Project does not increase the severity of those adverse effects.

3.2.1 Surface Water Resources

3.2.1.1 Final EIS/EIR (2009)

The 2009 Final EIS/EIR (Section 4, Surface Water Resources) identified significant and less-than-significant “beneficial” effects, although beneficial effects are not required to be identified under CEQA (only under NEPA). The beneficial effects were attributed to water quality for the following

parameters based on water quality objectives and modelling for reductions in drainage discharges over the 2010-2019 period:

- Selenium (Se), salinity, boron, and molybdenum in sloughs and San Joaquin River (SJR) upstream of the Merced River
- Se, salinity, boron, and molybdenum in the SJR downstream of the Merced River, salinity in sloughs/SJR

There was a determination of no impact for Se in wetlands during storm events and during dry weather, because Se concentrations were essentially unchanged from existing conditions.

The potentially significant impact (adverse effect) was for sediment accumulation in the Drain. Additional sediment may accumulate, but this impact could be mitigated by removal of all accumulated sediment (e.g., all sediments since completion of the 85-mile Drain in 1975) based on a Sediment Management Plan included in the 2009 Final EIS/EIR as Appendix B. The sediment would be removed in accordance with the proposed Use Agreement and applicable laws and regulations as well. This mitigation reduced the sediment accumulation impact to less than significant.

3.2.1.2 Initial Study (2019)

The projected storm water discharges for the Proposed Project were evaluated in Section 2.10 of the Initial Study. Discharges from the Project Area enter the San Joaquin River at the mouth of Mud Slough. Recent historical conditions reflect the result of the past projects on water quality. Specifically, selenium levels in Mud Slough (North) have reduced each year since the implementation of the GBP and Westside Plan. The transition to the Long-Term Storm Water Plan Management Plan would continue this trend, resulting in significantly reduced discharges into Mud Slough.

There is a general trend of decreasing flows between 2006 and 2014 and the elimination of summer flows to the Drain starting in 2015. Prior to 2015, the Drain flow appears to consist of a combination of year-round drainage and winter storm-induced drainage flows. From 2015, the flow appears to be mainly storm flows with a small component of post-storm drainage.

Hydrological conditions varied during Water Years 2015 to 2017, the period representing existing conditions. Water Year 2015 was critically dry, Water Year 2016 was below normal/dry, and Water Year 2017 was wet. Regardless of year type, flow in the Drain was maintained below 150 cfs.

One of the management tools for storm water runoff would be pumped diversions to the existing and proposed short-term storage basins. It is possible that these basins could completely contain the flows generated by such events. Once the rainfall subsides, the captured water would be drained for reuse as SJRIP irrigation water whenever practical. Depending on time of year, some water could be stored in the storage basins for a month or more.

Operationally, a variety of factors will determine when storm-induced drainage flows would be diverted into the basins. Local staff will consider soil saturation levels, forecasted rainfall amounts, water levels in regional drains, including the GBC, and the flow rate in Mud Slough North (Site D) as factors for determining when to divert flows into the temporary storage basins. The primary goal of any diversion into the short-term storage basins would be to avoid exceeding the 150 cfs capacity of the GBC and hence, required diversion into historic outlets through the wetlands; prevent selenium water quality exceedances at Mud Slough North (Site D); and minimize the overall discharge from the GDA. Water would be drained out of the basins as soon as there was reuse capacity for irrigation within the SJRIP.

The impacts to surface water resources are focused on water quality and are primarily based on changes in the Se, salt, and boron concentrations in the San Joaquin River and Mud Slough (North). The degree of water quality impact is based on the concentration in the receiving water relative to the water quality objectives (WQOs) contained in the Basin Plan for the San Joaquin River Basin (Regional Board 2016). An impact would be considered an adverse effect and significant if it resulted in an increase in the frequency of exceedances in the WQOs over what was measured under existing conditions (Water Years 2015 to 2017). An effect would be considered beneficial if it resulted in a decrease in the frequency of exceedances in the WQOs. Current Basin Plan WQOs and performance goals for Se, boron, and molybdenum for the lower San Joaquin watershed are summarized in the Initial Study. Total flow from the GDA to the Drain would not exceed 150 cfs due to capacity limitations in the siphon under the Main Canal and related facilities.

Under the Proposed Project, water quality in Mud Slough (North) downstream of the Drain is expected to improve relative to existing conditions due to the GAF modifying operation of the drainage system, including the integration of storage basins to reduce storm event discharge and turning off sumps prior to and during wet weather flows using the new SCADA system. The Se, boron, salt, and molybdenum concentrations are expected to decrease due to this discharge management of storm flows.

Under existing 2015-2019 conditions, Se concentrations in Mud Slough (North) downstream of the Drain were not above the current Se performance goal of 15 µg/L monthly mean. Based on 21 years of simulation, water quality in Mud Slough (North) downstream of the Drain is expected to improve under the Proposed Project relative to existing conditions due to the GAF modifying operation of the drainage system, including turning off sumps prior to and during wet weather flows using the new SCADA system and the integration of storage basins to reduce storm event discharge. However, on rare occasions Se concentrations are predicted to be above WQOs (5 µg/L 4-day average) in dry and critically dry years when dilution flows in Mud Slough upstream of the Drain are reduced (see Initial Study, Appendix D, Attachment A). When evaluated on an event basis (which could include one or more consecutive days), exceedances are expected to occur on average once every 3.5 years. These exceedances would occur less frequently than EPA guidelines which allow for a violation of water quality standards once every 3 years.

The Se concentrations are expected to be reduced under the Proposed Project, a beneficial effect. However, because the WQO would change from the monthly mean performance goal of 15 µg/L to a 4-day average of 5 µg/L WQO, the frequency of exceedances of the applicable water quality criteria would be increased (as noted above) as compared to existing conditions due to the reduced WQO (since the Final EIS/EIR was released in 2009). However, it is expected that the water quality in Mud Slough (North) as it relates to Se conditions would continue to be improved; the frequency of exceedances of the 2016 WQO is considered a less-than-significant impact.

Monthly average boron concentrations in Mud Slough downstream of the Drain are expected to be greater than 2 mg/L in some months during both the wet and dry season. When there is no flow from the Drain, concentrations would be the same as found in Mud Slough (North) upstream of the Drain (occasionally above a 2 mg/L monthly average), but storm water discharges from the Drain could occasionally contribute to exceedances of the 2 mg/L monthly average WQO downstream of the Drain in April. Because boron concentrations are expected to decrease during winter months due to turning off drainage sumps prior to and during wet weather flows, the frequency of exceedances above the WQO are expected to decrease as compared to existing conditions. Therefore, changes to boron concentrations would have a less-than-significant impact in comparison to existing conditions.

The Sediment Management Plan (2009) allowed for placement of removed sediments on agricultural, industrial and/or residential lands. Removal of the 40 years of accumulated sediment commenced in 2015, 2016, 2017 and 2018 using excavators to remove the sediment and trucks to haul it to the SJRIP.

As of August 2018, approximately 180,000 cubic yards of sediment has been removed from the Drain between the Drain Inlet (Site A) and Henry Miller Avenue (approximately 14 miles). All removed sediment was hauled to the SJRIP and used to fill in unneeded drains. Future sediment removal will be accomplished similar to the 2017-2018 removal, but the location of the placement area likely will change due to the logistics of hauling material that is further away from the SJRIP. Measured selenium levels in the Drain sediment are below the threshold for application on industrial and residential sites. A planned industrial site has been located adjacent to the Drain at Highway 152, and an estimated 100,000 cubic yards could be placed at this location. This would be sufficient to store all of the remaining sediment in the Drain. Due to the narrow time-window available each year for sediment removal and the logistics related to hauling distances, the removal is expected to take an additional year to accomplish, to December 31, 2020. Approximately 95,000 cy of sediment remain in the Drain and need to be removed. The nature and intensity of sedimentation and hauling activities associated with the Proposed Project modification are consistent with, and well within the scope of, the activities previously analyzed in detail in the Grassland Bypass Project Final EIS/EIR for the 2010-2019 timeframe. The capacity of the Drain would be restored to 300 cfs, while only 150 cfs capacity will be used for the Proposed Project. The amount of additional sediment accumulation for the period 2021-2045 would not interfere with use of the Drain for storm water conveyance, and the impact is less than significant.

The Se WQO would be met during most of the year, with only occasional exceedances of the 5 ppb 4-day average that would be short in duration, a less-than-significant impact as explained above. Refinements to the existing mitigation measures to further reduce the less-than-significant impacts from the expected periodic exceedances will be implemented for the Proposed Project, as follows:

- If the 5-ppb 4-day average not met with proposed management practices (shut off electric sumps), analyze operational data and develop adaptive management approach to implement additional corrective actions.
- Organize the Mitigation Sub-Committee comprised of local wildlife agencies as required in the 2010 Use Agreement to utilize funds deposited in the Supplemental Mitigation Project Fund to develop mitigation projects such as:
 - Refuge water supply augmentation (such as USFWS Blue Goose unit)
 - Increased water flows in Mud Slough after Drain flows cease
 - Habitat restoration projects
 - Species specific habitat establishment

The Long-Term Storm Water Management Plan includes selenium load targets for discharges to Mud Slough (North) and the San Joaquin River. Table 3-1 shows the Total Maximum Monthly Load (TMML) selenium load allocation as adopted in 2001 in the Basin Plan amendment for Selenium in the San Joaquin River along with proposed selenium load targets. The targets represent an approximately 75% reduction in selenium loading from the TMML Annual Load Allocations. A multi-year performance target requiring that the selenium load over a 3-year period at Site B be less than the sum of the 3-year target, based on water year type, would be used to determine if the load targets are being met. If the performance target is exceeded, the Dischargers will propose additional management practices to reduce the selenium loading to meet the performance goal. The selenium water quality objective will continue to be used to determine compliance with the Basin Plan.

Table 3-1. Selenium Annual Load Allocations for the Grassland Drainage Area³
 (pounds of selenium)

Selenium Load	Critical (Discharge Limit)	Dry/Below Normal (Discharge Limit)	Above Normal (Discharge Limit)	Wet (Discharge Limit)
TMML Annual Load Allocation	1075	2496	4162	4480
Annual Load Target	300	600	900	1200
Percent Reduction	72%	76%	78%	73%

In summary, the Proposed Project would not result in new significant impacts not already considered and mitigated in the 2009 Final EIS/EIR and would not substantially increase the severity of the previously identified impact. Less-than-significant impacts to water quality would not be increased to significant, and the sediment accumulation impact would not be worsened. Sediment removal initiated during the 2009 project would be completed and subsequent accumulation would not interfere with operation of the Drain over the 2020-2045 timeframe.

3.2.2 Biological Resources

3.2.2.1 Final EIS/EIR (2009)

The three sections of the Project Area used in the 2009 analysis (in Section 6.1.1) are:

- **Area 1 (the GDA):** the 97,400-acre source zone known as the GDA, located in the Central Valley of California, specifically in Merced and Fresno Counties.
- **Area 2 (Area 2):** 93 miles of wetlands channels, Salt Slough, and the San Joaquin River from the confluence of Salt Slough downstream to Mud Slough. This area is located within the GWD and state/federal wildlife management areas, and under current conditions does not receive water directly from the source zone (Area 1).
- **Area 3 (Area 3):** the Drain from Russell Avenue on the south to its northern terminus at Mud Slough, 6 miles of Mud Slough upstream of its confluence with the San Joaquin River, and the San Joaquin River downstream from Mud Slough to Crows Landing. This area comprises the drainage pathway from the source zone through the San Joaquin River, and, under current conditions, includes those habitats affected by selenium (Se)- and salt-rich drainage water.

Compared to existing conditions, the expanded reuse area may cause significant adverse impacts in Area 1 as crop changes lead to foraging habitat loss or degradation for species in the expansion area, as well as increased Se and higher potential for Se bioaccumulation in that area. By removing drainage water from Area 1, ponding is less likely to occur and less habitat is expected to be degraded (than under the No Action Alternative in both Area 2 and Area 1 outside of the reuse area). Area 3 will experience beneficial effects, as discharges of Se and salinity to Mud Slough and the San Joaquin River habitats and species would be lower than under existing conditions.

The acreage acquired for the expanded reuse area would gradually be planted with salt-tolerant crops. The change in crop use could lead to decreases in habitat or habitat value. Changes in land use and crop patterns for the conversion of 2,900 acres to salt-tolerant crops could reduce the area of cultivated crops that provide foraging habitat for Swainson’s hawk, northern harrier, burrowing owl, tricolored blackbird, pallid bat, and western red bat. Conversion of cultivated lands to salt-tolerant crops could reduce the abundance of prey utilized by these special-status species, a potentially significant adverse

³ The TMML annual load allocations in Table 3-1 are based on the sum of the monthly load allocation based on the water year calculation needed to meet the selenium water quality objectives at the San Joaquin River at Crows Landing.

impact compared to existing conditions. However, the Proposed Action does not include a reduction in the area of land cultivated for rice. (Section 6.2.2.2.1)

The 2009 Final EIS/EIR (Section 6.2.2.1.4) reported that drainage reuse at the SJRIP In-Valley Treatment/Drainage Reuse Facility, which involves application of subsurface drain water on the surface of fields to irrigate salt-tolerant crops, has the potential to result in highly seleniferous subsurface drainwater ponding in fields at the reuse facility, which can create a hazard to birds. Furthermore, the installation of subsurface drainage and collection systems would result in ground disturbance that may affect breeding success of burrowing species such as burrowing owls. The 2009 Final EIS/EIR concluded that all of these potentially significant impacts could be mitigated to less than significant through implementation of the measures described below:

“The following Measures 1 through 4 are required to mitigate for significant adverse impacts under CEQA associated with continued operation and expansion of the In-Valley Treatment/Drainage Reuse Facility. Mitigation 5 is required if Mitigations 1, 2, and 3 do not sufficiently reduce the exposure to Se” (Section 6.2.2.4):

- **MITIGATION 1: AVOIDING BURROWING OWLS**

In conformance with federal and state regulations regarding the protection of raptors, a pre-construction survey for burrowing owls will be completed in conformance with CDFG recommendations, no more than 30 days prior to the start of construction. If no burrowing owls are located during these surveys, no additional action would be warranted. However, if breeding or resident owls are located on, or within 250 feet of, the proposed construction site, the following mitigation measures will be implemented:

- A 250-foot buffer, within which no new activity would be permissible, will be maintained between project activities and nesting burrowing owls. This protected area will remain in effect until August 31, or may be terminated earlier at the CDFG’s discretion based upon monitoring evidence that indicate that young owls are foraging independently.

Owls may be evicted from the construction area to avoid take of individual owls via construction activities. However, CDFG does not permit the eviction of burrowing owls from burrows during the nesting season (February 1 through August 31). Eviction outside the nesting season may be permitted pending evaluation of eviction plans and receipt of formal written approval from the CDFG authorizing the eviction. If accidental take (disturbance, injury, or death of owls) occurs, the CDFG will be notified immediately.

- **MITIGATION 2: REDUCE EXPOSURE POTENTIAL BY REDUCING ATTRACTIVENESS OF IRRIGATION DITCHES FOR NESTING**

The majority of shorebird nesting on the existing reuse site consists of killdeer and recurvirostrids nesting within, or adjacent to, the irrigation ditches that deliver drainwater to the site. Adults nesting near irrigation ditches feed primarily in these ditches, though this is more typical of recurvirostrids than killdeer. Reducing the attractiveness of the ditches and their immediate surroundings as nesting and foraging habitat is necessary to minimize the level of shorebird exposure to Se.

Unused ditches have been filled in to prevent shallow ponded water from becoming an attractive nuisance. Sediment that has collected on the bottom of operational ditches will be removed to remove potential nest substrate when water levels are low. Smooth sides

and borders will be maintained along irrigation ditches to inhibit the common killdeer and recurvirostrid practice of using rough surfaces such as disked areas to conceal nests.

- **MITIGATION 3: REDUCE EXPOSURE POTENTIAL BY HAZING BIRDS FROM NESTING NEAR, AND FORAGING IN, IRRIGATION DITCHES**

Shorebird use of the existing project site is not homogenous (H.T. Harvey & Associates 2004, 2005). As noted above, shorebird nests at the existing project site are concentrated in the vicinity of irrigation ditches. Additionally, stilts and avocets are semicolonial, often nesting in close vicinity to each other. Hazing will be performed to reduce exposure by reducing the number of nesting birds. Methods of hazing may include firing noise making devices such as cracker shells, 15-mm bird bombs, and bird whistlers from a vehicle to discourage breeding birds from establishing nest sites. In addition, propane-operated cannons will be left operating on a 24-hour basis, if required. Cannon locations will be changed periodically to lessen acclimation.

- **MITIGATION 4: FLOODED FIELD CONTINGENCY PLAN**

In the spring of 2003, a pasture at the existing reuse area site attracted waterfowl when it was inadvertently flooded. This flooded area created ideal ecological conditions for shorebird foraging and nesting and thus, a number of pairs responded opportunistically and bred in the field. Recurvirostrid eggs collected near the pasture had highly elevated Se concentrations compared to other recurvirostrid eggs collected elsewhere on the site. The Panoche Drainage District has since developed a contingency plan for accidental flooding. This plan is presented in the *San Joaquin River Water Quality Improvement Project, Phase I Wildlife Monitoring Report*, 2005 (H.T. Harvey & Associates 2006). The plan includes provisions for immediate removal of unintended drain water as well as for increased monitoring near flooded sites. The provisions of this plan will be implemented in the event of ponding at the reuse area.

- **MITIGATION 5: PROVIDE COMPENSATION BREEDING HABITAT**

If after employing Mitigation Measures 1, 2, and 3, monitoring (described in Section 15) determines nesting shorebirds are exposed to elevated Se levels as a result of the Proposed Action, compensation habitat for residual impacts will be provided. (See compensation habitat protocols contained in the 2009 Final EIS/EIR, pages 6-49 through 6-52 which are incorporated by reference.)

3.2.2.2 Initial Study (2019)

The Proposed Project is making changes to existing infrastructure and farmed areas on existing agricultural land to accommodate storm water flows. No natural habitat is being modified for the new pump station, pipeline, reuse area, subsurface drains at the existing reuse area, communication towers, canal, and sediment removal activities. Sediments have been placed previously in the adjacent Drain right-of-way to dry and are then placed as fill material for unneeded drains at the reuse area or potentially on an area planned for commercial development. The proposed short-term storage basins (200 acres) would be located within the existing SJRIP on lands currently planted to Jose Tall Wheatgrass. The proposed expansion of 1,450 acres will take the existing reuse facility from 6,100 acres analyzed in the 2009 Final EIS/EIR to 7,550 acres of useable reuse area. This is an additional 650 acres over the maximum size anticipated in the 2009 Final EIS/EIR. This additional acreage would be managed in the same manner as the existing acreage with the same biological monitoring requirements established by the USFWS in their Biological Opinion (see USFWS 2009⁴). Therefore,

⁴ U.S. Fish and Wildlife Service. 2009. Final Biological Opinion, 2010-2019 Use Agreement for the Grassland Bypass Project, Merced and Fresno Counties, California. File No. 81420-2009-F-1036. Sacramento, CA. December 18.

the analysis in the Initial Study sufficiently addresses the additional acreage. Much of this acreage is already planted to salt tolerant Jose Tall Wheatgrass, and only a change in ownership (private to district) would be needed for implementation.

Because the Project site comprises fallowed and regularly disced land vegetated primarily by nonnative species, it does not provide high-quality habitat for migratory birds or bats. The habitat provides only limited food resources (primarily insects) for some migrant songbirds and migratory bats; therefore, it does not represent a unique or important resource for these animals. (Initial Study, Appendix B, Section 4.4.)

Waterbird use of the existing and proposed short term storage basins could negatively impact waterbirds through dietary selenium exposure. Increased water being stored in the existing basins and storm water temporarily stored in the proposed storage basins would potentially provide an attractive foraging habitat for waterbirds. The water is expected to contain high enough selenium concentrations that long-term exposure could result in reproductive impairment to sensitive waterbird species. If the duration of the exposure is long enough, reproductive impairment is possible even if the waterbirds forage on the Project site and nest elsewhere in the vicinity of the Project. Because of the conditions on the Project site and the avian species that may use the site for nesting, these impacts would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeded the use of native wildlife nursery sites. However, if waterbirds nest on the Project site, impacts on nesting birds from selenium exposure would be significant. Incorporation of Mitigation Measures BIO-2a through BIO-2f into the conditions of approval would ensure that adverse effects of selenium exposure on nesting waterbirds are avoided or substantially lessened to a less-than-significant level. Note that Mitigation Measures BIO-2a, BIO-2c, BIO-2e, and BIO-2f have been implemented previously at the SJRIP reuse site (since 2006), where they have significantly reduced the number of nesting shorebirds exposed to selenium. (These mitigation measures are provided in their entirety below from the Initial Study, Appendix B.)

For the new short-term storage basins (up to 200 acres for 1,000 AF of storm water storage), the proposed site is an area previously planted with salt tolerant crops that does not affect nearby wetlands but could be characterized as an attractive nuisance to wildlife who would be discouraged from using the basins by their design, maintenance protocols, and during its operation from December to May, by hazing in order to minimize their exposure to Se, similar to hazing being conducted for irrigation ditches.

Refinements to the 2009 biological mitigation measures for the expanded reuse area, new storage basins, and related ground disturbance during construction and operation are proposed. The measures are similar to the 5 types of measures listed above (Section 3.2.2.1) with minor changes based on monitoring of the area since 2001 and expanding use of the measures to apply to construction and operation of new features such as the short-term storage basins. The revised biological mitigation measures are:

- **Mitigation Measure BIO-1: Conduct a Preconstruction Survey for Burrowing Owl and Implement Avoidance Measures.** No more than 15 days before the start of initial ground-disturbing activities for the Project, a qualified biologist(s) knowledgeable of the species will conduct a take avoidance survey for the presence of burrowing owls within 500 ft of the area scheduled for disturbance.
- **Mitigation Measure BIO-2a: Reduce Se Exposure Potential by Reducing Attractiveness of Irrigation Ditches for Nesting.** Sediment that has collected on the bottom of the ditches will be periodically removed and irrigation ditches within the

- proposed expansion areas will be maintained with smooth sides and borders to reduce nesting attractiveness in and near irrigation ditches.
- **Mitigation Measure BIO-2b: Reduce Se Exposure Potential by Reducing Attractiveness of Storage Basins for Nesting.** The attractiveness of the existing and proposed short term storage basins to nesting shorebirds will be reduced through active management practices, including removing sediment and vegetation that has collected on the bottom of the ponds and maintaining smooth bottoms, sides and borders of the basins.
 - **Mitigation Measure BIO-2c: Reduce Se Exposure Potential by Hazing Waterbirds from the Project Site During Nesting Season.** Waterbirds shall be hazed from the Project site during the waterbird nesting season (March 15 to July 15) to reduce exposure of waterbirds to selenium by discouraging waterbirds from feeding where they could be exposed to selenium.
 - **Mitigation Measure BIO-2d: Reduce Se Exposure Potential by Hazing Waterbirds from the Storage Basins When Water is Present.** Waterbirds shall be hazed from the existing and proposed short term storage basins to reduce exposure of waterbirds to selenium by discouraging waterbirds from feeding or nesting where they could be exposed to selenium.
 - **Mitigation Measure BIO-2e: Implement a Flooded-Field Contingency Plan.** A contingency plan for accidental or inadvertent flooding has been developed for the SJRIP. The plan includes provisions for immediate removal of unintentionally released drainwater as well as for increased monitoring and hazing near flooded sites.
 - **Mitigation Measure BIO-2f: Monitor Mitigation Success and Provide Compensation Breeding Habitat.** The above mitigation measures will be implemented to reduce the exposure of birds to selenium. To evaluate the success of these measures, monitoring will be implemented to determine whether nesting waterbirds are still exposed to elevated selenium levels as a result of the Project. If they are, compensation habitat for residual impacts will be provided, following the protocol outlined below that has been adapted from a protocol developed by USFWS (1995) for determining and mitigating impacts on nesting waterbirds at evaporation basins.
 - **Mitigation Measure BIO-2g: Conduct Preconstruction Nest Surveys for Infrastructure Installation Occurring During the Nesting Season.** Preconstruction nest surveys will be completed for all Project-related infrastructure installation activities that occur between February 1 and August 31 to comply with California Fish and Game Code Section 3503.5. A qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitats (including for raptors) within 500 feet of construction activities for presence of breeding or nesting birds. Surveys shall be conducted no more than 5 days prior to construction activities with a second survey conducted no more than 24 hours prior to the onset of construction. If active nests are found, no-disturbance buffers shall be implemented around each nest. If a nest is found in an area where ground disturbance is scheduled to occur, the area will be avoided either by delaying ground disturbance in the area until a qualified wildlife biologist has determined that the young have fledged or by re-siting the proposed Project component(s) to avoid the area.

In summary, the potentially significant impacts and mitigation measures to be implemented are not substantially different from those identified in the 2009 Final EIS/EIR. There are no new significant impacts to biological resources. While these impacts would occur over a larger area due to the modifications, they are not substantially more severe than in the 2009 Final EIS/EIR given the proven effectiveness of the mitigation measures.

3.2.3 Groundwater and Soil Resources

3.2.3.1 Final EIS/EIR (2009)

For the Grassland Bypass Project, 2010–2019, the salinity modeling identified the following potential impacts to soils and groundwater, compared to existing conditions in 2008 (Section 5.2.3.2):

- At the end of 2019, projected drainflow under the Proposed Action is similar to existing conditions. It is considered, therefore, to have no impact relative to existing conditions on drainwater production.
- Minimal projected net increases in the area affected by a shallow water table (1 square mile) indicate that the Proposed Action has a less-than-significant adverse impact relative to existing conditions.
- A small increase in the bare-soil evaporation rate compared to existing conditions is considered to be a less-than-significant impact relative to current evaporation rates.
- Flow model results for the Proposed Action indicate an almost 75 percent decrease in seepage to unlined canals compared to existing conditions (2008), a significant beneficial effect relative to existing conditions.
- Simulated unsaturated-zone soil salinity for the GDA increases from 1.0 dS/m in 2008 (existing conditions) to 1.9 dS/m in 2019. The increase in unsaturated-zone soil salinity relative to existing conditions is considered to be a less-than-significant impact because the soil remains productive.
- In the GDA, estimated soil selenium increases from 11 µg/L in 2008 to 21 µg/L in 2019, and boron increases from 0.9 to 1.3 mg/L. In the SJRIP during the same time period, soil selenium concentrations increase from 73 to 124 µg/L, and boron concentrations increase from 3.4 to 5.5 mg/L. The increase in selenium and boron concentrations relative to existing conditions is considered to be a significant unavoidable impact of irrigating western San Joaquin Valley soils. The concentrations will not affect agricultural productivity, but may with time influence selenium concentrations in underlying shallow groundwater and agricultural drainwater.
- Groundwater salinity in the GDA decreases from 6 dS/m in 2008 to 4 dS/m in 2019, a significant beneficial effect relative to existing conditions because the groundwater salinity decreases over time.
- In the GDA, simulated groundwater selenium concentrations decrease from 47 to 22 µg/L, and boron concentrations decrease from 6.0 to 3.7 mg/L. The continuation of the GBP is, therefore, considered to have a significant beneficial effect on selenium and boron concentrations relative to existing conditions.
- In the SJRIP, the unsaturated-zone soil salinity increases from 6.6 dS/m in 2008 to 11.2 dS/m in 2019. Although the soil salinity increases under Proposed Action conditions represent significant changes, they are spatially limited to at most 6,900 acres (6 percent of the GDA). The soil salinity changes are also considered reversible; impacted soils could be reclaimed and saline shallow groundwater removed when an alternative means of salt disposal becomes available under Phase III. Therefore, the continuation of the GBP is considered to have a less-than-significant adverse impact on unsaturated zone soil salinity in the GDA relative to existing conditions.
- Under the Proposed Action, simulated groundwater salinity concentrations beneath the SJRIP decrease from 23 dS/m in 2008 to almost 17 dS/m by 2019. Simulated groundwater selenium

concentrations also decrease from 816 to 419 µg/L, and boron concentrations decrease from 38.9 to 25.2 mg/L. Compared to existing conditions, the continuation of the GBP is considered to have a significant beneficial effect on groundwater quality beneath the SJRIP. Fields would be planted with salt-tolerant crops and managed to limit soil salinity impacts so that the land remains productive. Therefore, the area-limited application of undiluted drainwater is a less-than-significant impact to the GDA. Soil and drainwater quality monitoring are being conducted to track salinity changes within the SJRIP. Therefore, the primary concern is the increase in selenium and boron concentrations in soils in the GDA relative to existing conditions that is considered to be a significant unavoidable impact of irrigating western San Joaquin Valley soils. The concentrations of these two elements will not affect agricultural productivity, but may with time influence selenium concentrations in underlying shallow groundwater and agricultural drainwater.

Section 5.2.4 Cumulative Effects noted that the area underlain by a water table within 10 feet of land surface increased by about 20,000 acres per year during the period 1991-1997 and that salt has been imported and deposited into western San Joaquin Valley soils and water. The water table rise and salinization of soil and groundwater is a significant regional problem.

3.2.3.2 Initial Study (2019)

The ongoing reuse of agricultural drainwater on-farm within the GDA is not proposed to change. Key assumptions in drainwater management include recirculation of drainwater collected in sumps and reuse of drainwater from sumps. The SJRIP reuse area would be used to manage excess drainwater from GDA sumps by reusing it to irrigate salt-tolerant crops. Sumps for tile drains would be turned off prior to storm events, and storm runoff up to an equivalent volume of 3 inches of rain on the SJRIP could be reused within the 7,550 acres of the SJRIP reuse area prior to discharge to the GBC and Drain (to Mud Slough).

The issue is the expansion of the reuse area by 650 acres (from 6,900 analyzed in the 2009 EIS/EIR and the proposed 7,550 acres) and the use of storm water collected in the short-term storage basins for irrigation of salt tolerant crops at the SJRIP. The modelling performed in 2008 was not repeated in 2019. However, the drainage that would be captured in the storage basins is storm water, not agricultural subsurface drainwater (because the tile sumps would be shut off). Agricultural subsurface drainwater is of lower quality than storm water runoff. This capture and reuse of storm water would not substantially worsen the Se, salt, and boron concentrations in the soil (described above) and in shallow groundwater at the SJRIP and within the GDA. Therefore, compared to existing conditions in 2019, there are no new significant impacts (adverse effects) to groundwater and soil resources. The one significant unavoidable impact to soils in the 2009 Final EIS/EIR would not be substantially more severe due to the Proposed Project. The regional cumulative impact of water table rise and salinization of soil and groundwater from long-term irrigation of agriculture (and water deliveries to the federal wildlife refuges) continues, and it is not substantially more severe due to the Proposed Project, especially with water conservation practices employed throughout the GDA.

3.3 OTHER RESOURCE AREAS

Other resource areas evaluated in the Final EIS/EIR (2009) and addressed as necessary in this Addendum and the Initial Study (2019) in order to evaluate potential impacts of the Proposed Project include Land Uses (including agriculture, wildlife habitat, and recreation), Cultural Resources, Indian Trust Assets, Energy Resources, and Greenhouse Gases. The 2009 EIS/EIR also covered socioeconomic and environmental justice issues to comply with NEPA, and these topics are not revisited for this CEQA document. The Initial Study covered the additional environmental topics (to the surface water, biology, and groundwater and soils resources discussed above) of aesthetics, agricultural and forest resources, air quality, geology, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, public services, recreation,

transportation/traffic, tribal cultural resources, utilities and service systems, and wildfire. These resources are substantially unaffected by the Proposed Project for the reasons described in the Initial Study and summarized below. There are no new significant or substantially more severe impacts to these resources as a result of the Proposed Project.

3.3.1 Land Uses

3.3.1.1 Final EIS/EIR (2009)

The focus of the analysis in Section 7 was on three uses of land within the Project Area and vicinity: agriculture, wetland habitat, and recreation associated with the federal and state wildlife refuges.

Based on up to 6,900 acres of land in the SJRIP, GDA acreage in production is projected at 74,675 throughout the analysis period. The SJRIP lands would largely remain in agricultural production but would be planted with more salt-tolerant crops. Therefore, the Proposed Project would not be expected to result in any substantial land use changes, nor produce inconsistencies with Fresno or Merced County General Plan land use designations for the GDA. (p. 7-12)

Land uses within the Project Area would not be expected to change substantially over existing conditions, resulting in no adverse effect on wildlife habitat land uses within the Project Area. The Proposed Action would be consistent with General Plan policies pertaining to the preservation and protection of wildlife habitat and open space as well as water resources/habitat within the Project Area. No adverse impacts would be anticipated, and no mitigation required. (p. 7-18.)

The primary recreation activities in the Project Area include water-dependent activities. Fishing occurs directly in the rivers or sloughs, and recreation activities at the wildlife refuges or management areas are based on enjoying wildlife that use the wetland habitat. Under the Proposed Action, drainwater would continue to flow around the wetland habitats and into the Drain. After 28 miles, the water would enter Mud Slough where it would travel another 6 miles before reaching the San Joaquin River 3 miles upstream of its confluence with the Merced River. Recreational opportunities would not be expected to either increase or decrease compared to existing conditions. The Proposed Project would either be consistent with or have no bearing on the General Plan objectives and policies summarized in Section 7.1.1 and outlined in Appendix F relating to recreation and open space. (p. 7-20.)

3.3.1.2 Initial Study (2019)

The proposed SJRIP expansion of 1,450 acres will enlarge the existing reuse facility from 6,100 acres analyzed in the 2009 Final EIS/EIR to 7,550 acres of useable reuse area. This is an additional 650 acres over the maximum size (6,900 acres) anticipated in the 2009 Final EIS/EIR. Concerning agricultural land use, the proposed short-term storage basins would be constructed on land that has been used for drainage reuse as part of the SJRIP since 2001. Up to 200 acres of land would be converted from salt-tolerant crops to short-term storage basins, an insignificant amount of agricultural land taken out of production. However, no farmland would be permanently converted to other land uses. The majority of the new reuse area would remain planted to Jose Tall Wheatgrass and just have a change in ownership, with approximately 450 acres of conventional farmland converting to Jose Tall Wheatgrass. The facilitation of storm water management helps to maintain the viability of agriculture in the overall Project Area and protects water supply channels to the wetland management areas that drain to the San Joaquin River. (Sections 1.1.3.3 and 2.2.)

The Proposed Project does not modify land uses at any of the wildlife management areas/refuges. Furthermore, the reuse area and storage basins would be monitored and maintained to avoid use of the areas by waterfowl that would normally use the refuges for foraging and nesting. (Section 1.1.4.2.)

Hydrologic modeling indicates that the Proposed Project components, once fully implemented, will cause the Se water quality criteria to be met under most conditions, and water quality in Mud Slough (North) will be of better quality regarding Se than in the past. Under these future conditions, Mud Slough (North) could be opened to recreational fishing at the discretion of USFWS. (Section 2.16.)

3.3.2 Cultural Resources

3.3.2.1 Final EIS/EIR (2009)

Potential historic resources in the region of the GBP are largely related to agriculture, including farmsteads, labor camps, yards for distributing agricultural produce, feedlots, canneries, pumping stations, siphons, canals, drains, unpaved roads, bridges, and ferry crossings. Labor camps generally consist of at least one wooden bunkhouse or boarding house, a dining hall, a cookhouse, a washroom, and associated buildings. Due to the long history of agricultural use, it is unlikely that intact surface or shallow subsurface artifacts exist. Subsurface deposits may exist below the plow zone or capped beneath pavement or structures. Surface deposits may exist in areas relatively unaffected by development or agriculture. (Section 9.1.)

No impacts to historic properties are anticipated by the Proposed Action because it does not propose actions that may cause effects to historical properties. All actions are proposed to occur within the GDA and, in essence, continue similar operations to those conducted under the existing Use Agreement on lands previously disturbed by agricultural production. Future expansion of drainage water treatment facilities or management facilities at the San Joaquin River Water Quality Improvement Project (SJRIP) reuse facility that result from the implementation of this alternative would have no potential to affect historical properties. (Section 9.2.2.2.)

3.3.2.2 Initial Study (2019)

A confidential Cultural Resources Technical Report (AECOM 2019) was prepared to support the Initial Study, and report findings are provided primarily in Section 2.5. Direct and indirect CEQA Area of Potential Effects (C-APE) were developed in order to study the potential impacts of the Proposed Project. The Direct C-APE includes the footprints of all the areas that would be subject to ground disturbance by the project. The Indirect C-APE would account for indirect impacts to resources (i.e., visual effects to the setting of built environment resources) that would not be physically impacted by the project.

The records searches did not identify any archaeological resources in the 1.0-mile radius of the project footprint, only built environment resources. The previously recorded historic-age built environment resources in the Project Area include the Main Canal (P-27-000082 Merced County) and the Outside Canal (P-10-005796 Fresno County; P-24-000434 Merced County). The Delta-Mendota Canal (P-10-005166) is adjacent to the “Proposed Reuse Expansion” area.

The Proposed Project does not involve large-scale excavation, and most of the area has been disturbed by previous farming (primarily the top 12 inches of soil), conveyance construction, and road construction activities. The depth of disturbance involved in placing new facilities in an area that has been farmed or subject to earlier road and canal construction determines in part whether there is the potential to affect unknown surface and buried resources. Another issue is the potential for above ground facilities such as the SCADA communications towers and equipment boxes to affect historic resources, but there is some flexibility in siting the towers to consider proximity to historic canals. The storage basins would be on top of the ground surface and contained by raised levees that require limited excavation.

The Initial Study determined that impacts to historical and archaeological resources are less than significant for the following reasons, including commitments by the Project proponents to perform additional surveys and construction monitoring which is a common practice.

- **Historical Resources:** None of the Proposed Project activities, including constructing temporary storm water storage in storage basins, planting salt-tolerant crops in existing agricultural lands, improving existing water conveyances, installing subsurface drainage within existing reuse area, or installing adjacent new conveyances, would result in a substantial adverse change to known or potential historical resources in the Project Area (the four canals including the DMC and the Drain). The Proposed Project activities, including the installation of below grade (approximately 5 to 6 foot depth) pipelines, alteration of the non-historic age dirt-lined RP-1 Canal adjacent to the Outside Canal with a concrete lining, and installation of pump stations, would not result in demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.

The Proposed Project's expansion of the reuse area will be adjacent to portions of the Eagle Field Airport; however, there will be no physical changes to the airport itself or any associated features. A potential reuse expansion area in the vicinity of the Eagle Field Airport is currently planted to Jose Tall Wheatgrass, and no changes to the cropping pattern or irrigation methods are proposed.

The location of the proposed SCADA tower is dependent upon a radio survey that allows for some flexibility in siting to avoid resources if present. Once the tower location has been identified, an additional records search and survey would be required and conducted to determine if archaeological or built-environment resources are present. If resources are present and avoidance is not feasible for the required tower location, the resources would be recorded and evaluated prior to certification of the CEQA document in order to assess their historical significance as historical resources or unique archaeological resources, per Section 15064.5 of the CEQA Guidelines or Section 21083.2 of the PRC.

- **Archaeological Resources:** No archaeological resources were identified in the records searches performed for this project. However, conditions were not suitable for an archaeological survey of the Project Area and much of the C-APE has not been previously surveyed. Based on the soils types and alluvial deposition there is a low to moderate potential for resources to be present. Therefore, AECOM recommends that an archaeological survey be conducted in order to determine if there are archaeological sites (prehistoric or historic period) within the Project Area. If resources are present in the Project Area and avoidance is not feasible, the resources should be recorded and evaluated to assess their historical significance as historical resources or unique archaeological resources, per Section 15064.5 of the Guidelines or Section 21083.2 of the PRC.

Although no previously identified prehistoric resources have been identified in the C-APE, several isolated artifacts were discovered during a previous study just over 1.0-mile north of the proposed lined channel within the C-APE (Bureau of Reclamation 1983, cited in AECOM 2019). The presence of these artifacts warranted archaeological monitoring during ground disturbing activities. If the results of the archaeological survey of the current C-APE are positive, AECOM recommends mitigation in the form of preparation of an archaeological testing plan (including geoarchaeology) and/or an archaeological monitoring plan. All ground disturbing activities should be monitored by a qualified archaeologist. Due to the previously identified isolated artifacts, AECOM recommends mitigation in the form of construction worker training. Prior to construction, the construction contractor and subcontractors shall be informed of the legal and regulatory consequences of knowingly destroying cultural resources

or removing artifacts, human remains, bottles, and other significant cultural materials from the site. Significant cultural materials include but are not limited to aboriginal human remains; chipped stone; groundstone; shell and bone artifacts (both human and animal); concentrations of fire-cracked rock; bottle glass; ceramics; ash and charcoal; and historic features such as privies or building foundations/remains.

If cultural resources are uncovered during ground disturbing activities associated with the Proposed Project, work will stop within 50 feet of the initial find and a qualified professional archaeologist shall be notified regarding the discovery. The archaeologist shall determine whether the resource is potentially significant as per the CRHR and develop appropriate mitigation. The Authority shall comply with the mitigation requirements identified by the archaeologist.

- **Human Remains:** In the unlikely event that human remains are discovered during Project implementation, work in the immediate vicinity of the discovery will be suspended and the Authority will notify the Fresno or Merced County Coroner, depending on location of discovery. If the remains are deemed Native American in origin, the Coroner will contact the NAHC and identify a Most Likely Descendant pursuant to Public Resources Code Section 5097.98 and California Code of Regulations Section 15064.5. Work may be resumed at the landowner's discretion, but will only commence after consultation and treatment have been concluded. Work may continue on other parts of the Project while consultation and treatment are conducted.

3.3.3 Indian Trust Assets

3.3.3.1 Final EIS/EIR (2009)

As described in Chapter 11, Indian Trust Assets (ITAs) are legal interests in property held in trust by the U.S. for federally recognized Indian tribes or individual Indians. An Indian trust has three components: (1) the trustee, (2) the beneficiary, and (3) the trust asset. ITAs can include land, minerals, federally reserved hunting and fishing rights, federally reserved water rights, and in-stream flows associated with trust land. Beneficiaries of the Indian trust relationship are federally recognized Indian tribes with trust land; the U.S. is the trustee. By definition, ITAs cannot be sold, leased, or otherwise encumbered without approval of the U.S. The characterization and application of the U.S. trust relationship have been defined by case law that interprets Congressional acts, executive orders, and historic treaty provisions (Rivera, pers. comm., 2008a, cited in Reclamation 2009).

An examination of records held by the Bureau of Indian Affairs and Reclamation was conducted by the Regional ITA Coordinator. No reservations or rancherias are located within the Project Area. No known ITAs are found within the Project Area. The nearest ITA is a Public Domain Allotment, which is approximately 58 miles northeast of the Project location (Rivera, pers. comm., 2008b, cited in Reclamation 2009b). Therefore, no impacts would occur to ITAs caused by the Proposed Action.

3.3.3.2 Initial Study (2019)

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." Assembly Bill 52 establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21084.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources. PRC Section 21074 (a)(1)(A) and (B) defines

tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and meets either of the following criteria: a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California Native American tribes regarding those resources. The formal consultation process must be completed before a CEQA document can be released if a California Native American tribe traditionally and culturally affiliated with the geographic area of the proposed project requests consultation from the lead agency (PRC Section 21080.3.1). California Native American tribes to be included in the process are those that have requested notice of any proposed projects within the jurisdiction of the lead agency.

On August 23, 2017, the Dumna Wo Wah Tribal Government requested formal notice and information on proposed projects implemented in the Grassland Watershed under Public Resources Code section 21080.3.1. A description of this project was mailed to the tribal government on March 22, 2019, in advance of completion of Section 2.17 (Tribal Cultural Resources) of the Initial Study. Section 2.17 reports that the Authority has contacted the Amah Mutsun Tribal Band, the Dumna Wo Wah Tribal Government, the North Valley Yokuts Tribe, and the Southern Sierra Miwuk Nation and provided each tribal entity with a project description and a request for consultation. No responses were received, and no further consultation is required. Therefore, the Proposed Project is assumed to have no impact on tribal resources.

3.3.4 Energy Resources

3.3.4.1 Final EIS/EIR (2009)

The Proposed Action would increase energy consumption within the Project Area due to construction and operation of the San Joaquin River Water Quality Improvement Project (SJRIP). The power requirements associated with this facility would incrementally add to electricity consumption within the Project Area. Section 2.10.2.2 indicates that beginning in 2006, average annual power consumption within the GDA would be increased to approximately 21,735,630 kWh, resulting in a total power consumption for the entire GDA of approximately 23,415,880 kWh per year. The increase in power consumption is associated primarily with the implementation of the Phase III treatment facility which was estimated to consume 21,400,000 kWh, or 98 percent of the energy consumption at the SJRIP.

Some additional power would be consumed during the construction period for the treatment facility, although this amount would be small when compared to the power needs associated with facility operation. Additional power consumption would incrementally add to requirements for electricity usage within the Project Area, but would not be expected to exert a significant strain on electrical power supplies in the region. No significant adverse impacts are anticipated, and no mitigation is required.

3.3.4.2 Initial Study (2019)

The Proposed Project allows for deferral of the 2009 project’s Phase III treatment facility which was the major power consumption component of the 2009 project. Section 2.6 reports that modifications to the previously analyzed project in 2009 are proposed to include a number of components that would utilize electrical energy for operation. These components include:

- Up to four new pump stations to convey drain water throughout the SJRIP. These pump stations will improve operational flexibility throughout the SJRIP and increase the reuse capacity of the Project.
- Up to two new pump stations to divert storm-induced flows into the proposed short-term storage basins and an additional two new pump stations to convey water from those basins onto the SJRIP for reuse.
- SCADA transmitters and receivers for remote operation of existing tile sumps.
- Up to four new tile pumps for proposed subsurface drainage systems on the SJRIP.

All of the new pump stations will be driven with premium-efficiency, inverter-duty electrical motors. Most of the pump stations will also include variable frequency drives so that pump flow rate can be adjusted to match flow demand. The estimated total annual power consumption for the Proposed Project electrical components is 280,000 kwh/year, which is approximately equivalent to the power consumption of 40 California households. The use of high efficiency motors is consistent with California's energy conservation goals.

There is no local plan for renewable energy or energy efficiency. The incremental change in energy use would not be expected to exert a significant strain on electrical power supplies in the region. The Proposed Project modifications would not result in a new significant impact to energy resources or in significant impacts to utilities and infrastructure substantially more severe than the activities identified and analyzed in the previous environmental document.

3.3.5 Greenhouse Gases

3.3.5.1 Final EIS/EIR (2009)

Naturally occurring greenhouse gas emissions (GHGs) include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (NO₂), and ozone (O₃). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are halocarbons that contain chlorine, while halocarbons that contain bromine are referred to as bromofluorocarbons (i.e., halons). In the amended CEQA Guidelines Section 15364.5, GHGs include, but are not limited to, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. In California, due to stringent air pollution control rules and regulations, natural gas is the only fossil fuel used to fire steam turbine, gas turbine, or combined cycle power plants. The primary concern here is for emissions that would be generated from equipment use (carbon dioxide and nitrous oxide through the burning of fossil fuels) rather than the emissions associated with ongoing agricultural practices (methane and nitrous oxide) and industrial activities (nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride). As stated in Section 12.2.1 (p. 12-11) of the 2009 Final EIS/EIR, the GHG of most concern is CO₂, since it is generated in extremely large quantities by the burning of fossil fuels and can last in the atmosphere for two centuries. In California, CO₂ is the major component of power plant GHG emissions, about 99.995 percent.

3.3.5.2 Initial Study (2019)

The Proposed Project would involve limited use of construction equipment (excavator, backhoe, graders, scrapers, trencher, sheep's foot compactor, and water trucks) for the pipeline installations, crossing Russell Avenue, installation of subsurface drains in a portion of the reuse area, 3 new electric pump stations and 1 expanded pump station with electric controls, communications towers, levees to create short term storage basins; and to extend a ditch and line a canal (approximately 8 hours per day

for up to 22 days/month, up to 7 months, May through November), and the completed removal of sediments from the Drain. All construction vehicles will be Tier 4 compliant and these activities are short-term and temporary in an agricultural area for the conveyance and reuse area improvements including the new storage basins and in wetland habitat area for the sediment removal. The tile sump control in the GDA would use electric power but not substantially (i.e., on or off events during the rainy season, not continuous operation). (Section 2.8.)

This equipment use involves the combustion of fossil fuels, a direct impact on the production of CO₂ and CH₄ with an indirect effect on CO₂ from the manufacturing of cement and from power production (generation of electricity from fossil fuels rather than hydropower) during project construction. This agricultural/storm water management type of use would not substantially introduce new sources or worsen existing sources of GHG emissions over project operation, and a full quantification of emissions and evaluation of GHG impacts was not deemed necessary for this non-development type of project. Operation of the new tile sump control system using electric power would result in minimal increased indirect GHG emissions from power generation by PG&E that are neither substantial nor significant (compared to existing conditions) and are more than offset by reductions in direct emissions from truck use for manual operation of the tile sumps. The SJRIP uses 8 workers and 4 trucks at present, and the proposed expansion would not increase this number of workers and trucks.

A CalTrans emissions model was used to estimate the impacts to air quality and emissions of GHGs for all of the construction and operational components of the Proposed Project. This modeling used a conservative approach, assuming that all of the construction work for the canal lining, pump stations, pipelines, subsurface drainage systems and ½ of the Drain sediment removal would occur in the same year. This construction schedule is unlikely, however, it would estimate a worst-case air quality and GHG emissions impact. Table 3-1 below shows the results of the construction emissions modeling.

Table 3-2 GHG Emissions from Project Construction

	NO x	ROG	PM10	PM2.5
<i>Threshold (lb per day)*</i>	54	54	82	54
Storage Basins	6.05	3.04	30	6.5
Sediment Removal (per year)	4.88	.94	0.2	4.3
Pump Station (4 total)	1.85	.68	5	1.1
Pipelines (all)	4.51	1.51	20	4.3
Lined Canal	5.29	1.4	6	1.5
Subsurface Drainage system	2.63	1.32	9.8	2.1
Total Emissions (lb per day)	25.21	8.89	71	19.9

*Thresholds per Bay Area Air Quality Management District

In the absence of Valley Air District thresholds, the Bay Area Air Quality Management District (BAAQMD) thresholds were used. Even with this conservative modeling approach, the estimated construction emissions (short term, peak emissions) are well below the thresholds of significance.

Operation of the Proposed Project will not contribute to GHG emissions compared to existing conditions. All of the proposed pump stations will include electrically powered motors, and all of the proposed land for the reuse area expansion is already farmed. Operational emissions are substantially less than construction emissions. Operations at the expanded reuse area would be the same as for existing conditions, since generally the change is in ownership rather than type of crop.

According to the Valley Air District (SJVAPCD), GHG emission from development projects, primarily occur through energy consumption and vehicle miles traveled (VMT). For development projects, BPS includes project design elements, land use decisions, and technologies that reduce GHG emissions. Project proponents can reduce GHG emissions from energy consumption through building designs that increase energy efficiency, water conservation, and the use of energy efficient appliances. For development projects, BPS also includes project design elements, land use decisions, and technologies that reduce GHG emissions during project operation over time. Project proponents can reduce GHG emissions from energy consumption through building designs that increase energy efficiency, water conservation, and the use of energy efficient appliances.

The Valley Air District's CEQA guidelines are for land use agencies and apply to stationary sources and development projects (SJVAPCD 2009). The Proposed Project herein is not a stationary source of emissions associated with land development. Rather, it is a project comprised of Improvements to primarily agricultural land for management of storm water. Emissions are associated primarily with the use of equipment during construction, and some of this equipment is used for ongoing agricultural operations in the GDA. Ongoing activity involves the planting of an expanded reuse area with Jose Tall Wheatgrass and the use of pump stations operated with electric power instead of diesel and with manual operation that would require a person to drive to each pump station in a truck or other vehicle (1 new worker and 1 round trip per day to the SJRIP). The existing reuse area requires 8 workers and 4 trucks who can also handle the expansion, i.e., no increase. Because the GHG emissions are lower than the thresholds established by the BAAQMD, it would not result in sufficient emissions to be more than a less-than-significant impact. It would not result in a more severe environmental impact, i.e., would not trigger a significant impact, than what was identified in 2009 for the Proposed Action.

To the extent that the Proposed Project can increase energy efficiency, water conservation, and the use of energy efficient appliances (i.e., equipment) by reducing equipment use that relies on fossil fuels and improving operational efficiencies (primarily through better remote tile sump control using electronic controls rather than persons driving trucks into the area for manual operation), it would contribute to meeting future GHG emission reduction targets.

3.4 MITIGATION MEASURES

The proposed mitigation measures to reduce potentially significant impacts from the Proposed Project are not substantially different from the measures employed for the 2009 Grassland Bypass Project. They are discussed in the preceding resource sections:

- Section 3.2.1.2 Surface Water Resources
- Section 3.2.2.2 Biological Resources

No other mitigation measures are required, because all other impacts are either less than significant or no impact. However, to the extent that the Proposed Project can increase energy efficiency, water conservation, and the use of energy efficient equipment by reducing equipment use that relies on fossil fuels and improving operational efficiencies (primarily through better remote tile sump control using electronic controls rather than persons driving trucks into the area for manual operation) and by deferring the need for a treatment plant at the SJRIP, it would contribute to meeting future GHG emission reduction targets in the region and the state.

3.5 ENVIRONMENTAL DETERMINATION

The analysis in this Addendum supplements the Initial Study findings and confirms that the Proposed Project would not result in any new significant impacts (adverse effects) nor in an increase in the severity of significant impacts previously identified in the Final EIS/EIR (Reclamation 2009b). Furthermore, the Proposed Project would not require the adoption of any new or substantially different mitigation measures (or project alternatives). While the current Proposed Project does propose changes to the SJRIP reuse area not previously considered in 2009, e.g. the new storage basins for 1,000 AF of temporary storm water containment and the SCADA system for tile sump control, these changes are considered to be minor technical changes given their size and the effectiveness of biological mitigation measures used since 2006. Additional surveys for cultural resources and construction monitoring are standard requirements for new construction.

P A R T 4

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U.S. Fish and Wildlife Service (USFWS). 2009. Final Biological Opinion, 2010-2019 Use Agreement for the Grassland Bypass Project, Merced and Fresno Counties, California. File No. 81420-2009-F-1036. Sacramento, CA. December 18.

4.2 PERSONAL COMMUNICATION

Dumna Wo Wah Tribal Government. 2017. Letter from Robert Ledget, Tribal Chairman, to Panoche Water District. Request for formal notification of proposed projects within the Dumna Wo Wah Tribal Government Tribe's geographic area of traditional and cultural affiliation under CEQA, Public Resources Code Section 21080.3.1, subd. (b). August 23.

Appendix A – Public Comments & Responses

APPENDIX A

Public Comments and Responses

INTRODUCTION

This document provides the public comments received on the *Grassland Bypass Project Long-Term Storm Water Management Plan, 2020-2045, an Addendum to the Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) for the Grassland Bypass Project, 2010-2019* and responses to those comments by the CEQA lead agency, the San Luis and Delta-Mendota Water Authority (Authority). Although a formal public review process is not required for an addendum, the Authority conducted a 30-day public review period from August 14 to September 13, 2019. A Notice of Availability was mailed electronically to 65 agencies, organizations, and interested parties who previously expressed interest in the 2009 Grassland Bypass Project and/or participated in a public information meeting on June 18, 2019 in Sacramento, California and was distributed on the Regional Board Lyrus list. The Addendum was not sent to the State Clearinghouse (SCH) because no formal review (i.e., distribution by the SCH to all state responsible and trustee agencies) was required. Written comments were received from 10 agencies, organizations, and individuals during the review period. This Appendix A together with the revised text comprise the *Final Addendum to the Final EIS/EIR for the Grassland Bypass Project, 2010-2019*, State Clearinghouse No. 2007121110.

Based upon material contained in the responses to comments, recirculation of the Addendum is not required under the CEQA Guidelines Section 15088.5 which addresses the process for an EIR that has not been certified. The intent here is to provide Authority decision-makers and regulatory agencies with further information on how concerns raised by the public have been addressed in a coherent and comprehensive manner. This Appendix A, Public Comments and Responses, contains the following information:

Text Revisions. In responding to comments, changes were made to the text of the Addendum. The revisions do not change any of the conclusions reached.

Key Topics in the Comment Letters (Key Comments). Key topics are those that were identified in one or more letters and pose questions or opinions on project operations, environmental impacts, project alternatives, and/or the type of CEQA document appropriate for the Proposed Project for 2020-2045. These topics are listed in a table showing the source (comment letter) of the key comment.

Master Responses to the Key Comments. The same issue or question was raised by multiple commenters or a single comment was raised of particular importance. Responses to these comments that were determined to be most instructive to decision-makers prior to making findings on the Addendum and approving the Proposed Project are provided independently from the letters. A list of the master responses is provided first, followed by the text of the responses. These responses help to clarify project information and technical analyses. They provide a comprehensive response to many of the comments received rather than an argumentative, statement by statement discourse to each letter.

Comment Letters. All letters and written comments on the Addendum received from 10 agencies, organizations, and interested individuals during the review period are listed in the following Table of Contents and in Section A2. They are provided in their entirety following the Master Responses.

All comments are important to not only the environmental assessment process but also future decision-making by the agencies with authority to implement the Long-Term Storm Water Management Plan and to responsible agencies involved in future permitting and oversight. The brevity of the response does not suggest that the comment topic is less important than one that warrants a lengthy explanation.

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A1. TEXT REVISIONS

The first paragraph of Section 1.1.3 (page 1-3) has been replaced with following wording:

Early rain events tend to be absorbed in the soil profile. However, as significant rainfall occurs the soil profile becomes saturated; there is no longer room in the soil for the excess storm water and storm flows are generated. Once this occurs there will be discharge of storm water as well as accretion flows of shallow groundwater into regional drainage channels from adjacent fields. There is not a clear connection between the year type, amount or frequency of rainfall and the need to discharge to the San Luis Drain. Once the regional drains have reached their holding capacities and the threat of ponding is imminent, discharge will occur. It should be further noted that the proposed SCADA sump shut-off system would be implemented prior to any release of storm-induced discharge.

The proposed selenium water quality goal of 3 ppb, 4-day average at Site D will be eliminated from the LTSWMP in favor of the existing adaptive management approach. Therefore, the following text from the Addendum is eliminated (p. 3-4):

The Se WQO would be met during most of the year, with only occasional exceedances of the 5 ppb 4-day average that would be short in duration, a less-than-significant impact as explained above. Refinements to the existing mitigation measures to further reduce the less-than-significant impacts from the expected periodic exceedances will be implemented for the Proposed Project, as follows:

- ~~Establish a Mud Slough (North) water quality goal of 3 ppb Se, 4-day average. For every 3 months that meet this 3 ppb performance goal, 1 exceedance of 5 ppb 4-day average is allowed.~~
- If the 5-ppb 4-day average not met with proposed management practices (shut off electric sumps), analyze operational data and develop adaptive management approach to implement additional corrective actions.

The following wording was added to the Addendum at page 3-4 and will be included in proposed Waste Discharge Requirements to provide selenium load targets to the discharge from the San Luis Drain into Mud Slough (North):

The Long-Term Storm Water Management Plan includes selenium load targets for discharges to Mud Slough (North) and the San Joaquin River. Table 3-1 shows the Total Maximum Monthly Load (TMML) selenium load allocation as adopted in 2001 in the Basin Plan amendment for Selenium in the San Joaquin River along with proposed selenium load targets. The targets represent an approximately 75% reduction in selenium loading from the TMML Annual Load Allocations. A multi-year performance target requiring that the selenium load over a 3-year period at Site B be less than the sum of the 3-year target, based on water year type, would be used to determine if the load targets are being met. If the performance target is exceeded, the Dischargers will propose additional management practices to reduce the selenium loading to

meet the performance goal. The selenium water quality objective will continue to be used to determine compliance with the Basin Plan.

Table 3-1. Selenium Annual Load Allocations for the Grassland Drainage Area¹
 (pounds of selenium)

Selenium Load	Critical (Discharge Limit)	Dry/Below Normal (Discharge Limit)	Above Normal (Discharge Limit)	Wet (Discharge Limit)
TMML Annual Load Allocation	1075	2496	4162	4480
Annual Load Target	300	600	900	1200
Percent Reduction	72%	76%	78%	73%

A2. KEY COMMENTS

Key comments cover topics that were identified in one or more letters and pose questions or opinions on project operations, environmental impacts, project alternatives, and/or the type of CEQA document appropriate for the Proposed Project for 2020-2045. They include the following:

- Project Operations
 - A. Storm Event and Agriculture Drainage
 - B. Monitoring Program
 - C. Short-Term Storage Basin Operation
 - D. SJRIP Expansion/Drainage Management
 - E. Need Use Agreement
- Biological Impacts
 - F. Wildlife Entrapment, Movement, and Health
 - G. Swainson's Hawk
- Hydrology Impacts
 - H. Se-Salt Load limits/Adaptive Management
 - I. Remove 3 ppb Se Mitigation
 - J. 5 ppb Se Objective Not Protective

¹ The TMML annual load allocations in Table 3-1 are based on the sum of the monthly load allocation based on the water year calculation needed to meet the selenium water quality objectives at the San Joaquin River at Crows Landing.

- K. Salt Discharge Increase Since 2014
- L. Detailed Mud Slough Modeling
- M. NPDES Permit and Clean Water Act
- CEQA Compliance
 - N. Need for New EIR/EIS
 - O. Cumulative Effects Analysis
 - P. Land Retirement Alternative

These topics are listed in Table 1. Correspondence of Comments to Key Issues, showing the source (comment letter) of the key comment and topics covered by the subsequent master responses. The comment letters were received from the following interested parties:

Federal

U. S. Fish and Wildlife Service (USFWS), San Luis National Wildlife Refuge, Kim Forrest, Refuge Manager

State

California Department of Fish and Wildlife (CDFW), Ms. Julie A. Vance, Regional Director,

Central Valley Regional Water Quality Control Board (CVRWQCB or Regional Board), Ashley Peters, P.E., Water Resource Control Engineer

Public Agencies

Contra Costa County (CCCo),

Contra Costa Water District (CCWD), Ms. Leah Orloff, Water Resources Manager

Grassland Water District (GWD), Ricardo Ortega, General Manager

Organizations

Coalition of 10 Organizations (PCL Coalition): Planning and Conservation League (PCL), Pacific Coast Fishermen’s Association, Center for Biological Diversity, Restore the Delta, California Water Impact Network, Environmental Justice Coalition for Water, Southern California Watershed Alliance, Save California Salmon, California Sportfishing Protection Alliance, AquAlliance

Law Offices of Stephan C. Volker (Law Offices), representing Pacific Coast Federation of Fishermen, California Sportfishing Protection Alliance, Friends of the River, San Francisco Crab Boat Owners Association, Inc., Institute for Fisheries Resources, and Felix Smith

The Bay Institute (TBI), Mr. Gary Bobker, Program Director

Individuals

Patricia Schifferle (PS)

Table 1. Correspondence of Comments to Key Issues

	USFWS	CDFW	CVRWQCB	CCCo	CCWD	GWD	PCL et al	Law Offices	TBI	PS
Project Operations										
A – Storm/ag Discharge					X		X	X	X	
B - Monitoring				X	X		X			
C – Basins					X	X	X	X		X
D – Drainage Management				X			X	X		
E – New UA				X	X					
Biological Impacts										
F – Wildlife	X	X								
G – Swainson’s Hawk		X								
Hydrology Impacts										
H – Load Limits				X	X			X	X	X
I – 3ppb Goal			X							
J – Se WQO							X			
K – Salt Discharge				X	X					
L – Mud Sl. Modeling				X	X					
M – NPDES Permit							X	X		X
CEQA Compliance										
N – EIS/EIR Need							X	X		X
O – Cumulative Effects							X			X
P – Land Retirement							X			

A3. MASTER RESPONSES

The master responses follow the list of key comments in Section A2. To see the details of each comment, refer to the letters provided in Section A3 in the order listed above in Section A2.

RESPONSE A. STORM EVENT AND AGRICULTURE DRAINAGE

The Grassland Bypass Project, implemented beginning in 1997, has successfully reduced to zero the discharge of agriculturally produced, subsurface drain water from the Grassland Drainage Area (GDA) during the irrigation season. Overall discharges from the GDA into the San Luis Drain have been reduced from 37,800 acre feet (AF) at the start of the Grassland Bypass Project (measured at Site A) to less than 3,800 acre feet in 2018 – a 90% reduction in discharge. Selenium, salt, and boron loads have all been reduced by similar ratios, and discharges from the GDA after 2014 have been comprised entirely of storm-induced drainage flows. Selenium concentrations in Mud Slough at Site D have been reduced from monthly averages above 20 ppb in the late 1990s to less than 3 ppb by 2018. Monthly average selenium concentration in the San Joaquin River at Crows Landing (Site N) have not exceeded 2 ppb since 2009, and they are now frequently below detection limits. Weekly selenium samples from the San Joaquin River at China Island (Site R) – within the only segment of the San Joaquin River still listed on the 303d

list for Selenium – have never exceeded the 5 ppb water quality objective in the entire six year record of sampling at that site. And 115 of the 219 samples (November 2013 to July 2019) collected at Site R have resulted in no detection of selenium. All of these water quality improvements are a direct result of the implementation of the Grassland Bypass Project since 1997.

The current Proposed Project does not continue to discharge agricultural drain water during the irrigation season. Furthermore, the new SCADA system will allow for the shut off of 100% of the surface drains during storm events and will keep much of this type of storm-induced drainage out of the San Luis Drain. A critical goal of the Long-Term Storm Water Management Plan (LTSWMP) is to meet the future selenium water quality objective in Mud Slough (North), and the project modifications proposed in the Addendum are intended to meet that objective.

It is important to understand the type of water being managed under the Long-Term Storm Water Management Plan. As explained in the Addendum, the water managed by this Plan is storm-induced drainage and is not a result of agricultural irrigation, and will occur regardless of any activities engaged within the GDA. Because these events occur outside of the irrigation season, there are very few tools available to reuse or otherwise divert this drainage. The storm-induced drain water can either be held back, resulting in a number of negative environmental affects, or discharged in a controlled fashion. This condition is very different from the “High Rainfall Exemption” of the previous Use Agreement, which is not an appropriate guidance criteria to meet the objectives of the LTSWMP.

The Addendum includes six objectives for the LTSWMP:

1. To eliminate, to the extent feasible, storm water drainage discharged from the GDA into wetland water supply conveyance channels.
2. To facilitate storm water management that maintains the viability of agriculture in the Project Area and protects water quality in the San Joaquin River.
3. To keep storm water drainage from breaking into irrigation and wetland water supply channels and causing damage.
4. To avoid ponding of storm water that could impact the integrity of water supply channels and impact soil and water quality.
5. To avoid unplanned/inadvertent/unmanaged ponded water containing selenium (Se) that could impact birds within the GDA as well as downstream habitat and water quality in the wetland areas and wildlife refuges.
6. To provide an outlet for storm water to flow to the San Joaquin River from the GDA (similar to what occurred historically and before the Use Agreement for use of the SLD), that also protects the integrity and quality of wetlands and wildlife refuges.

These objectives will be the guiding principles for the management of storm-induced drain water. Discharges from the Grassland Drainage Area will occur when storm runoff have accumulated in the regional drains beyond their capacity to contain them. At this point, the risk of unmanageable ponding and flooding, as well as the risk to canal levees due to oversaturation,

becomes substantial; and discharge to the San Luis Drain is necessary. As indicated in the Addendum, all tile sumps would be shut off prior to storm events and would remain off for the duration of discharge. The chaotic and unpredictable nature of rainfall events, as well as the large number of other variables that affect storm runoff, prevent the establishment of a hard “trigger”, such as accumulated precipitation, that would cause discharge.

In their comments on the Addendum to the 2009 Final EIR for the Grassland Bypass Project, the PCL Coalition asserts that cessation of agricultural activities and fallowing of the nearly 100,000-acre GDA will stop the flow of storm water and the associated contaminants. Their comment letter misconstrues existing conditions and fails to recognize that the Project modifications addressed by the Addendum result entirely from the facts that (1) storm events generate rain-induced flows, which include mineralized discharges and (2) water flows downhill. These two conditions are physical realities that can neither be caused nor prevented by any action implemented by the Grassland Area Farmers. The Project modifications presented in the Addendum describe the tools available to help manage these inevitable discharges, which if left unmanaged, would pond up against natural barriers (like the Outside Canal levees), cause widespread flooding of mineralized water during the peak periods of migratory bird nesting, and then concentrate as the ponded water evaporates.

RESPONSE B. MONITORING PROGRAM

The comment is that the Addendum must describe in detail a Monitoring Plan to monitor key selenium, salinity, boron concentrations and flow discharges into the Bypass and at downstream locations.

The Authority agrees that an aggressive and thorough monitoring program, similar to what is currently in place, is necessary for the successful operation of the Long-Term Storm Water Management Plan; and this type of document is not an appropriate part of the Addendum. A number of state and federal agencies (including the Regional Water Quality Control Board and the U.S. Bureau of Reclamation) will issue permits and requirements for monitoring the Project, and these documents have not yet been developed. In particular, the Waste Discharge Requirements issued by the Regional Water Quality Control Board, will include robust monitoring requirements and be available for public review prior to adoption. However, it is not part of the CEQA process.

In short, the PCL Coalition commented that proposed and existing Monitoring and Reporting Program for the GBP are not sufficient to address environmental impacts and protect beneficial uses. This comment contains substantial errors related to the level of monitoring occurring downstream of the Grassland Bypass Project. The comment states “Station A, B, C, I2, F, J, K, L/L2, M/M2, G and H have all been eliminated from required monitoring”. No, the current Monitoring Program effectively monitors all of the discharges from the Grassland Bypass project. The proposed Addendum does not plan to substantially alter the robust Monitoring Program from its current form (explained below). Final monitoring protocols will be established by the Regional Board.

Station A – Inlet to the San Luis Drain includes real-time monitoring for flow and EC and is sampled for selenium and boron. Although this data is not required as part of Order R5-2015-0094, the data is collected and is publicly available.

Station B – Discharge from the San Luis Drain to Mud Slough (North) has been continuously monitored and reported to the Regional Board since the project began in 1997. Because the location of flow measurement is downstream of the water quality sample collection point, the site was divided into Station B2 for flow and B3 for water quality in the 2015 Order, however they remain the same sampling locations.

Station C – Mud Slough (North) upstream of the San Luis Drain. This site continues to be monitored for EC, boron and selenium and this data is publicly available on the CEDEN website.

Station I2 – A backwater site on Mud Slough (North). This site has never been part of the Regional Board’s monitoring order and was voluntarily monitored by the Grassland Basin Drainers through 2015. This site did not provide useful information compared to other sites already monitored and was eliminated for that reason.

Station F – Salt Slough at Lander Avenue continues to be monitored for EC, boron, and selenium and this data is publicly available on the CEDEN website.

Stations J and K – The headworks of the Camp 13 Ditch and Agatha Canal. These two canals are water supply channels for the Grassland Water District. The gates that connect drainage channels to these canals are sealed except for during extreme storm events, at which point they may be opened. Under these circumstances, which have not happened since 2005, comprehensive monitoring would occur at Stations J and K, and this monitoring requirement is included in the 2015 order. Outside of these extreme conditions, no discharge from the GDA into either the Camp 13 Ditch or the Agatha Canal would occur, and there is no reason for the Grassland Area Farmers to take responsibility for monitoring of those sites.

Stations L/L2 and M/M2 – The Santa Fe and San Luis Canals. These are monitored weekly for selenium, boron, and EC and the associated data is available on the CEDEN website. Additional monitoring would be implemented by the Grassland Area Farmers under extreme storm conditions if discharges to the Camp 13 or the Agatha canals occurred.

Station G – The San Joaquin River at Fremont Ford. This site is upstream of the Mud Slough discharge to the San Joaquin River and historic data has demonstrated that the discharges from Mud Slough have no impact on this segment of the San Joaquin River and there is no reason to include it in the monitoring program.

Station H – The San Joaquin River at Hills Ferry Road. This site was abandoned and replaced by Site R in 2013 for two primary reasons: 1) The site was located too close to the Merced River and the interaction between Merced River flows with the San Joaquin River at this location during high flow periods is poorly understood and 2) because site access became a problem, preventing regular access for sample collection.

Station R – The San Joaquin River at the China Island Unit. This site is a replacement for Station H and is located approximately 1.4 river miles (0.9 linear miles) upstream of Station H. It is located approximately 1.5 miles downstream from Mud Slough (North) discharge to the San Joaquin River. Sampling at this site began in 2013.

RESPONSE C. REGULATING RESERVOIRS OPERATION

Biological Impacts

CDFW recommends that the Authority conduct water analyses for selenium concentration for the short-term storage basins to determine the potential impact to wildlife. While the Authority plans to implement a water quality monitoring program for the proposed reservoirs whenever there is water present within them, the proposed location and operating criteria are such that the selenium concentration within the ponds is somewhat predictable. Continuation of ongoing mitigation and monitoring measures with enhancements (design measures) will reduce adverse impacts to less than significant levels. These measures include:

- Levee design to discourage nesting. This will include steep levee slope kept clean and denuded similar to existing practices for drains.
- Aggressive bird hazing efforts during nesting season, as currently conducted, when water is present within the ponds.
- Reservoir cell designed to facilitate hazing and cleaning efforts.
- Annual nest monitoring and reporting.

These measures are based on the last 13 years of successful habitat modification and hazing efforts implemented on the San Joaquin River Improvement Project to discourage waterbird nesting as documented in monitoring reports prepared by HT Harvey since 2006. These monitoring efforts demonstrate that an aggressive and planned hazing program at the reuse area involving observation by trained employees, directed maintenance efforts and targeted noise-making devices have minimized nesting activity by waterbirds within the reuse area. Therefore, similar results are expected with the new regulating reservoirs.

The Authority received a comment letter from the Grassland Water District. This letter included the following statement concerning the wetland habitats and regulating reservoirs.

“We believe the Project is essential to the continued protection of wildlife and wildlife habitat in the Grassland Ecological Area, the importance of which is recognized under international treaties and federal law. Continued use of the San Luis Drain is essential to manage and convey stormwater flows around these wetland habitats, and to prevent the ponding of stormwater on agricultural lands near the Grassland Ecological Area, which may cause an unwanted wildlife attraction. The implementation of short-term regulating basins will add needed flexibility to manage and prevent the introduction of flows into GWD’s wetland water conveyance system. We appreciate the design considerations and proposed management of these basins that will prevent wildlife attraction and use.”
(Grassland Water District 2019, included in Section A3.)

The PCL Coalition is concerned that the short-term storage basins could affect waterbirds similar to the historical Kesterson Reservoir back in 1982. There are many important differences between the SJRIP expansion and the GBP LTSWMP Project and what happened at Kesterson National Wildlife Area. The Kesterson National Wildlife Area was a mosaic of open water, freshwater marsh, seasonal wetland and upland habitats designed to attract birds. The SJRIP is actively and intensely farmed, and its interior roads and water conveyances are kept clean of vegetation. Water is not allowed to pond on the reuse area. Though over time, several avian

species have been observed on the existing reuse area, the observed densities of birds counted in censuses that have been part of the SJRIP monitoring program since 2003 have been less than one bird per project acre. For the short-term storage basins, see the above discussion of continuation of ongoing mitigation and monitoring measures with enhancements (design measures).

Concerning Mr. Stephen C. Volker's assertion that hazing displaces wildlife and would be ineffective, the following clarification is provided. The planned design measures to reduce the attractiveness of the short-term storage basins are indeed similar to those successfully utilized by the 2009 project in reducing the attractiveness of previously existing water conveyances within the project to birds. These measures include steep sided banks kept clean of vegetation, clean and level bottoms, and water management directed to minimize the presence of shallow water where shorebirds like to forage. While it will be easier to incorporate these design elements when starting from scratch, it is not accurate to say that it cannot be achieved at the previously existing storage ponds. Improvements have already been made at these ponds, and will continue, one pond cell at a time, until the design elements are in place.

The Authority disagrees that hazing birds in the context of our Project would result in new "significant impacts." Black-necked stilts and American avocets, the two principal species being hazed, are very mobile species accustomed to adjusting both foraging and nesting locales to find the most suitable conditions for both. Suitable foraging and nesting habitats are present near the Project in rice fields and the seasonal wetlands in the south grasslands area. Hazing discourages birds from both nesting and foraging where they could be exposed to project related selenium. The daily hazing of birds from the short-term storage ponds during the regular workweek when water is present will be sufficient to prevent long-term exposure and nesting.

The combination of hazing and measures to reduce habitat attractiveness to birds described above has reduced stilt and avocet nesting there to 2 nest attempts or fewer on an annual basis since 2009.

Substantial evidence to support the conclusion in the Addendum that there are no new potentially significant impacts to wildlife and their habitats that would require substantially new mitigation measures, just minor refinements. Management of the SJRIP adjacent to important wetland habitats since 2001 has demonstrated that the expanded Project will not be an attractive nuisance or disturbance to wildlife and, therefore, is unlikely to adversely affect waterfowl and other wildlife using these nearby habitats.

Hydrology Impacts

Contra Costa Water District stated that the "Draft Addendum and Initial Study should also include details of comprehensive monitoring plans as well as monitoring details for the new regulating reservoirs and the expanded reuse area if any." The monitoring plan details will be incorporated into the new use agreement with USBR and also into the WDRs for the Regional Board. See Response B. Substantial changes to existing monitoring plan are not expected for the discharges, but monitoring of the new regulating reservoirs and expanded reuse area will be incorporated into the ongoing water quality and biological monitoring programs. Also see Response D below for the reuse area.

Mr. Volker is concerned that “...the impounded wastewater will simply create additional saturated soils, ponds of contaminated water, and polluted run-off, all of which will continue to enter the Drain through seepage, and ultimately discharge into Mud Slough.” This comment demonstrates a misunderstanding of the physical processes proposed in this Addendum. The stated intention of the proposed short-term storm water basins is to reduce the discharge of storm-induced runoff by diverting a large portion of these flows into the basins, where it will be reused on the SJRIP as soon as reuse capacity becomes available. This drainage management tool will reduce the volume of discharge from the GDA into the SLD by up to 1000 acre feet per year. Since no basin is fully water-tight, there will be some seepage from the basins into adjacent unlined drains. However, the proper design and construction of the basins, combined with the natural heavy clay soils of the site and region (of which the basin levees will be constructed), will reduce this seepage to small, likely insignificant, volumes. Any seepage that could occur would mingle with water already in the regional drains (from rainfall) and at the same water quality (since that seepage is already a source of water within the drains). During storm events, when discharge from the GDA is occurring, this drain water would be discharged to the San Luis Drain along with other storm-induced drainage. However, outside of those storm events, any seepage into the regional drains would be reused on the SJRIP. A common-sense review indicates that the volume of water captured by the basins will far exceed the small amount that would seep out. Furthermore, the SJRIP includes a comprehensive internal monitoring program that covers shallow groundwater quality.

RESPONSE D. SJRIP EXPANSION/DRAINAGE MANAGEMENT

Concerns with drain water reuse at the expanded facility are explained primarily in the Contra Costa County and PCL Coalition comment letters, and issues with size and wildlife management are raised also in the Stephen C. Volker letter.

The flooding contingency plan² has been implemented since its inception in 2006, and there has not been an instance where the contingency plan has had to be utilized. The Panoche Drainage District has been aggressively proactive in preventing such events from occurring. The flooded field conditions that occurred in 2003, and prompted the development of the flooded field contingency plan in 2006, have not happened again in the 16 years since that event. Improved field management (including land leveling), staff training and additional water management infrastructure, as well as aggressive monitoring, have prevented the flooded conditions from occurring since the 2003 event. Annual biological monitoring has shown that these efforts, combined with the hazing program, have effectively reduced impacts to wildlife to less than significant levels. It is of note that the cessation of discharge demanded by Mr. Volker would, by physical necessity, create these very flooded conditions that the Proposed Project is designed to prevent.

As described above in Response C, the design of the new short-term basins include elements that will discourage both feeding in and nesting at the basins. Efforts to implement these design elements at the existing short-term basin have begun. The Authority disagrees that the water temporarily stored in the short-term basins, which are devoid of vegetation and have steep-sided slopes to reduce shallow water foraging areas for waterbirds and where bird hazing will occur

² This plan is presented in the *San Joaquin River Water Quality Improvement Project, Phase I Wildlife Monitoring Report*, 2005 (H.T. Harvey & Associates 2006). The plan includes provisions for immediate removal of unintended drain water as well as for increased monitoring near flooded sites.

when birds congregate there, will substantially increase bird use in the reuse area. In contrast, birds will be attracted to the nearby wetland habitat managed by the Grassland Water District for their benefit.

The Project exists in an area of above normal selenium exposure due to selenium rich soils, and that baseline exists without the operation of the SJRIP. As part of the SJRIP monitoring program, the Authority's biologists analyzed selenium content of eggs collected in the vicinity of the project, but more than a mile from the SJRIP as reference samples. The 149 black-necked stilt and American avocet reference eggs collected from 2003 to 2013 ranged from 1.7 to 44 ppm selenium (dry weight), and the geometric mean was 10.2 ppm selenium. Approximately a third of the reference eggs collected had selenium concentrations exceeding 15 ppm.

It is not surprising, therefore, that some of the stilt and avocet eggs collected from the mitigation sites the project has provided contained elevated levels of selenium. Stilt and avocets feeding in the surrounding areas likely move to the compensation habitats immediately prior to laying eggs. It does not follow, however, that the mitigation sites are not providing a compensation benefit for the SJRIP. Active management of the SJRIP has reduced stilt and avocet nesting there to 2 nest attempts or fewer on an annual basis since 2009. The compensation areas have provided attractive nesting habitats above what is normally available within rice fields where low-selenium irrigation water is provided to dilute the selenium exposure many shorebirds are exposed to in the vicinity. Table 9 in the Biological Resources Report for the Initial Study (Appendix B) supporting the Draft Addendum demonstrates that the compensation areas provided by the Grassland Bypass Project since 2009 have had more stilt and avocet nest attempts than have occurred on the SJRIP, and that many of those nests have successfully hatched young.

Mr. Volker asserts that significant new and increased impacts would occur on the surrounding environment from the reuse area expansion of 650 acres. The additional 650 acres of drainage reuse area proposed here represent a 9% increase over the 6,900 acres of reuse area permitted in the 2009 Final EIS/EIR. The crops grown and water management will be identical to the existing project. The potential impacts to wildlife from the proposed modest increase in project size are identical to the potential impacts the project has been successful at ameliorating. The proposed infrastructure additions to the project also have similar potential impacts as the existing project and the Project description describes how those potential impacts will be reduced to less-than-significant levels. The results of the biological and water quality monitoring noted in the Response C above, clearly show no significant impact and demonstrate that the hazing and mitigation measures implemented on the SJRIP are effective and sufficient to reduce impacts to less than significant.

The Proposed Project modifications described in the Addendum do not propose any changes to the concept of drainage treatment. Although it is accurate to state that the Authority has not yet found a viable treatment method to effectively treat subsurface drain water, this fact is not relevant to the management of storm water described in the Addendum. Even a fully functional treatment system would have no impact on the discharge of storm-induced drain water. Drainage treatment is not a relevant topic for the Long-Term Storm Water Management Plan, and a discussion of it is not needed in this Addendum. The U.S. Bureau of Reclamation and others (e.g., Reticle, Inc., UCLA) continue to evaluate treatment systems such as reverse osmosis

and electrostatic deionization. The option for treatment remains for future consideration and additional CEQA analysis as appropriate.

RESPONSE E. USE AGREEMENT NEEDED

Contra Costa County stated that the Addendum must include a copy of the proposed Use Agreement under which the Grassland Bypass would be operated after December 31, 2019 when the existing Use Agreement expires. The new Use Agreement is a separate document from the EIS/EIR Addendum and is still in development. This document will include many of the requirements and obligations of the previous Grassland Bypass Projects, and it will be available for public review prior to adoption by Reclamation and the Authority. However, it is not part of the current CEQA process.

RESPONSE F. WILDLIFE ENTRAPMENT, MOVEMENT, AND HEALTH

CDFW commented that the proposed concrete lined ditch, RP-1, should be designed to prevent wildlife entrapment and not impact wildlife movement.

The RP-1 ditch is surrounded on all sides by intensely manipulated farm habitats, thus wildlife densities in the Project Area are significantly lower than what occurs in natural habitats such as along the San Luis Drain north of Henry Miller Road where deer entrapment has been an issue. The purpose of the proposed concrete lining is to support hazing efforts and discourage nesting in waterways containing elevated levels of selenium. The RP-1 lined ditch will be located between the Delta-Mendota and Outside canals, which represent existing barriers, but RP-1 includes frequent road crossings unlike the two existing canals. The installation of RP-1 will, therefore, not have a significant effect on movement of wildlife in the project area.

CDFW commented that the San Luis Drain (Drain) is a significant part of the Proposed Project and that deer entrapment in the Drain is a serious issue that is not addressed by the Initial Study or the Addendum.

The San Luis Drain is owned and operated by the U.S. Bureau of Reclamation (USBR) who is responsible for making physical improvements to keep deer out. The Proposed Project amendment affects the quantity, and to a lesser extent, the quality of water discharged from the Grassland Drainage Area into the Drain. The Proposed Project, as described, has no physical impact on the San Luis Drain, beyond the introduction of sediment, or its surroundings. The San Luis Drain itself, is an existing part of the landscape, and the risk of deer entrapment exists at the same level regardless of the implementation of the Proposed Project. The risk to deer would exist even if discharges from the Grassland Drainage Area ceased entirely, and it is in the process of being addressed through the federal project under the USBR.

Concerning the issue that wildlife could be exposed to elevated levels of selenium in the regulating basins, see Response C above which concludes that management of the SJRIP adjacent to important wetland habitats since 2001 has demonstrated that the expanded Project will not be an attractive nuisance or disturbance to wildlife and, therefore, is unlikely to adversely affect waterfowl and other wildlife using these nearby habitats.

In summary, The Addendum analysis, supporting documents including an Initial Study and appendices, and the responses to comments contained herein support a finding that the potential

to impact biological resources is not more severe than identified in the 2009 EIS/EIR, including no new significant impacts. Furthermore, ongoing mitigation and design features discussed herein with biological and water quality monitoring studies that build on past monitoring requirements serve to protect biological resources from harm. The entrapment of deer into the San Luis Drain is the responsibility of the USBR who is addressing this issue. The existing measures for Swainson's hawk are sufficient and have avoided the need for take authorization. See Response G below.

RESPONSE G. SWAINSON'S HAWK

As CDFW correctly points out, Swainson's hawk are present throughout the Project Area. The existing mitigation measures and monitoring procedures have resulted in the annual identification and reporting on Swainson's hawk activity in the "Bird Censuses" section of the annual monitoring report, including a figure depicting the number and location of nests. Nesting substrate within, and in the vicinity of, the San Joaquin River Improvement Project (SJRIP) is patchily distributed and relatively unchanging and, as the Department states, Swainson's hawk exhibit high nest-site fidelity year after year. Ground disturbing construction activities will be performed outside of the Swainson's hawk nesting season in order to provide maximum protection of the species. Preconstruction surveys for nesting birds, including Swainson's hawks, and a plan to implement the appropriate buffers around detected nests are part of the Project description for construction events occurring during the nesting season (see Section 1.2, page 5 of the biology technical report which is Appendix B of the Initial Study) in the unlikely event that construction activities need to be conducted during the nesting season. The existing measures are sufficient and have avoided the need for take authorization since their adoption and implementation in 2001.

RESPONSE H. SELENIUM AND SALT LOAD LIMITS AND ADAPTIVE MANAGEMENT

A critical goal of the Long-Term Storm Water Management Plan is to meet the future selenium water quality objective in Mud Slough (North), and the Project modifications proposed in the Addendum are intended to meet that objective.

In 2001 the Regional Board adopted a Basin Plan Amendment for Selenium in the San Joaquin River. This Basin Plan Amendment calculated selenium loads on a monthly and annual basis as a Total Maximum Monthly Load (TMML). This TMML identifies the allowable loads to the San Joaquin River to meet water quality objectives.

The 2009 Use Agreement included a reduction in selenium loads from the TMML (adopted by the Regional Board and approved by the State Board) to very low numbers that would reflect the goals of reducing agricultural-related discharges to Mud Slough (North) and the San Joaquin River. For the last two years (2018 and 2019) of coverage under the 2009 Use Agreement, the annual selenium load limits were very low and intended to be equal to one month's discharge. The Use Agreement provided for annual incentive fee credits if selenium loads went above the allocated amounts and provided for a "termination" if load values reached a termination level. These termination levels are 24% to 28% compared to TMML levels and are shown in Table 2.

Table 2. Proposed Annual Selenium Load Target

Water Year Type	TMML Value Annual (lbs Se)	Annual Target Value (lbs Se)	% Target Value to TMML
Critical Year	1075	300	28%
Dry-Below Normal Year	2496	600	24%
Above Normal Year	4162	900	22%
Wet Year	4480	1200	27%

It is proposed that there be a selenium load target (load target) equal to the termination loads in the 2009 Use Agreement. These loads were vetted in the negotiations for the 2009 Use Agreement and are significantly less than the TMML loads. The Grassland Bypass Project met these target values in the years 2015-2018 and is expected to meet them in 2019. However, the amount of storm water that will occur in future years is unknown. It is difficult to predict what storm flows will be, as there can be local variations. Therefore, it is proposed that a multi-year performance goal be considered in determining if the load target has been met. The performance goal would state that the selenium load over a 3-year period at Site B would be equal to or less than the 3-year targets based on the water year type. If the performance goal was exceeded, the Grassland Basin Drainers would propose additional management practices with the goal of reducing loads to levels that meet the performance goal.

CCCo commented that the intent of the existing 2010-2019 Use Agreement was to reduce and eventually eliminate the contribution of the Grassland Drainage Area discharges to salinity in the San Joaquin River and Delta.

The 2009 Use Agreement included specific provisions regarding the necessity for a long-term storm water plan and envisioned the fact that, during rain events, discharges would continue to occur. The Long-Term Storm Water Management Plan, described in the Addendum, is that plan now developed. The focus of the Grassland Bypass Project and, by extension, the Long-Term Storm Water Management Plan is reducing the discharge of selenium to the San Joaquin River. As a result of that implementation, salt load to the San Joaquin River has been reduced by 80%.

Salinity in the San Joaquin River, along with its assimilative capacity, is a broad issue that encompasses far more than the Grassland Bypass Project. The CV-SALTS effort is working towards the development of a Salinity Management Plan for the Central Valley which will address issues for San Joaquin River salinity inputs upstream of the Delta. Delta salinity issues are being addressed through the Bay-Delta planning processes. Establishing separate load limits, in addition to these programs, is redundant and unnecessary.

An adaptive management plan is already an integral part of the Grassland Bypass Project, and will continue with the Long-Term Storm Water Plan. The Long-Term Storm Water Management Plan includes, as part of the new Use Agreement and the Waste Discharge Order, an aggressive monitoring program to monitor the flow and quality of discharges from the GDA as well as the receiving water bodies. Additionally, an internal monitoring program has been implemented by the Authority to manage, direct and control discharges to the extent possible. These monitoring procedures, combined with the existing drainage management tools, as well as

the new tools in the Proposed Project, provide the GDA with a de facto adaptive management program that has supported the successful operation of the GBP since its implementation in 1997.

The current Waste Discharge Order requires the submission of an annual monitoring report (AMR) which, among other requirements, requires an evaluation of water quality data, exceedances of water quality criteria, and “Actions taken to address water quality exceedances that have occurred, including but not limited to, revised or additional management practices implemented”. Implicit in these requirements is the fact that exceedances of water quality objectives will be addressed by new actions.

RESPONSE I. REMOVE 3 PPB SELENIUM MITIGATION MEASURE

The Regional Board commented that the 3 ppb value would not be acceptable in revised Waste Discharge Requirements (WDRs). Therefore, it has been removed from the Proposed Project. See Section A1 of this document.

RESPONSE J. 5 PPB SE WATER QUALITY OBJECTIVE NOT PROTECTIVE

The PCL Coalition commented that the 5 ppb Se water quality performance goal in Mud Slough and the SJR upstream of Merced is not protective of downstream beneficial uses and public trust resources. The Authority disagrees with this assertion. The Proposed Project does not modify the existing water quality objective for Mud Slough (North) or the San Joaquin River, which were established by the Central Valley Regional Water Quality Control Board (Regional Board), and the Authority expects to comply with that water quality objective with the Proposed Project. The proposed selenium water quality goal of 3 ppb, 4-day average at Site D will be eliminated from the LTSWMP. In short, the Proposed Project is designed to meet applicable water quality objectives which are designed to be protective of beneficial uses of water.

RESPONSE K. SALT DISCHARGE INCREASE SINCE 2014

This response addresses Contra Costa Water District’s concern with salt. Since 2014, when the discharges to the San Luis Drain were reduced to storm water discharges only, the discharged salinity from the Grassland Area has increased. This indicates a potential salt accumulation in the reuse area as the discharge flows decrease.

Discharge through Site A from the entire Grassland Drainage Area (GDA) has reduced dramatically since the project began in 1997. By 2014, discharge from the GDA was less than 20% of the 1st year’s discharge and had been reduced by 90% by 2018. By 2015, discharges from the GDA during the irrigation season were eliminated. This reduction in discharge has resulted in a similar reduction the load of salt discharged, however, the salinity concentration, measured at Site A, has increase somewhat since 2013.

Many factors could be influencing salt discharges from the area including regional salinity impacts associated with the recent sustained drought. However, the Authority has very little influence on these factors and has only one tool, tile sump shut-off, that will have any impact on the salinity levels of the storm-induced discharges. A system to remotely turn off tile sumps during storm events is included in the Proposed Project. The SJRIP includes a comprehensive

internal monitoring program that covers shallow groundwater quality, soil quality, and applied water quality, all of which are used to track trends in salinity and selenium for the Project.

RESPONSE L. DETAILED MUD SLOUGH MODELING

Contra Costa County requested detailed modeling of the future changes in salinity and selenium in Mud Slough and downstream, and the corresponding loads as a result of the proposed stormwater discharges.

Appendix D, Surface Water Resources Technical Report, of the Initial Study is a hydrologic analysis of the likely discharge conditions and resulting water quality for critically dry, below normal, and wet water year types. The model used historical hydrology for 21 years from 1997 through 2017, which covered 5 critical year types, 5 dry year types, 2 below normal year types, 3 above normal year types, and 6 wet year types, including the extremely wet year of 1997/98. This model included the impacts of the short-term storage basins on discharged volumes but did not include the impact of shutting off all of the tile sumps, which were difficult to simulate and analyze. As a result, the hydrologic model produced a conservative evaluation of the impacts of implementation of the Long-Term Storm Water Management Plan.

RESPONSE M. NPDES PERMIT AND CLEAN WATER ACT

The PCL Coalition commented that “A National Pollutant Discharge Elimination System (NPDES) permit must be required.” PCL cites the Clean Water Act as defining “pollutant” as including “agricultural waste discharged into water,” but fails to note key exemptions contained in that Act. First, NPDES permits apply to discharges from a point source, and section 33 U.S.C. Section 1362(14) exempts return flows from irrigated agriculture from the statutory definition of “Point Source:

“...any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture (33 U.S.C. Section 1362(14).”

Section 33 U.S.C. Section 1342(l)(1) specifically exempts “return flows from irrigated agriculture” from NPDES permitting:

“(l) Limitation on permit requirement

(1) Agricultural return flows

The Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture, nor shall the Administrator directly or indirectly, require any State to require such a permit.”

Given those exemptions, California has chosen to regulate discharges from irrigated lands through the issuance of waste discharge permits. The same approach is applied to storm water runoff from irrigated lands. The current Grassland Bypass Project is permitted through Waste Discharge Requirements (Order R5-2015-0094), and discharges under the proposed Long-Term Storm Water Management Plan would also be permitted through Waste Discharge Requirements.

The PCL Coalition characterizes discharges occurring from the GBP as of “selenium-laden drainage and contaminated groundwater,” citing data during winter/spring of 2017 of water entering the Drain. The Authority notes that in the very wet winter and spring of 2017, storm flows entered the Drain with tests on four occasions exceeding the December 31, 2019 Mud Slough objective of 5 ppb selenium (4-day running average). These sporadic exceedances nonetheless indicate enormous reductions, with 3 of the exceedances less than 6 ppb and the balance of readings not only less than 5 ppb, but most in the 1-2 ppb levels. Actions are proposed in the Long-Term Storm Water Management Plan to eliminate the exceedances, including automating controls over drainage sumps so that they may be shut off around storm events, infrastructure improvements at SJRIP to assist in maximizing the ability to broadly direct stormwater away from discharges out of the Grassland Drainage Area, and temporary holding ponds to help control discharges of storm-related flows. Partial sump shut-offs during storm events were implemented in 2018 and 2019. In 2018, there were only two measurement of selenium above 5 ppb, and 41 of the 48 samples were less than 2 ppb. Only a partial record of 2019 is available; however, available data shows only two measurements above 5 ppb during storm events. In contrast, selenium measurements at Site D exceeded 5 ppb 22 times out of 44 tests during 2013, when none of the sumps were shut off. Finally, the Draft Addendum included a proposal for an interim target of 3 ppb in Mud Slough which is not being included in the final Addendum. However, an additional incentive to maintain not only the water quality objective but to address concerns about load is being added to the proposed action in response to this and other comments.

Concerning the comments from Stephen C. Volker that the discharge of water from the San Luis Drain under the permits for the Grassland Bypass Project violates the Clean Water Act, the Authority and its engineers disagree. That is the contention of Mr. Volker on behalf of PCFFA and his other clients in pending litigation. The San Luis & Delta-Mendota Water Authority expects to demonstrate in the litigation that no NPDES permit is required. Furthermore, the Authority has not admitted that the San Luis Drain is a point source or that discharges from the Drain as utilized for the Grassland Bypass Project require an NPDES permit. Mr. Volker contends that waters discharged through the Grassland Bypass Project and San Luis Drain are commingled agricultural return flows and non-agricultural “wastewater,” but it is the position of the Authority that all water discharged from the Drain fits within the definition of “Irrigated agriculture” described in the recent Ninth Circuit opinion. As a result of that opinion, these issues must be resolved in the District Court. They have not been decided. The Grassland Bypass Project is permitted under waste discharge requirements issued under California’s interpretation of the Clean Water Act and is consistent and appropriate for discharges of return flows from irrigated agriculture. Issuance of waste discharge requirements for proposed discharges of storm water runoff from irrigated lands would also be consistent, would continue to impose stringent limits to protect the environment, and would benefit adjoining wetlands by preventing flood-related flows from following their natural course through wetland water delivery channels or creating flood-generated ponds to attract waterfowl.

RESPONSE N. NEED A FULL EIS/EIR

The PCA Coalition and Stephen C. Volker comment letters assert that continuation of Proposed Project is a “substantial change” with “numerous impacts that are significant” and which “should

be analyzed in a full EIR/EIS.” These comments misconstrue existing conditions and mischaracterize the legal standards pertaining to the CEQA baseline (CEQA Guidelines section 15125(a)) and requirements for subsequent environmental review under Public Resources Code section 21166 and CEQA Guidelines section 15162.

Public Resources Code section 21166 and CEQA Guidelines section 15162 define the situations in which a supplemental or subsequent EIR is required. Public Resources Code Section 21166 lays out three broad situations:

- When there have been substantial changes to the project which will require major revisions of the EIR,
- When there have been substantial changes to the circumstances that will require major revisions to the EIR, and
- When there is new information that could not have been known in the EIR that is now available.

CEQA Guidelines section 15162 further defines each of those specific situations in which a supplemental or subsequent EIR is appropriate:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The operative question is “whether circumstances have changed enough to justify repeating a substantial portion of the process.” (*Committee for Green Foothills v. Santa Clara County Bd. of Supervisors* (2010) 48 Cal.4th 32, 54-55 citing *Bowman v. City of Petaluma* (1986) 185

Cal.App.3d 1065, 1073.) Case law is illustrative of this substantive statutory test over any arbitrary time or use limits. For example, addenda were properly used in cases where many years had elapsed between the original EIR and later project revisions (see *Mani Bros. Real Estate Grp. v. City of Los Angeles* (2007) 153 Cal.App.4th 1385, 1399 (“*Mani Bros.*”) [15 years between the original project EIR and addendum, and overall project size increased by approximately 18.5 percent]; addenda were used where the project's appearance had changed dramatically (see *Fund for Environmental Defense v. County of Orange* (1988) 204 Cal.App.3d 1538 [designs changed, square footage increased by 30 percent, number of buildings increased, and project site newly surrounded by wilderness park]; *River Valley Preservation Project v. Metropolitan Transit Development Bd.* (1995) 37 Cal.App.4th 154 [light rail project changed by raising the elevation of a segment of a berm by a factor of two to three times the original height and replacing a golf course with a wetland]); and addenda have also been properly used multiple times over the course of many years. (*Citizens Against Airport Pollution v. City of San Jose* (2014) 227 Cal.App.4th 788 [eighth addendum to an airport master plan, which included changes to the size and location of future air cargo facilities, replacement of facilities, and the modification of two taxiways, was held to be a proper addendum.])

The analysis in the Addendum confirms that the proposed Project changes would not result in any new significant adverse impacts, nor an increase in the severity of significant adverse impacts previously identified in the 2009 Final EIS/EIR. The Project modifications would not require the adoption of any considerably different mitigation measures or alternatives, and to the extent Project modifications have been identified, they further lessen or avoid previously identified environmental impacts and result in environmental benefits relative to existing conditions. Although there have been some changes in the circumstances surrounding the Project since the 2009 Final EIS/EIR was approved, the changes are considered minor technical changes and the analysis in this Addendum demonstrates that there would be no new or more severe impacts due to these changes than previously evaluated and disclosed.

Differences in potential impacts associated with the proposed Project modifications relative to those previously described in the 2009 Final EIS/EIR are discussed in the Initial Study, which explained that the ongoing reuse of agricultural drain water on-farm within the GDA is not proposed to change. Continuation of existing uses has no cognizable environmental impact under CEQA. (*North Coast Rivers Alliance v. Westlands Water District* (2014) 227 Cal.App.4th 832; see *Citizens for East Shore Parks v. California State Lands Commission* (2011) 202 Cal.App.4th 549 [current and operative conditions are properly included in the CEQA baseline]; *World Business Academy v. California State Lands Commission* (2018) 24 Cal.App.5th 476.)

The SJRIP reuse area would be used to manage excess drain water from GDA sumps by reusing it to irrigate salt-tolerant crops. Sumps for tile drains would be turned off prior to storm events, and storm runoff up to an equivalent volume of 3 inches of rain on the SJRIP could be reused within the 7,550 acres of the SJRIP reuse area prior to discharge to the GBC and Drain (to Mud Slough).

Expansion of the reuse area by 650 acres (from 6,900 analyzed in the 2009 Final EIS/EIR to the proposed 7,550 acres) and use of storm water collected in the short term storage basins for irrigation of salt tolerant crops at the SJRIP are Project modifications that do not result in new or more severe impacts than previously evaluated. Drainage that would be captured in the storage basins is storm water, not agricultural subsurface drainwater (because the tile sumps would be

shut off). Agricultural subsurface drainwater is of lower quality than storm water runoff. This capture and reuse of storm water would not substantially worsen the Se, salt, and boron concentrations in the soil (described above) and in shallow groundwater at the SJRIP and the GDA. Compared to existing conditions, analysis in the Addendum/Initial Study shows that there are no new significant adverse impacts to groundwater, soil, or other resources associated with the Project modifications. Other resource areas evaluated in the Final EIS/EIR (2009) were addressed as necessary in the Addendum/Initial Study, including aesthetics, agricultural and forest resources, air quality, geology, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, tribal cultural resources, utilities and service systems, and wildfire. These resources are substantially unaffected by the proposed Project modifications for the reasons described in the Initial Study and summarized in the Addendum. There are no new significant or substantially more severe impacts to these resources as a result of the proposed Project changes.

The analysis in the Addendum/Initial Study confirms that the proposed improvements at the SJRIP would not result in any new significant adverse impacts, nor in an increase in the severity of significant impacts previously identified in the 2009 Final EIS/EIR. Furthermore, the Project modifications would not require the adoption of any new or substantially different mitigation measures or project alternatives. While the Project does propose new storage basins for 1,000 AF of temporary storm water containment and the SCADA system for tile sump control, these changes are considered to be minor technical changes given their size and the effectiveness of biological mitigation measures used since 2006. Additional surveys for cultural resources and construction monitoring are standard requirements for new construction.

The significant unavoidable impact to soils described in the 2009 Final EIS/EIR would not be more severe due to the proposed project modifications. The regional cumulative impact of water table rise and salinization of soil and groundwater from long-term irrigation of agriculture (and water deliveries to the federal wildlife refuges) continues, and it is not substantially more severe due to the proposed Project modifications, especially with water conservation practices throughout the GDA. The evaluation in the Addendum/Initial Study further showed there would not be any new or substantially more severe cumulative impact of Project implementation. When there is no substantial evidence of an individual potentially significant effect, the lead agency may reasonably conclude a project's effects will not be cumulatively considerable and need not require an EIR on that basis. (*Hollywoodians Encouraging Rental Opportunities (HERO) v. City of Los Angeles et al.* (2019) 37 Cal.App.5th 768; *Sierra Club v. West Side Irrigation District* (2005) 128 Cal.App.4th 690, 701-702; *North Coast Rivers Alliance, supra*, 227 Cal.App.4th at p. 875.)

Because none of the conditions described in CEQA Guidelines section 15162 or Public Resources Code section 21166 have occurred as a result of the proposed Project modifications, the Addendum is appropriate to comply with CEQA pursuant to section 15164 of the CEQA Guidelines. (*Save Our Heritage Organisation v. City of San Diego* (2018) 28 Cal.App.5th 656 [upholding validity of CEQA Guidelines section 15164 and emphasizing that when an EIR has been prepared for a project, reopening the EIR process is only required under very limited circumstances].)

Furthermore, see Response A on the Grassland Bypass Project’s success in reducing the discharge of agriculturally-produced subsurface drain water from the GDA resulting in water quality improvements.

RESPONSE O. CUMULATIVE EFFECTS ANALYSIS

As discussed in Response O above, the evaluation in the Addendum/Initial Study further showed there would not be any new or substantially more severe cumulative impact of Project implementation.

Section 4.2.3 in the 2009 Final EIS/EIR described the many regional plans underway in 2009 to improve water quality in the San Joaquin River (pp. 4-68 to 4-71). Cumulative effects are impacts associated with the action alternatives that are not significant on their own but, when combined with the impacts of other projects and plans in the region, can have incremental effects that would result in a significant effect. The implication is that numerous insignificant effects can create a significant effect. This section discussed seven other plans and programs in the Central Valley and Bay-Delta regions that could have significant cumulative effects and found that most of these plans contributed to beneficial effects on water quality.

The comments from PCA Coalition assume that additional pollutants are being discharged to the San Joaquin River system from the Proposed Project which is not correct. There has been a 90% reduction in agricultural discharge to the San Luis Drain from 1997 – 2018. (see Response A) The monitoring data show improvements to water quality, and there is no need for the Authority to do further analysis of downstream impacts in comparison to existing conditions in any CEQA analysis for improvements (positive effects) in water quality discharges. The PCL/AA Coalition can follow water quality trends in the Bay-Delta by consulting with the California Data Exchange Center (CDEC) and the California Environmental Data Exchange Network (CEDEN). By meeting water quality objectives established by the Regional Board, the Authority and the proposed LTSMWP to the GBP are consistent with their Basin Plan which is all that is required.

Also see Section 2.21 of the GBP Long-Term Storm Water Management Plan Initial Study (August 2019) that addresses cumulative impacts for the environmental issues of biology, greenhouse gas emissions, and hydrology. The conclusion is that any limited, incremental impacts to the identified resources are not triggering cumulatively considerable impacts nor are they contributing in a substantial manner to existing cumulative issues in the Project Area.

Concerning a comment to include “Los Banos discharges and CCID and other contaminated ground water discharges into the Delta-Mendota Canal and California Aqueduct,” the response is the following. The storm water discharges from Los Banos are outside of the Grassland Drainage Area and not part of the scope of the Proposed Project. Likewise, the Authority is not aware of any “contaminated ground water discharges” into the Delta-Mendota Canal (DMC) or the California Aqueduct. Sumps along the DMC from approximately Brannon Avenue to Washoe Avenue were disconnected from the DMC in 2014. These are water supply conveyance facilities, and they do not discharge into the San Joaquin River. The cumulative impact issue is for the San Joaquin River, since this is the Project’s water body of concern due to discharges at Mud Slough.

RESPONSE P. LAND RETIREMENT ALTERNATIVE

As explained in Response A, cessation of agricultural activities and fallowing of the nearly 100,000-acre GDA will not stop the flow of storm water in the GDA. To abandon the project now and retire the entire Grassland Drainage Area, as is demanded by the PCL/AA Coalition, would result in widespread and uncontrolled flooding during virtually every storm event. The floodwater waters would pond up against the Outside Canal levees and create selenium contaminated habitat attractive to waterbirds. Implementation of the Long-Term Stormwater Plan, as described in the Addendum, is designed to prevent these events from occurring.

Furthermore, land retirement is inconsistent with the Project objectives; therefore, it is not a viable alternative to the proposed modifications to the 2009 project. See Appendix A, Plan Formulation Report, attached to the GBP Long-Term Storm Water Management Plan Initial Study (August 2019), Section 2 for the Project objectives. This Appendix A, Section 3.1.2.2 addresses land retirement as follows:

- “What would be the impacts if the land is taken out of production and not irrigated?”

“Storm water is generated by rainfall and therefore would need to be dealt with regardless of agricultural activities. Agricultural districts manage the storm water by regulating the drainage conveyance facilities and routing the flows. If large portions of land were to be taken out of production (i.e., retired), the base of financial support from those productive lands would be lost, decreasing or ultimately eliminating available funding for infrastructure maintenance and storm water management activities so that some or all of the storm water would flow unmanaged. In this scenario, storm flows would saturate the soils, pond at the ends of fields and up against the major canals, where it would supersaturate the canal embankments and put the integrity of the canal at risk. The ponded water would accumulate selenium from accreted groundwater, which would concentrate as the ponds evaporated. In extremely wet years, levee breaches of the DMC or other major canals could occur, which would result in major impacts to the regional water conveyance system affecting the entire Central Valley.

“Appendix G in the 2009 Final EIS/EIR found that the total estimated value of crops grown in the GDA and the SJRIP reuse facility in 2007 was estimated to be \$237.8 million based on farm level prices (see Table G-5). This estimate is based on acreages in Table G-4 plus the 2007 acreage in the SJRIP reuse facility. (Value per acre is based on data from Fresno County and represent farm level rather than retail price.) Farm revenues were projected to rise to a peak of \$233.8 million in 2019. Large scale land retirement would substantially reduce farm revenues (and profits). As a result, regional economic activity will also be affected (reduced) because of the many linkages between production agriculture and myriad other sectors of the economy. “ (pp. 3-6, 3-7)

RESPONSE Q. ADDITIONAL RESPONSE TO CONTRA COSTA WATER DISTRICT AND GRASSLAND WATER DISTRICT COMMENTS.

- Are there practical ways to describe storm events?

Response - Addendum Section 1.1.3 defines storm-induced drainage and is modified to read as follows:

Early rain events tend to be absorbed in the soil profile. However, as significant rainfall occurs the soil profile becomes saturated; there is no longer room in the soil for the excess storm water and storm flows are generated. Once this occurs there will be discharge of storm water as well as accretion flows of shallow groundwater into drainage conveyance channels from adjacent fields. There is not a clear connection between the year type, amount or frequency of rainfall and the need to discharge to the San Luis Drain. Once the regional drains have reached their holding capacities and the threat of ponding is imminent, discharge will occur. It should be further noted that the proposed SCADA sump shut-off system would be implemented prior to any release of storm-induced discharge.

- Can the salt load limits for Years 2018-2019 in the current Use Agreement be applied to the Long-term Storm Water Management Plan (LTSWMP)?

Response: Salt load limits have not been proposed for the LTSWMP. The salt load limits in the 2009 Use Agreement were developed prior to 2009 and much has been learned about the amount of salt discharged compared to selenium. However it should be noted that selenium load targets have been proposed in the Addendum. Discharge of salt will be comparable to these selenium values. The discharge of salt is also governed by the San Joaquin River Salt and Boron TMDL.

- Are the selenium loads limits protective?

Response - The proposed selenium load limits are less than 30% of the selenium TMML included in the Basin Plan. Additionally, implementation of the LTSWMP is expected to meet the Mud Slough selenium water quality objective. Successful implementation of the Grassland Bypass Project has already resulted in non-irrigation season selenium concentrations consistently below 3 ppb in Mud Slough and only two samples exceeded the 5ppb selenium objective in 2018. Site R (San Joaquin River d/s of Mud Slough) selenium results have measured no detection in 115 out of 222 samples from 2013 to mid-2019. Of the 38 samples collected in 2018, 27 resulted in no detection and the highest detected concentration of selenium was 1.57 ppb.

- A table should be provided of that summarizes the data on wet and dry year storm water discharges and estimates the volume of storm water discharges you expect will occur in different year types.

Response – Such a table is available at the following location:

<https://www.sfei.org/gbp/reports/monthly>

These reports provide data from 1996 to 2019 in all year types. The prediction of storm water discharges will follow the actual discharges in 2015-2018 which are years in which ag related discharges had been eliminated. In addition mitigation measures proposed as part of the project such as short term storage basins and shutting off sumps during storm events will further reduce storm water discharges from these historic values.

- Add clearer references to the proposed monitoring plan for the LTSWMP.

Response – A mitigation monitoring and reporting program is part of the Addendum resolution. In addition the Central Valley Regional Board has released the tentative waste discharge

requirements for the LTSWMP and include a monitoring and reporting program.

The tentative WDRs can be found at:

https://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/grassland/r5-2015-0094-01_tent_wdr.pdf

A4. COMMENT LETTERS

Insert Comment Letters Here



United States Department of the Interior



FISH AND WILDLIFE SERVICE

San Luis National Wildlife Refuge Complex
 Post Office Box 2176
 7376 South Wolfsen Road
 Los Banos, California 93635

11 September 2019

Via mail and email

Mr. Joseph C. McGahan, Drainage Coordinator
 San Luis & Delta-Mendota Water Authority
 P.O. Box 2157
 Los Banos, CA 93635
 jmcgahan@summerseng.com

***Re: Grassland Bypass Project Long-Term Storm Water Management Plan 2020-2045
 Addendum to Final EIS/EIR, 2010-2019 SCH No. 2007121110 - Draft August 2019
 Additional Comments***

Dear Joe:

I submitted comments regarding this Plan on 10 May 2019, embedded in the document. I am now submitting additional comments on a single subject: deer entrapment in the San Luis Drain. There is absolutely no mention of deer entrapment in the Plan, despite the fact that it has repeatedly been brought to the attention of the Drain managing agencies by the California Department of Fish & Wildlife and the U.S. Fish & Wildlife Service for over a year. A supplemental EIR would be required if new significant environmental effects have been identified, which this problem may be.

There is no discussion of wildlife movement whatsoever. The *Administrative Draft – CEQA Initial Study – Long-Term Storm Water Management Plan for the Grassland Drainage Area*, under 2.4 Biological Resources, includes the question: “Would the project: d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?” “**No Impact**” is checked. That is profoundly incorrect. Please find attached a location map, “Deer Trapped in San Luis Drain”, prepared by CDFW.

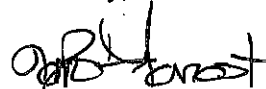
As stated in my 10 May 2019 comments, “The Drain bisects and creates a major barrier through high-quality habitat for many miles, negatively impacting many species. Deer get trapped and die in the San Luis Drain every year. Annually, about 5 dead deer and 2-3 live deer that often die from cruel injuries (hooves worn off) are removed from the Drain by USFWS. This is a waste of resources, incredibly cruel, hazardous for staff, and a burden -- distracting from normal, and urgent, duties. USFWS has pulled out 30 deer -- dead, dying, and alive -- between 2015 and 2018. Users of the San Luis Drain and USBR need to design -- with CDFW/USFWS approval -- and install 4 or 5 mechanisms along the Drain in high deer use areas, to allow deer to escape the Drain. All installation, maintenance, and removal (with CDFW/USFWS approval) should be the responsibility of USBR and San Luis Drain users. A map of locations where live and dead deer have been removed has been provided by USFWS. These locations are a starting point for considering where the mechanisms should be located. The escape mechanisms should be installed for a minimum of three years to determine efficacy. If they are

effective, they should remain in place -- and maintained -- permanently. This is a cooperative effort among the concerned agencies. Because the San Luis Drain is a USBR facility, primary responsibility lies with USBR; CDFW and USFWS have researched, consulted, and continually provides labor to remove live and dead deer. CDFW and USFWS have the expertise to provide technical or physical assistance with installation of the escape mechanisms. If the mechanisms are successful, maintenance should be overseen by USBR. Alternatives would include installing ramps made of different materials, such as soil or concrete, or tearing out some of the deteriorating lining of the canal to expose bare ground. However, if USBR intends to continue utilizing the Drain, these alternatives are likely to diminish the capacity of the Drain or reduce its functionality.”

This Addendum evaluates modifications to the Project and continued operation and management of the Drain for the next 25 years. The Addendum considers enhancements to existing facilities, including securing ownership of land, new pump/conveyance systems, additional temporary storage basins, and a remote shut-off system for control of tile sumps throughout the Grassland Drainage Area. Those are surely some very expensive options required for re-using the Drain. A compilation of numerous design options for ungulate escape from -- or avoidance of -- concrete canals was sent to the U.S. Bureau of Reclamation by CDFW and USFWS; some of which were designed, constructed, and utilized elsewhere by the USBR. These surely are less expensive than the many other enhancements being considered. Unfortunately, we have not received any response to these suggestions.

Please contact me (Kim_Forrest@fws.gov, 209/826-3508) if you have any questions.

Sincerely,



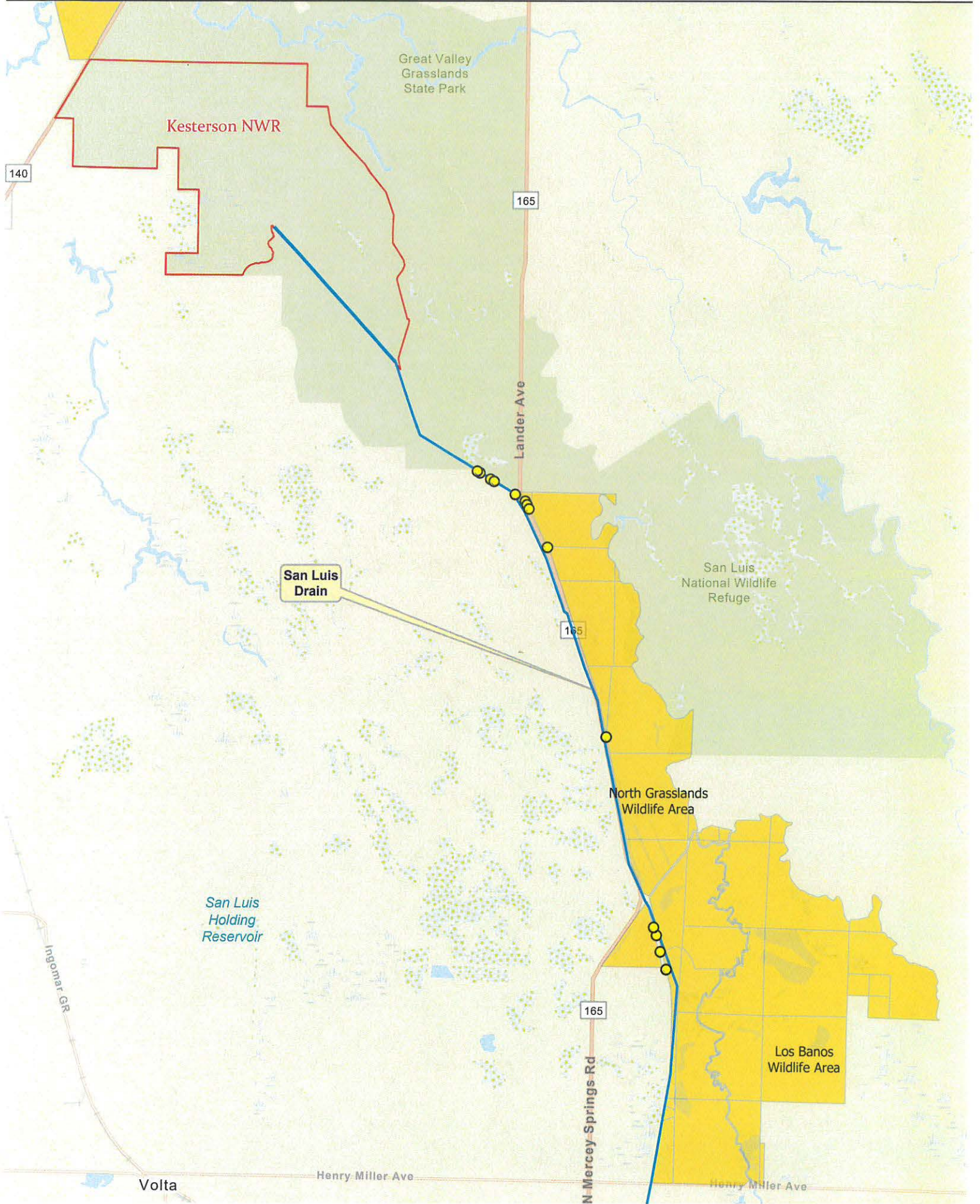
Kim Forrest
Refuge Manager

Enclosure

Cc: Polly Wheeler, Assistant Regional Director-NWRS; FWS
Stacy Armitage, Refuge Supervisor; FWS
Julie Vance, Regional Director; CDFW
Andy Gordus, Toxicologist; CDFW
Steve Miamoto, Wildlife Habitat Supervisor II; CDFW
Sean Allen, Wildlife Habitat Supervisor II; CDFW
Cristen Langer, Environmental Scientist; CDFW



Deer Trapped in San Luis Drain Locations - ●



Page	Report	kforrest Comment
1-3	<p>“This Project includes continued implementation of components of the Westside Regional Drainage Plan (SJVDP 1990) to manage subsurface drain water.”</p> <p>“The discharge of agricultural drainage will cease by the end of 2019, and agricultural subsurface drainage will be managed by the GBD participating districts and at the SJRIP. Going forward, the Project as proposed to be modified is referred to as a Long-Term Storm Water Management Plan (LTSWMP) for the period January 1, 2020 through December 31, 2035.”</p>	<p>Combining analysis of storm-water and agricultural subsurface drainwater makes this analysis confusing.</p> <p>If you are also including management of agricultural subsurface drainwater, then the title "LTSWMP" is misleading misnomer.</p>
1-3	<p>This area consists of the Grassland Drainage Area (GDA) as well as adjacent land to the north through which subsurface drainage has historically flowed.</p>	<p>This would be a good time to change the name "Grassland Drainage Area", as it is very confusing and inaccurate. It is not draining the "Grasslands", per "Grassland BYPASS Project".</p>
1-5	<p>1.1.2 “Storm Event Frequency and Magnitude”</p>	<p>Include a discussion of the quality of the storm water.</p>
1-6	<p>1.1.3.1 “Turn Off Tile Sumps”</p>	<p>If there are still tile sumps operating, then "The discharge of agricultural drainage will cease by the end of 2019" is not true.</p>
	<p>1.1.3.2.2 Proposed Reservoirs and Pump Stations</p> <p>“A new pump station will be constructed at a major regional drain in order to capture winter runoff. This pump station will have an estimated capacity of 10 cfs and will consist of a pre-cast concrete sump, pump and motor, electrical controls, manifold and appurtenances. The pump station will connect to a mile long pipeline (21”) to convey water into the regulating reservoirs for short term storage.”</p>	<p>The Kesterson Reservoir was initially planned for "short term storage"...until downstream recipients balked.</p>
1-9	<p>“...Currently (and for the foreseeable future) any tile water captured within the reuse areas is blended back with the reuse area irrigation supply and used on whatever crop is located downslope. Salt, Se, and other drainage constituents would be collected in the water coming out of the subsurface drainage systems, continue to be recirculated and utilized on site or, during any continuation of the Grassland Bypass Project, be discharged subject to load reduction obligations.”</p>	<p>Where is this "salt, SE, and other drainage constituents" coming from, if "The discharge of agricultural drainage will cease by the end of 2019"?</p>
	<p>“Because the salt tolerant crops within the SJRIP have very little water demand in the winter, reuse capacity is very limited in the period between November and February.”</p>	<p>Thus, the reuse capacity is limited during the timing of storm events -- and at the same time as the vast majority of wildlife /waterbird use.</p>
1-14	<p>“MITIGATION 3: NEAR, IN, MITIGATION REDUCE EXPOSURE POTENTIAL BY HAZING</p>	<p>This is a physical construction avoidance measure. It does not prevent exposure to "highly seleniferous" water post-construction.</p>

	<p>BIRDS FROM NESTING AND FORAGING IRRIGATION DITCHES”</p>	<p>Resurrecting the nightmare of the Kesterson Reservoir battle albeit 200 acres instead of 1,200... Where is the documentation that the extraordinary hazing effort at Kesterson was successful enough to repeat about 20 miles away?</p>
<p>1-14</p>	<p>Mitigation 3: Reduce Exposure by Hazing</p>	<p>Just say "killdeer, stilts, and avocets" -- no one uses the term "recurvirostrids".</p>
<p>1-15</p>	<p>“If after employing Mitigation Measures 1, 2, and 3, monitoring (described in Section 15) determines nesting shorebirds are exposed to elevated Se levels as a result of the Proposed Action, compensation habitat for residual impacts will be provided.”</p>	<p>Where? Who's land? Where will you get the water? Who will manage it?</p>
<p>1-17</p>	<p>“Land uses include wildlife refuge/wetlands areas including the Grassland Water District and the California Department of Fish and Wildlife’s North Grasslands Wildlife Area (China Island, Gadwall, and Salt Slough units) of approximately 7,400 acres of wetlands, riparian habitat and uplands. These restored and created wetlands are now habitat for Swainson’s hawk and sandhill crane and drain into the San Joaquin River.”</p>	<p>Need to include San Luis NWR (26,000 acres) and the FWS easements on ~90,000 acres. These and CDFW lands support more than Swainson’s hawk and sandhill cranes: they support ~1/2-million waterfowl (60% of the Pacific Flyway waterfowl and 20% of the waterfowl in North America), 250,000 shorebirds, and 47 species listed as endangered, threatened, or sensitive. If you are going to detail almonds and pistachios, you need to describe the profound wildlife use of the "Surrounding Lands". And they've been using the area for a lot longer than 100 years. These lands receive over 300,000 visitors per year.</p>
<p>2-4</p>	<p>“All of the modifications occur within a rural area in agricultural use/production, and sediment removal occurs on a portion of the Drain that runs through the Grasslands Ecological Area. These areas are not scenic vistas from the ground given the lack of roads, residences, and general public recreation sites in the affected portions. While there are public wildlife refuges and private hunting clubs within the Project Area in the vicinity of the Drain and the San Joaquin River, the new communication towers (SCADA system), conveyance of storm water, and expansion of the reuse area would not affect users’ enjoyment/views of these areas. Construction to enlarge the culverts and GBC, if selected, would occur within the agricultural area and not affect visitors to the duck clubs and wildlife refuges. The refuges are managed primarily for waterfowl and other species, not for high intensity general recreation.”</p>	<p>Over 300,000 visitors per year.</p>

2-11

2.4 Biological Resources

The Drain bisects and creates a major barrier through high-quality habitat for many miles, negatively impacting many species. Deer get trapped and die in the San Luis Drain every year. Annually, about 5 dead deer and 2-3 live deer that often die from cruel injuries (hooves worn off) are removed from the Drain by USFWS. This is a waste of resources, incredibly cruel, hazardous for staff, and a burden -- distracting from normal, and urgent, duties. USFWS has pulled out 30 deer -- dead, dying, and alive -- between 2015 and 2018. Users of the San Luis Drain and USBR need to design - with CDFW/USFWS approval -- and install 4 or 5 mechanisms along the Drain in high deer use areas, to allow deer to escape the Drain. All installation, maintenance, and removal (with CDFW/USFWS approval) should be the responsibility of USBR and San Luis Drain users. A map of locations where live and dead deer have been removed has been provided by USFWS. These locations are a starting point for considering where the mechanisms should be located. The escape mechanisms should be installed for a minimum of three years to determine efficacy. If they are effective, they should remain in place -- and maintained -- permanently.

This is a cooperative effort among the concerned agencies. Because the San Luis Drain is a USBR facility, primary responsibility lies with USBR; CDFW and USFWS have researched, consulted, and continually provides labor to remove live and dead deer. CDFW and USFWS have the expertise to provide technical or physical assistance with installation of the escape mechanisms. If the mechanisms are successful, maintenance should be overseen by USBR.

Alternatives would include installing ramps made of different materials, such as soil or concrete, or tearing out some of the deteriorating lining of the canal to expose bare ground. However, if USBR intends to continue utilizing the Drain, these alternatives are likely to diminish the

	<p>capacity of the Drain or reduce its functionality.</p> <p>"Material in this section is supported by Appendix B, Biological Resources Impact Analysis, prepared specifically for the SJRIP Proposed Expansion Project."</p>	<p>"SJRIP Proposed Expansion Project Biological Resources Impact Analysis" appears to analyze existing conditions of WATER USED TO IRRIGATE CROPS, not the changed conditions -- including a new 200-ACRE REGULATING RESERVOIR. This study states "Water samples from the sources of drainwater used to irrigate the existing SJRIP reuse site ranged from 43 to 761 ppb selenium ...well exceeded the 32 ppb threshold ... associated with a high probability of reproductive effects, including reduced hatchability and increased occurrence of embryonic deformities...". What about the impacts when this becomes standing water during the high bird use Nov-Mar time period??</p>
<p>2-13</p>	<p>"As discussed in Appendix B (Section 6.1), water samples from the sources of drain water used to irrigate the existing SJRIP reuse site ranged from 43 to 761 ppb selenium from 2003 to 2005 (Panoche Drainage District data). These sources well exceeded the 32 ppb threshold that CH2M Hill et al. (1993, cited in Appendix B) associated with a high probability of reproductive effects, including reduced hatchability and increased occurrence of embryonic deformities (Table 2)."</p> <p>"Specific impact statements and mitigation measures to reduce the potentially significant impacts to less than significant for special status species are excerpted below from Appendix B (Section 7.2)."</p>	<p>43 - 761 ppb selenium is incredibly high!</p> <p>Impacts to ALL species -- especially waterbirds -- are the issue, not just special status species.</p>
<p>2-15</p>	<p>"Waterbirds shall be hazed from the Project site during the waterbird nesting season (March 15 to July 15) to reduce exposure of waterbirds to selenium by discouraging waterbirds from feeding where they could be exposed to selenium."</p> <p>"Mitigation Measure BIO-2f: Monitor Mitigation Success and Provide Compensation Breeding Habitat."</p>	<p>Waterbirds would be exposed year-round, not just during nesting season.</p> <p>The Kesterson Reservoir Debacle was an unmitigated disaster, an abysmal failure, on an international scale. Which do you think this mini-me project could be successful? You have not introduced any fabulous new ideas.</p>
<p>2-16</p>	<p>"Effects on adjacent habitat in the NWRs would be noise from equipment use within the Drain to remove sediment."</p> <p>"According to Appendix B, the results of a query of the CNDDDB (2018) for sensitive habitats</p>	<p>"NWRs" is national wildlife refuges, which does not include State areas and private wildlands.</p> <p>That is inaccurate, and the CNDDDB is an inadequate source of information. There</p>

	<p>indicate that no sensitive habitats are present on or within 5 miles of the Project site."</p>	<p>are tons of wetlands and vernal pools within 5 miles of the Project site -- if you are referring to the entire San Luis Drain as the "Project site". Which is confusing -- are you only referring to the SJRIP area?</p>
<p>2-17</p>	<p>"In 1990, the Central Valley Habitat Joint Venture (CVHJV) partnership developed its first strategic plan to deliver partnership-based waterfowl habitat conservation, the <i>Central Valley Habitat Joint Venture Implementation Plan</i> (1990 Plan), and the USFWS is the administering agency."</p>	<p>This may be a good place that the Grasslands Ecological Area is one of 6 Ramsar Wetlands of International Importance in California and 39 in the U.S. It is also an Audubon "Important Bird Area" and a Western Hemisphere Shorebird Reserve Network site.</p>
<p>2-27</p>	<p>2.9 Hazards and Hazardous Materials "Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?"</p>	<p>Wildlife and selenium...?</p>
<p>2-28</p>	<p>"Concerning the sediments removed from the Drain, they are not a hazardous waste based on analysis of previously removed material contained in Appendix C of this Initial Study, Sediment Removal from the San Luis Drain, 2016-2018."</p>	<p>What about the 43 - 761 ppb selenium in the water ponding in the SJRIP?</p>
<p>2-39</p>	<p>"The Proposed Project provides the capture and conveyance of storm water flows and the management of runoff from storm events to benefit agricultural and wetland habitat land uses by protecting the integrity of water supply channels to both of these uses. The primary public facility affected is the federal San Luis Drain and the discharge of storm waters into Mud Slough in the Los Banos Wildlife Area operated by CDFW."</p>	<p>The San Luis Drain discharges into Mud Slough on San Luis NWR, operated by USFWS.</p>



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GAVIN NEWSOM, Governor
 CHARLTON H. BONHAM, Director



September 13, 2019

Joseph C. McGahan, Drainage Coordinator
 San Luis & Delta-Mendota Water Authority
 Post Office Box 2157
 Los Banos, California 93635

**Subject: Grassland Bypass Project, 2010-2019
 Notice of Availability of an Addendum to the Final Environmental Impact
 Statement/Environmental Impact Report (EIS/EIR)
 State Clearinghouse (SCH) No. 2007121110**

Dear Mr. McGahan:

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of an Addendum to the Final Environmental Impact Statement/Environmental Impact Report for the Grassland Bypass Project, 2010-2019, from the San Luis & Delta-Mendota Water Authority for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish and G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

Water Pollution: Pursuant to Fish and Game Code Section 5650, it is unlawful to deposit in, permit to pass into, or place where it can pass into "Waters of the State" any substance or material deleterious to fish, plant life, or bird life, including non-native species. It is possible that without mitigation measures, implementation of the Project could result in pollution of Waters of the State from storm water runoff or Project-related erosion. Potential impacts to the wildlife resources that utilize these watercourses include, but are not limited to, the following: increased sediment input from vegetation removal and ground disturbance causing increased erosion; toxic runoff associated with Project implementation; temporal loss of wildlife habitat; and/or impairment of wildlife movement along riparian corridors. The Regional Water Quality Control Board and United States Army Corps of Engineers also have jurisdiction regarding discharge and pollution to Waters of the State.

In this role, CDFW is responsible for providing, as available, biological expertise during public agency environmental review efforts (e.g., CEQA), focusing specifically on project activities that have the potential to adversely affect fish and wildlife resources. CDFW provides recommendations to identify potential impacts and possible measures to avoid or reduce those impacts.

PROJECT DESCRIPTION SUMMARY

Proponent: San Luis & Delta-Mendota Water Authority

Objective: The San Luis & Delta Mendota Water Authority has prepared an Addendum to the 2009 Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR; SCH No. 2007121110) for consideration of the Grassland Bypass Project

(Project). The 2009 EIS/EIR addressed the potential environmental effects/impacts that would result from implementation of a new Use Agreement for the Project that allowed for continued use of the Federal San Luis Drain (Drain) for the period 2010 through 2019 for discharge of agricultural drainwater and storm water into Mud Slough and drainwater reuse at an expanded San Joaquin River Improvement Project (SJRIP). The Addendum to the Final EIS/EIR has been prepared to evaluate modifications to the Project and continued operation and management of the Drain and related improvements at the SJRIP for the next 25 years.

The original Project managed and discharged subsurface drainage flows from irrigation of the 97,000-acre Grassland Drainage Area (GDA). Participants in the Project applied multiple tools to reduce the amount of subsurface agricultural drainage being discharged, such as source control, recirculation and shallow groundwater pumping, along with use of collected drainage to irrigate salt tolerant crops at the SJRIP. The Project utilized the 4-mile Grassland Bypass Channel to convey drainage discharged from the GDA to the Drain at a point near Russell Avenue, used a 28-mile segment of the Drain to convey the remaining flows around wetland habitat areas, and ultimately discharged to Mud Slough and subsequently to the San Joaquin River. Over the last 32 years, the Project has reduced the volume of agricultural drainage water discharged from the GDA by over 90%, resulting in substantial environmental improvements to wetlands water supply channels and the San Joaquin River.

The Addendum evaluates continued use of the Drain at its current capacity (150 cubic feet per second) combined with the use of existing and new short-term storage basins to continue storm-induced discharges to Mud Slough in the San Luis National Wildlife Refuge and the CDFW China Island Wildlife Area. The Addendum considers modifications to the previously analyzed project and enhancements to existing facilities, including securing ownership of land for purposes of the SJRIP (i.e., irrigation of salt tolerant crops), new pump/conveyance systems, additional temporary storage basins, and a remote shut-off system for control of tile sumps throughout the GDA after 2019, for a period of 25 years to 2045.

Location: Grasslands watershed in Fresno and Merced Counties. The Project Area is the area that could be affected substantially by actions taken within the Grassland Drainage Area (GDA). It is located on the western side of the San Joaquin Valley, and the GDA and other Project features are located primarily in the counties of Merced and Fresno. The inclusion of the San Joaquin River to Crows Landing for compliance monitoring adds Stanislaus County to the Project Area.

Timeframe: Next 25 years.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist the San Luis & Delta-Mendota Water Authority in adequately identifying and/or mitigating the Project's

significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document.

The Addendum to the 2009 EIS/EIR indicates that the Project's impacts would be less than significant with the implementation of mitigation measures described. The mitigation measures of the 2009 EIS/EIR appear to be insufficient in reducing impacts to a level that is less than significant. CDFW wants to emphasize the adequacy of mitigation measures for special-status species including, but not limited to, the State threatened Swainson's hawk (*Buteo swainsoni*).

I. Environmental Setting and Related Impact

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or the United States Fish and Wildlife Service (USFWS)?

COMMENT 1: Swainson's Hawk (SWHA)

Issue: SWHA have been observed to nest within and near the Project area. The California Natural Diversity Database (CNDDDB) shows SWHA occurrences throughout the Project area (CDFW 2019). The proposed Project will involve activities near large trees that may serve as potential nest sites.

Specific impacts: CDFW concurs with the mitigation measures as presented on page 2-14 Mitigation Measure BIO-2g: Conduct Pre-construction Nest Surveys for Infrastructure Installation Occurring During the Nesting Season and on page 46 of the H. T. Harvey & Associates Biological report. The document states that the construction of the infrastructure will occur outside the nesting season to reduce nesting bird impacts. CDFW further recommends the Project proponents consult with CDFW staff before construction begins. Should construction occur during the nesting season, CDFW recommends pre-construction nest surveys as presented on page 46 of the Biological Report and in consultation CDFW staff. CDFW wants to emphasize that without appropriate avoidance and minimization measures for SWHA, potential significant impacts could result from Project activities include nest abandonment, loss of nest trees, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of SWHA without appropriate incidental take authorization would be a violation of Fish and Game Code.

Evidence impact is potentially significant: SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the San Joaquin Valley limits their local distribution and abundance (CDFW 2016). The Project as proposed will

involve noise, groundwork, and movement of workers that could affect nests and has the potential to result in nest abandonment, significantly impacting local nesting SWHA.

Recommended Potentially Feasible Mitigation Measure(s)

Because suitable habitat for SWHA is present throughout the Project area, CDFW recommends conducting the following evaluation of the Project area, editing the MND to include the following measures specific to SWHA, and that these measures be made conditions of approval for the Project.

Mitigation Measure 1: SWHA Surveys

To evaluate potential impacts, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting SWHA following the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC, 2000) prior to project implementation. The survey protocol includes early season surveys to assist the Project proponent in implementing necessary avoidance and minimization measures, and in identifying active nest sites prior to initiating ground-disturbing activities as presented on page 2-14 Mitigation Measure BIO-2g: Conduct Pre-construction Nest Surveys for Infrastructure Installation Occurring During the Nesting Season and page 46 of the H. T. Harvey & Associates Biological report.

Mitigation Measure 2: No-disturbance Buffer

If ground-disturbing Project activities are to take place during the normal bird breeding season (March 1 through September 15), CDFW recommends that additional pre-activity surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project implementation. CDFW recommends a minimum no-disturbance buffer of 0.5 mile be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

Mitigation Measure 3: SWHA Take Authorization

CDFW recommends that in the event that an active SWHA nest is detected during surveys, consultation with CDFW is warranted to discuss how to implement the project and avoid take. If take cannot be avoided, take authorization through the issuance of an Incidental Take Permit, pursuant to Fish and Game Code Section 2081(b) is necessary to comply with CESA.

II. Specific Comments

COMMENT 2: Grassland Bypass Project – Long-term Storm Water Management Plan, Initial Study. Page 1-9. Section 1.1.3.2 Regulating Ponds/Reservoirs Usage.

The Proposed Project includes an existing pond and the construction of a new pond to temporarily store storm water from approximately December through May. This period includes the migratory bird breeding season, which could result in impacts to avian embryos due to selenium levels. CDFW recommends the Project proponents conduct water analyses for selenium concentration for these storage ponds to determine potential impacts to waterfowl and other wildlife that utilize them.

COMMENT 3: Grassland Bypass Project – Long-term Storm Water Management Plan, Initial Study. Page 1-11. Section 1.1.3.4 Additional Conveyance Activities.

“The existing 3-mile PR-1 Ditch will be replaced with a concrete lined channel and the ditch will be extended 1.8± miles to the eastern side of the SJRIP.” CDFW recommends that the concrete lined ditch be designed to prevent wildlife entrapment and not impact wildlife movement, see comment below for Page 2-9.

COMMENT 4: Grassland Bypass Project – Long-term Storm Water Management Plan, Initial Study. Page 2-9. Section 2.4 Biological resources. d.

CDFW does not concur with the “No Impact” conclusion for “Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery.”

The Drain is a significant part of this Project and there was no evaluation for wildlife impacts as a result of continuing the use of the Drain. CDFW staff have previously informed the Project proponents that mule deer (*Odocoileus hemionus*) entrapment (Photographs 1 and 2) is a serious issue in the Drain, particularly north of Henry Miller Road. CDFW staff have also previously provided information for deer bridge crossings and escape ramps. See Figure 1 for deer entrapment locations for potential locations to install deer bridge crossing and escape ramps.

In addition to the impacts to deer, deer entrapment is a significant safety concern for state and federal employees as staff have to enter the Drain to retrieve dead or live deer (Photograph 3).

COMMENT 5: Grassland Bypass Project – Appendix A: Plan formulation report long term storm water management plan for the Grassland Drainage area Long-term Storm Water Management Plan. Page 3-6.

The first paragraph states that the tile systems can be shut off during storm events provided that they are accessible. This statement conflicts with other sections that state automated remote turn-off systems will be installed to shut off the sump pumps (see page 3-8). CDFW recommends this discrepancy be addressed.

COMMENT 6: Grassland Bypass Project – Appendix A: Plan formulation report long term storm water management plan for the Grassland Drainage area Long-term Storm Water Management Plan. Page 3-9.

This section indicates that wildlife could be exposed to elevated selenium in the regulating basins. CDFW recommends Project proponents analyze the water for selenium concentration for these regulating basins to determine potential impacts to waterfowl and other wildlife that may utilize them.

III. Editorial Comments and/or Suggestions

Nesting birds: CDFW concurs that Project implementation occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project area to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. Prior to initiation of Project activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once Project activities begin, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and immediately consult with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the Project area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status species and natural communities detected during Project surveys to CNDDDB. The CNDDDB field survey form can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

FILING FEES

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & Game Code, § 711.4; Pub. Resources Code, § 21089).

CDFW appreciates the opportunity to comment on the Project to assist the San Luis & Delta-Mendota Water Authority in identifying and mitigating the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>). If you have any questions, please contact Jim Vang, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-4014 extension 254, or by electronic mail at Jim.Vang@wildlife.ca.gov.

Sincerely,


for Julie A. Vance
Regional Manager

cc: See Page Nine

cc: Regional Water Quality Control Board
Central Valley Region
1685 "E" Street
Fresno, California 93706-2020

United States Army Corps of Engineers
San Joaquin Valley Office
1325 "J" Street, Suite #1350
Sacramento, California 95814-2928

ec: Joseph C. McGahan, Drainage Coordinator
San Luis & Delta-Mendota Water Authority
jmcgahan@summerseng.com

Kim Forrest, Refuge Manager
San Luis NWR
Kim_Forrest@fws.gov

Literature Cited

CDFW. 2016. Five Year Status Review for Swainson's Hawk (*Buteo swainsoni*).
California Department of Fish and Wildlife. April 11, 2016.

CDFW. 2019. Biogeographic Information and Observation System (BIOS).
<https://www.wildlife.ca.gov/Data/BIOS>. Accessed August 23, 2019.

Swainson's Hawk Technical Advisory Committee (SWHA TAC). 2000. Recommended
Timing and Methodology for Swainson's Hawk Nesting Surveys in California's
Central Valley. Swainson's Hawk Technical Advisory Committee, May 31, 2000.

Appendix 1. Photographs and Figure.

Photograph 1. Mule deer trapped in the San Luis Drain.



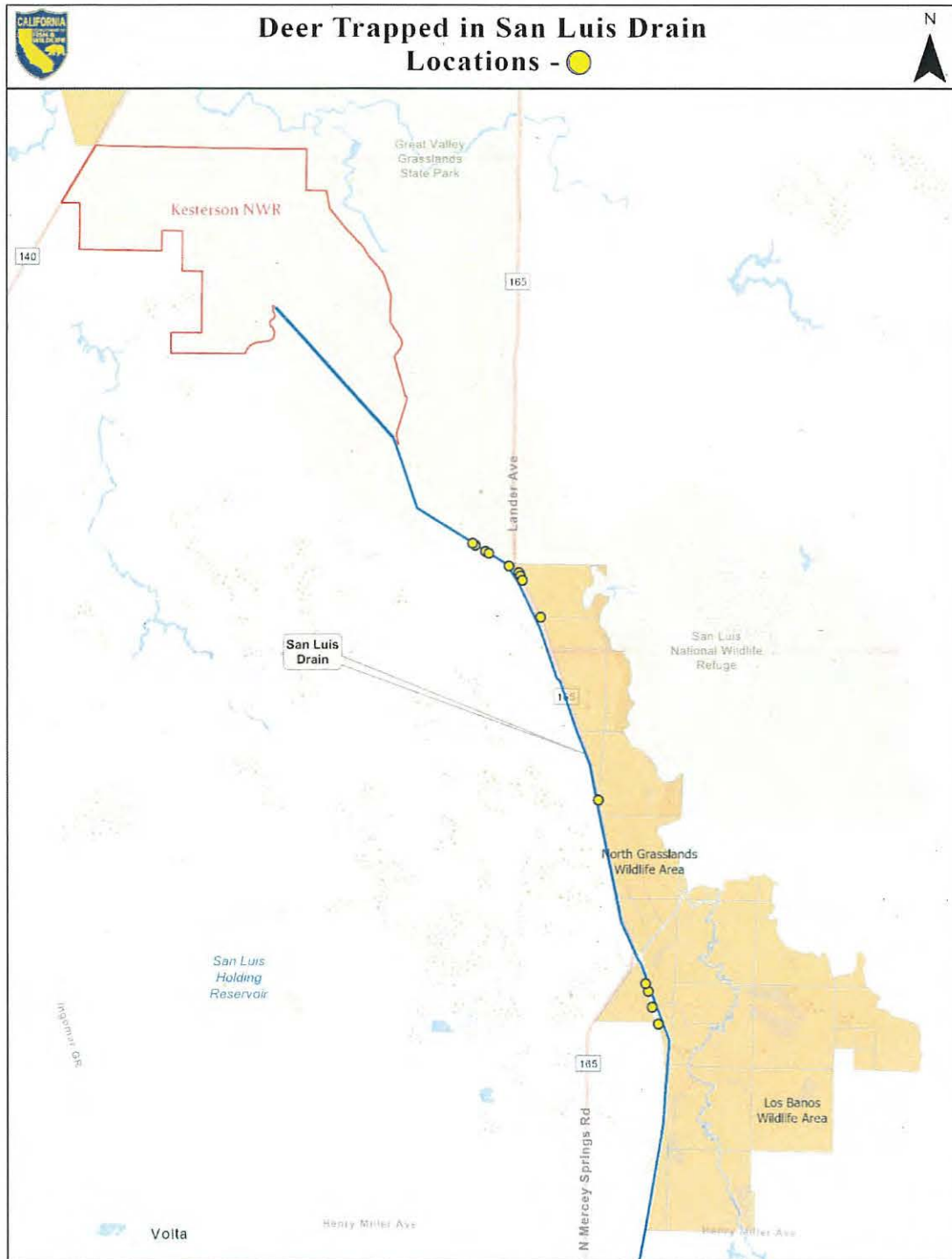
Photograph 2. Dead mule deer in San Luis Drain.



Photograph 3. State and Federal employees rescuing deer from the San Luis Drain.



Figure 1. Locations where mule deer have been trapped in the San Luis Drain and for further discussions as to recommended locations to install deer bridge crossings and escape ramps.



GAVIN NEWSOM
GOVERNORJARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

13 September 2019

Joseph C. McGahan, Drainage Coordinator
San Luis & Delta-Mendota Water Authority
Post Office Box 2157
Los Banos, CA 93635

COMMENTS TO NOTICE OF AVAILABILITY (NOA) OF AN ADDENDUM TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT AND ENVIRONMENTAL IMPACT REPORT FOR THE GRASSLAND BYPASS PROJECT, SCH# 2007121110, MERCED COUNTY AND FRESNO COUNTY

Pursuant to the San Luis & Delta-Mendota Water Authority's 14 August 2019 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Notice of Availability (NOA) of an Addendum to the Final Environmental Impact Statement and Environmental Impact Report* and associated documents for the Grassland Bypass Project, located in Merced County and Fresno County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore, our comments will address concerns surrounding those issues.

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3)

KARL E. LONGLEY ScD, P.E., CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

Subsurface drainage from the Grassland Drainage Area is known to contain selenium concentrations at levels that have the potential to impact receiving waters. To address selenium impacts, the Basin Plan contains a water quality objective of 5 micrograms per liter ($\mu\text{g/L}$) (4-day average) for Mud Slough (north) and the San Joaquin River from the Mud Slough confluence to the Merced River. Prior to the year 2020, a performance goal of 15 $\mu\text{g/L}$ (monthly mean) for selenium applies. The Basin Plan also prohibits the discharge of agricultural subsurface drainage water to Mud Slough (north) and the San Joaquin River from the Mud Slough confluence to the Merced River after 31 December 2019 unless water quality objectives for selenium are being met.

In your Addendum to the Final Environmental Impact Statement and Environmental Impact Report for the Grassland Bypass Project, 2010-2019, you state that the selenium water quality objective would be met during most of the year with occasional exceedances and propose a modification to existing mitigation measures that would establish a water quality goal of 3 $\mu\text{g/L}$ (4-day average) for selenium, which for every three (3) months it is met one (1) exceedance of the 5 $\mu\text{g/L}$ (4-day average) water quality objective would be allowed.

This mitigation measure does not meet Basin Plan requirements and would not be allowed in revised Waste Discharge Requirements (WDRs). If discharges to Mud Slough (north) are to be permitted beyond 31 December 2019, WDRs for the Grassland Bypass Project must be revised or new WDRs issued. These WDRs cannot permit discharges that exceed criteria established by the Basin Plan. All monitoring results for selenium will be compared to the Basin Plan water quality objective and any exceedances of the objective will result in action by the Central Valley Water Board pursuant to the Basin Plan's requirements.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

If you have questions regarding these comments, please contact me at (916) 464-4857 or Ashley.Peters@waterboards.ca.gov.



Ashley Peters, P.E.
Water Resource Control Engineer

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Department of
Conservation and
Development

**Contra
Costa
County**

John Kopchik
Director

Water Agency

30 Muir Road
Martinez, CA 94553

Phone: 925-674-7824



September 13, 2019

Joseph C. McGahan
Drainage Coordinator
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635
Email: jmcgahan@summerseng.com

Re: Contra Costa County comments on Addendum to the Final EIS/EIR for Grassland Bypass Project

Dear Mr. McGahan,

Contra Costa County appreciates this opportunity to formally review the draft Addendum to the Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) for consideration of the Grassland Bypass Project (GBP) prepared by the San Luis & Delta Mendota Water Authority (SLDMWA) and released on August 14, 2019.

The Final EIS/EIR was certified by the SLDMWA on October 8, 2009 (SCH #2007121110). The 2009 Final EIS/EIR addressed the potential environmental effects/impacts that would result from implementation of a new Use Agreement for the GBP that allowed for continued use of the Federal San Luis Drain (Drain) for the period 2010 through 2019 for discharge of agricultural drainwater and storm water into Mud Slough (North) and of drainwater reuse at an expanded San Joaquin River Improvement Project (SJRIP). The Addendum evaluates modifications to the GBP and continued operation and management of the Drain and related improvements at the SJRIP for the next 25 years.

The U.S. Bureau of Reclamation (Reclamation) is apparently managing compliance with the National Environmental Policy Act (NEPA) for continued use of the Drain separate from this California Environmental Quality Act (CEQA) Addendum.

Contra Costa County covers a large area within the Delta. The County borders on Old River to the east and Suisun and San Pablo Bays in the north. The County is the ninth most populous county in California, with more than one million residents. Many of our residents rely on the Delta for their municipal, industrial and irrigation water supplies, for their livelihood, and

Contra Costa County comments on Addendum to the Final EIS/EIR for the Grassland Bypass Project

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recreation. The quality of Delta water, health of the Delta ecosystem, Delta recreation and water supply are, therefore, of major importance to the County and its residents.

Discharges from the Grassland area into the San Joaquin River will reach the Sacramento-San Joaquin Delta (Delta) and affect salinity and selenium concentrations there. They have the potential to adversely impact the health and safety of the residents of Contra Costa County and the 23 million other people that rely on the Delta as their source for drinking water. High selenium loads into the San Joaquin River and Delta will also impact key fish species. This can lead, through biological opinions and Delta operations criteria, to more stringent restrictions on the ability of urban agencies to divert water from the Delta to meet their water supply needed.

The County appreciates the efforts of the Grassland area farmers, since 1996, to significantly reduce their discharges of selenium and salinity to the San Joaquin River. Over the last 32 years, the Grassland Bypass Project has succeeded in reducing the volume of agricultural drainage water discharged from the Grassland Drainage Area by over 90%, resulting in substantial environmental improvements to wetlands water supply channels and the San Joaquin River. The GBP is now highly likely to achieve its goal of eliminating all discharges of agricultural drainage by December 31, 2019. The GBP is a nationally-recognized model for how to address contaminated drainage and protect environmental resources.

The adequacy of the Draft Addendum may be addressed by taking action on the following comments.

- 1. The Addendum must include a copy of the proposed Use Agreement under which the Grassland Bypass would be operated after December 31, 2019 when the existing Use Agreement expires.**

The Draft Addendum, on page 3-1, acknowledges that the proposed project would be implemented through a new Use Agreement with the Bureau of Reclamation for use of the Drain and with new Waste Discharge Requirements (WDR) from the Central Valley RWQCB for discharge to Mud Slough (North).

The previous Use Agreements for the Grassland Bypass Project provided detailed requirements regarding selenium and salt load limits and monitoring. Any extension of use of the San Luis Drain beyond December 31, 2019 should require similar definitions, environmental commitments, and restrictions to protect the water quality for fish and wildlife in Mud Slough and the San Joaquin River and users of water from the Sacramento-San Joaquin Delta.

Since the new Use Agreement will be a federal document, the CEQA lead agency may consider that the Use Agreement be controlled by Reclamation through a separate NEPA process. However, the Use Agreement is needed to memorialize how the GBP will be operated by the Grassland area farmers and should be included in this CEQA Addendum.

Contra Costa County comments on Addendum to the Final EIS/EIR for the Grassland Bypass Project

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2. The Addendum must describe in detail a Monitoring Plan to monitor key selenium, salinity, boron concentrations and flow discharges into the Bypass and at downstream locations.

The previous Use Agreements for the GBP included comprehensive multiagency monitoring programs to ensure that environmental commitments were being met, selenium and salinity loads are not excessive, and allow problem areas to be identified. A detailed monitoring plan should be incorporated in to the new Use Agreement and Addendum.

3. The Addendum must provide a definition of a stormwater-driven event.

Appendix F (High Rainfall Exemption) of the January 2010 – December 2019 Agreement for Continued Use of the San Luis Drain (Agreement No. 10-WC-20-3975) on page 36 specifies the high rainfall conditions under which the Grassland area drainers would be given an exemption for their selenium discharges.

The Addendum evaluates continued use of the San Luis Drain at its current capacity (150 cfs) combined with the use of existing and new short-term storage basins to reduce storm-induced discharges to Mud Slough (North) in the San Luis National Wildlife Refuge and the California Fish and Wildlife Service China Island Refuge.

The same concept needs to be used for the proposed continued use of the Bypass for excess stormwater discharge. The Addendum and new Use Agreement must include well-defined limits on when discharges can be made through the Drain to ensure that selenium-laden water is only discharged into Mud Slough and the San Joaquin River when there is a high rainfall event and there is more runoff than can be handled by short-term storage basins and the enlarged reuse area.

4. The Addendum must set salinity load limits for the proposed stormwater discharge project.

The current 2010-2019 Use Agreement includes salinity load targets. These were intended to avoid a situation where actions taken by the drainers successfully removed selenium from the agricultural drainage but were less successful in removing salinity. Selenium goals could be met and still result in an increase in salinity concentrations and loads in the Bypass.

The Central Valley RWQCB adopted WDR that set salinity targets at Crows Landing in the San Joaquin below the Merced and at Vernalis. However, the intent of the existing 2010-2019 Use Agreement was to reduce and eventually eliminate the contribution of the Grassland area discharges to salinity in the San Joaquin River and Delta. Any “assimilative capacity” available under the RWQCB’s WDR should not be used as an opportunity to increase salinity discharges from the Grassland drainage area.

Contra Costa County comments on Addendum to the Final EIS/EIR for the Grassland Bypass Project

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At the very least, EC limits should be set for discharges from the Bypass that are equivalent to the proposed objective of 3 ppb Selenium (LTSWMP Initial Study, page 1-14) so that the discharge of salinity is also limited.

The Central Valley RWQCB recently adopted Salt and Nitrate amendments to the Basin Plan that allow upstream San Joaquin River salinity discharges at concentrations that are higher (1,600 and 2,200 $\mu\text{S}/\text{cm}$) than the State Water Resources Control Board's (SWRCB) south Delta agricultural water quality standards (1,000 $\mu\text{S}/\text{cm}$ and formerly 700 $\mu\text{S}/\text{cm}$ for April-August) and the recommended Secondary Maximum Contaminant Level (SMCL) for the protection of a municipal beneficial use of 900 $\mu\text{S}/\text{cm}$ (as an annual average).

On December 12, 2018, the SWRCB adopted Resolution No. 2018-0059 and relaxed the Water Rights Decision 1641 south Delta agriculture standard for April-August from 700 $\mu\text{S}/\text{cm}$ to 1,000 $\mu\text{S}/\text{cm}$. This allows degradation of water quality in the south Delta in direct conflict with the state Antidegradation Policy (SWRCB Resolution No. 68-16) and the federal Antidegradation Policy (40 C.F.R. §131.12), as well as California Water Code §85020(e) which states that:

The policy of the State of California is to achieve the following objectives that the Legislature declares are inherent in the coequal goals for management of the Delta: ...

*(e) **Improve water quality** to protect human health and the environment consistent with achieving water quality objectives in the Delta.*

The County requests that the Addendum and new Use Agreement establish specific seasonal and annual selenium, salinity and boron load and concentration goals for Mud Slough as part of the continued use of the Grassland Bypass rather relying the Central Valley RWQCB (through CV-SALTS) or the SWRCB to establish protective objectives for this area.

5. The Addendum must provide detailed modeling of the future changes in salinity and selenium in Mud Slough and downstream, and the corresponding loads, as a result of the proposed stormwater discharges.

The Initial Study appears to rely on the analysis in Section 2.10 (Hydrology and Water Quality) to determine that the proposed project will have a less-than-significant impact to Mud Slough, and, therefore, states that no new mitigation measures are required. However, the Initial Study appears to rely on historical data with no computer simulations, and assumed future impacts will be less than historical.

A simulation of the amount of excess stormwater remaining after filling the existing and new storage basins and releasing stormwater to the SJRIP when soils are not completely saturated should be completed. The discharge of excess stormwater from the Grassland area through the Bypass should also be modeled over a range of historical rainfall events. This would disclose more specifically whether there will be any adverse environmental effects on Mud Slough, the San Joaquin River and the Delta.

Contra Costa County comments on Addendum to the Final EIS/EIR for the Grassland Bypass Project

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Thank you for considering Contra Costa County's comments on the Draft EIS. County staff and consultants are available to answer any questions you may have and to provide further input on this project. Please contact me at (925) 674-7824.

Sincerely,



Ryan Hernandez, Manager
Contra Costa County Water Agency

cc: John Kopchik, Director Conservation and Development
Leah Orloff, Contra Costa Water District
Gary Bobker, The Bay Institute
Rachel Zwillinger, Defenders of Wildlife



September 13, 2019

Joseph C. McGahan
 Drainage Coordinator
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Subject: Long-Term Storm Water Management Plan for the Grassland Bypass Project 2020–2045

Dear Mr. McGahan:

Contra Costa Water District (CCWD) appreciates the opportunity to comment on the Draft Long-Term Storm Water Management Plan 2020–2045 – Addendum to the Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) for consideration of the Grassland Bypass Project (Draft Addendum) and the associated Initial Study. CCWD has engaged in the stakeholder process that negotiated the previous Agreements for Use of San Luis Drain for the Grassland Bypass Project between the Bureau of Reclamation and the San Luis & Delta Mendota Water Authority (Use Agreements) over the past several decades, and we look forward to continuing our good relationship with the Grassland Area Farmers as we work towards a sustainable storm water management plan.

First, we would like to applaud the Grassland Area Farmers for successfully implementing the Grassland Bypass Project over the past 30 years, which has kept selenium-rich drainage out of the adjacent wildlife area and reduced the discharged selenium load by 96% and salt load by 80%. The significant reduction in discharged contaminants and salt helps protect our precious shared water resources and downstream beneficial uses. The Grassland Bypass Project has proved to be a feasible in-valley solution for agricultural drainage issues and should be used as a model for the entire Central Valley as it is seeking sustainable valley-wide salinity alternatives.

The Final Addendum should include quantifiable constraints to ensure that the trend of selenium and salt discharge reduction is not reversed and loopholes are not created by storm water discharge permits. CCWD also would like to encourage continued efforts towards reaching the goal of “zero discharge” in both selenium and salt as new technologies become available. Addressing the following specific comments in the Final Addendum will ensure that it is adequate under the California Environmental Quality Act.

1. The impacts of storm water discharges with the proposed management plan should be quantified.

The remaining element of drainage management from the Grassland Area, that of storm water management, will be challenging. Due to the uncertainties associated with storm water events, the Initial Study for the Long-Term Storm Water Management Plan did not provide quantitative

Joseph C. McGahan, San Luis & Delta-Mendota Water Authority
Long-Term Storm Water Management Plan for the Grassland Bypass Project 2020–2045
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Page 2

evaluation of discharges and water quality impacts with full implementation of the proposed mitigation measures. Instead, the Initial Study used historical data from 2015 to 2018 as a surrogate and assumed the actual impacts in the future would be less. CCWD agrees with the assessment that storm water events are inherently uncertain, but historical precipitation levels over a longer period should be used to estimate discharges in order to analyze likely impacts for a range of flows over different water year types.

2. A storm-driven event should be clearly defined.

The Addendum and the new agreement to use the San Luis Drain beyond 2019 (Storm Water Use Agreement) are only intended to address storm water discharge. The Draft Addendum should include a clear and quantifiable definition of a storm-driven event under which the San Luis Drain would be used. Without a clear definition, it is possible that storm water discharge permits could provide a loophole for discharging agricultural drainage and might create unintended environmental consequences.

3. Seasonal and annual load and concentration limits for selenium and salt should be specified.

The current Agreement for Continued Use of San Luis Drain (Use Agreement) clearly defines milestones to guide continuous reductions in selenium and salt discharges from the Grassland Area. In the Draft Addendum, seasonal and annual load and concentration limits, no greater than the limits for Year 2019 in the current Use Agreement, should be applied. These limits would also provide checkpoints for storm water management in the long term – if the limits are exceeded, the environmental impacts should be re-evaluated, and new actions to keep discharges within the limits should be explored.

4. Details of comprehensive monitoring plans should be added.

The current Use Agreement is implemented with a comprehensive water quality monitoring plan to ensure that the selenium and salt loads are not exceeded and a comprehensive biological monitoring plan to track of the contaminant levels in bird eggs in the area. These monitoring plans are key to measuring the progress of the Grassland Bypass Project and identifying effective drainage management actions and should continue to be implemented under the future Storm Water Use Agreement. Therefore, the Draft Addendum and Initial Study should also include details of comprehensive monitoring plans, as well as monitoring details for the new regulating reservoirs and the expanded reuse area if any.

5. The sustainability of the Reuse Area for the San Joaquin River Improvement Project should be evaluated more closely.

Figure 1 below shows the daily and monthly average salinity of the discharge from the Grassland Bypass Project as electrical conductivity (EC) values for 2000 to 2019. Since 2014, when the discharges to the San Luis Drain were reduced to storm water discharges only, the discharged salinity from the Grassland Area has increased. Although some freshening was observed after wet seasons, the overall salinity was higher post-2014 than pre-2014, when discharges occurred throughout the year. This indicates potential salt accumulation in the

Joseph C. McGahan, San Luis & Delta-Mendota Water Authority
 Long-Term Storm Water Management Plan for the Grassland Bypass Project 2020–2045
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Reuse Area as the discharge flows decrease. If salt keeps accumulating, the discharged salt loads and impacts on downstream water quality could increase, even with the same or lesser discharge flows. It is also possible that salt accumulation in the Reuse Area would impact the continued use of the Grassland Area in the long term, which is key to success of the Grassland Bypass Project. These potential outcomes and impacts need to be more closely evaluated. If needed, more aggressive actions, such as land retirement and desalination, should be considered to achieve salt balance and to obtain sustainability of the Reuse Area without discharging more drainage into the San Luis Drain.

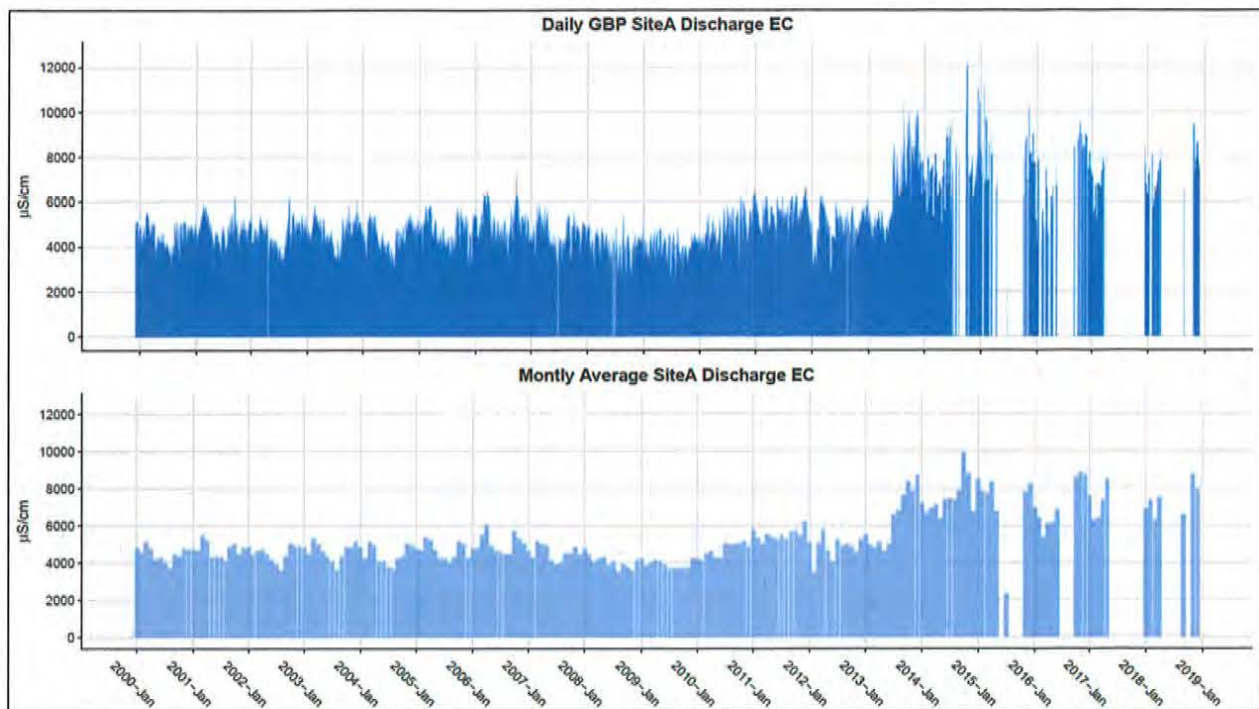


Figure 1 Electrical conductivity (EC) of discharges from Grassland Bypass Project (GBP) (2000 – 2019)

6. The Storm Water Use Agreement must be consistent with the Draft Addendum, and should also reflect the above comments.

It is our understanding that the Storm Water Use Agreement will be negotiated with, and a separate NEPA (National Environmental Policy Act) document prepared by, the Bureau of Reclamation later this year. CCWD appreciates being included in this stakeholder process. However, without the publication of a draft Storm Water Use Agreement, we are not able to review the details of the actual long-term storm water management plan at this time. The Storm Water Use Agreement must be consistent with the Draft Addendum, and both documents should also incorporate our comments in this letter.

Joseph C. McGahan, San Luis & Delta-Mendota Water Authority
Long-Term Storm Water Management Plan for the Grassland Bypass Project 2020–2045
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If you have any questions, please do not hesitate to get in touch with Lucinda Shih at (925) 688-8168 or lshih@ccwater.com, or with Yuan Liu at (925) 688-8282 or yliu@ccwater.com. We look forward to continuing to work with you on this important project.

Sincerely,



Leah Orloff
Water Resources Manager

LHS/YL:wec

cc: Ryan Hernandez, Contra Costa County
Gary Bobker, The Bay Institute
Rachel Zwillinger, Defenders of Wildlife

200 W. Willmott Avenue
Los Banos, CA 93635-5501



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General Counsel

September 13, 2019

VIA E-MAIL

Joseph C. McGahan, Drainage Coordinator
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635
jmcgahan@summerseng.com

Re: Addendum to EIS/EIR for Grassland Bypass Project, 2010-2019,
SCH No. 2007121110

Dear Mr. McGahan,

Grassland Water District and Grassland Resource Conservation District (collectively, GWD) submit these comments on the Addendum to the Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Grassland Bypass Project, prepared by the San Luis & Delta-Mendota Water Authority. The Addendum addresses the continued operation and management of the Grassland Bypass Project, including the operation and management of the San Luis Drain, and related improvements at the San Joaquin River Improvement Project, for the next 25 years.

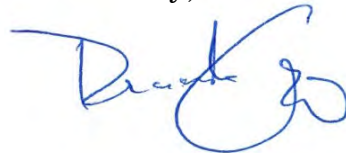
GWD is directly affected by the management of agricultural tail water and storm-induced flows that are contained and conveyed by the Grassland Bypass Project. The Project, as designed, has successfully diverted these flows around the sensitive wetlands within GWD and adjacent wildlife refuges, preventing the degradation of wetland habitat and the impermissible co-mingling of flows with higher-quality water that is delivered to wetlands under federal law.

We believe the Project is essential to the continued protection of wildlife and wildlife habitat in the Grassland Ecological Area, the importance of which is recognized under international treaties and federal law. Continued use of the San

Luis Drain is essential to manage and convey stormwater flows around these wetland habitats, and to prevent the ponding of stormwater on agricultural lands near the Grassland Ecological Area, which may cause an unwanted wildlife attraction. The implementation of short-term regulating basins will add needed flexibility to manage and prevent the introduction of flows into GWD's wetland water conveyance system. We appreciate the design considerations and proposed management of these basins that will prevent wildlife attraction and use.

Thank you for providing us the opportunity to submit these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ricardo Ortega", with a stylized flourish at the end.

Ricardo Ortega
General Manager



September 9, 2019

Joseph C. McGahan, Drainage Coordinator
 San Luis & Delta-Mendota Water Authority
 P.O. Box 2157
 Los Banos, CA 93635

Sue McConnell, PG
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Rain L. Emerson, M.S.
 Environmental Compliance Branch Chief
 Bureau of Reclamation, South-Central California Area Office
 1243 N Street, Fresno, CA 93721

Via Email

Re: Coalition Comments on Grassland Bypass Project Long-Term Storm Water Management Plan EIR Addendum and Initial Study--A Full EIR-EIS is Required.

Thank you for the opportunity to provide public input concerning the proposed Grasslands

Bypass Project Long-Term Storm Water Management Plan, 2020 – 2035 (GBP Stormwater Plan) as described in Notice of Availability (SCH No. 2007121110), draft Addendum to the 2009 GBP EIR/EIS and CEQA Initial Study.¹

The GBP began in 1995 as a two-year program, and its Federal use agreements for the San Luis Drain have been extended now through Three Use Agreements. All of these permits and environmental reviews and findings were predicated on zero discharge at the end of each period. First for 5 years, then 10 more and then 10 more. All that time--25 years--the polluted discharge was exempted from meeting protective water quality standards or only required to meet relaxed standards. Furthermore, over that 25 years the project steadily reduced both monitoring of the discharge and compliance with water quality standards. The Grassland Drainers under the GBP Storm Water Plan are now proposing a 4th Federal Use Agreement starting in January 2020. Enough is enough. Too much time has already passed without adequate progress on meeting water quality standards. Species are hanging by a thread and migratory bird deformities continue. If the 4th Federal Use Agreement is not approved by December 31, 2019, all discharges (including stormwater) into the San Luis Drain from the GBP are required to cease, and this is what should happen. The cessation of these selenium laden pollutants has been promised for the last 25 years and must stop. Further, providing an addendum rather than a full EIR/EIS to accurately inform decision makers does not comply with CEQA and NEPA requirements.

The First Use agreement² (1995) for the San Luis Drain authorized use of a 28-mile portion of the Drain by the San Luis Delta Mendota Water Authority (SLDMWA) to carry agricultural drainage water to Mud Slough. There was no stipulation to discharge stormwater. In fact, in a 1997 report titled, “A Storm Event Plan for Operating the Grassland Bypass Project”³ by the Grassland Area Farmers and the SLDMWA, several issues were identified regarding major storm events in the GBP including:

1. *Storm water runoff carries sediment that should not be transported in the Grassland Bypass, or deposited in the San Luis Drain;*
2. *It is not possible during major storm events to separate agricultural drainage water from surface runoff and storm water flows;*
3. *It will not be possible to divert all of the commingled surface runoff, storm water flows, and agricultural drainage water through the Grassland Bypass Channel during major storm events.*
4. *During some storm events, the instantaneous flow rate in Panoche Creek, which carries water from hills adjacent to the agricultural area can exceed 12,000 cubic feet per second, while the average daily flow rate during such events can exceed 2,000 cubic feet*

¹ Available at these links: http://sldmwa.org/grasslandbypass/NOA_CEQA_GBP%20Addendum%2008-14-19.pdf
<http://sldmwa.org/grasslandbypass/LTSWMP%20Initial%20Study%20080519.pdf>
<http://www.sldmwa.org/grasslandbypass/LTSWMP%20Addendum%20080519.pdf>

² See <http://calsport.org/news/wp-content/uploads/GBP-First-Use-Agreement-1995.pdf>

³ See pages 2-3: “A Storm Event Plan for Operating the Grassland Bypass Project” by the Grassland Area Farmers and the SLDMWA, 1997.

per second. These flows can generate more than 40,0000 acre-feet of water during a two-week period that includes a storm event.

Further, both the purpose of the project and use agreement confirm the use only for agricultural drainage. For example, the Grassland drainers stated explicitly in 1997, "*The Grassland Bypass Channel and the San Luis Drain were designed and constructed explicitly for the purpose of conveying agricultural drainage water. Neither facility can accommodate storm water flows nor surface runoff from major storm events.*"⁴ The 1995 First Use Agreement stated clearly, "*The AUTHORITY has requested that the UNITED STATES permit it to use a portion of the San Luis Drain consisting of approximately 28 miles from the terminus (Kesterson Reservoir) to Milepost 105.72, Check 19 (near Russell Avenue) for the discharge and transportation of a maximum flow of 150 cubic feet per second (cfs) of drainage water to Mud Slough (said portion hereinafter referred to as the Drain)*" highlight added.⁵ Finally the NEPA documents all stated the purpose of the project was for "*a field experiment designed to evaluate approaches to agricultural drainage management. There is no commitment, at this time, to approve long-term use of the Drain.*"⁶

These issues of permitting continued discharge of pollutants from the Federal San Luis Drain are significant and should not be handled by an Addendum to the 2009 GBP EIR/EIS that planned on zero discharge to the San Luis Drain after 2019.

We, the signatory organizations on these comments, recommend that the proposed 15-year extension to use the San Luis Drain to discharge stormwater into Mud Slough (North) and the San Joaquin River from Sack Dam to the Merced River be denied and that no permit or use agreement be granted. At a minimum a full Environmental Impact Report/Statement (EIR/EIS) must be completed. The CEQA addendum process being proposed would allow storm water and agricultural drain water laced with selenium (and other toxic drainwater constituents such as salt, sulfates, boron, and mercury) through the federal San Luis Drain to Mud Slough and the San Joaquin River and the Delta Estuary. Below, we detail our concerns in several areas and recommend what we believe is the only reliable and cost effective public solution--order the cessation of this polluted discharge and retire these drainage impaired lands as determined in federal study after study.⁷

⁴ Ibid. page 12.

⁵ Op. cit. First Use Agreement 1995 pages 1-2.

⁶ USBR,SLDMWA,EPA& USFWS letter to Karl Longly, CVRWQCB 11-3-95 pg 2 <http://calsport.org/news/wp-content/uploads/USBR-SLDMWA-EPA-USFWS-11-3-95-Ltr-to-CRWQCB.pdf> and Supplemental Environmental Assessment April 1991 and the FONSI dated October 18,1991.

⁷ The San Joaquin Valley Drainage Program (SJVDP) *A Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley*, also known as the "Rainbow Report" (September 1990) Also see USGS *Technical Analysis of In-Valley Drainage Management Strategies for the Western San Joaquin Valley, California* Open-File Report 2008-1210 By: Theresa S. Presser and Steven E. Schwarzbach

The CEQA/NEPA analysis in the 2009 GBP EIR/EIS does not support an “Addendum”

Under CEQA Guidelines section 15164, an Addendum presents changes to an EIR that are not significant enough to require a supplemental EIR. A supplemental EIR is required if, as defined in Section 15162(a)(1), (a) there have been substantial changes to the Project; (b) new significant environmental effects have been identified; or (c) there has been a substantial increase in the severity of previously identified significant effects. The GBP Stormwater Plan is a substantial change from the 2009 GBP EIR/EIS. In the 2009 EIR/EIS it was assumed that all drainage discharges into the San Luis Drain would cease by the end of 2019.

Under the proposed GBP Stormwater Plan selenium contaminated discharges would continue adding additional stormwater commingled with subsurface agricultural drainage into the San Luis Drain for an additional 15 years. This is a substantial change and should be analyzed in a full EIR/EIS. Further, there are numerous impacts that are significant and need to be disclosed, including: 1) cumulative impacts to downstream beneficial uses 2) the failure to meet protective water quality standards 3) impacts to endangered and listed species and 4) migratory bird impacts. All of these impacts warrant a full EIR/EIS analysis to adequately inform decision makers of the risks posed by continuing these discharges without proper permits and compliance with the Clean Water Act, including state and federal non-degradation policies.

The undersigned organizations, have a long-standing interest in the GBP because contaminants in agricultural drainage discharges have profound effects to the environment, including effects to downstream waterways, aquatic life, and migratory birds. We include our previous comments on the GBP EIR/EIS and Basin Plan Amendment by reference.⁸

<https://pubs.er.usgs.gov/publication/ofr20081210> Also see USBR Final Environmental Impact Statement in May 2006 and signed the Record of Decision (ROD) for the *San Luis Drainage Feature Re-evaluation EIS* in March 2007, selecting the “In-Valley/ Water Needs/ Land Retirement Alternative.”

⁸ Coalition comments of environmental, fishing and environmental justice organizations opposed U.S. EPA's proposed federal water quality criteria for selenium applicable to California. March 28, 2019.

<http://calsport.org/news/wp-content/uploads/PCL-et.-al-Cmt-Letter-EPA-Ca-Selenium-Criteria-Doc-No.-EPA-HQ-OW-2018-00....pdf>

Comments of the Pacific Coast Federation of Fishermen's Associations Requesting Denial of Proposed Waste Discharge Requirements for Surface Water Discharges from the Grassland Bypass Project, Stephan C. Volker, June 22, 2015

https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/wdrs_development_archive/2015may/2015_05_gbp_com_pcffa.pdf

Re: Land Retirement Benefits to Grasslands Bypass Project and Draft Waste Discharge Requirements, Coalition Letter to CVRWQCB Follow-up on Grasslands WDR, September 8, 2014

<http://calsport.org/news/wp-content/uploads/Coalition-response-letter-to-Longley-re-gbp-land-retirement.pdf>

Coalition Comments Re Draft Waste Discharge Requirements for the Grassland Bypass Project, June 30, 2014. <http://calsport.org/news/wp-content/uploads/Final-coalition-comments-on-Draft-GBP-WDR-6.30.14.pdf>

The proposed drainers' GBP Stormwater Plan effectively sanctions continued excessive pollution, especially during stormwater events, of Mud Slough (North), the San Joaquin River, and ultimately the Sacramento-San Joaquin Delta, by failing to enforce science-based protective water quality standards for selenium and allowing the continued contamination of these water bodies. Excess selenium in streams kills or deforms fish and other aquatic life and is a human-health concern in drinking-water supplies. Under the proposed Stormwater Plan, selenium (and other drainwater constituents, such as salt, sulfates, boron, and mercury) will continue to be discharged from the federally owned San Luis Drain directly into the waters of the state and nation. The failure to enforce protective selenium water quality objectives transfers pollution from these Grassland drainers through this federal drain to the waters of the state, harming beneficial uses of these waters for our members' commercial beneficial use, the domestic water supply, public health, and other public trust values. In addition, impacts of climate change which were not considered in previous environmental assessments in concert with implementation of the GBP Stormwater Plan must be disclosed in a full EIR/EIS review.

The GBP Drainers propose to continue to use the federally owned San Luis Drain from 2020 to 2035 to convey stormwater commingled with contaminated agricultural drainage water to the San Joaquin River via Mud Slough (North). The GBP Stormwater Plan includes a number of management actions and commitments that will not be sufficient to protect downstream beneficial uses..

Coalition Comments: Grasslands Bypass Project -- Violations of the Endangered Species Act and Reduced Monitoring Threaten Endangered Species and Public Health, November 27, 2013 <http://calsport.org/news/wp-content/uploads/2013/12/Coalition-Letter-on-GBP-ESA-Violations-Monitoring-Reductions-LTR.Corrected-.pdf>

Coalition Comments: Opposition to the Proposal to Curtail Monitoring at the Grassland Bypass Project. August 11, 2011 <http://calsport.org/news/wp-content/uploads/2011/09/Opposition-To-Grassland-Bypass-Monitoring-Reductions.pdf>

CSPA, CWIN and AquAlliance submit Comments to State Water Board Regarding Grassland Bypass Project and Basin Plan Amendment. September 22, 2010. <http://calsport.org/news/cspa-cwin-and-aqualliance-submit-comments-to-state-water-board-regarding-grassland-bypass-project-and-basin-plan-amendment/>

Sierra Club et. al. Comments: Grassland Bypass Project & San Joaquin River Selenium Basin Plan Amendments September 22, 2010. https://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/sjr_selenium/comments092210/jim_metropulos.pdf

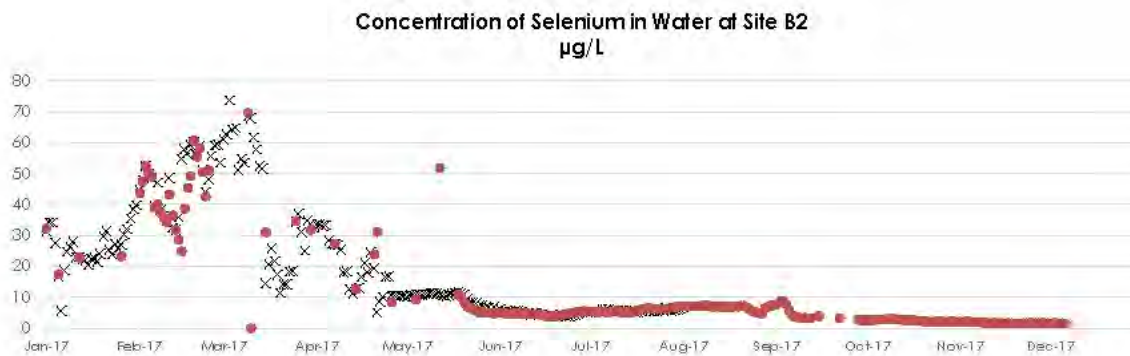
Comments of California Sportfishing Protection Alliance and California Water Impact Network on the draft environmental impact report for the Irrigated Lands Regulatory Program and related documents. Also attached are several comments prepared by three expert consultants September 27, 2010 <http://calsport.org/doc-library/pdfs/207.pdf>

Environmental Coalition Comments on Draft Staff Report for Grasslands Bypass Project Basin Plan Selenium Amendments to The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, April 26, 2010 https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/grasslands_bpa_coalition_ltr.pdf

A National Pollutant Discharge Elimination System (NPDES) permit must be required.

The US EPA and by delegation California State and Regional Boards have the authority to regulate agricultural drainage under the Clean Water Act (CWA), having comprehensive federal statutory authority for regulating pollutant discharges to the nation’s navigable waters. The term “pollutant” includes “agricultural waste discharged into water” and the term “navigable waters” encompasses the San Joaquin River, its principal tributaries, and arguably inflowing ditches and drains. Thus, discharges of agricultural drainage water to the San Joaquin River and its tributaries is subject to regulation under the CWA (Thomas and Leighton-Schwartz, 1990). The GBP Stormwater Plan should be required to obtain a NPDES permit to discharge pollution to navigable waters or to discharge commingled groundwater, surface water and agricultural drainage containing pollutants such as selenium, boron, salt, sulfate and mercury.⁹

Significant discharges of selenium-laden drainage and contaminated groundwater still is occurring from the GBP. For example, during the winter/spring of 2017, water quality monitoring data clearly show high selenium concentrations (e.g., 20-40 µg/L) associated with high flow conditions in water entering the San Luis Drain from the GBP. The figure below shows selenium concentrations at Site B2 in the San Luis Drain during 2017.



Although the San Luis Drain flow adds a relatively small percentage of flow to Mud Slough, it nevertheless substantially increased the selenium concentrations in Mud Slough in 2017 to unacceptably high levels of 5-10 µg/L. Dilution is not the solution to pollution—especially in the case of selenium, which bioaccumulates in the food chain and magnifies impacts on fish, wildlife, migratory birds and terrestrial species (Lemly and Skorupa, 2007; Skorupa 1998; USDI 1998).

⁹ <https://www.epa.gov/cwa-404/clean-water-act-section-402-national-pollutant-discharge-elimination-system>

Greater outflow of the San Joaquin River associated with CVP and SWP operations in the Delta could result in even further transport of selenium and sulfate from agricultural drainage discharges in the San Joaquin River and into the Delta (Lucas and Stewart 2007). Also, note the Lucas and Stewart (2007) discussion on seasonal trends of bivalve selenium concentrations in the North Delta and its relationship to the San Joaquin River, “*Several explanations for the temporal trends in bivalve Se concentrations (which did not exist in the 1980’s) are possible. One possibility is that refinery inputs of selenium have been replaced by San Joaquin River inputs. Models indicate that if SJR inflows to the Bay increase, as they may have in recent years with barrier management, particulate Se concentrations in the Bay could double, even with no increase in irrigation drainage inputs to the SJR. The fall increase in Se in C. amurensis also occurs during the time period when the ratio of SJR/Sac River inflow is highest. Further changes in water management could exacerbate these trends...*”.

Stormwater runoff from GBP and its upstream watershed can also contain elevated concentrations of mercury. Results from the CalFed Mercury study found elevated levels of mercury in fish from the lower San Joaquin River and Mud Slough (Davis et al. 2000; Slotton et al. 2000). A significant finding of the CalFed Mercury Study in the San Joaquin Basin was that Mud Slough contributes about 50% of the methylated mercury at Vernalis (legal boundary of the Delta), but only 10% of the water volume during the non-irrigation season (September to March) (Stephenson et. al., 2005).

Sulfate loading in the San Joaquin River from the GBP discharges in concert with Delta operations could result in downstream environmental impacts that should be considered in a full EIR/EIS. Sulfate reducing bacteria are the primary agents responsible for the methylation of mercury in aquatic ecosystems. Wood et al. (2006) found that sulfate concentrations are about seven times higher in the San Joaquin River than in the Sacramento River, and that addition of sulfate is predicted to stimulate methylmercury production when it is limiting. Two factors influencing sulfate concentrations in the Bay-Delta are the electrical conductivity (EC) and the ratio of San Joaquin River to Sacramento River water.

The 5 ppb Se water quality performance goal in Mud Slough and San Joaquin River upstream of Merced is not protective of downstream beneficial uses and public trust resources.

Pursuant to the Endangered Species Act (ESA) of 1973 (as amended), and prior to the USEPA promulgating water quality objectives (including selenium) for the State of California in the California Toxics Rule (CTR), the USEPA was required to consult with the US Fish and Wildlife Service and the National Marine Fisheries Service (Services) and obtain the Services’ concurrence that none of the proposed criteria would jeopardize any ESA-listed species. Upon that review, the Services found that the 5 µg/L chronic criterion for selenium proposed by USEPA in the CTR would likely jeopardize 15 ESA-listed species (Emphasis added). To avoid a final “Jeopardy Opinion” from the Services, and the associated legal ramifications, the USEPA agreed to reevaluate their CWA criteria guidance for selenium by 2002 (FWS and NMFS 2000).¹³

¹³ <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OW-2018-0056-0009&contentType=pdf>

To comply with the Service’s 2000 Biological Opinion on the CTR, USEPA in November 2018 proposed new water quality objectives for California (lentic and lotic water, and fish tissue) that would be protective of listed species: Federal Selenium Criteria for Aquatic Life and Aquatic-Dependent Wildlife Applicable to California Docket RIN, 2040-AF79 EPA-HQ-OW-2018-0056 FRL-9989-46-OW. The USEPA's proposed rule did not include waters within known selenium-contaminated geographical areas, including tributary flows into the San Francisco Bay Delta system such as, the San Joaquin River from Sack Dam to Vernalis, Mud Slough, Salt Slough, along with the water supply channels in the Grassland watershed, and the Grasslands Ecological Area in Fresno and Merced Counties. Instead, the USEPA proposed rule defers to existing State established water quality objectives for Mud Slough (North) and the San Joaquin River upstream of the Merced River of 5 µg/L 4-day average (as defined in the Regional Board’s June 2010 Basin Plan Amendment to address Selenium Control in the San Joaquin River Basin¹⁴).

Supporting documentation for this USEPA Docket for Selenium in California includes 2 reports by USFWS: Species at Risk from Selenium Exposure in California Inland Surface Waters, Enclosed Bays and Estuaries, for a list of species considered most at risk for selenium exposure in CA¹⁵ and Species at Risk from Selenium Exposure in the San Francisco Estuary¹⁶. The species identified at most risk for selenium exposure in the San Joaquin Valley and San Francisco Estuary were denoted as:

Mammals:	Buena Vista Lake Ornate Shrew;
Birds:	Bald Eagle, California Black Rail, California Clapper Rail, California Least Tern, Greater Scaup, Lesser Scaup, White-winged Scoter, Surf Scoter, Black Scoter;
Reptiles:	Giant Garter Snake;
Fish:	Chinook Salmon, Steelhead, Green Sturgeon, White Sturgeon, Delta Smelt, and Sacramento Splittail.

The proposed GBP Stormwater Plan is seeking to comply with the selenium water quality objectives specified in the 2010 Basin Plan Amendment (5 µg/L, 4-day average), but the proposal is lax, allowing for high spikes of selenium contaminants that will bio-accumulate throughout the ecosystem. The Stormwater plan includes mitigation measures that establish a Mud Slough (North) water quality “goal” of 3 µg/L Se, 4-day average. For every 3 months that meet this 3 µg/L performance goal, one exceedance of 5 µg/L 4-day average is allowed. These goals and objectives would likely result in harm to aquatic fish and wildlife as denoted in the Service’s 2000 Biological Opinion on the CTR. We recommend that State and Federal Fish and Wildlife agencies be consulted on the effects of implementation of the GBP Stormwater Plan and relaxed standards that are not protective of migratory birds and endangered anadromous fish populations.

¹⁴ https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/sac_sj_basins_salinity_staffrpt.pdf

¹⁵ <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OW-2018-0056-0144&contentType=pdf>

¹⁶ <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OW-2018-0056-0265&contentType=pdf>

Our organizations have submitted several comment letters on protective selenium objectives in California.¹⁷ In March 2019, PCFFA and others provided comments to the USEPA on their proposed selenium criteria for California.¹⁸ We recommended that a chronic, legally binding selenium objective of no greater than 2 µg/L (4-day average) be included in the GBP Stormwater Plan for receiving waters of stormwater/drainage discharges. That comports with the recommendations of several experts that the criterion should be 2 µg/L or less (DuBowy 1989; Lemly and Skorupa 2007; Peterson and Nebeker 1992; Swift 2002). Exceeding the water criterion should trigger additional biological monitoring to determine if the tissue criteria for selenium proposed by USEPA has also been exceeded.

The Proposed and Existing Monitoring and Reporting Program for GBP are not sufficient to assess environmental impacts and protect beneficial uses.

The monitoring and reporting program that was revised by the Regional Board in 2015¹⁹ is inadequate to determine the level of pollution being discharged by the GBP and adjacent agricultural lands, and the harm it is causing to the environment. We have provided comments three times on the inadequacies of the Revised Monitoring and Reporting Program for the GBP. We hereby incorporate by reference our coalition letters of August 11, 2011, April 22, 2013, and November 26, 2013, and June 22, 2015. We also refer to comments submitted to the Regional Board by USFWS on the Revised Monitoring and Reporting Program for the GBP dated June 22, 2015 and June 25, 2015.²⁰ The USFWS recommended that the Regional Board reinstate weekly water quality monitoring for selenium at GBP Stations J, K, and L2 as exceedences of 2 µg/L are still occurring in those wetland channels, those channels are listed on the State's 303(d) list as impaired for selenium, and elevated selenium in those channels could be resulting in harm to federally listed species.

As part of Regional Board **ORDER R5-2015-0094**, Waste Discharge Requirements for the GBP (2015 WDR), sampling frequencies for Mud Slough, Grasslands wetland channels, and Salt Slough were reduced or completely eliminated. Stations A, B, C, I2, F, J, K, L/L2, M/M2, G and H have all been eliminated from required monitoring. We can see no technical justification or rationale for this reduction in monitoring for a project that has exceeded water quality objectives

¹⁷ <http://calsport.org/news/wp-content/uploads/EPA-Selenium-Cmt-LTR-Re-Docket-No.-EPA-HQ-OW-2004-0019.pdf> and <http://calsport.org/news/wp-content/uploads/Technical-Review-2004-EPAs-Draft-Tissue-Based-Selenium-Criterion.pdf>

¹⁸ Coalition comments of environmental, fishing and environmental justice organizations oppose U.S. EPA's proposed federal water quality criteria for selenium applicable to California. March 28, 2019. <http://calsport.org/news/wp-content/uploads/PCL-et.-al-Cmt-Letter-EPA-Ca-Selenium-Criteria-Doc-No.-EPA-HQ-OW-2018-00....pdf>

¹⁹ https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/fresno/r5-2015-0094.pdf

²⁰ https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/wdrs_development_archive/2015may/2015_05_gbp_com_usfws.pdf See this link for a copy of the USFWS letter to Ms. Margaret Wong Regional Water Quality Control Board, Central Valley Region: USFWS Comments on the May 2015 Draft Waste Discharge Requirements for the Surface Water Discharges from the Grassland Bypass Project and the Discharges to Groundwater from the Growers in the Grassland Drainage Area @ <http://calsport.org/news/wp-content/uploads/Exhibit-5.pdf>

and standards for more than 20 years. Significant spikes of selenium and other drain water pollutants are not being monitored under the existing monitoring and reporting requirements.

In addition, we specifically protested the change in the Hills Ferry monitoring site (Site H) to China Island (Site R). There is a comprehensive database with documented selenium water quality violations at Hills Ferry. Site R appears closer to the mouth of the Merced River than Site H, allowing for greater dilution and underrepresenting the contaminant threat in the San Joaquin River upstream of the Merced River.

We also opposed adoption of the monitoring and reporting program in the 2015 WDR and recommended a more robust monitoring plan similar to the 2001 GBP monitoring requirements. The reduction in monitoring frequency and locations will prevent the collection of necessary data sufficient to protect public trust values, endangered species and evaluate compliance with water quality standards. Here we reference and reiterate our previous comments and recommend a vigorous monitoring program that does not hide or understate the discharge of selenium and other toxins through stormwater discharges into Mud Slough and the San Joaquin River.

We further recommend that monitoring and reporting for total mercury and methyl-mercury concentrations in water and biotic tissue be required at all sampling locations of the GBP to establish a mass-balance of sources of mercury in this watershed.

The Stormwater Detention Basins - Another Kesterson in the Making - Effects to Wildlife Are Not Disclosed.

The proposed GBP Stormwater Plan includes use of an unspecified acreage of existing ponds and the addition of up to 200 acres of stormwater detention basins (regulating reservoirs) to store and regulate disposal or distribution of stormwater. How is such a basin different from an evaporation pond? Proposed use of regulating ponds to help control flow as a part of the engineered reuse system and ponding during flood events in the GBP area also may create a potential wildlife exposure risk similar to those originally realized at Kesterson National Wildlife Refuge (Presser and Ohlendorf, 1987). Ponding of stormwater and agricultural drainage will support an aquatic food chain and be attractive hazard to birds within a short period of time.

Selenium poses a hazard to fish and wildlife because of its toxicity at environmentally relevant concentrations and its tendency to accumulate in food chains (Skorupa, 1998). The San Joaquin Valley provides critically important habitat for wintering waterfowl of the Pacific Flyway. Eight to twelve million ducks and geese, along with hundreds of thousands of shorebirds and other marsh birds annually winter or pass through the valley. The history of the ecological impacts of disposal of selenium at Kesterson National Wildlife Refuge within the valley is well documented (e.g., Presser and Ohlendorf, 1987; SJVDP, 1990a, b). Additionally, from 1986 to 1993, the National Irrigation Water-Quality Program (NIWQP) of the U.S. Department of the Interior (USDOI) studied whether contamination was induced by irrigation drainage in 26 areas of the western United States. This program developed guidelines to interpret effects on biota of selenium (USDOI, 1998). These guidelines, along with revisions based on more recent studies and modeling, can be used to interpret and guide management and mitigation of the risk of

selenium in food chains and wildlife.²¹ The GBP reuse areas present opportunities for wildlife use and selenium exposure. Proposed use of regulating ponds to help control flow as a part of the engineered reuse system and ponding during stormwater events in the GBP area also may create a potential wildlife exposure risk similar to those originally realized at Kesterson National Wildlife Refuge²² (Presser and Ohlendorf, 1987).

The GBP has been monitoring and reporting annual bird use from April thru June at the SJRIP drainage reuse area since 2008. Many of those reports are posted on the SFEI website, however, no reports have been posted since the 2015 report. We note that additional reports were made available during the public comment period at this website.²³

The 2017 wildlife monitoring report for the GBP drainage reuse area (SJRIP) documented 50 avian species were observed at the drainage reuse area between April 13 and June 21, 2017. Eighteen species either were observed nesting or were suspected of nesting, including Swainson's hawk, a species listed by the State of California as a threatened. Twelve of the species observed—spotted sandpiper, least sandpiper, whimbrel, western wood-peewee, willow flycatcher, American pipit, savannah sparrow, White-crowned sparrow, common yellowthroat, yellow warbler, Wilson's warbler, and western tanager—were present only as spring Migrants.²⁴

The draft Addendum notes that the filling of these stormwater detention basins will begin with the first significant storm (typically December), and basins will be emptied by May. So, the potential is that stormwater commingled with drainage water will be stored in basins for up to 6 months! If these basins will hold water longer than 30 days, a state water permit is required (CCR, Title 23, Sec, 657-658). As described in Skorupa et al (2004), low winter temperatures substantively increase the toxicity of dietary selenium to birds, fish, and mammals. And the SJRIP wildlife monitoring reports do document use of the drainage reuse area by a large number of avian species (50 in 2017), including twelve species that are spring migrants. We recommend, therefore, that effects of disposal of selenium in the SJRIP and stormwater detention basins consider the effects of winter stress to birds in an EIR/EIS analysis.

Expansion of the SJRIP Drainage Reuse Area--An Unpermitted Selenium Disposal Site Masquerading as a Treatment Facility.

The GBP Stormwater Plan Addendum includes a proposed expansion of the existing drainage reuse area from 6,100 acres analyzed in the 2009 EIR/EIS to 7,550 acres of reuse area and increase in acreage of 1,450 acres. A significant environmental concern at the SJRIP is ponding of seleniferous drainage water within the fields of the reuse area. The addendum includes mention of a contingency plan in the event of inadvertent flooding, but only a reference to the

²¹ <https://pubs.usgs.gov/pp/p1646/>

²² <https://pubs.usgs.gov/of/2008/1210/>

²³ <http://www.summerseng.com/grasslandbypassproject.htm>

²⁴ <https://drive.google.com/file/d/1mudCtShFmoQ-RW0YJaVF2-oia2TIXqn5/view>

plan is included in the Addendum. It should be noted that bird use could increase in the vicinity of the SJRIP with the addition of drainwater detention basins.

Further, the 2017 SJRIP Wildlife Monitoring Report noted that the mitigation site for the SJRIP, which was supposed to provide compensation for avian exposure at the SJRIP, documented extremely elevated selenium concentrations in some bird eggs collected there. This suggests that the mitigation site is not providing compensation benefit for the SJRIP and also highlights the breadth of selenium contamination and wildlife exposure in this area.²⁵

Table 5. Selenium Concentrations in Recurvirostrid Eggs from the Mitigation Site in 2017

ID Number	Field Number ¹	Date	Embryo ²		Embryo Age (days)	Selenium (ppm, dry wt) ³	Log	
			Condition	Status			Base 10	Anti-Log
Black-Necked Stilt								
PM-01	MS-01	June 9	U	U	1	3.74	0.5729	
PM-02	MS-02	June 9	L	N	13	4.52	0.6551	
PM-03	MS-03	June 9	U	U	1	5.54	0.7435	
American Avocet								
PM-04	MA-01	June 9	L	N	9	51.1	1.7081	
PM-05	MA-02	June 9	U	U	1	8.7	0.9395	
Arithmetic/geometric mean						14.7	0.9238	8.4
Standard deviation						20.4	0.4591	2.9
Standard error							0.2053	1.6
Lower limit of 95% confidence interval							0.5214	3.3
Upper limit of 95% confidence interval							1.3263	21.2

¹ See Appendix H.

² L = live; N = normal; U = unknown.

³ ppm, dry wt = parts per million dry weight.

Treatment Methods Have Not Operated Effectively.

The 2009 EIR/EIS for the GBP included treatment as a significant component of the plan to reduce selenium in discharges to the San Luis Drain. What is the status of the treatment plant? The 2009 GBP EIR/EIS included a bio-treatment plant to reduce the selenium load being discharged, and to achieve the zero discharge of subsurface agricultural drainage after 2019. There is no mention of treatment in the GBP Stormwater Plan. More than thirty million dollars has been invested in a demonstration treatment plant that still is not functioning and where a federal audit found questionable expenditures.²⁶

²⁵ Ibid. page 20.

²⁶ <https://www.doioig.gov/reports/bureau-reclamation%E2%80%99s-cooperative-agreement-no-r16ac00087-panoche-drainage-district>

Long term viability and legality of GBP Drainers' Proposed Actions.

Given that the latest plan for adding the discharge polluted storm water is a 15-year program, it raises questions regarding the long-term viability of the actions proposed in the GBP Stormwater Plan. The 2009 EIR/EIS relied on unproven treatment technologies to treat and reduce the volume of drainage from the GBP that would need to be disposed of. These treatment technologies have yet to prove reliable or cost effective. Without treatment, how will drainage volumes and selenium loads be managed at the SJRIP? Can the SJRIP remain viable after 15 additional years of irrigation with selenium and salt-laden drainage? What is the life of the reuse area before too much salt accumulation prevents future agricultural use? Where is the selenium and salt that is accumulated in the SJRIP ultimately disposed of? All of these questions need to be evaluated in a full EIR/EIS. Dubbed a treatment area, the SJRIP is looking more and more like an unpermitted selenium and salt disposal facility.

Reuse of polluted drainage in the GBP's SJRIP drainage reuse area won't eliminate the loading of wastes. It is simply stockpiling wastes on land. The continued recycling of agricultural drainage will ultimately turn vast areas of the Central Valley into wastelands. The practice of drainage reuse is not sustainable and will inevitably lead to having to permanently fallow more and more land.

Land Retirement should be considered as a viable alternative.

Our organizations have previously submitted comments to the Regional Water Board about the success of land retirement in relation to the GBP's drainage volume load reductions.²⁷ The USBR's 2004 Broadview Water Contract Assignment Draft Environmental Assessment cites Summer's Engineering as predicting a load reduction of 17,000 tons of salt, 1,500 pounds of selenium, and 52,000 pounds of boron to the San Joaquin River each year from the cessation of irrigation on 9,200 acres of agricultural land in Broadview Water District as per Table 4-1 below (USBR 2004). This amounts to a per acre reduction of 0.28 AF of drainage, 1.85 tons of salt, 0.16 pounds of selenium and 5.65 pounds of boron.

²⁷ See Coalition letter to CVRWQCB on Selenium Basin Plan Amendment, April 26, 2010, p 15-16; http://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/grasslands_bpa_coalition_ltr.pdf and Coalition letter to Karl Longley on Land Retirement Benefits to Grasslands Bypass Project and Draft Waste Discharge Requirements: <http://calsport.org/news/wp-content/uploads/Coalition-response-letter-to-Longley-re-gbp-land-retirement.pdf>

**TABLE 4-1
DRAINAGE AND WATER QUALITY EFFECTS OF PROPOSED ACTION ON THE
SAN JOAQUIN RIVER**

	Existing Conditions	Under Proposed Action Conditions	Estimated Reduction Attributable to Proposed Action
BWD Drainage to San Joaquin River (afy)	3,700	1,100	2,600
BWD Estimated Salt Production (tons/yr)	24,300	7,300	17,000
BWD Estimated Selenium Production (lbs/yr)	2,140	640	1,500
BWD Estimated Boron Production (lbs/yr)	74,000	22,000	52,000

Source: Summers Engineering, 2003

Land retirement likely accounted for most of the reductions in selenium, and the majority of reductions in drainage volume, boron and salt claimed by the Grasslands Bypass Project in the 2009 EIR/EIS.

The US EPA, in a letter regarding the Bay Delta Conservation Plan,²⁸ strongly recommended the USBR’s Land Retirement Program be revived to save water and prevent further selenium contamination and impacts to endangered species (page 13):

Recommendations: *To mitigate for the project’s impacts to selenium levels in the estuary as a result of the BDCP operations, consider reviving and funding the Bureau of Reclamation’s Land Retirement Program¹⁷ to remove from cultivation and irrigation large areas of selenium laden lands on the West side of the San Joaquin Valley. This would save irrigation water, reduce discharges of selenium into the San Joaquin River basin, and advance attainment of selenium reduction targets¹⁸ set by EPA and the Central Valley Regional Water Quality Control Board. Evaluate the extent to which restoration of these “retired” lands to the native plant community could also contribute to the recovery of threatened and endangered plants and animals listed by FWS. Consider analyzing the cost/benefit of implementing treatment technologies vs. land retirement. Although cost/benefit analyses are not required under NEPA, such an analysis may be useful to decision makers and the public in this case.”*

Further, the USBR’s the San Luis Drainage Feature Re-Evaluation (SLDFRE) Final EIS in 2006 found that land retirement was the most cost-effective solution to managing drainage in the San Luis Unit. Three land alternatives were evaluated in the SLDFRE EIS, 306,000 acres, 194,000 acres and 100,000 acres respectively. The Final EIS found that the only environmentally and economically preferred alternative was to retire 306,000 acres (In-Valley/Drainage Impaired Area Land Retirement).²⁹ It’s clear from the NED findings in Table N-10 below that additional land retirement would provide increased net economic benefits.

²⁸ <http://calsport.org/news/wp-content/uploads/bay-delta-conservation-plan-deis.pdf>

²⁹ SLDFRE Final EIS, Appendix N, Table N-10, page N-17, accessed at https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=2240

**Table N-10
Benefit/Cost Summary
Changes Relative to the No Action Alternative (\$/year in 2050)**

Subarea	In-Valley Disposal	Out-of-Valley Disposal	In-Valley/ Groundwater Quality Land Retirement	In-Valley/ Water Needs Land Retirement	In-Valley/ Drainage-Impaired Area Land Retirement
Total NED Benefit	\$37,962,000	\$38,430,000	\$31,164,000	\$20,629,000	\$9,931,000
Total NED Cost	51,225,000	51,370,000	46,767,000	30,778,000	6,288,000
Net NED Benefit	-\$13,263,000	-\$12,940,000	-\$15,603,000	-\$10,149,000	\$3,643,000

Notes:

Values represent net NED benefits relative to No Action.

Values rounded to nearest \$1,000. Totals may not add due to rounding.

Moreover, the US Fish and Wildlife Service, in their Fish and Wildlife Coordination Act Report (FWCAR) for SLDFRE, recommended that all of the northerly area within the San Luis Unit (GBP Drainage Area) be retired as well,³⁰ but USBR did not consider that alternative. The Service concluded on page 67 of the FWCAR, *“To avoid and minimize risks and effects to fish and wildlife resources in the San Joaquin Valley and Pacific Flyway, the Service recommends land retirement on all drainage impaired lands in the SLU. This approach would maximize the elimination of drainage at its source, and therefore avoidance of adverse fish and wildlife effects.”*

By ignoring permanent land retirement, the GBP Stormwater Plan Addendum will continue to kick the can down the road and concentrate and store salt, selenium, boron and other toxic substances in the shallow aquifers of the Grasslands area. This creates an ongoing risk of toxic selenium discharges to wetland water supply channels, Mud Slough, the San Joaquin River and the Bay-Delta estuary, especially in wetter years.

Conclusion

We urge all polluted discharges of agricultural drainwater and stormwater cease as required under the current federal Use Agreement and Water Board WDR. We recommend land retirement and curtailing the importation of additional water supplies that mobilizes these contaminants on the west side of the Southern San Joaquin Valley. Despite repeated promises, no viable treatment has been developed in the more than two decades of myriad attempts. Before proceeding to load even more contaminants on downstream beneficial uses, we recommend no new use agreement be granted and before any further discharges of either stormwater, agricultural drainage or contaminated groundwater are permitted, that a full EIS/EIR be completed. Before the proposed drainers' GBP Stormwater Plan is considered, a complete environmental analysis is needed. The EIS/EIR should include:

³⁰ SLDFRE Final EIS, Appendix M, USFWS FWCAR accessed at https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=2236

- A National Pollutant Discharge System Permit prior to any additional use of the federal San Luis drain for discharge of contaminants from the west side into the San Joaquin River and Delta Estuary;
- A comprehensive cumulative effects analysis of stormwater and drainage disposal into Mud Slough and the San Joaquin River and Delta Estuary;
- A chronic, legally binding selenium objective of no greater than 2 µg/L (4-day average) is established for receiving waters of stormwater/drainage discharges;
- No exceedance of the 2 µg/L selenium water criterion which if exceeded should trigger all discharges to cease and additional biological monitoring to determine if the tissue criteria for selenium proposed by USEPA in November 2018 has also been exceeded;
- An analysis of effects of disposal of selenium in the SJRIP and stormwater detention basins to wildlife including factors such as winter stress;
- A description of the status and viability of drainage treatment at the SJRIP;
- A description and evaluation of the long-term viability of drainage disposal strategies at the SJRIP and describe where is the salt, selenium and other contaminants that accumulate are ultimately disposed. This should not become an unregulated dumping ground for west side contaminants.

Finally, Congress in its authorization of the San Luis Unit in 1960, never envisioned use of the San Luis Drain for stormwater discharge. As stated Congress provided a under specified conditions including approval by the State of California³¹ for “...*provision for constructing the San Luis interceptor drain to the Delta designed to meet the drainage requirements of the San Luis unit...*”, *Senate Report No 154, page 2, San Luis Unit, Central Valley Project, California, April 8, 1959.*³² This brings into question whether the "Drain" can be legally used for storm water discharge without Congressional approval.

The use of the federal San Luis Drain for stormwater also raises consistency questions with existing State Board orders. The California State Water Resources Control Board (SWRCB), following the Kesterson debacle, issued its Order WQ 85-1 in February 1985. The SWRCB found that agricultural drainage and wastewater reaching Kesterson Reservoir “is creating and threatening to create conditions of pollution and nuisance” (Emphasis added). The Order then warned “If the Bureau closes Kesterson Reservoir and continues to supply irrigation water to Westlands Water District without implementing an adequate disposal option, continued irrigation in the affected area of Westlands Water District could constitute an unreasonable use of water”

³¹ See PL86-488 San Luis Act June 3, 1960: Proviso: (2) *received satisfactory assurance from the State of California that it will make provision for a master drainage outlet and disposal channel for the San Joaquin Valley,which will adequately serve, by connection therewith, the drainage system for the San Luis unit or has made provision for constructing the San Luis interceptor drain to the delta designed to meet the drainage requirements of the San Luis unit as generally outlined in the report of the Department of the Interior, entitled "San Luis Unit, Central Valley Project," dated December 17, 1956.* The State of California has not made such a provision and Congress never consider the use of the drain for stormwater.

³² See H. Rpt 399...<http://calsport.org/news/wp-content/uploads/Exhibit-3.pdf>
S. Rpt 154...<http://calsport.org/news/wp-content/uploads/Exhibit-4.pdf>

(Emphasis added). We urge the project proponents and State and Federal permitting agencies to not repeat the mistakes made at Kesterson Reservoir in the 1980's. The continued irrigation of these toxic soils constitutes an unreasonable use of water and continued and future disposal of agricultural drainage in ponds, land, and in surface waters will cause significant harm to public trust resources and violates non-degradation policies.

Thank you for your consideration,



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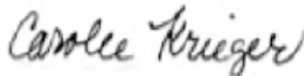
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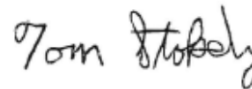
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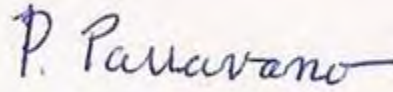
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September 13, 2019

via U.S. Mail and email

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Re: Comments of Pacific Coast Federation of Fishermen’s Associations, California Sportfishing Protection Alliance, Friends of the River, San Francisco Crab Boat Owners Association, Inc., Institute for Fisheries Resources, and Felix Smith on the Addendum to the Final Environmental Impact Statement / Environmental Impact Report for the Grassland Bypass Project, 2010-2019, SCH No. 2007121110

Dear Mr. McGahan:

We submit the following comments on the San Luis & Delta Mendota Water Authority’s (“SLDMWA’s”) Addendum to the Final Environmental Impact Statement / Environmental Impact Report for the Grassland Bypass Project (“Addendum”) on behalf of Pacific Coast Federation of Fishermen’s Associations, California Sportfishing Protection Alliance, Friends of the River, San Francisco Crab Boat Owners Association, Inc., Institute for Fisheries Resources, and Felix Smith (collectively, “PCFFA”).

Since 1995, the Grassland Bypass Project (“GBP”) has conveyed water contaminated with pollutants, including selenium, through the San Luis Drain (“Drain”) to Mud Slough, a water of the United States. After the original five-year term, use of the GBP was extended through 2009, and again through 2019. And now, despite being made fully aware of the detrimental consequences of the GBP’s discharge of pollutants, SLDMWA proposes to extend the term of the Drain Use Agreement once again. But any extension must be denied because the negative impacts to the environment from the GBP’s unlawful discharge of pollutants to Mud Slough and the San Joaquin River are unacceptable.

As you are aware, the Drain’s discharge of pollutants into Mud Slough, a water of the United States, without a National Pollutant Discharge Elimination System (“NPDES”) permit

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violates the Clean Water Act, 33 U.S.C. section 1251, et seq. (“CWA”). Any extension of the GBP Use Agreement would be in furtherance of that CWA violation. Therefore SLDMWA is barred by law from seeking an extension of the Use Agreement. Instead, it must apply for the NPDES permit that is required for the Drain’s discharge of pollutants.

Additionally, SLDMWA and its co-operator the U.S. Bureau of Reclamation must complete a Subsequent Environmental Impact Report (“SEIR”) and Supplemental Environmental Impact Statement (“SEIS”) to comply with the California Environmental Quality Act, Public Resources Code section 21000 et seq. (“CEQA”) and the National Environmental Policy Act, 42 U.S.C. section 4321 et seq. (“NEPA”).¹ Under CEQA Guidelines section 15162, a subsequent EIR must be prepared when:

- “(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR . . . due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR . . . due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, . . . shows any of the following:
 - The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.”

14 C.C.R. (“CEQA Guidelines”) § 15162(a).

¹ United States Fish and Wildlife Service must also comply with NEPA in evaluating whether to approve the modifications contemplated by the Addendum. Initial Study 1-1.

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Similarly under NEPA, an SEIS is required wherever “[t]he agency makes substantial changes in the proposed action that are relevant to environmental concerns; or [t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.” 40 C.F.R. § 1502.9(c). And where, as is the case here, an EIS is “more than 5 years old,” it should be “carefully re-examined” to determine if a supplement is required. 46 Fed.Reg. 18026 (Mar. 23, 1981), as amended 51 Fed.Reg. 15618 (Apr. 25, 1986), Question 32. “[I]f there remains ‘major Federal actio[n]’ to occur, and if the new information is sufficient to show that the remaining action will ‘affect the quality of the human environment’ in a significant manner or to a significant extent not already considered, a Supplemental EIS *must* be prepared.” *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989), quoting from 42 U.S.C. § 4332(2)(C) (emphasis added).

Both the test under CEQA for an SEIR, and the test under NEPA for an SEIS, are easily met here. The GBP has significant adverse impacts due to its discharge of substantial quantities of selenium and other pollutants whose cumulative effects are severe and growing – and unstudied. Contrary to the Addendum’s claim that “the prior CEQA analyses retain their relevance,” the evidence in the Addendum shows otherwise. The project proposed in the Addendum makes substantial changes to the GBP that were *not* previously considered and that substantially *increase* the impacts evaluated in the 2009 FEIS/FEIR. Therefore, SLDMWA’s reliance on an addendum – rather than a Subsequent EIR and a Supplemental EIS – fails to provide decisionmakers and the public with the information needed to make an accurate and informed decision, in violation of CEQA and NEPA.

I. SLDMWA MUST NOT GRANT A USE AGREEMENT EXTENSION WITHOUT FIRST OBTAINING AN NPDES PERMIT

By allowing an extension of the GBP Use Agreement, SLDMWA is authorizing the continued discharge of pollutants, including selenium, from the Drain into Mud Slough, a water of the United States. SLDMWA has admitted that the Drain, a point source under the CWA, discharges pollutants into waters of the United States. That discharge requires an NPDES permit under the CWA. SLDMWA cannot lawfully authorize the continuance of this ongoing violation of the CWA. Therefore the extension should be denied in its entirety. SLDMWA’s attempted end-run around this legal mandate – by claiming that the Drain is exempt from the CWA NPDES permit requirement – was forcefully rejected by the Ninth Circuit in its recent ruling, *PCFFA v. Glaser*, ___ F.3d ___, 2019 WL 4230097 (Sept. 6, 2019), Slip Op. at 8-19.²

On September 6, 2019, the Ninth Circuit ruled that PCFFA’s lawsuit challenging SLDMWA’s and the Bureau of Reclamation’s failure to secure an NPDES permit for the GBP as required by the CWA was wrongfully dismissed by the district court. The Ninth Circuit held that

² The Ninth Circuit’s Slip Opinion in *PCFFA v. Glaser* is attached as Exhibit 1.

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“Congress intended for discharges that include return flows from activities unrelated to crop production to be excluded from the statutory exception, thus requiring an NPDES permit for such discharges.” *PCFFA v. Glaser*, Slip Op. at 15. The wastewaters discharged through the GBP, and specifically through the Drain, are comingled and include both agricultural return flows and non-agriculture wastewater. Therefore, an NPDES permit is required for operation of the Drain.

The Court correctly ruled that “the defendant carries the burden to demonstrate the applicability of a statutory exception to the CWA” and that neither SLDMWA nor Reclamation had presented such evidence. *Id.*, at 10. Indeed, they could not carry that burden because there is overwhelming evidence to the contrary that the flows through the Drain are not composed “entirely” of irrigated agricultural return flows. As PCFFA properly alleged, “discharges from highways, residences, seepage into the [Drain] from adjacent [unfarmed] lands, and sediments from within the [Drain]” comingle with the irrigated agriculture return flows. *Id.*, at 17. Because the polluted waters that discharge from the Drain are comingled flows, the Drain cannot lawfully operate without an NPDES permit. Therefore, SLDMWA cannot authorize an extension of the GBP Use Agreement unless and until such a permit has been lawfully obtained.

II. Extension of the Use Agreement Will Cause New Significant Environmental Effects and Will Substantially Increase the Severity of Previously Identified Effects Necessitating Preparation of an SEIR/SEIS.

The Addendum studies the impacts of the Long-Term Storm Water Management Program (“LTSWMP”). If approved, the LTSWMP will add approximately 200 acres of “storage basins,” expand the Project’s reuse area and otherwise modify the operation of the Project. These changes will have significant impacts that require preparation of an SEIR and SEIS. SLDMWA’s contrary claims are meritless.

A. Surface Water, Groundwater, and Soils

The Addendum states that the LTSWMP’s use of 200 acres of storage basins to collect storm water for subsequent release will not significantly impact water quality. Addendum 3-4. The Addendum claims that, by impounding storm flows, and metering their release onto the reuse area, contaminated discharges would be reduced or avoided. *Id.* This assertion is based on the assumption that storm water that would be collected in these storage basins from December to May would not discharge pollutants such as selenium, boron, salt, and molybdenum to Mud Slough and thence the San Joaquin River. Addendum 3-3. That premise is false. An NPDES permit is therefore required for any such discharge. Unless and until an NPDES permit is secured, this project may not proceed further.

In an attempt to reduce the contaminated groundwater in these discharges, the LTSWMP calls for wastewater sumps to be turned off “prior to and during wet weather flows.” *Id.* But as the impounded storm water collects in these storage basins, it will interact with the already

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impaired groundwater and soils underlying and surrounding the basins, and collect and mobilize these contaminants. Hence, the impounded wastewater will simply create additional saturated soils, ponds of contaminated water, and polluted run-off, all of which will continue to enter the Drain through seepage, and ultimately discharge into Mud Slough.

Further, the approximately 180,000 cubic yards – so far – of contaminated sediment SLDMWA claims it has removed from the Drain will leach additional contaminants back into the system. Much of this sediment was apparently relocated – but never treated – to old drains, and placed in other parts of the reuse area. Water will continue to infiltrate this contaminated sediment, and remobilize these contaminants – including high levels of selenium and other pollutants – into the water table, and the San Luis Drain.

The LTSWMP would also expand the size of the reuse area. The Addendum states that the expansion is necessary because the existing reuse area cannot successfully manage the seleniferous water without dangerous ponding. Addendum 1-11. In other words, the reuse area was unable to serve the purpose for which it was designed. Instead of reevaluating the wisdom of the system, SLDMWA is doubling-down on the Project by expanding its size. But the SLDMWA did not perform any new modeling of the water quality impacts associated with the LTSWMP, including impacts resulting from the increase in the size of the reuse area or the use of these storage basins. Addendum 3-11. By relying on out-of-date modeling that does not accurately reflect the LTSWMP's impacts or the conditions at the reuse area, SLDMWA has precluded informed decisionmaking and therefore failed to comply with CEQA and NEPA. Under CEQA Guidelines section 15162 and 40 C.F.R. section 1502.9(c), these new and substantially increased impacts must be thoroughly studied in an SEIR/SEIS.

B. Biology

The changes contemplated in the Addendum will substantially increase the severity of previously identified biological impacts and cause significant new biological impacts that were not considered in the 2009 FEIS/FEIR. For example, the Addendum proposes “to accumulate storm water in the [storage basins in the GDA] as needed to reduce peak flows during high rainfall events . . . for subsequent release of the storm water through the Drain or to the reuse area.” Addendum 2-3. As the Addendum acknowledges, use of storage basins in the GDA has the potential to expose waterfowl to water with elevated selenium levels if the basins cannot promptly be drained. Addendum 2-3. But nothing in the Addendum, 2009 FEIS/FEIR, or the Initial Study indicates that the basins will be promptly drained, or that these impacts will be otherwise mitigated to insignificance.

The Addendum claims that “[w]ater in the basins would be distributed to the SJRIP to meet irrigation demand as soon as practical,” but “as soon as practical” does not ensure that the basins will be “promptly drained” to protect wildlife. Addendum 2-3. In fact, SLDMWA will only deviate from its primary goal of distributing the water “as soon as practical” “[i]n rare cases

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... to prevent evapo-concentration if there is not sufficient reuse capacity to drain the basins.” Addendum 2-3 to 2-4. The only guarantee the Addendum provides is that the basins would be emptied by late May. Addendum 2-4. Aside from a late May deadline, the Addendum fails to provide any guidelines or criteria for when the basins will be drained, nor does it even consider what actions and facilities would be needed to promptly drain the basins to protect wildlife.

The Addendum and Initial Study argue that mitigation measures designed to limit impacts of irrigation ditches in the 2009 FEIS/FEIR will help “avoid impacts to wildlife” from these storage basins, but the mitigations proposed are probably – if not demonstrably – ineffective and have their own impacts that must be considered in an SEIR/SEIS. Addendum 2-3; Initial Study 2-14 to 2-16. The 2009 FEIS/FEIR proposed mitigations to make irrigation ditches less attractive and to haze birds to limit nesting and foraging in those irrigation ditches. Addendum 3-6. The majority of the measures designed to make irrigation ditches less attractive are inapplicable to the storage basins, both because the physical structures are different and because the storage basins already exist, limiting the potential to incorporate mitigations. And hazing has significant impacts because it displaces wildlife from its foraging, breeding and nesting habitat. Those impacts must be examined in an SEIR/SEIS. CEQA Guidelines § 15162(a); 40 C.F.R. § 1502.9(c). In any event, hazing would be ineffective because it relies on observation to determine when it is necessary – a self-defeating requirement since these storage basins will not be monitored 24 hours a day, 7 days a week.

Furthermore, the project includes a 1,450-acre expansion of the existing reuse facility – the SJRIP – to 7,550 acres. The 2009 FEIS/FEIR analyzed a 6,100 acre reuse facility, and the proposed expansion “is an additional 650 acres over the maximum size anticipated in the 2009 Final EIS/EIR.” Addendum 2-5; 2009 FEIS/FEIR 2-2. While the “additional acreage would be managed in the same manner as the existing acreage with the same biological monitoring requirements established by the U.S. Fish and Wildlife Service (USFWS) in their Biological Opinion,” that does not negate the significant new and increased impacts that this substantial change will have on the surrounding environment. Addendum 2-5; CEQA Guidelines § 15162(a); 40 C.F.R. § 1502.9(c). As the Addendum admits, “[t]he primary environmental concern is an increased potential for ponding of seleniferous water within the fields of the SJRIP, which could be an attractive nuisance to wildlife, particularly birds.” Addendum 2-5.

Indeed, in “2003, a pasture at the existing reuse area site attracted waterfowl when it was inadvertently flooded. This flooded area created ideal ecological conditions for shorebird foraging and nesting and thus, a number of pairs responded opportunistically and bred in the field. *Recurvirostrid eggs collected near the pasture had highly elevated [selenium] concentrations.*” Addendum 3-6 to 3-7 (emphasis added). But the Addendum dismisses this concern, claiming that “other impacts would be created if the area is not enlarged to handle agricultural drainage.” Addendum 2-5. But deliberating exposing waterfowl to these poisonous waters is a crime under the takings prohibition of the Migratory Bird Treaty Act, 16 U.S.C. section 703. An SEIR/SEIS is needed both to assess the Project’s impacts on wildlife, and also

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to determine what these “other” undisclosed impacts may be and to allow the public and decisionmakers to weigh them and make an informed decision.

The Addendum and Initial Study again rely on ineffective mitigation measures from the 2009 FEIS/FEIR in an ill-advised attempt to reduce these new significant and substantially increased impacts. Supposedly, “[m]itigation contained in the Grassland Bypass Project Final EIS/EIR for the existing reuse facility would apply to this area also. This mitigation includes a contingency plan in the event of inadvertent flooding in the reuse area due to breakage of a water supply canal or delivery facility.” Addendum 2-5; Initial Study 1-11. But this one-page contingency plan is vague and fails to provide any enforceable guidelines. The plan, if it can even be called that, recommends that “ponded water . . . be eliminated through the discharge of the water into a tail-water return system *or* by pumping the water into one of the supply channels in the project *or* a tail-water return system” within 24 hours. Initial Study, Appendix D, D-2 (emphasis added). But nothing in this contingency plan explains when or how to utilize any of the options presented. Nor does the plan enforce the 24-hour ponding elimination requirement. Instead, the contingency plan defers mitigation for ponding that occurs for more than 24 hours, stating that “an event-specific monitoring plan will be developed to monitor the impacts on bird species resulting from exposure to ponded water.” Initial Study, Appendix D, D-2. In other words, make it up as you go. That approach is the exact opposite of the searching examination and public review of a project’s impacts *before project approval* that CEQA and NEPA demand.

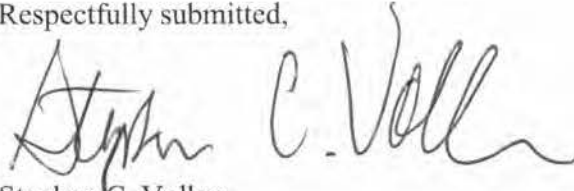
While acknowledging that the SJRIP field will be increased in size, that field flooding has occurred, and that the flooded field created “ideal ecological conditions for shorebird foraging and nesting, and thus, a number of pairs responded opportunistically and bred in the [contaminated] field,” the Addendum simultaneously dismisses this concern. Instead, SLDMWA claims that a vague and unenforceable mitigation measure that was never analyzed with regard to a reuse area of this size is sufficient. But it is not. An SEIR/SEIS is required to analyze the impacts of the proposed project. CEQA Guidelines § 15162; 40 C.F.R. § 1502.9(c).

For the foregoing reasons, particularly the Ninth Circuit’s recent ruling requiring an NPDES permit for commingled discharges of pollutants into a water of the United States, any extension of the GBP Use Agreement should be denied. SLDMWA must prepare an SEIR/SEIS to consider the impacts of the proposed Project, including the impacts to surface water, groundwater, soil, and biology. SLDMWA’s reliance on an Addendum to support this highly impactful extension violates the CWA, CEQA and NEPA.

Please make these comments part of the public record in this proceeding.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Stephan C. Volker". The signature is written in a cursive style with a large, prominent "V" at the end.

Stephan C. Volker

Attorney for Pacific Coast Federation of Fishermen's
Associations, California Sportfishing Protection Alliance,
Friends of the River, San Francisco Crab Boat Owners
Association, Inc., Institute for Fisheries Resources, and
Felix Smith

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Enclosures

LIST OF EXHIBITS

1. *Pacific Coast Federation of Fisherman's Associations, et al. v. Glaser, et al.*, Ninth Circuit Case No. 17-17130, September 6, 2019 (for publication)

EXHIBIT 1

FOR PUBLICATION

**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

PACIFIC COAST FEDERATION OF
FISHERMEN’S ASSOCIATIONS;
CALIFORNIA SPORTFISHING
PROTECTION ALLIANCE; FRIENDS OF
THE RIVER; SAN FRANCISCO CRAB
BOAT OWNERS ASSOCIATION, INC.;
THE INSTITUTE FOR FISHERIES
RESOURCES; FELIX SMITH,
Plaintiffs-Appellants,

v.

DONALD R. GLASER, Regional
Director of the U.S. Bureau of
Reclamation; UNITED STATES
BUREAU OF RECLAMATION; SAN LUIS
& DELTA MENDOTA WATER
AUTHORITY,
Defendants-Appellees.

No. 17-17130

D.C. No.
2:11-cv-02980-
KJM-CKD

OPINION

Appeal from the United States District Court
for the Eastern District of California
Kimberly J. Mueller, District Judge, Presiding

Argued and Submitted June 10, 2019
San Francisco, California

Filed September 6, 2019

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P.C.F.F.A. v. GLASER

Before: MARY M. SCHROEDER and MILAN D. SMITH, JR., Circuit Judges, and DOUGLAS L. RAYES,* District Judge.

Opinion by Judge Milan D. Smith, Jr.

SUMMARY**

Clean Water Act

The panel reversed the district court's judgment in an action alleging that the drainage system managed by the U.S. Bureau of Reclamation and the San Luis & Delta Mendota Water Authority discharged pollutants into surrounding waters in violation of the Clean Water Act, 33 U.S.C. §§ 1251–1387.

The Central Valley Project is a federal water management project. The Grasslands Bypass Project, jointly administered by the defendants, is a tile drainage system that consists of a network of perforated drain laterals underlying farmlands in California's Central Valley that catch irrigated water and direct it to surrounding waters.

The Clean Water Act generally requires that government agencies obtain a National Pollutant Discharge Elimination System permit before discharging pollutants from any point

* The Honorable Douglas L. Rayes, United States District Judge for the District of Arizona, sitting by designation.

** This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

source into navigable waters of the United States. There is an exception to that permitting requirement “for discharges composed entirely of return flows from irrigated agriculture.” 33 U.S.C. § 1342(l)(1).

The panel held that the district court properly interpreted “discharges . . . from irrigated agriculture,” as used in § 1342(l)(1), to mean discharges from activities related to crop production. The panel held that the district court ought to have begun its analysis with the statutory text, but its reliance on legislative history to construe this portion of the statute was not erroneous. The panel further held, however, that the district court erred by interpreting “entirely” to mean “majority,” and by placing the burden on plaintiffs to demonstrate that the discharges were not covered under § 1342(l)(1), rather than placing the burden on defendants to demonstrate that the discharges were covered under § 1342(l)(1). The panel concluded that the district court’s erroneous interpretation of the word “entirely” was the but-for cause of the dismissal of plaintiffs’ Vega claim (concerning groundwater discharges from lands underlying a solar product), and the panel therefore reversed the district court’s dismissal of that claim. The panel further concluded that the district court’s dismissal of plaintiffs’ other claims was also erroneous, reversed the dismissal of those claims, and remanded for the district court to reconsider them under the correct interpretation of § 1342(l)(1).

The panel held that the district court erred by striking plaintiffs’ seepage and sediment theories of liability from plaintiffs’ motion for summary judgment because the first amended complaint encompassed those claims.

COUNSEL

Stephan C. Volker (argued), Alexis E. Krieg, Stephanie L. Clarke, and Jamey M.B. Volker, Law Offices of Stephan C. Volker, Berkeley, California, for Plaintiffs-Appellants.

Brian C. Toth (argued) and Martin F. McDermott, Attorneys; Eric Grant, Deputy Assistant Attorney General; Jeffrey H. Wood, Acting Assistant Attorney General; United States Department of Justice, Environment & Natural Resources Division, Washington, D.C.; Amy L. Aufdenberge, Office of the Solicitor, Department of the Interior, Washington, D.C., for Defendants-Appellees Donald R. Glaser and United States Bureau of Reclamation. Eric J. Buescher (argued), and Joseph W. Cotchett, Cotchett Pitre & McCarthy LLP, Burlingame, California; Diane V. Rathmann, Linneman Law LLP, Dos Palos, California; for Defendant-Appellee San Luis & Delta Mendota Water Authority.

OPINION

M. SMITH, Circuit Judge:

California's Central Valley features some of the most fertile agricultural land in the United States, but it typically receives less rainfall than necessary to cultivate the crops grown in the Valley. To help address this problem, the federal government has constructed and managed several irrigation and drainage projects.

Plaintiffs, a group of commercial fishermen, recreationists, biologists, and conservation organizations, sued Defendants Donald Glaser, the United States Bureau of

Reclamation, and the San Luis & Delta Mendota Water Authority, alleging that the drainage system managed by Defendants discharges pollutants into surrounding waters, in violation of the Clean Water Act (CWA), 33 U.S.C. §§ 1251–1387. Plaintiffs appeal several rulings by the district court in favor of Defendants that ultimately led to the stipulated dismissal of Plaintiffs’ single claim remaining for trial. We reverse and remand.

FACTUAL AND PROCEDURAL BACKGROUND

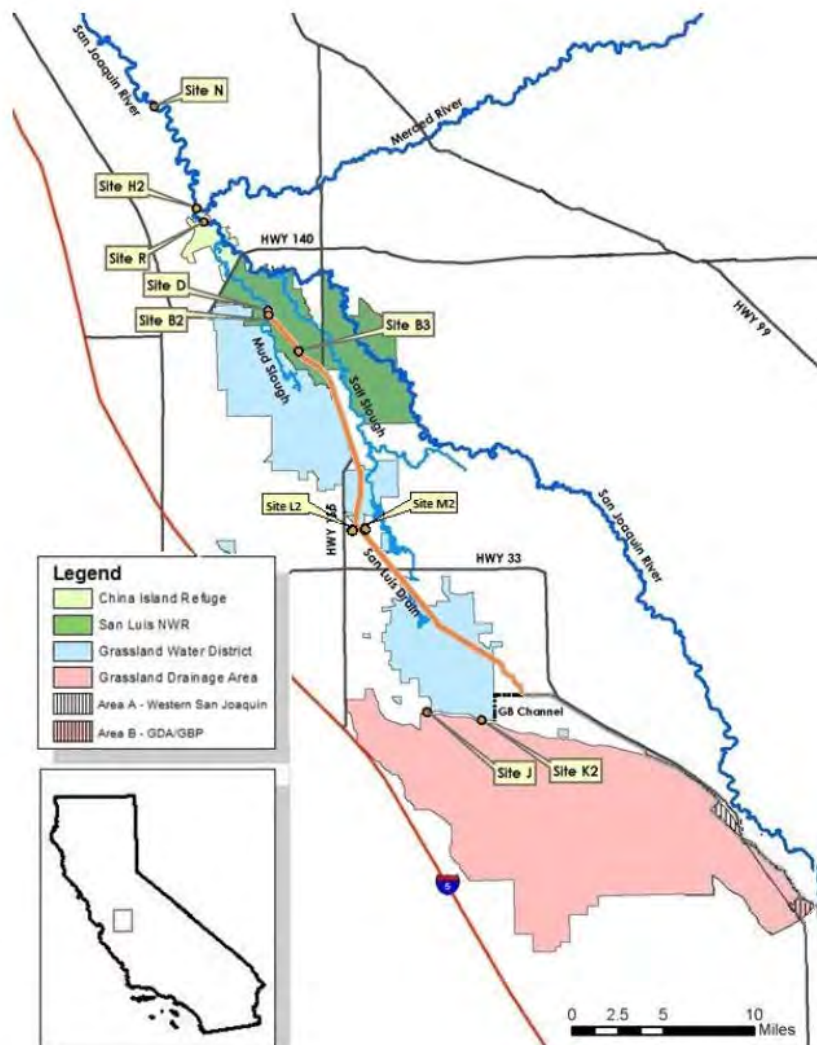
A. Factual Background

As “the largest federal water management project in the United States,” the Central Valley Project (CVP) “provides the water that is essential to [the California Central Valley’s] unparalleled productivity.” *Cent. Delta Water Agency v. United States*, 306 F.3d 938, 943 (9th Cir. 2002). Among other functions, the CVP “transfer[s] water from the Sacramento River to water-deficient areas in the San Joaquin Valley and from the San Joaquin River to the southern regions of the Central Valley.” *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 594 (9th Cir. 2014).

“Any water project that brings fresh water to an agricultural area must take the salty water remaining after the crops have been irrigated away from the service area.” *Firebaugh Canal Co. v. United States*, 203 F.3d 568, 571 (9th Cir. 2000). Otherwise, irrigating the selenium and salt-rich soils causes pollutants to leach into groundwater. The Grasslands Bypass Project (the Project), jointly administered by Defendants, was created for this purpose. The Project is “a tile drainage system that consists of a network of perforated drain laterals underlying farmlands in California’s Central Valley that catch irrigated water and

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direct it to” surrounding waters. The map below depicts the Project’s location:



The Project includes the San Luis Drain (the Drain), labeled on the map above, which is designed to collect and convey contaminated groundwater from lands adjacent to and upstream of the Drain to Mud Slough. As both parties acknowledge, the Drain discharges substantial quantities of selenium and other pollutants into the Mud Slough, the San Joaquin River, and the Bay-Delta Estuary.

B. Procedural Background

Plaintiffs filed their initial complaint in November 2011, alleging that Defendants violated the CWA by discharging pollutants into the waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit, in violation of 33 U.S.C. § 1311(a). After the district court granted Defendants' motion to dismiss with leave to amend, Plaintiffs filed their First Amended Complaint (FAC).

Defendants then moved to dismiss the FAC. The court granted the motion as to all but one of Plaintiffs' claims. It determined that Plaintiffs had plausibly alleged facts "that, when accepted as true, suggest [that] at least some amount of the Project's discharges may be unrelated to crop production."

The parties then filed cross-motions for summary judgment. The court denied Plaintiffs' motion for summary judgment and granted in part Defendants' motion for summary judgment. The court held that three of Plaintiffs' theories of liability in their motion for summary judgment—arguments about discharges from "seepage into the [Drain] from adjacent lands, and sediments from within the [Drain]"—did not arise from the allegations in their FAC. Accordingly, the court struck those three theories of liability. The court also determined, however, that there was a

genuine dispute of material fact as to whether groundwater discharges from lands underlying a solar product violated the CWA (the Vega Claim). It therefore denied Defendants' motion for summary judgment as to that claim.

Plaintiffs moved to file a second amended complaint. The court denied that motion. The court also denied Plaintiffs' motion to reconsider its order ruling on the cross-motions for summary judgment. The parties then stipulated to the dismissal of Plaintiffs' lone remaining claim "because the discharges from the Vega Solar Project property do not make up a majority of discharges from the [Project]." The district court entered judgment for Defendants.

JURISDICTION AND STANDARD OF REVIEW

We have jurisdiction pursuant to 28 U.S.C. § 1291. We review *de novo* the district court's grant of summary judgment. *Nat. Res. Def. Council, Inc. v. County of Los Angeles*, 725 F.3d 1194, 1203 (9th Cir. 2013). We also review *de novo* "the district court's interpretation of the CWA and its implementing regulations." *Olympic Forrest Coal. v. Coast Seafoods Co.*, 884 F.3d 901, 905 (9th Cir. 2018).

ANALYSIS

I. The District Court's Interpretation of § 1342(l)(1)

The CWA generally requires that government agencies obtain an NPDES permit before discharging pollutants from any point source into navigable waters of the United States.¹

¹ The CWA defines "point source" as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock,

33 U.S.C. § 1323(a). There is an exception to that permitting requirement, however, “for discharges composed entirely of return flows from irrigated agriculture” *Id.* § 1342(l)(1).

The parties do not disagree that the Mud Slough, the San Joaquin River, and the Bay-Delta Estuary constitute navigable waters of the United States. They also do not dispute that the Drain “discharges substantial quantities of selenium and other pollutants.” At issue then is whether the Drain’s discharges required Defendants to obtain an NPDES permit, or whether the discharges were exempt from the permitting requirement pursuant to § 1342(l)(1).

Plaintiffs argue that the district court committed three errors in its interpretation of § 1342(l)(1). First, they contend that the district court erred by placing the burden of proving that the Drain’s discharges were not exempt on Plaintiffs instead of requiring that Defendants prove that the Drain’s discharges were exempt. Second, they argue that the court erred in interpreting what constitutes “discharges . . . from irrigated agriculture” when it held that all discharges from the Drain are exempted so long as they are not generated by activities unrelated to crop production. Third, they assert that the district court erred by interpreting the word “entirely” as meaning most. We address each argument in turn.

A. Burden of Proving the Statutory Exception

In its pretrial order, the district court stated that Plaintiffs bore the burden of demonstrating that the discharges at issue

concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” 33 U.S.C. § 1362(14).

were not exempt from the CWA’s permitting requirement pursuant to § 1342(l)(1). Plaintiffs argue that such an interpretation of the statute was erroneous because the burden was on Defendants to prove that the discharges at issue were covered by § 1342(l)(1).

We agree. To establish a violation of the CWA, “a plaintiff must prove that defendants (1) discharged, i.e., added (2) a pollutant (3) to navigable waters (4) from (5) a point source.” *Comm. to Save Mokelumne River v. E. Bay Mun. Util. Dist.*, 13 F.3d 305, 308 (9th Cir. 1993). After a plaintiff establishes those elements, however, the defendant carries the burden to demonstrate the applicability of a statutory exception to the CWA. *See N. Cal. River Watch v. City of Healdsburg*, 496 F.3d 993, 1001 (9th Cir. 2007). Because § 1342(l)(1) contains an exception to the CWA’s permitting requirement, Defendants had the burden of establishing that the Project’s discharges were “composed entirely of return flows from irrigated agriculture.”

B. Interpretation of “Irrigated Agriculture”

The district court construed § 1342(l)(1) as exempting discharges that are related to crop production from the CWA’s permitting requirement. The parties agree that, by focusing on the statute’s legislative history *ab initio*, rather than commencing its analysis with the text, the district court’s interpretive method was flawed.

“It is well settled that ‘the starting point for interpreting a statute is the language of the statute itself.’” *Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc.*, 484 U.S. 49, 56 (1987) (quoting *Consumer Prod. Safety Comm’n v. GTE Sylvania, Inc.*, 447 U.S. 102, 108 (1980)). Section 1342(l)(1) states that

“[t]he Administrator shall not require a permit under this section for discharges . . . from irrigated agriculture.” 33 U.S.C. § 1342(l)(1). Here, rather than starting its analysis with the text, the district court focused first on the Senate Committee Report accompanying the CWA to hold that the relevant statutory text—“discharges . . . from irrigated agriculture”—meant discharges that “do not contain additional discharges from activities unrelated to crop production.”

Although we agree that the district court ought to have begun its analysis with the statutory text, its reliance on legislative history to construe this portion of the statute was not erroneous. “It is a fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.” *Davis v. Michigan Dep’t. of Treasury*, 489 U.S. 803, 809 (1989). “The purpose of statutory construction is to discern the intent of Congress in enacting a particular statute.” *Robinson v. United States*, 586 F.3d 683, 686 (9th Cir. 2009) (quoting *United States v. Daas*, 198 F.3d 1167, 1174 (9th Cir. 1999)).

Section 1342(l)(1) does not define “irrigated agriculture.” In determining the plain meaning of a word, we may consult dictionary definitions in an attempt to capture the common contemporary understandings of a word. See *Transwestern Pipeline Co., LLC v. 17.19 Acres of Prop. Located in Maricopa Cnty.*, 627 F.3d 1268, 1270 (9th Cir. 2010). The definition of agriculture—“the science or art of cultivating the soil, harvesting crops, and raising livestock,” *Webster’s Third New International Dictionary* 44 (2002)—shows that the term has a broad meaning that

encompasses crop production. The “ordinary, contemporary, and common meaning” of agriculture likewise supports a broad interpretation of the term. *United States v. Iverson*, 162 F.3d 1015, 1022 (9th Cir. 1998).

Although the plain meaning of the statutory text demonstrates that agriculture has a broad meaning, it does not resolve whether the discharges at issue here are exempt from the CWA’s permitting requirement.² As a result, “we may [also] use canons of construction, legislative history, and the statute’s overall purpose to illuminate Congress’s intent” in enacting § 1342(l)(1). *Ileto v. Glock, Inc.*, 565 F.3d 1126, 1133 (9th Cir. 2009) (quoting *Jonah R. v. Carmona*, 446 F.3d 1000, 1005 (9th Cir. 2006)).

In this instance, we begin by considering the legislative history of § 1342(l)(1). In its original form, the CWA did not contain any exceptions to its permitting requirement. *See Nw. Env’tl. Def. Ctr. v. Brown*, 640 F.3d 1063, 1072 (9th Cir. 2011), *rev’d and remanded sub nom. Decker v. Nw. Env’tl. Def. Ctr.*, 568 U.S. 597 (2013). Five years after its enactment, however, Congress amended the CWA to include an exception for discharges composed entirely of return flows from irrigated agriculture. *Id.* at 1073. “Congress did so to alleviate EPA’s burden in having to issue permits for every agricultural point source.” *Id.* By passing § 1342(l)(1), Congress sought “to limit the exception to only those flows which do not contain additional discharges from activities unrelated to crop production.” S. Rep. No. 95-370, 35 (1977), *as reprinted in* 1977 U.S.C.C.A.N. 4326, 4360.

² One issue disputed by the parties, for example, is whether discharges from fallow and retired lands fall under § 1342(l)(1). The plain meaning of the statutory text does not definitively answer that question.

This history supports the district court’s interpretation of “irrigated agriculture” as used in § 1342(l)(1).

The statute’s legislative history also reveals that Congress passed § 1342(l)(1) to treat equally under the CWA’s permitting requirement farmers relying on irrigation and those relying on rainfall. *See* 123 Cong. Rec. 39,210 (Dec. 15, 1977) (statement of Sen. Wallop: “This amendment corrects what has been a discrimination against irrigated agriculture. . . . Farmers in areas of the country which were blessed with adequate rainfall were not subject to permit requirements on their rainwater run-off, which in effect . . . contained the same pollutants.”); 123 Cong. Rec. 26,702 (Aug. 4, 1977) (statement of Sen. Stafford: “This amendment promotes equity of treatment among farmers who depend on rainfall to irrigate their crops and those who depend on surface irrigation which is returned to a stream in discreet conveyances.”). Indeed, one legislator said that an NPDES permit would not be required for “a vast irrigation basin that collects all of the waste resident of irrigation water in the Central Valley and places it in [the San Luis Drain] and transport[s] it . . . [to] the San Joaquin River.” *Brown*, 640 F.3d at 1072. This history supports the view that Congress intended for “irrigated agriculture,” as used in § 1342(l)(1), to be defined broadly and include discharges from all activities related to crop production.

Plaintiffs argue that such an interpretation of the statutory exception is erroneous because it would exempt fallow and retired lands from the CWA’s permitting requirement. That result, however, complies with our prior case law addressing the Project. We have ordered Defendants, in separate litigation, to provide drainage “to lands receiving water through the San Luis Unit.” *Firebaugh Canal Co.*, 203 F.3d at 572. The retirement of

farmlands was a component of that drainage plan. *Firebaugh Canal Water Dist. v. United States*, 712 F.3d 1296, 1300 (E.D. Cal. 2013). To hold that drainage from retired lands does not fall under the CWA’s statutory exception for discharges from irrigated agriculture would lead to contradictory and illogical results. *Cf. United States v. Fiorillo*, 186 F.3d 1136, 1153 (9th Cir. 1999). We decline to require Defendants to provide a drainage plan that includes the retirement of farmland, on the one hand, and hold that those activities violate the CWA absent a permit, on the other.

For these reasons, § 1342(l)(1)’s statutory text, as well as its context, its legislative history, and our prior case law on the Project, demonstrate that Congress intended to define the term “irrigated agriculture” broadly. Accordingly, we hold that the district court’s interpretation of the phrase was accurate.

C. Interpretation of “Entirely”

We next address Plaintiffs’ contention—which Defendants do not dispute—that the district court erred by holding that § 1342(l)(1) exempts discharges from the CWA’s permitting requirement unless a “majority of the total commingled discharge” is unrelated to crop production. They argue that such an interpretation of the statutory text was mistaken because the text states that the exception applies to “discharges composed *entirely* of return flows from irrigated agriculture.” 33 U.S.C. § 1342(l)(1).

We agree that the district court’s majority rule interpretation misconstrued the meaning of “entirely,” as used in § 1342(l)(1). Although “entirely” is not defined by the statute, we begin by considering its “ordinary, contemporary, common meaning.” *Iverson*, 162 F.3d

at 1022. “Entirely” is defined as “wholly, completely, fully.” *Webster’s Third New International Dictionary* 758 (2002). That definition differs significantly from “majority,” the meaning that the district court gave the term.

The district court rejected a literal interpretation of “entirely” because it reasoned that it “would lead to an absurd result.” We disagree. “Claims of exemption, from the jurisdiction or permitting requirements, of the CWA’s broad pollution prevention mandate must be narrowly construed to achieve the purposes of the CWA.” *N. Cal. River Watch*, 496 F.3d at 1001. Given the many activities related to crop production that fall under the definition of “irrigated agriculture,” Congress’s use of “entirely” to limit the scope of the statutory exception thus makes perfect sense. The text demonstrates that Congress intended for discharges that include return flows from activities unrelated to crop production to be excluded from the statutory exception, thus requiring an NPDES permit for such discharges.

D. Effect of Errors on Plaintiffs’ Claims

Having determined that the district court erred by placing the burden of demonstrating eligibility for the exception on Plaintiffs, rather than on Defendants, and by misinterpreting “entirely,” as used in § 1342(l)(1), we next consider the effect of those errors on Plaintiffs’ claims. Defendants argue that the district court’s errors were harmless because “the record contains no evidence of *any* discharge of pollutants unrelated to agricultural flows.”

We begin with Plaintiffs’ Vega Claim. The district court denied Defendants’ motion for summary judgment as to that claim because it determined that “Plaintiffs [] have provided sufficient evidence to raise an inference that discharges

underneath the Vega Project originate from the solar project itself, as opposed to [from] other nearby agricultural lands.” Plaintiffs stipulated to the dismissal of that claim because they were “unlikely to succeed [in demonstrating that] the discharges from the [Vega Claim] do not make up a majority of discharges from the [Project].” The district court’s interpretation of the word “entirely” to mean “majority”—which both parties now concede was erroneous—was thus the but-for cause of the dismissal of Plaintiffs’ Vega Claim. It is reasonable to believe that Plaintiffs would have proceeded to trial under the correct interpretation of § 1342(1)(1), which requires Defendants to prove that the discharges were composed entirely of return flows from irrigated agriculture. We therefore reverse the district court’s dismissal of that claim.

The district court’s dismissal of Plaintiffs’ other claims was also erroneous. In its order ruling on the parties’ cross-motions for summary judgment, the district court determined that, apart from the Vega Claim, Plaintiffs had failed to “provide any evidence” to show that discharges stemmed from activities unrelated to crop production. Because the burden of demonstrating the applicability of § 1342(1)(1) should have been on Defendants, rather than on Plaintiffs, however, Plaintiffs were not required to present any evidence. Instead, Defendants ought to have been required to demonstrate that the discharges at issue were composed entirely of return flows from irrigated agriculture. Accordingly, the lack of evidence demonstrating that the discharges stemmed from activities unrelated to crop production should not have been fatal to Plaintiffs. *Cf. Gilbrook v. City of Westminster*, 177 F.3d 839, 871 (9th Cir. 1999) (“Such an inference from lack of evidence would amount to no more than speculation.”). We therefore reverse the district court’s dismissal of Plaintiffs’ other claims and

remand for the district court to reconsider them under the correct interpretation of § 1342(l)(1).

II. The District Court’s Striking of Plaintiffs’ Claims

Plaintiffs argue that the district court also erred by striking their theories of liability “based on discharges from highways, residences, seepage into the [Drain] from adjacent lands, and sediments from within the [Drain]” from Plaintiffs’ motion for summary judgment. The court held that those claims were not encompassed by Plaintiffs’ FAC.

“Rule 8’s liberal notice pleading standard . . . requires that the allegations in the complaint ‘give the defendant fair notice of what the plaintiff’s claim is and the grounds upon which it rests.’” *Pickern v. Pier 1 Imports (U.S.), Inc.*, 457 F.3d 963, 968 (9th Cir. 2006) (quoting *Swierkiewicz v. Sorema N.A.*, 534 U.S. 506, 512 (2002)). “A party need not plead specific legal theories in the complaint, so long as the other side receives notice as to what is at issue in the case.” *Am. Timber & Trading Co. v. First Nat’l Bank of Oregon*, 690 F.2d 781, 786 (9th Cir. 1982). But if a “the complaint does not include the necessary factual allegations to state a claim, raising such claim in a summary judgment motion is insufficient to present the claim to the district court.” *Navajo Nation v. U.S. Forest Serv.*, 535 F.3d 1058, 1080 (9th Cir. 2008).

Here, Plaintiffs’ FAC alleged that the Drain discharged “polluted groundwater . . . originating from parcels where no farming occurs because, for instance, these parcels have been fallowed or retired from agricultural use.” The theories of liability struck by the district court argued that Defendants violated the CWA because the Drain picked up seepage from non-irrigated land on its way to the Mud Slough, and

because the Drain discharged pollutants from seepage and sediment within the Drain.

Although we agree with Defendants that Plaintiffs' complaint did not specifically allege their seepage and sediment theories of liability, we reject the contention that Defendants had not been given fair notice of those theories. Plaintiffs' essential allegation was that the Drain's discharges violated the CWA because of where the contaminants in the discharges originated from—"for instance, [] parcels [that] have been fallowed or retired from agricultural use." Plaintiffs' seepage and sediment claims, which alleged that contaminants from "highways, residences, seepage . . . and sediment" commingled with other discharges and thereby violated the CWA, alleged that contaminants originated from other locations, too. Those allegations were thus encompassed by the allegations in the FAC. Indeed, at oral argument, Defendants conceded that they "received [Plaintiffs'] expert witness reports," "were on notice as to what their expert was talking about," and "had enough information to respond" to the seepage and sediment theories of liability discussed in Plaintiffs' expert witness reports. These facts, when taken together, compel the conclusion that Plaintiffs' FAC provided Defendants with fair notice of their seepage and sediment theories of liability. Accordingly, we reverse the district court's striking of Plaintiffs' seepage and sediment claims from their motion for summary judgment.³

³ The district court held, in the alternative, that Plaintiffs' seepage and sediment claims were "unsupported by evidence." Because we hold that the district court erred in its interpretation of § 1342(l)(1), however, we remand Plaintiffs' seepage and sediment claims for the district court to determine whether they survive summary judgment under the correct interpretation of the statutory exemption.

CONCLUSION

The district court properly interpreted “discharges . . . from irrigated agriculture,” as used in § 1342(1)(1), to mean discharges from activities related to crop production. It erred, however, by interpreting “entirely” to mean “majority,” and by placing the burden on Plaintiffs to demonstrate that the discharges were not covered under § 1342(1)(1), rather than placing the burden on Defendants to demonstrate that the discharges were covered under § 1342(1)(1). The district court also erred by striking Plaintiffs’ seepage and sediment theories of liability from Plaintiffs’ motion for summary judgment because the FAC encompassed those claims.

REVERSED and REMANDED.



September 13, 2019

Joseph C. McGahan, Drainage Coordinator
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635
By email to: jmcgahan@summerseng.com

RE: GRASSLANDS BYPASS PROJECT STORMWATER MANAGEMENT PLAN

Dear Mr. McGahan,

This letter is submitted as the comments of the Bay Institute regarding the draft Addendum to the Final Environmental Impact Statement / Environmental Impact Report for the Grassland Bypass Project (GBP), 2010-2019, SCH No. 2007121110, regarding the Long-term Stormwater Management Plan. The Bay Institute has worked with Grassland Area growers for over twenty years to ensure that the GBP was effectively designed and implemented to virtually eliminate the discharge of selenium to local waters from anthropogenic sources. The success of this effort demonstrates how in-valley management approaches can solve the Central Valley's agricultural drainage problems.

In previous discussions with you and Grassland Area growers, we have identified three overarching issues that must be addressed in the final Addendum to ensure that use of the San Luis Drain starting on January 1, 2020, to convey stormwater discharge does not undo the success of the GBP.

First, it may be appropriate to permit use of the Drain to convey stormwater discharge. However, stormwater events that would result in uncontrollable discharge should be defined clearly and measurably so as to ensure that the Drain is only used to convey stormwater discharges and that baseline agricultural drainage discharges are not included.

Second, the limits on loading and concentrations of selenium identified for 2019 in the current agreement for use of the Drain should be retained in any future agreements and permits. Given the persistent and bioaccumulative properties of selenium in the environment, these limits are critical both to lock in the benefits of the current management regime and to ensure that stormwater discharges do not add significantly to selenium loading in local waters.

Third, the long-term Stormwater Management Plan should specifically identify the elements of an adaptive management plan for addressing the potential for elevated selenium levels in

Comments of TBI re: GBP draft long-term Stormwater Management Plan

September 13, 2019

Page 2

stormwater discharge, including monitoring regimes and metrics that would trigger review and if necessary remedial action.

Thank you for the opportunity to comment on the draft Addendum. Please contact me at (415) 272-6616 or bobker@bay.org if you have any questions regarding these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Bobker". The signature is fluid and cursive, with a large initial "G" and "B".

Gary Bobker
Program Director

Joe McGahan

From: Patricia Schifferle <pacificadvocates@hotmail.com>
Sent: Wednesday, September 11, 2019 10:27 AM
To: Sue.McConnell@waterboards.ca.gov; Joe McGahan; remerson@usbr.gov
Subject: Comments on Grassland Bypass Project Long-Term Storm Water Management Plan EIR Addendum and Initial Study-

Categories: Red Category

Joe, Sue and Rain

Thank you for the opportunity to comment.

I adopt by reference the comments submitted by PCL and 20 other conservation, fishing and tribal NGOs calling for a full EIR/EIS, a NPDES permit as required pursuant to the Clean Water Act and Porter Cologne, and federal and state non-degradation policies.

In addition, the cumulative impacts from Los Banos storm water discharges along with CCID and other contaminated ground water discharges into the Delta Mendota canal and California aqueduct need to be analyzed, disclosed and assessed in any environmental review for the continued use of the federal San Luis Drain to be used for discharge to US waters of the state and Nation.

Further with the recent 9th circuit ruling, reported at, __F.3d__, 2019 WL [4230097](#) , and the previous GBP proposed storm water event plan (https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/storm_event_plan.pdf August 1997) that indicated storm water and agricultural drain flows could not be separated, it is imperative that the proposed discharges are monitored for Selenium and other contaminants and that they do not exceed daily, weekly and monthly limits pursuant to the Clean Water Act.

Also the proposed plan and draft CEQA documents did not contain an extensive stormwater prevention plan other than discharging into some ponds without much if any detail. These “hot” ponds are likely to create a nuisance and hazards for migratory birds and need full monitoring and controls to ensure compliance with federal and state law.

Regards,

Patricia Schifferle

<PCL et. al Cmt Letter GBP Stormwater Plan CEQA _09-09-2019.pdf

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: _____

From: (Public Agency): _____

(Address)

Project Title: _____

Project Applicant: _____

Project Location - Specific:

Project Location - City: _____ Project Location - County: _____

Description of Nature, Purpose and Beneficiaries of Project:

Name of Public Agency Approving Project: _____

Name of Person or Agency Carrying Out Project: _____

Exempt Status: (check one):

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number: _____
- Statutory Exemptions. State code number: _____

Reasons why project is exempt:

Lead Agency

Contact Person: _____ Area Code/Telephone/Extension: _____

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes No

Signature: _____ Date: _____ Title: _____

Signed by Lead Agency Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

Attachment

Description of Project:

In 2021, the District acquired approximately 253 acres to expand the reuse area of the San Joaquin River Improvement Project (“SJRIIP”) using Proposition 84 funds. This property contains an existing drain ditch that, due to its design and age, does not function effectively. The District is installing a new drainage pipeline (“Connector Drain”), approximately 3,750 feet long, to connect the existing tile lines in the ditch so that the subsurface drain water can flow into the SJRIIP conveyance system for reuse.

Reasons Why Project is Exempt:

The Connector Drain is statutorily exempt from CEQA in accordance with 14 C.C.R. section 15282, which provides that the “installation of new pipeline or maintenance, repair, restoration, removal, or demolition of an existing pipeline as set forth in Section 21080.21 of the Public Resources Code,” is exempt from CEQA, “as long as the project does not exceed one mile in length.” The pipeline to be installed is approximately 3,750 feet, there being 5,280 feet in a mile, the installation of the pipeline is statutorily exempt under this section.

The Connector Drain is categorically exempt from CEQA in accordance with 14 C.C.R. section 15301, subd. (d), which exempts the restoration or rehabilitation of deteriorated or damaged facilities. The ditch no longer serves its purpose effectively, so the installation of the pipeline and the filling in of the ditch afterward, will rehabilitate the existing drainage facilities, allowing drain water to move more efficiently to the SJRIIP.

The Connector Drain is categorically exempt from CEQA in accordance with 14 C.C.R. section 15302, which exempts the replacement or reconstruction of existing utility systems and/ or facilities involving negligible or no expansion of capacity. The work to be done is replacing an existing open ditch drainage system with a pipeline, which will then be filled in. The Connector Drain will not result in any change in the volume or quality of subsurface drainage or in the manner by which it is currently managed within the Grassland Drainage Area.

The Board finds there will not be any cumulative impacts from the Connector Drain, as there are no successive projects of the same type in the same place, over time. The Connector Drain is the only such project contemplated. Nor are there cumulative impacts of any kind associated with the Connector Drain, as the capture and reuse of the subsurface drainage water via pipeline, rather than open ditch, will only serve to reduce impacts to the environment and deliver water to the SJRIIP, which has sufficient capacity to accept this water. Nor is there a reasonable possibility that the Connector Drain will have a significant effect on the environment due to unusual circumstances. There is nothing unusual about replacing an old open ditch with an improved pipeline; furthermore, such work was contemplated in the October 2019 Addendum to the Final Environmental Impact Statement and Environmental Impact Report for the Grassland Bypass Project 2010-1019, SCH No. 2007121110 (“2019 Addendum”).

PANOCHÉ DRAINAGE DISTRICT

52027 WEST ALTHEA AVE, FIREBAUGH, CA 93622
TELEPHONE (209) 364-6136 • FAX (209) 364-6122



BOARD MEETING MEMORANDUM

TO: BOARD OF DIRECTORS

FROM: ARA AZHDERIAN, GENERAL MANAGER

SUBJECT: AGENDA ITEM 8
SHORT-TERM STORAGE BASINS

DATE: AUGUST 9, 2022

CC: JUAN CADENA, WATER RESOURCES MANAGER

Recommendation: Adopt Resolution 817-22.

Background: On May 23, 2022, Panoche Drainage District (District) issued an Invitation for Bids (IFB) for the Short Term Storage Basins, Pump Station, Earthwork, & Facilities project (Project). The Project would construct four short term storage basins, two pump stations, approximately 2.75 miles of pipelines of various diameters, and other features to facilitate irrigation conveyance and stormwater management within the Grassland Drainage Area. The IFB included a mandatory job showing on June 9th to which 22 individuals attended. As a result of questions submitted during and subsequent to the job showing, three addendums to the IFB were issued. Five bids were received on July 14th at the District office. McElvany, Inc. was determined to be lowest responsible bidder. A tabulation of bids was distributed to all planholders and other interested parties.

On July 21, 2022, the District received a formal bid advisory from the Foundation for Fair Contracting (“FFC”) regarding the intended award of a contract by the District to McElvany, Inc. (“McElvany”). FFC was not a bidder, so they have no right to formally protest the award to McElvany. However, staff has considered the issues raised by the FFC in the interest of ensuring a proper award and, as discussed below, concludes that none of the issues raised warrant changing the intend to award to McElvany for the following reasons:

- The FFC’s speculation that McElvany may not pay prevailing wages, as McElvany will commit to do in its contract, or may submit improper change orders in the future is

unsubstantiated. Furthermore, the District maintains a Labor Compliance Program and labor compliance consultant to ensure all contractors properly pay prevailing wages.

- The FFC’s speculation about whether McElvany would properly employ local workers and apprentices in the future is unsubstantiated.
- The Central Valley Regional Control Board complaint addresses late report violations that occurred approximately eight to nine years ago. This was an administrative violation and not an illegal discharge. The matter was resolved by McElvany then and no other violations have been documented. Speculation that McElvany may not comply with Water Code requirements in the future is unsubstantiated.
- The two OSHA violations address safety complaints that occurred seven and eight years ago, respectively. These matters were resolved by McElvany then and no other violations have been documented. The workplace injury occurred nine years ago and, while unfortunate, accidents do occur in the construction industry and no violation was reported by OSHA. No documentation has been provided to demonstrate McElvany has suffered any other workplace injuries since. Speculation that McElvany will not continue to comply with OSHA requirements in the future is unsubstantiated.

The FFC does not claim that McElvany’s bid was non-responsive to any requirement in the Invitation for Bids (“IFB”). A bid is responsive if it complies with all requirements of the IFB and promises to do what the IFB requires. *Valley Crest Landscape, Inc. v. City of Davis*, 41 Cal. App. 4th 1432, 1438 (1996); *Taylor Bus Serv., Inc. v. San Diego Bd. of Educ.*, 195 Cal. App. 3d 1331, 1341 (1987). A bid that deviates from the IFB’s requirements is non-responsive.

The issues raised by FFC relate only to McElvany’s “responsibility.” In contrast to responsiveness, the issue of responsibility addresses the bidder, not the bid. “A bidder is responsible if it can perform the contract as promised.” *Taylor Bus*, 195 Cal. App. 3d at 1341. Responsibility involves a bidder’s trustworthiness as well as its quality, fitness, capacity, and experience to satisfactorily perform the contract. Pub. Cont. Code § 1103; *City of Inglewood-Los Angeles County Civic Center Auth. v. Superior Court*, 7 Cal.3d 861, 867 (1972). As *Taylor Bus* explained, a responsibility determination, “is a complex matter dependent, often, on information received outside the bidding process and requiring, in many cases, an application of subtle judgment.” *Taylor Bus*, 195 Cal. App. 3d at 1341-42.

A public entity cannot reject a bid as non-responsive when:

in substance, the real reason for the rejection is that the agency thinks the lowest bidder is “not responsible” — at least not without giving the lowest bidder the chance for a hearing on whether the lowest bidder really is “not responsible.”

Great W. Contractors, Inc. v. Irvine Unified Sch. Dist., 187 Cal. App. 4th 1425, 1429 (2010). Before it may make a responsibility determination, the District must:

notify the low monetary bidder of any evidence reflecting upon his responsibility received from others or adduced as a result of independent investigation, afford him an opportunity to rebut such adverse evidence, and permit him to present evidence that he is qualified to perform the contract.

City of Inglewood, 7 Cal.3d at 871. Under *City of Inglewood*, the District forwarded the FFC’s letter to McElvany and gave them the opportunity to respond to the issues raised. McElvany provided a written response by a letter dated July 29, 2022, and attached hereto.

FCC Issue 1: McElvany Submitted a Low Bid

The FCC's first issue raised is that McElvany's bid was too low; therefore, McElvany may pay less than prevailing wages or may seek change orders. The IFB and the draft contract that will be executed require the contractor to pay prevailing wages. Speculation that a bidder may not comply with contract requirements, particularly when unsupported by any evidence, is not grounds to find a bidder not responsible. Additionally, the District maintains a Labor Compliance Program and labor consultant to audit contractor's payroll records to ensure proper payment of prevailing wages. Further, if change orders are submitted during performance, then the District will ensure that only proper change orders (as permitted by the contract) are executed. Speculation about possible future change orders is not legal grounds to find a bidder not responsible, and the FCC cites no authority to the contrary.

Additionally, in its letter McElvany highlights the bases for its low bid. McElvany breaks down its bid as being approximately 9% over the engineering costs and 11% below the next lowest bidder for the project. It then lists nine bases for how it is able to save money to justify the low bid, including its location in Los Banos, which allows it to save travel time to and from work for McElvany employees, reduce overtime, and reduce costs of gas for travel. McElvany also states in its letter that it has its own trucks for hauling and for mixing and pouring concrete, and that it already has other specialized equipment for the particular work the bid requires. These cost-saving measures enabled it to arrive at the bid it responded with.

District staff rejects this ground of objection.

FCC Issue 2: Local Workforce/ Apprentices

The FCC's second issue raised is an assertion that McElvany does not hire local workers and/ or apprentices. This ground is unsupported by any evidence. The FCC claims that McElvany violates Labor Code section 1777.5, but they do not provide any documentation to support the assertion. Labor Code section 1777.7 provides for a determination by the Labor Commissioner (or designee) whether a contractor has violated apprenticeship requirements. Absent evidence of such a finding, the District does not have any basis to conclude that such past violations occurred. Speculation by the FCC that McElvany may violate section 1777.5 in the future is unsubstantiated and provides no legal grounds to find a bidder not responsible.

In its letter, McElvany states that all of its employees are, "from this community", and that it is grateful to be able to provide its employees with the opportunity to work "close to home." Therefore, awarding the contract to McElvany would provide those employees' continued opportunity for local employment. McElvany provides certified payroll as mandatory on all public works jobs.

District staff rejects this ground of objection.

FCC Issue 3: Water Code Violations

The FCC's third issue raised is that McElvany has had past violations of the Water Code. The FCC provided documentation of past enforcement actions. The documentation submitted indicates a failure to timely submit self-monitoring reports in 2013 and 2014, for which McElvany was fined. The fines were for a procedural violation, were over eight years ago, and appear to have been fully resolved by the agency with responsibility to enforce the requirements and McElvany.

In its letter, McElvany acknowledges resolution of the violations and reports that it has done approximately 1,093 jobs since, all with no additional violations. The District is unaware of any documentation indicating that McElvany has not complied with the Water Code since the FFC reported violation. Speculation that McElvany may not comply with Water Code requirements in the future is unsubstantiated and provides no legal grounds to find a bidder not responsible.

District staff rejects this ground of objection.

FFC Issue 4: OSHA Violations

The FFC's fourth issue raised is that McElvany has had Occupational Safety and Health Administration (OSHA) violations. The FFC provided documentation of three Inspection Reports. None of the reports appear to be willful or repeat. The inspections appear to have occurred approximately 7 to 9 years ago. The FFC provided no documentation of any recent incidents.

In its letter, McElvany reports that both of the violations FFC mentions were called in by the FFC or union representatives, and that no injuries or accidents were involved with these violations. In its response, McElvany provided documentation indicating present responsibility and stressed that "health and safety are core values" for the company. With respect to the workplace injury, McElvany explains that no violation of OSHA regulations resulted from the accident and provided an OSHA report indicating status of the matter as "No Insp/Process Inactive".

The incidence of OSHA violations is not inconsistent with a contractor that is fully capable of performing the contract work, nor are workplace accidents. The record indicates McElvany has been free of OSHA incidents since October 2015, which reasonably supports a conclusion that McElvany is a responsible contractor. Speculation that McElvany may not comply with OSHA requirements in the future is unsubstantiated and provides no legal grounds to find a bidder not responsible.

District staff rejects this final ground of objection.

Conclusion

Staff has carefully considered McElvany's present responsibility as requested by the FFC. The FFC's letter and supporting documentation does not provide a reasonable basis to change the determination that McElvany is a responsible bidder. McElvany's response to the FFC further supports its ability to perform the contract. Staff recommends that the Board proceed with award of the contract to McElvany as the lowest responsive, responsible bidder.

Panoche Drainage District
Short Term Storage Basin - Pump Station, Earthwork, & Facilities

Tabulation of Bids Opened on July 14, 2022 prior to 2:00pm

Item	Description	Quantity	Unit	Engineer's Estimate		McElvany Inc. 13343 Johnson Rd. Los Banos CA 93635		Teichert & Sons Inc. 400 Sunrise Ave Ste 300 Roseville CA 95661		Specialty Construction 645 Clarion Ct San Luis Obispo, CA 93401	
				Unit Cost	Amount	Unit Cost	Amount	Unit Cost	Amount	Unit Cost	Amount
1	Furnish & Install (F&I) 36" PVC Pipe ①	2,016	Linear Feet	\$225	\$453,600	\$202.61	\$408,461.76	\$250.00	\$504,000.00	\$295.00	\$594,720.00
2	F&I 42" Rubber Gasket Reinforced Concrete Pipe ①	4,000	Linear Feet	\$225	\$900,000	\$229.00	\$916,000.00	\$280.00	\$1,120,000.00	\$240.00	\$960,000.00
3	F&I 18" PVC Pipe ①	3,345	Linear Feet	\$48	\$160,560	\$75.08	\$251,142.60	\$125.00	\$418,125.00	\$90.00	\$301,050.00
4	F&I 24" PVC Pipe ①	100	Linear Feet	\$85	\$8,500	\$145.48	\$14,548.00	\$220.00	\$22,000.00	\$140.00	\$14,000.00
5	F&I 24" PVC Pipe w/ Alfalfa Valves Turnout ①	5,448	Linear Feet	\$110	\$599,280	\$165.15	\$899,737.20	\$225.00	\$1,225,800.00	\$223.00	\$1,214,904.00
6	F&I 18" PVC Pipe w/ Alfalfa Valve Turnouts ①	5,082	Linear Feet	\$75	\$381,150	\$108.37	\$550,736.34	\$170.00	\$863,940.00	\$186.00	\$945,252.00
7	F&I Air Release Valve installation ①	2	Each	\$5,000	\$10,000	\$3,000.00	\$6,000.00	\$6,000.00	\$12,000.00	\$9,000.00	\$18,000.00
8	F&I Discharge Manifold		Lump Sum		\$157,000		\$200,000.00		\$426,101.00		\$239,000.00
9	R&I Reinforced Concrete ①	117	Cubic Yards	\$3,500	\$409,500	\$2,700.00	\$315,900.00	\$5,000.00	\$585,000.00	\$4,700.00	\$549,900.00
10	F&I Compacted Embankment for Drain Fill ①	18,065	Cubic Yards	\$8.00	\$144,520	\$4.50	\$81,292.50	\$4.00	\$72,260.00	\$29.00	\$523,885.00
11	F&I Compacted Embankment for Basin Leaves ①	145,000	Cubic Yards	\$12	\$1,740,000	\$7.18	\$1,041,100.00	\$8.00	\$1,160,000.00	\$13.00	\$1,885,000.00
12	F&I Rip-Rap	460,480	Square Feet	\$4.50	\$2,072,160	\$3.19	\$1,468,931.20	\$3.00	\$1,381,440.00	\$5.50	\$2,532,640.00
13	F&I Basin Discharge Structures ①	4	Each	\$50,000	\$200,000	\$67,965.00	\$271,860.00	\$100,000.00	\$400,000.00	\$93,000.00	\$372,000.00
14	F&I Spill Structures ①	4	Each	\$50,000	\$200,000	\$52,950.00	\$211,800.00	\$70,000.00	\$280,000.00		\$244,000.00
15	F&I Spill Ditch and Connections ①		Lump Sum		\$5,000		\$15,000.00		\$14,000.00		\$167,000.00
16	F&I Prefabricated Stairway & Support Slab		Lump Sum		\$30,000		\$15,000.00		\$50,000.00		\$47,000.00
17	F&I Miscellaneous Metal	4,641	Pounds	\$8.00	\$37,128.00	\$9.50	\$44,089.50	\$10.00	\$46,410.00	\$13.00	\$60,333.00 *
18	F&I Isolation, Bypass and Dewatering for Basin Feed Pump Station Inlet ①		Lump Sum		\$75,000		\$20,000.00		\$35,000.00		\$70,200.00
19	F&I Reinforced Concrete Lining at Basin Feed Pump Station Inlet ①	811	Square Feet	\$32	\$25,952	\$10.00	\$8,110.00	\$34.00	\$27,574.00	\$33.00	\$26,763.00
20	F&I Compacted Aggregate Base at Basin Feed Pump Station	80	Cubic Yards	\$78	\$6,240	\$90.00	\$7,200.00	\$115.00	\$9,200.00	\$493.45	\$39,476.00
21	F&I Concrete Service Pad	500	Square Feet	\$32	\$16,000	\$10.50	\$5,250.00	\$23.00	\$11,500.00	\$25.00	\$12,500.00
22	F&I Chain Link Fencing	233	Linear Feet	\$35	\$8,155	\$57.60	\$13,420.80	\$50.00	\$11,650.00	\$112.00	\$26,096.00
23	F&I 48" Pedestrian Gate	2	Each	\$950	\$1,900	\$2,500.00	\$5,000.00	\$2,500.00	\$5,000.00	\$1,700.00	\$3,400.00
24	F&I 14' Vehicle Gate	2	Each	\$3,000	\$6,000	\$3,600.00	\$7,200.00	\$5,000.00	\$10,000.00	\$2,800.00	\$5,600.00
25	F&I 48"x96" Reinforced Concrete Box Culvert	26	Linear Feet	\$1,350	\$35,100	\$2,700.00	\$70,200.00	\$3,000.00	\$78,000.00	\$2,600.00	\$67,600.00
26	F&I Electrical Control Building Slab & Foundation		Lump Sum		\$30,000		\$10,000.00		\$35,000.00		\$23,000.00
27	F&I Electrical Control Building		Lump Sum		\$60,000		\$190,000.00		\$400,000.00		\$285,000.00
28	F&I Electrical Equipment (including undergrounding, MCC, Switchgear, panels, lights and other appurtenances)				\$3,040,000		\$4,616,246.90		\$3,800,000.00		\$3,885,000.00
29	F&I Erosion Control Measures				\$50,000		\$55,000.00		\$10,000.00		\$829,000.00
TOTAL					\$10,862,745		\$11,719,226.80		\$13,014,000.00		\$15,942,319.00

* Corrected amount

I hereby certify that this abstract of bids is true and correct


 James C. Linneman, R.C.E. 59067

Prepared By:

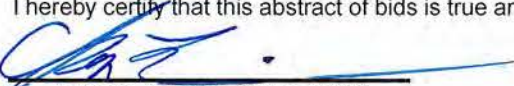
Summers Engineering, Inc.
 Consulting Engineers
 Hanford, California
 July 15, 2022

① The above items shall include in their bid amount the cost of all the sheeting, shoring, sloping or other methods required for worker protection and safety during said installation.

Panoche Drainage District
Short Term Storage Basin - Pump Station, Earthwork, & Facilities

Tabulation of Bids Opened on July 14, 2022 prior to 2:00pm

Item	Description	Quantity	Unit	Engineer's Estimate		Sukut Construction 4010 Chandler Ave Santa Ana, CA 92704		Mountain Cascade Inc. 555 Exchange Court Livermore, CA 94550	
				Unit Cost	Amount	Unit Cost	Amount	Unit Cost	Amount
1	Furnish & Install (F&I) 36" PVC Pipe ①	2,016	Linear Feet	\$225	\$453,600	\$280.00	\$564,480.00	\$500.00	\$1,008,000.00
2	F&I 42" Rubber Gasket Reinforced Concrete Pipe ①	4,000	Linear Feet	\$225	\$900,000	\$360.00	\$1,440,000.00	\$600.00	\$2,400,000.00
3	F&I 18" PVC Pipe ①	3,345	Linear Feet	\$48	\$160,560	\$180.00	\$602,100.00	\$225.00	\$752,625.00
4	F&I 24" PVC Pipe ①	100	Linear Feet	\$85	\$8,500	\$205.00	\$20,500.00	\$230.00	\$23,000.00
5	F&I 24" PVC Pipe w/ Alfalfa Valves Turnout ①	5,448	Linear Feet	\$110	\$599,280	\$275.00	\$1,498,200.00	\$250.00	\$1,362,000.00
6	F&I 18" PVC Pipe w/ Alfalfa Valve Turnouts ①	5,082	Linear Feet	\$75	\$381,150	\$200.00	\$1,016,400.00	\$150.00	\$762,300.00
7	F&I Air Release Valve installation ①	2	Each	\$5,000	\$10,000	\$6,700.00	\$13,400.00	\$4,500.00	\$9,000.00
8	F&I Discharge Manifold		Lump Sum		\$157,000		\$280,000.00		\$350,000.00
9	R&I Reinforced Concrete ①	117	Cubic Yards	\$3,500	\$409,500	\$4,700.00	\$549,900.00	\$1,500.00	\$175,500.00
10	F&I Compacted Embankment for Drain Fill ①	18,065	Cubic Yards	\$8	\$144,520	\$15.00	\$270,975.00	\$11.00	\$198,715.00
11	F&I Compacted Embankment for Basin Leaves ①	145,000	Cubic Yards	\$12	\$1,740,000	\$13.50	\$1,957,500.00	\$29.00	\$4,205,000.00
12	F&I Rip-Rap	460,480	Square Feet	\$4.50	\$2,072,160	\$5.25	\$2,417,520.00	\$5.50	\$2,532,640.00
13	F&I Basin Discharge Structures ①	4	Each	\$50,000	\$200,000	\$90,000.00	\$360,000.00	\$80,000.00	\$320,000.00
14	F&I Spill Structures ①	4	Each	\$50,000	\$200,000	\$72,000.00	\$288,000.00	\$100,000.00	\$400,000.00
15	F&I Spill Ditch and Connections ①		Lump Sum		\$5,000		\$15,000.00		\$325,000.00
16	F&I Prefabricated Stairway & Support Slab		Lump Sum		\$30,000		\$60,000.00		\$65,000.00
17	F&I Miscellaneous Metal	4,641	Pounds	\$8.00	\$37,128.00	\$10.00	\$46,410.00	\$12.00	\$55,692.00
18	F&I Isolation, Bypass and Dewatering for Basin Feed Pump Station Inlet ①		Lump Sum		\$75,000		\$30,000.00		\$130,000.00
19	F&I Reinforced Concrete Lining at Basin Feed Pump Station Inlet ①	811	Square Feet	\$32	\$25,952	\$27.00	\$21,897.00	\$45.00	\$36,495.00
20	F&I Compacted Aggregate Base at Basin Feed Pump Station	80	Cubic Yards	\$78	\$6,240	\$180.00	\$14,400.00	\$450.00	\$36,000.00
21	F&I Concrete Service Pad	500	Square Feet	\$32	\$16,000	\$50.00	\$25,000.00	\$50.00	\$25,000.00
22	F&I Chain Link Fencing	233	Linear Feet	\$35	\$8,155	\$160.00	\$37,280.00	\$50.00	\$11,650.00
23	F&I 48" Pedestrian Gate	2	Each	\$950	\$1,900	\$1,700.00	\$3,400.00	\$2,200.00	\$4,400.00
24	F&I 14' Vehicle Gate	2	Each	\$3,000	\$6,000	\$2,100.00	\$4,200.00	\$10,000.00	\$20,000.00
25	F&I 48"x96" Reinforced Concrete Box Culvert	26	Linear Feet	\$1,350	\$35,100	\$3,200.00	\$83,200.00	\$2,500.00	\$65,000.00
26	F&I Electrical Control Building Slab & Foundation		Lump Sum		\$30,000		\$45,000.00		\$30,000.00
27	F&I Electrical Control Building		Lump Sum		\$60,000		\$3,380,000.00		\$440,000.00
28	F&I Electrical Equipment (including undergrounding, MCC, Switchgear, panels, lights and other appurtenances)				\$3,040,000		\$850,000.00		\$3,698,000.00
29	F&I Erosion Control Measures				\$50,000		\$60,000.00		\$50,000.00
TOTAL					\$10,862,745		\$15,954,762.00		\$19,491,017.00

I hereby certify that this abstract of bids is true and correct

 James C. Linneman, R.C.E. 59067

Prepared By: Summers Engineering, Inc.
 Consulting Engineers
 Hanford, California
 July 15, 2022

① The above items shall include in their bid amount the cost of all the sheeting, shoring, sloping or other methods required for worker protection and safety during said installation.



VIA EMAIL – aazhderian@panochewd.org

July 21, 2022

Ara Azhderian
Panoche Drainage District
52027 W Althea Avenue
Firebaugh, CA 93622

RE: BID ADVISORY
Low Bidder: McElvany, Inc.
Awarding Agency: Panoche Drainage District
Project: Short Term Storage Basins – Pump Station, Earthwork, & Facilities
FFC Case No.: 750FR

Dear Mr. Azhderian:

Please enter this formal bid advisory against the above-noted contractor as a matter of public record and circulate to all Directors. We respectfully request that McElvany, Inc. (McElvany) bid be rejected.

The bid provided to the District by McElvany signifies that the contractor would not be able to successfully perform its duties on the above project, while fulfilling its obligations with the rules and regulations governing Public Works and the payment of Prevailing Wages, at the bid amount provided due to the following:

- **FAILURE TO COMPLY WITH BID SPECIFICATIONS/UNFAIR COMPETITIVE ADVANTAGE**

McElvany's bid is in excess of 10% lower than all other bidders on this project, which indicates a failure to account for the proper prevailing wage rate and include all items in the bid packet – including travel and subsistence. If awarded the project, this contractor would need to submit change orders to complete the project in accordance with the specifications and/or compromise prevailing wage laws/standards. This gives McElvany an unfair advantage in its bidding practices against its competitors and puts the District into a precarious legal position.

- **FAILURE TO COMPLY WITH WORKFORCE DEVELOPMENT AND FORMAL APPRENTICESHIP PROGRAMS**

McElvany has not made a good faith effort to participate and invest in Local Workforce Development, nor have they participated in local hiring of workers in the community through formal and recognized pre-apprenticeship programs and formal apprenticeship programs for specific apprenticeable crafts. They have failed to request, employ, train, and pay the proper prevailing wages to apprentices as required by California Labor Code § 1777.5.

Ara Azhderian
Panoche Drainage District
July 21, 2022
Page 2

- **HISTORY OF CALIFORNIA WATER CODE VIOLATIONS RESULTING IN PENALTIES ISSUED**
McElvany has documented history of California Water Code violations related to wastewater discharge, resulting in penalties issued by the Regional Water Quality Control Board. We have attached the detailed supporting documentation for your review.
- **MULTIPLE OSHA VIOLATIONS RESULTING IN FINES ISSUED AND UPHELD**
McElvany has multiple safety infractions that have resulted in investigations and fines issued by OSHA. We have attached the detailed supporting documentation for your review.

Please contact our office with questions, comments, or clarifications.

Sincerely,



Jesse Jimenez
Executive Director

Case: 750FR

cc: Panoche Drainage District – Board of Directors
John Bennett – Email: jbennett@panochewd.org
Michael Linneman – Email: mlinneman@panochewd.org
Steve Fausone – Email: sfausone@panochewd.org
Aaron Barcellos – Email: abarcellos@panochewd.org
Beau Correia – Email: bcorreia@panochewd.org

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ADMINISTRATIVE CIVIL LIABILITY COMPLAINT R5-2014-0560

MANDATORY PENALTY
IN THE MATTER OF

MCELVANY INC.
BLOSSOM GROVE SUBDIVISION PROJECT
SAN JOAQUIN COUNTY

This Complaint is issued to McElvany Inc. (hereafter Discharger) pursuant to California Water Code (Water Code) section 13385, which authorizes the imposition of Administrative Civil Liability, Water Code section 13323, which authorizes the Executive Officer to issue this Complaint and Water Code section 7, which authorizes the delegation of the Executive Officer's authority to a deputy, in this case the Assistant Executive Officer. This Complaint alleges that the Discharger violated provisions of Waste Discharge Requirements (WDRs) Orders R5-2008-0082-030 and R5-2013-0073-030. Both Orders are assigned NPDES No. CAG995002.

The Assistant Executive Officer of the Central Valley Regional Water Quality Control Board (Central Valley Water Board or Board) alleges the following:

1. On 20 March 2013, the Discharger applied for coverage under the *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Super Chlorination Projects, and Other Limited Threat Wastewater to Surface Water* (Limited Threat General Order) R5-2008-0082, and on 30 April 2013, the Executive Officer issued Notice of Applicability (NOA) R5-2008-0082-030 for coverage under the Limited Threat General Order.
2. On 31 May 2013, the Board issued WDRs Order R5-2013-0073, which contained new requirements and rescinded WDR R5-2008-0082, except for enforcement purposes. The Discharger was automatically enrolled under Limited Threat General Order R5-2013-0073-030. On 6 June 2014, the Board issued Order R5-2014-0080 which amended the Limited Threat General Order. The amended Order is assigned WDRs Order R5-2013-0073-01. The Discharger automatically retained enrollment under the amended Order.
3. On 15 July 2014, the Discharger requested its enrollment under the Limited Threat General Order be terminated, and on 22 July 2014, the Executive Officer terminated the Discharger's coverage.
4. This Complaint addresses administrative civil liability for late report violations that occurred during the period from 30 April 2013 through 31 March 2014. These violations are specifically identified in Attachment A to this Complaint as subject to mandatory minimum penalties. Attachment A to this Complaint is attached hereto and incorporated herein by this reference.

MANDATORY PENALTY
MCELVANY INC.
BLOSSOM GROVE SUBDIVISION PROJECT
SAN JOAQUIN COUNTY

5. The Limited Threat General Order requires that Dischargers submit quarterly monitoring reports which are designed to show whether or not the Discharger complied with the effluent limits in the Order. This Order assesses penalties for the failure to submit the 2nd Quarter 2013, Third Quarter 2013, 4th Quarter 2013 and 1st Quarter 2014 monitoring reports. The Monitoring and Reporting section of the 30 April 2013 Notice of Applicability states, in part:

Monitoring reports shall be submitted to the Central Valley Water Board on a quarterly basis, beginning with the Second Quarter 2013. If the discharge has not begun there is no need to monitor. However, a monitoring report must be submitted stating that there has been no discharge. Quarterly monitoring reports must be submitted until your coverage is formally terminated...even if there is no discharge during the reporting quarter.

The Enforcement section of the Notice of Applicability states:

Failure to comply with the Limited Threat General Order may result in enforcement actions, which could include civil liability. Effluent limitation violations are subject to a Mandatory Minimum Penalty (MMP) of \$3,000 per violation. In addition, late monitoring reports may be subject to MMPs. When discharges do not occur during a quarterly report monitoring period, the Discharger must still submit a quarterly monitoring report indicating that no discharge occurred to avoid being subject to enforcement actions.

6. As described below, the Water Code requires assessment of MMPs for each 30 day period in which a monitoring report has not been received, unless the Discharger submits a statement certifying that there were no discharges to waters of the United States during the monitoring period. On 3 July 2014, Central Valley Water Board staff sent the Discharger a Notice of Violation (NOV) for the missing reports and provided an opportunity to explain the reason for the lack of reports and to certify whether or not there was a discharge during the period. The Discharger responded on 10 July 2014 and submitted monitoring reports for discharges during the 2nd and 3rd Quarters 2013. The Discharger also certified that discharges stopped by 13 September 2013, and that there was no discharge during the 1st or 2nd Quarters of 2014.
7. On 17 July 2014, Central Valley Water Board staff issued a NOV and draft Record of Violations, proposing to assess MMPs for the 2nd and 3rd Quarter 2013 missing reports. In a 30 July 2014 telephone conversation, the Discharger acknowledged the violations and requested that MMPs not be assessed. Because there was a discharge to surface water, the penalties are mandatory and not discretionary.
8. Water Code section 13385(h) requires assessment of mandatory penalties and states, in part, the following:

Notwithstanding any other provision of this division, and except as provided in subdivisions (j), (k), and (l), a mandatory minimum penalty of three thousand dollars (\$3,000) shall be assessed for each serious violation.

9. Water Code section 13385.1 subdivision states, in part:

Water Code section 13385.1(a)(1) states:

For the purposes of subdivision (h) of Section 13385, a “serious violation” also means a failure to file a discharge monitoring report required pursuant to Section 13383 for each complete period of 30 days following the deadline for submitting the report, if the report is designed to ensure compliance with limitations contained in waste discharge requirements that contain effluent limitations. This paragraph only applies to violations that occur on or after January 1, 2004.

Water Code section 13385.1(a)(2)(A) states:

Notwithstanding paragraph (1), a failure to file a discharge monitoring report is not a serious violation for purposes of subdivision (h) of Section 13385 at any time prior to the date a discharge monitoring report is required to be filed or within 30 days after receiving written notice from the state board or a regional board of the need to file a discharge monitoring report, if the discharger submits a written statement to the state board or the regional board that includes both of the following:

- (i) A statement that there were no discharges to waters of the United States reportable under the applicable waste discharge requirements during the relevant monitoring period.
- (ii) The reason or reasons the required report was not submitted to the regional board by the deadline for filing that report.

10. Water Code section 13323 states, in part:

Any executive officer of a regional board may issue a complaint to any person on whom administrative civil liability may be imposed pursuant to this article. The complaint shall allege the act or failure to act that constitutes a violation of law, the provision authorizing civil liability to be imposed pursuant to this article, and the proposed civil liability.

11. WDRs Order R5-2008-0082 Self-Monitoring Reports (SMRs), Attachment E-X.B.3., states, in part:

- 3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-7 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
1/Discharge Event	Notice of Applicability effective date	All	1 May 1 August 1 November 1 February

12. WDRs Order R5-2013-0073 Self-Monitoring Reports (SMRs), Attachment E-X.B.3., states, in part:

- 3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-7 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
1/Discharge Event	Notice of Applicability effective date	All	1 May 1 August 1 November 1 February

13. The 2nd Quarter 2013 self-monitoring report was required to be submitted by 1 August 2013. The Discharger did not submit it by the deadline; however, in response to the 3 July 2014 NOV the Discharger submitted the 2nd Quarter 2013 monitoring report and stated that discharges occurred during the quarter. The monitoring report was submitted on 10 July 2014, which is 343 days after the required deadline in the Monitoring and Reporting Program. Because there was a discharge, in accordance with California Water Code section 13385.1(a), the failure to timely submit the 2nd Quarter 2013 self-monitoring report is subject to a mandatory minimum penalty of \$3,000 for each 30-day period late. The Discharger committed eleven (11) serious violations for failure to timely submit the 2nd Quarter 2013 self-monitoring report required by WDRs Orders R5-2008-0082-01 and R5-2013-0073. The mandatory minimum penalty for these serious violations is **thirty three thousand dollars (\$33,000)**.
14. The 3rd Quarter 2013 self-monitoring report was required to be submitted by 1 November 2013. The Discharger did not submit it by the deadline; however, in response to the 3 July 2014 NOV the Discharger submitted the 3rd Quarter 2013 monitoring report and stated that discharges occurred during the quarter. The monitoring report was submitted on 10 July 2014, which is 251 days after the required deadline in the Monitoring and Reporting Program. Because there was a discharge, in accordance with California Water Code section 13385.1(a), the failure to timely submit the 3rd Quarter 2013 self-monitoring report is subject to is subject to a mandatory minimum penalty of \$3,000 for each 30-day period late. The Discharger committed eight (8) serious violations for failure to timely submit the 3rd Quarter self-monitoring report required by WDRs Orders R5-2008-0082-01 and R5-2013-0073. The mandatory minimum penalty for these serious violations is **twenty four thousand dollars (\$24,000)**.
15. The 4th Quarter 2013 and 1st Quarter 2014 self-monitoring reports were required to be submitted by 1 February 2014 and 1 May 2014. The Discharger did not submit the reports. In response to the 3 July 2014 NOV, the Discharger certified that there was no discharge to surface waters during these monitoring periods. Therefore, pursuant to Water Code section 13385.1(a)(2)(A), mandatory minimum penalties do not apply to this violation. This Complaint does not address or resolve this violation. The Central Valley Board reserves its right to take any enforcement action authorized as law.
16. The total amount of the mandatory penalties assessed for the alleged effluent violations is **fifty seven thousand dollars (\$57,000)**. As stated herein, a detailed list of the alleged effluent violations is included in Attachment A. This Complaint addresses administrative civil liability for violations that are specifically identified in Attachment A as subject to mandatory minimum penalties.

MANDATORY PENALTY
MCELVANY INC.
BLOSSOM GROVE SUBDIVISION PROJECT
SAN JOAQUIN COUNTY

17. On 14 February 2014, the Executive Officer designated Andrew Altevogt, Assistant Executive Officer, as the Lead Prosecution Officer for all enforcement matters originating in the Rancho Cordova Office. The 14 February 2014 Delegation of Authority also authorizes Andrew Altevogt to issue Administrative Civil Liability Complaints.
18. Issuance of this Administrative Civil Liability Complaint to enforce Water Code Division 7, Chapter 5.5 is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code section 21000 et seq.), in accordance with California Code of Regulations, title 14, section 15321(a)(2).

MCELVANY INC. IS HEREBY GIVEN NOTICE THAT:

1. The Assistant Executive Officer of the Central Valley Water Board proposes that the Discharger be assessed an Administrative Civil Liability in the amount of **fifty seven thousand dollars (\$57,000)**.
2. A hearing on this matter will be held at the Central Valley Water Board meeting scheduled on **4/5 December 2014**, unless the Discharger does one of the following by **8 October 2014**:
 - a) Waives the hearing by completing the attached form (checking off the box next to Option 1) and returning it to the Central Valley Water Board. In addition, submits payment for the proposed civil liability of **fifty seven thousand dollars (\$57,000)** to the State Water Board with a copy of the check to the Central Valley Water Board; or
 - b) Requests to engage in settlement discussions by checking the box next to Option 2 on the attached form, and returning it to the Board along with a letter describing the issues to be discussed. The Central Valley Water Board must agree to the postponement; or
 - c) Requests to delay the hearing by checking off the box next to Option 3 on the attached form, and returning it to the Board along with a letter describing the proposed length of delay and the issues to be discussed. The Central Valley Water Board must agree to the postponement.
3. If a hearing on this matter is held, the Central Valley Water Board will consider whether to affirm, reject, or modify the proposed Administrative Civil Liability, or whether to refer the matter to the Attorney General for recovery of judicial civil liability.

MANDATORY PENALTY
MCELVANY INC.
BLOSSOM GROVE SUBDIVISION PROJECT
SAN JOAQUIN COUNTY

4. If this matter proceeds to hearing, the Assistant Executive Officer reserves the right to amend the proposed amount of civil liability to conform to the evidence presented, including but not limited to, increasing the proposed amount to account for the costs of enforcement (including staff, legal and expert witness costs) incurred after the date of the issuance of this Complaint through completion of the hearing.

ORIGINAL SIGNED BY
ANDREW ALTEVOGT, Assistant Executive Officer

8 September 2014
DATE

Attachment A: Record of Violations

MoF/WSW: 8 Sept 14

**WAIVER FORM
FOR ADMINISTRATIVE CIVIL LIABILITY COMPLAINT**

By signing this waiver, I affirm and acknowledge the following:

I am duly authorized to represent the McElvany Inc. (hereafter Discharger) in connection with Administrative Civil Liability Complaint R5-2014-0560 (hereafter Complaint). I am informed that California Water Code section 13323, subdivision (b), states that, “a hearing before the regional board shall be conducted within 90 days after the party has been served. The person who has been issued a complaint may waive the right to a hearing.”

(OPTION 1: Check here if the Discharger waives the hearing requirement and will pay in full.)

- a. I hereby waive any right the Discharger may have to a hearing before the Central Valley Water Board.
- b. I certify that the Discharger will remit payment for the proposed civil liability in the full amount of **fifty seven thousand dollars (\$57,000)** by check that references “ACL Complaint R5-2014-0560” made payable to the *State Water Pollution Cleanup and Abatement Account*. Payment must be received by the State Water Resources Control Board, Accounting Office, Attn: ACL Payment at PO Box 1888, Sacramento, California, 95812-1888 by **8 October 2014**. The waiver and a copy of the check must be submitted to the Central Valley Water Board at 11020 Sun Center Drive #200, Rancho Cordova California, 95670 by **8 October 2014**.
- c. I understand the payment of the above amount constitutes a proposed settlement of the Complaint, and that any settlement will not become final until after a 30-day public notice and comment period. Should the Central Valley Water Board receive significant new information or comments during this comment period, the Central Valley Water Board’s Executive Officer may withdraw the complaint, return payment, and issue a new complaint. I also understand that approval of the settlement will result in the Discharger having waived the right to contest the allegations in the Complaint and the imposition of civil liability.
- d. I understand that payment of the above amount is not a substitute for compliance with applicable laws and that continuing violations of the type alleged in the Complaint may subject the Discharger to further enforcement, including additional civil liability.

(OPTION 2: Check here if the Discharger waives the 90-day hearing requirement in order to engage in settlement discussions.) I hereby waive any right the Discharger may have to a hearing before the Central Valley Water Board within 90 days after service of the complaint, but I reserve the ability to request a hearing in the future. I certify that the Discharger will promptly engage the Central Valley Water Board Prosecution Team in settlement discussions to attempt to resolve the outstanding violation(s). By checking this box, the Discharger requests that the Central Valley Water Board delay the hearing so that the Discharger and the Prosecution Team can discuss settlement. It remains within the discretion of the Central Valley Water Board to agree to delay the hearing. Any proposed settlement is subject to the conditions described above under “Option 1.”

(OPTION 3: Check here if the Discharger waives the 90-day hearing requirement in order to extend the hearing date and/or hearing deadlines. Attach a separate sheet with the amount of additional time requested and the rationale.) I hereby waive any right the Discharger may have to a hearing before the Central Valley Water Board within 90 days after service of the complaint. By checking this box, the Discharger requests that the Central Valley Water Board delay the hearing and/or hearing deadlines so that the Discharger may have additional time to prepare for the hearing. It remains within the discretion of the Central Valley Water Board to approve the extension.

(Print Name and Title)

(Signature)

(Date)

ATTACHMENT A TO ACLC R5-2014-0560

McElvany Inc.
Blossom Grove Subdivision Project
MANDATORY PENALTIES FOR FAILURE TO SUBMIT REPORTS
 RECORD OF VIOLATIONS (30 April 2013 through 31 March 2014) MANDATORY PENALTIES
 (Data reported under Monitoring and Reporting Program R5-2008-0082-030 and R5-2013-0073-030)

	<u>SMR</u>	<u>Due Date</u>	<u>Received Date</u>	<u># of 30-day Periods Late</u>	<u>Discharge</u>	<u># of 30-day periods Subject to MMPs</u>	<u>Remarks</u>	<u>CIWQS</u>
1	2Q2013	1-Aug-13	10-Jul-14	11	Yes	11	1	*
2	3Q 2013	1-Nov-13	10-Jul-14	8	Yes	8	1	†
3	4Q 2013	1-Feb-14	10-Jul-14	5	No	0	2	971780
4	1Q 2014	1-May-14	10-Jul-14	2	No	0	2	971781

Remarks:

1. Serious Violation: Failure to file a discharge monitoring report for each complete period of 30 days following the deadline for submitting the report when a discharge occurred.
2. Violation not subject to MMPs because no discharge occurred. However, discretionary penalties may still be assessed. This violation is not addressed or resolved in this Complaint. The Central Valley Board reserves the right to take any enforcement action authorized by law

<u>VIOLATIONS AS OF:</u>	<u>3/31/14</u>
Serious Violations Subject MMPs:	19
Violations not subject to MMPs:	7
Total Violations Subject to MMPs:	19

Mandatory Minimum Penalty = (19 Serious violations) x \$3,000 = \$57,000

* CIWQS Violation IDs 972396-972406
 † CIWQS Violation IDs 971779 and 972389-972395

1.	01001	Other	1541(C)(2)	03/18/2016		\$275	\$275	\$0	04/04/2016	F - Formal Settlement
2.	02001	Other	1541(J)(2)	03/18/2016		\$3,000	\$2,475	\$0	04/04/2016	F - Formal Settlement
3.	03001	Serious	15410001 A	03/18/2016		\$2,475	\$2,475	\$0	04/04/2016	F - Formal Settlement

Inspection: 316702968 - Mcelvany Inc.

Inspection Information - Office: Ca Modesto					
Nr: 316702968	Report ID: 0950624	Open Date: 01/16/2014			
Mcelvany Inc. Hamilton Road And West Stanislaus Patterson, CA 95363					
Union Status: NonUnion					
SIC: 1623/Water, Sewer, Pipeline, and Communications and Power Line Construction					
NAICS: 237110/Water and Sewer Line and Related Structures Construction					
Mailing: 13343 Johnson Rd., Los Banos, CA 93635					
Inspection Type:	Complaint				
Scope:	Partial	Advanced Notice:	N		
Ownership:	Private				
Safety/Health:	Safety	Close Conference:	01/30/2014		
Emphasis:	S:Construction (Cship)	Close Case:	05/16/2016		
Related Activity:	Type	ID	Safety	Health	
	Complaint	209235324	Yes		

Violation Summary

	Serious	Willful	Repeat	Other	Unclass	Total
Initial Violations	1			2		3
Current Violations	1			2		3
Initial Penalty	\$2,475	\$0	\$0	\$410	\$0	\$2,885
Current Penalty	\$2,475	\$0	\$0	\$410	\$0	\$2,885
FTA Amount	\$0	\$0	\$0	\$0	\$0	\$0

Violation Items

#	ID	Type	Standard	Issuance	Abate	Curr\$	Init\$	Fta\$	Contest	LastEvent
1.	01001	Other	3410004	01/16/2014	01/21/2014	\$0	\$0	\$0		-
2.	01002	Other	1629 C03	02/11/2014	02/28/2014	\$410	\$410	\$0		-
3.	02001	Serious	15410001 A01	02/11/2014	02/28/2014	\$2,475	\$2,475	\$0		-

Inspection: 316724715 - Mcelvany, Inc

Inspection Information - Office: Ca Fresno					
Nr: 316724715	Report ID: 0950625	Open Date: 08/21/2013			
Mcelvany, Inc Ave 21 & Flanagan Rd Red Top, CA 93610					
Union Status: NonUnion					
SIC: 1794/Excavation Work					
NAICS: 238910/Site Preparation Contractors					
Mailing: 13343 Johnson Rd, Los Banos, CA 93635					
Inspection Type:	Accident				
Scope:	No Insp/Process Inactive	Advanced Notice:	N		
Ownership:	Private				
Safety/Health:	Safety	Close Conference:	08/22/2013		
		Close Case:	08/22/2013		
Related Activity:	Type	ID	Safety	Health	

Accident Investigation Summary

Summary Nr: 201498060	Event: 03/22/2013	Trenching Machine Catches Shirt And Pulls In Workers Arm
-----------------------	-------------------	--

On March 22, 2013, Employee #1, a 64-year-old male with McElvany Inc. based in Los Banos, was servicing a chain type trenching machine when his shirt became entangled in the drive shaft of the apparatus. Employee #1's arm was pulled and twisted within the digging chain tearing ligaments and tendons in the arm. Employee #1 was transported to UCSF for treatment.

Keywords: fracture, shoulder, trench, trench digger, dislocated, arm, nip point

	Inspection		Degree	Nature	Occupation
1	316724715		Hospitalized injury	Dislocation	Supervisors; plumbers, pipefitters & steamfitters

UNITED STATES
DEPARTMENT OF LABOR

Occupational Safety and Health Administration
200 Constitution Ave NW
Washington, DC 20210
☎ 800-321-6742 (OSHA)
TTY
www.OSHA.gov

FEDERAL GOVERNMENT

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July 29, 2022

Dear Mr Azhderian and Board of Directors for Panoche drainage district.

I would like to ease any concerns you may have regarding the advisory letter sent by the FFC dated July 21, 2002.

I am going to address the issues identified in the FFC letter in order

Our company's bid on this project is approximately 9% over the engineering costs and 11% below our next competitor according to the bid tabulations. Because of our location, we are able to bid much lower than our competitors. The areas that we can save money over our "out of the area "competitors include:

- Travel time to and from work for my employees.
- Subsistence/hotel and food daily.
- Overtime for travel.
- Gas for travel.
- Mobilization of equipment (we have our own trucks for hauling).
- Equipment repair (we have our onsite mechanics within minutes of the jobsite).
- Cement/concrete (for slabs & foundation). We have our own trucks to mix and pour.
- We have specialized equipment design and modified for this particular work.
- I am physically within 20 minutes of the jobs job site to problem solve and assist my crew.

I believe this job is a perfect fit for a company based on location and expertise abilities. I appreciate the ability to provide my employees (that are all from this community) the opportunity to work so close to home

The second issue in regard to the union and apprentices:

This is not our first prevailing wage job. We continue to work with dozens of companies and have an established relationship with ABC Norcal that assists in the scope of staying in compliance on any public work projects in the state of California. When requested, they also provide us with apprentices as required by California labor code 1777.5. We also continue to provide certified payroll as mandatory on all public works jobs.

As far as the water code violations resulting in penalties issued:



This issue was regarding sampling and reporting water test results. There was never any illegal discharge. It was a reporting issue. We paid our fine and moved on. This was something that took place 10 years ago. Since then, we have done approximately 1093 jobs with no violations. This number reflects an average of 121 jobs a year.

With regards to the 2 OSHA violations. Both violations were called in by the FFC or union reps. Again -they were five or six years ago, and we paid our fines. No injuries or incidents were involved with these violations. The third incident was the result of an injury but not a violation of OSHA regulations. Please see attached OSHA report.

Health and safety are core values for McElvany, Inc. We believe that the most effective health and safety programs begin at the very top, with an uncompromising commitment from leadership to build a culture in which every incident is preventable, and every single employee is dedicated to keeping not only themselves safe, but those around them as well. Please see attached documents for the requested experience mod charts from our insurance company. Our rate is well below industry averages. We have an excellent reputation in the business industry in the Central Valley.

I have also included a copy of our California State License and our current OSHA license. We are in good standing with both entities.

If you have any further questions or would like me to elaborate, I will be happy to make time for a conference call or meeting.

I look forward to working with you. We will provide the same effort and energy, honesty, and value we have given over the past 40+ years on the many millions of dollars of work we have successfully completed within the district.

Thank you,
Charles McElvany
President, McELvany, Inc

A handwritten signature in black ink that reads "Charles McElvany". The signature is fluid and cursive, with a large, sweeping flourish at the end. It is positioned over a faint, large-scale background image of a yellow excavator.



Contractor's License Detail for License # 511673

DISCLAIMER: A license status check provides information taken from the CSLB license database. Before relying on this information, you should be aware of the following limitations.

- ▶ CSLB complaint disclosure is restricted by law ([B&P 7124.6](#)) If this entity is subject to public complaint disclosure click on link that will appear below for more information. Click [here](#) for a definition of disclosable actions.
- ▶ Only construction related civil judgments reported to CSLB are disclosed ([B&P 7071.17](#)).
- ▶ Arbitrations are not listed unless the contractor fails to comply with the terms.
- ▶ Due to workload, there may be relevant information that has not yet been entered into the board's license database.

Data current as of 7/28/2022 1:58:43 PM

Business Information

MCELVANY INC
 13343 JOHNSON RD
 LOS BANOS, CA 93635
 Business Phone Number:(209) 826-1102

Entity Corporation
Issue Date 06/04/1987
Expire Date 06/30/2023

License Status

This license is current and active.

All information below should be reviewed.

Classifications

A - GENERAL ENGINEERING

Bonding Information

Contractor's Bond

This license filed a Contractor's Bond with [SURETEC INSURANCE COMPANY](#).

Bond Number: 456288
Bond Amount: \$15,000
Effective Date: 07/01/2020
[Contractor's Bond History](#)

Bond of Qualifying Individual

The qualifying individual CHARLES ALAN MC ELVANY certified that he/she owns 10 percent or more of the voting stock/membership interest of this company; therefore, the Bond of Qualifying Individual is not required.

Effective Date: 07/02/2013

Workers' Compensation

This license has workers compensation insurance with the [TRAVELERS PROPERTY CASUALTY COMPANY OF AMERICA](#)

Policy Number: UB2J1134652226G
Effective Date: 04/01/2022
Expire Date: 04/01/2023
[Workers' Compensation History](#)

Other

- ▶ Personnel listed on this license (current or disassociated) are listed on other licenses.



No: 2021-901158

ANNUAL PERMIT

Permit Issued To

(Insert Contractor/Project Administrator's Name, Address and Telephone No.)

McElvany Inc
 Attn: Safety Mgr or Charles McElvany
 13343 Johnson Rd
 Los Banos CA 93635-9704

(209) 826-1102

No. _____
 Date 8/30/2021
 Region 2
 District 5
 Tel. (559) 445-5302

Type of Permit T1-ANNUAL TRENCH/EXCAVATION

Pursuant to Labor Code Sections 6500 and 6502, this Permit is issued to the above-named employer for the projects described below.

State Contractor's License Number		511673		Permit Valid through		August 30, 2022	
Description of Project		Location Address		City and County		Anticipated Dates	
Various		Statewide				Starting Completion	
Conditions of Issuance:						Aug 30, 2021 Aug 30, 2022	

This Permit is issued upon the following conditions:

1. That the work is performed by the same employer. If this is an annual permit the appropriate District Office shall be notified, in writing, of dates and location of job site prior to commencement.
2. The employer will comply with all occupational safety and health standards or orders applicable to the above projects, and any other lawful orders of the Division.
3. That if any unforeseen condition causes deviation from the plans or statements contained in the Permit Application Form the employer will notify the Division immediately.
4. Any variation from the specification and assertions of the Permit Application Form or violation of safety orders may be cause to revoke the permit.
5. This permit shall be posted at or near each place of employment as provided in 8 CCR 341.4

Received From		Received By	
Charles McElvany		Permit Unit	
<input type="checkbox"/> Cash	Amount	Date	
<input checked="" type="checkbox"/> Check 37722	\$100.00	8/30/21	

Investigated by _____ Date _____
 Approved by [Signature] 8/30/2021
 District Manager/Permit Unit Date

STATE OF CALIFORNIA
 DEPARTMENT OF INDUSTRIAL RELATIONS
 DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

ANNUAL PERMIT

No: **2022-901158**

Permit Issued To

McElvany Inc
 Attn: Safety Mgr or Charles McElvany
 13343 Johnson Rd
 Los Banos CA 93635-9704

(209) 826-1102

No. _____
 Date 8/30/2022
 Region 2
 District 5
 Tel. (559) 445-5302

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						Aug 30, 2022 Aug 30, 2023	

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Received From		Received By	
Charles McElvany		Permit Unit	
<input type="checkbox"/> Cash	Amount	Date	
<input checked="" type="checkbox"/> Check 38767	\$100.00	8/30/22	

Investigated by _____ Date _____
 Approved by [Signature] 8/30/2022
 District Manager/Permit Unit Date



July 27th, 2022

Re: McElvany Inc
Experience Modification Rate History

To Whom It May Concern:

This letter is to inform the interested parties that McElvany, Inc of Los Banos, CA has a current Experience Modification Rate of 0.90. Historical EMR rating below:

04/01/2022-04/01/2023	Experience Mod	0.90
04/01/2021-04/01/2022	Experience Mod	0.77
04/01/2020-04/01/2021	Experience Mod	0.63
01/01/2019-01/01/2020	Experience Mod	0.61
01/01/2018-01/01/2019	Experience Mod	0.79

Please feel free to contact the undersigned with any questions or concerns.

Respectfully,

Dan Peck, CRIS · Chief of Staff
Vice President - Construction Practice & Surety Manager
1753 E. Fir Ave, Fresno, CA 93720 · P.O Box 3947, Fresno CA 93650
Ph: (559) 241-7848
danpeck@jgparker.com · www.jgparker.com
License #0554959



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<input type="checkbox"/>	1	1097709.015	10/09/2015	0950624	CA	Complaint	Partial		237110	3	Mcelvany Inc.
<input type="checkbox"/>	2	316702968	01/16/2014	0950624	CA	Complaint	Partial	1623	237110	3	Mcelvany Inc.
<input type="checkbox"/>	3	316724715	08/21/2013	0950625	CA	Accident	No Insp/Process Inactive	1794	238910		Mcelvany, Inc

PANOCHÉ DRAINAGE DISTRICT RESOLUTION NO. 817-22

**A RESOLUTION AUTHORIZING THE AWARD A CONTRACT TO MCELVANY, INC.,
TO CONSTRUCT PROPOSITION 84 GRANT-FUNDED SHORT-TERM STORAGE BASINS,
PUMP STATIONS, EARTHWORK, AND FACILITIES;
MAKING CERTAIN FINDINGS UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT;
AND AUTHORIZING RELATED ACTIONS.**

WHEREAS, since 1996, the Panoche Drainage District (the “District”) has managed water in its conveyance system in coordination with other Districts (referred to as the “Grassland Basin Drainers”) organized under the San Luis & Delta-Mendota Water Authority (the “SLDMWA) in approximately 97,000 acres termed the “Grassland Drainage Area,” in order to reduce the quantity and improve the quality of agricultural subsurface drainage water that has been discharged outside the District boundaries into the San Joaquin River, under permits issued by the California Regional Water Quality Control Board, Central Valley Region (“Regional Board”); and

WHEREAS, until December 31, 2019, such drainage program was commonly referred to as the “Grassland Bypass Project” and currently is referred to as the Grassland Basin Drainers’ Long-Term Storm Water Management Plan; and

WHEREAS, the October 2019 Addendum to the Final Environmental Impact Statement and Environmental Impact Report for the Grassland Bypass Project, 2010-2019, SCH No. 2007121110 (the “2019 Addendum” and attached as Exhibit A) addressed and analyzed the effects of creating short-term storage basins and pump stations and, where necessary, imposed mitigation for that construction; and

WHEREAS, the Board has reviewed the 2019 Addendum, specifically those portions related to the Proposed Short-Term Storage Basins and Pump Stations and the related Mitigation Measures; and

WHEREAS, the 2019 Addendum identified that “[i]ncorporation of Mitigation Measures BIO-2a through BIO-2f into the conditions of approval would ensure that adverse effects of selenium exposure on nesting waterbirds are avoided or substantially lessened to a less-than-significant level[]”; and

WHEREAS, construction of the short-term storage basins, pump stations, and related appurtenances authorized through the award of contract will help facilitate irrigation conveyance and stormwater management within the Grassland Drainage Area as described, analyzed, and mitigated for in the 2019 Addendum; and

WHEREAS, the Board has reviewed the attached Contract Documents for Short-Term Storage Basins, Pump Stations, Earthwork, and Facilities (the “Short-Term Storage Basin Contract”), attached hereto as Exhibit B; and

WHEREAS, the work to be performed under the Short-Term Storage Basin Contract is to facilitate irrigation conveyance and stormwater management within the Grassland Drainage Area as described, analyzed, and mitigated for in the 2019 Addendum; and

WHEREAS, the Board believes awarding the Short-Term Storage Basin Contract to be in the best interests of the District and the Grassland Basin Drainers’ Long-Term Storm Water Management Plan.

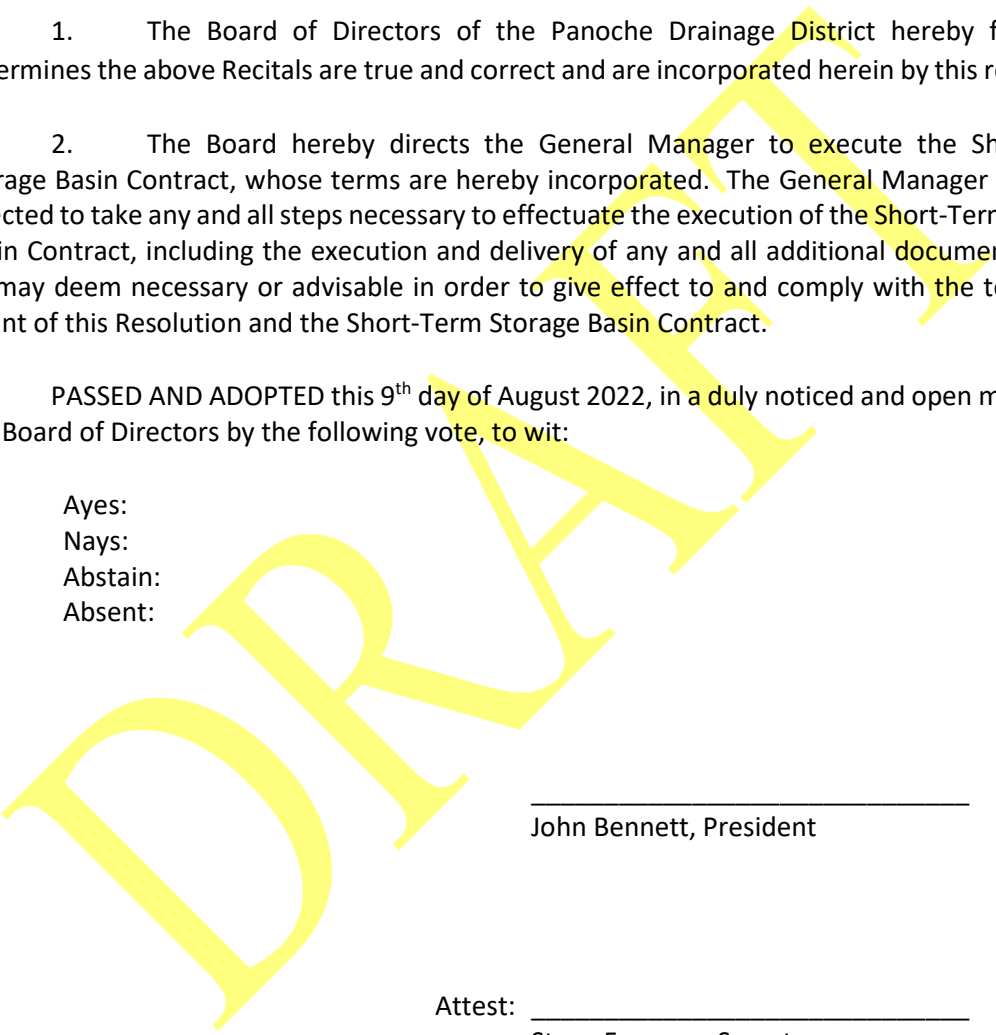
NOW, THEREFORE, BE IT HEREBY RESOLVED AS FOLLOWS:

1. The Board of Directors of the Panoche Drainage District hereby finds and determines the above Recitals are true and correct and are incorporated herein by this reference.

2. The Board hereby directs the General Manager to execute the Short-Term Storage Basin Contract, whose terms are hereby incorporated. The General Manager is further directed to take any and all steps necessary to effectuate the execution of the Short-Term Storage Basin Contract, including the execution and delivery of any and all additional documents which he may deem necessary or advisable in order to give effect to and comply with the terms and intent of this Resolution and the Short-Term Storage Basin Contract.

PASSED AND ADOPTED this 9th day of August 2022, in a duly noticed and open meeting of the Board of Directors by the following vote, to wit:

- Ayes:
- Nays:
- Abstain:
- Absent:



John Bennett, President

Attest: _____
Steve Fausone, Secretary

BACK TO AGENDA

PDD RESO 817-22 EXHIBIT A

Grassland Bypass Project Long-Term Storm Water Management Plan 2020-2045

Addendum to

Final Environmental Impact Statement and
Environmental Impact Report for the
Grassland Bypass Project, 2010-2019

SCH No. 2007121110

October 2019

Prepared for:

San Luis & Delta-Mendota Water Authority
P. O. Box 2157
842 6th Street
Los Banos, CA 93635-4214

Prepared by:

Summers Engineering, Inc.
P. O. Box 1122
887 N. Irwin Street
Hanford, CA 93232-1122

BACK TO RESO 817-22

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A P P E N D I C E S

Appendix A	Public Comments and Responses
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A C R O N Y M S & A B B R E V I A T I O N S

Authority	San Luis & Delta-Mendota Water Authority
CEQA	California Environmental Quality Act of 1970
Drain	San Luis Drain
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
GAF	Grassland Area Farmers
GBC	Grassland Bypass Channel
GBP	Grassland Bypass Project
GDA	Grassland Drainage Area
GWD	Grassland Water District
LTSWMP	Long-Term Storm Water Management Plan
NEPA	National Environmental Policy Act of 1969, as amended
ppb	parts per billion
Reclamation	U.S. Bureau of Reclamation, Mid-Pacific Region
Regional Board	Central Valley Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SJRIP	San Joaquin River Improvement Project (formerly the San Joaquin River Water Quality Improvement Project)
USFWS	U.S. Fish and Wildlife Service
WDR	Waste Discharge Requirement
Westside Plan	Westside Regional Drainage Plan

P A R T 1

Background and Purpose

1.1 BACKGROUND

The Grassland Bypass Project (GBP) covered in the 2010 Use Agreement and 2009 Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) (Reclamation 2009a and 2009b) did not include a long-term storm water management plan. The 2010 Use Agreement requires “developing a long-term storm water management plan, which may include evaluation of utilizing the San Luis Drain (Drain) to bypass storm water flows around some wetland areas.” This Long-Term Storm Water Management Plan is a culmination of that process. It has been developed by, the Grassland Area Farmers (GAF), who are organized under the umbrella of the San Luis & Delta-Mendota Water Authority (Authority,) to provide a long-term plan for management of storm water after expiration of the current use agreement on December 31, 2019. Such water had previously been handled under the terms of the 2010 Use Agreement by conveyance through the Drain along with the GBP’s subsurface drainage from agricultural operations except in unusually high storm water conditions, when it had to be discharged back into its historic pathways through wetland supply channels. This section presents background information including existing storm water flow conditions and issues relating to storm water, previous compliance with the California Environmental Quality Act (CEQA), and the current need to manage storm water originating within the Grassland Drainage Area (GDA).

The location of the upcoming Long-Term Storm Water Management Plan (LTSWMP or Proposed Project) is the Grasslands Watershed in Fresno and Merced Counties as shown on Figure 1, Watershed Location Map, which ultimately discharges into the Lower San Joaquin River. The inclusion of the San Joaquin River to Crows Landing for compliance monitoring adds Stanislaus County to the Project Area. The GDA and project features including the channels containing drainage flows along with downstream wetland areas and wildlife refuges are shown on Figure 2, Grassland Bypass Project Location Map.

1.1.1 History of Storm Water Management

In the period prior to 1990, the historic discharge of storm runoff was into the wetlands area at Agatha and Camp 13 (see Figure 2). The natural slope of the land in the GDA is to the north and east, and the storm water followed this path. With the implementation of the GBP, there was a major shift in the routing of the storm water. Starting with the first discharges under the first Use Agreement in 1997 compliance with selenium and salinity objectives had to be met for all water discharged from the Drain, including subsurface drainage water and storm water commingled in the system. Along with this change came an assumption that the GAF were somehow responsible for and could manage the storm water. The GBP has been very successful in reducing the discharge of subsurface drainage water and, after 2019, all agricultural subsurface drain water will be managed within the GDA boundaries. The tools implemented to manage subsurface drainage from irrigation also help to manage storm-induced drain flows; however, they are insufficient to completely eliminate storm-related discharges. Once sufficient rainfall has occurred, storm water and accreted shallow groundwater from irrigated lands will accumulate in the regional drains and will flow north. Without the Proposed Project, this water will pond against canal levees or discharge into sensitive wetland channels, and to avoid these undesirable outcomes, this water will need to be discharged through the Drain.

Figure 1

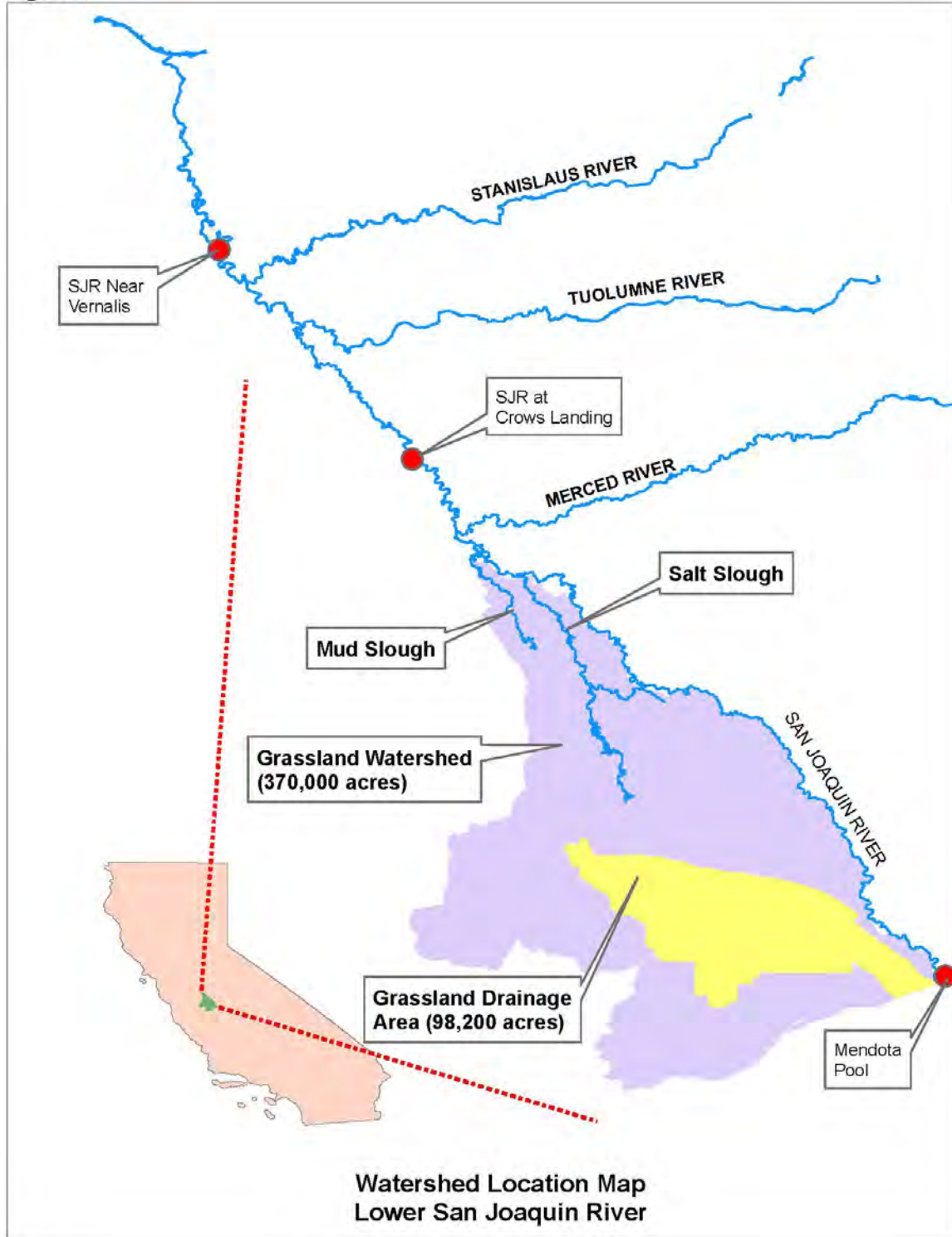
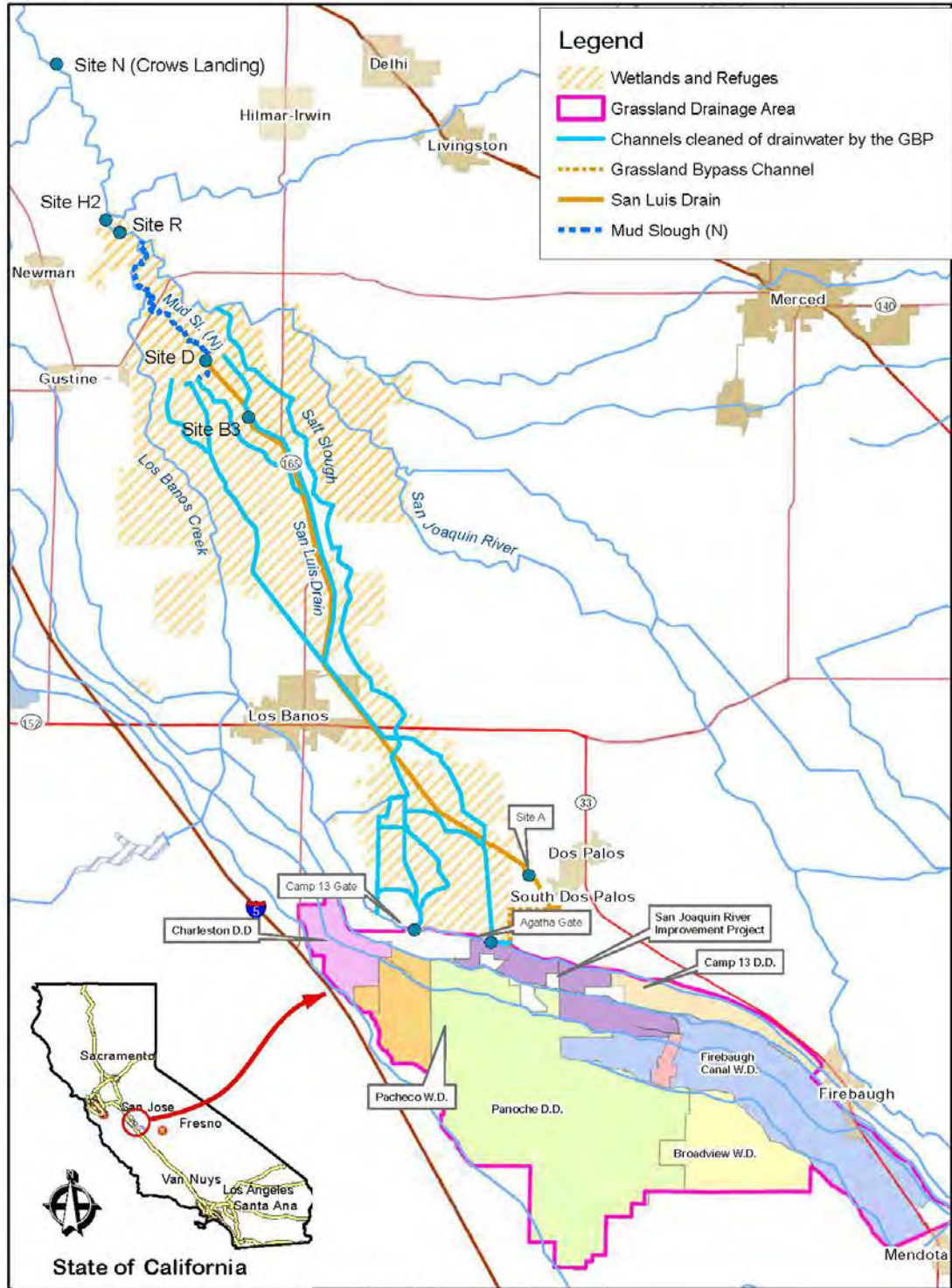


Figure 2



Grassland Bypass Project
Location Map

Prepared by:
Summers Engineering, Inc.
Consulting Engineers
Hanford California

The storm event problems described herein define the continuation of past problems/existing conditions (e.g., as in 2005 when storm flows could not be handled fully in the Drain) into the future if there is no project to resolve these problems. The GBP has faced high rainfall events since its inception. The first two years of the project, 1997 and 1998, were extremely wet years in which there was significant above normal rainfall within the GDA. During those years, flows through the GBP were projected to exceed the 150 cfs maximum permissible flow into the Drain as defined in the Use Agreement and discharges were made into the wetland channels. A subsequent wet year in 2005 also required discharge into the wetland channels. These discharges, although of short duration, brought selenium (Se) into the wetland channels at levels exceeding the 2 parts per billion (ppb) water quality objective for those channels, creating management issues for wetland managers and requiring prescribed post-event monitoring. These periodic discharge events would continue if the LTSWMP does not proceed. Table 1-1 (Maximum Storm Events of Record) shows storm event discharges from the GDA both through the GBP and into Grassland Water District (GWD) during storm event periods for 1997, 1998 and 2005. Recent storm periods are also shown for 2014/15 and 2015/16 even though no storm water was discharged into the wetland areas.

Table 1-1 Maximum Storm Events of Record

Maximum Flows (cfs)						
Date	Flows from GDA	To GWD	Drain Inlet (Site A)	Drain Outlet (Site B)	Site A + GWD	Site B + GWD
Jan-Feb 1997	185	Not Available	95	90	Not available	Not available
Feb 1998	230	90	140	150	230	240
Feb 2005	Not available	75	159	138	234	213
Dec 2014	Not available	0	98	102	98	102
March 2016	Not available	0	109	90	109	90

Source: Project records

The GAF have developed measures to manage irrigation-related drainage flows under the GBP. These practices have been a four-step process including: 1) source control and recirculation, 2) shallow groundwater pumping, 3) drainage water reuse, and 4) treatment and disposal. The final step remains in development; however, the combination of the first three items has led to the successful management of the region’s subsurface drainage. The GAF have been very successful in reducing the selenium load to the San Joaquin River, having reduced the flow by more than 90% in 2015 from what it was before the GBP started. Furthermore, in 2015, there was no flow in the Drain from March through October, and similar no-flow conditions held true in 2016 and 2017, despite the wet year and increased available irrigation supplies. Table 1-1 shows the storm flows that nonetheless were discharged. The normal drainage reduction measures are not applicable to storm water events because a substantial amount of water comes outside of the growing season, and the ability to apply drainwater to the Reuse Area for irrigation of salt-tolerant crops during that time of year is limited. Regulations to protect shorebirds preclude ponding of flood water in the reuse area, further limiting the reuse capacity during winter months.

1.1.2 Previous CEQA Compliance

The original GBP was designed to improve water quality in the channels used to deliver water to wetland habitat areas. It was for a maximum 5-year interim use of a portion of the Drain for conveyance of drainwater through the GWD and adjacent area. The original project was implemented in November 1995 through an “Agreement for Use of the San Luis Drain” (Agreement No. 6-07-20-w1319) between U.S. Bureau of Reclamation, Mid-Pacific Region (Reclamation) and the Authority (1995 Use Agreement). The 1995 Use Agreement and its renewal in 1999 allowed for use of the Drain for a 5-year period that concluded September 30, 2001. Continued use of the Drain after the term of

the existing 1995 Use Agreement required a revised Use Agreement and additional environmental compliance with the National Environmental Policy Act (NEPA) and CEQA.

On March 7, 1996, the Authority and certain of its members entered into the Grassland Basin Drainage Management Activity Agreement. The activity agreement members, along with certain outside participants, known as the GAF formed a regional drainage entity under the umbrella of the Authority to implement the GBP and manage subsurface drainage within the GDA. Participants included Broadview Water District, Charleston Drainage District, Firebaugh Canal Water District, Pacheco Water District, Panoche Drainage District, Widren Water District, and Camp 13 Drainers (an association of landowners located in the Central California Irrigation District). GAF's drainage area currently consists of approximately 97,400 gross acres of irrigated farmland on the west side of San Joaquin Valley and is known as the GDA. Discharges of subsurface drainage from this area contain salt, selenium, and boron.

Following completion of a Final EIS/EIR (SCH No. 1999091025; URS Corporation 2001), a new Use Agreement (Agreement No. 01-WC-20-2075) was completed on September 28, 2001, for the period through December 31, 2009 (Reclamation 2001), between Reclamation and the Authority acting on behalf of the GAF. In September 1998, the GAF and the Authority developed a long-term drainage management strategy and plan of implementation. The *Long-Term Drainage Management Plan for the Grassland Drainage Area* (Drainage Management Plan) was submitted to the Central Valley Regional Water Quality Control Board (Regional Board), as required by Waste Discharge Requirements (WDR) Order 98-171, for public review on September 30, 1998 (GAF and Authority 1998), and updated July 1, 1999. The Drainage Management Plan outlined several steps and measures to achieve water quality objectives in the 1998 Basin Plan and included continuation of the GBP. The 1998 Drainage Management Plan was incorporated into the Westside Regional Drainage Plan (Westside Plan) (San Joaquin River Exchange Contractors Water Authority et al. 2003). The Westside Plan seeks to manage subsurface drainage and achieve a salt balance on productive lands through several mechanisms, including the use of subsurface drainage water to irrigated salt-tolerant crops grown on approximately 6,000 acres of land known as the San Joaquin River Improvement Project (SJRIP) to reduce the volume of water discharged into Mud Slough (North) and improve the water quality of that discharge.

The current Use Agreement for the continuation of the GBP, 2010–2019, (2010 Use Agreement) was signed December 31, 2009, following compliance with NEPA and CEQA (SCH# 2007121110; Reclamation 2009). Reclamation was the lead agency under NEPA, and the Authority was the lead agency under CEQA.

Features of the original GBP that continued under the 2010-2019 project included the following:

- The removal of agricultural drainwater from 93 miles of conveyance channels in the Grassland wetlands and wildlife refuges, except during high rainfall conditions. Any discharges to these conveyance channels would be in accordance with the existing Storm Water Plan as modified consistent with the Use Agreement.
- The use of the Grassland Bypass Channel (GBC), a 4-mile-long constructed earthen ditch and an existing drain that was modified to convey drainwater from the Panoche and Main drains to the Drain at Russell Avenue.
- The use of 28 miles in the Drain to its northern terminus (Site B – the Drain near Gustine, California). From that point, the drainwater would enter Mud Slough (North) for 6 miles before reaching the San Joaquin River at a location 3 miles upstream of its confluence with the Merced River.

- Continuing current land retirement policies listed in the 1998 *Long-Term Drainage Management Plan for the GDA* (GAF and Authority 1998) and subsequent Westside Plan. Key among these is that land retirement should be voluntary.
- Continuing the operation of a regional drainage management entity to perform management, monitoring, and funding of necessary control functions.

Features that were added to the 2010-2019 project included the following:

- An updated compliance monitoring plan, revised selenium and salinity load limits, an enhanced incentive performance fee, a new WDR from the Regional Board, and mitigation for continued discharge to Mud Slough (North).
- In-Valley drainage reuse at the San Joaquin River Water Quality Improvement Project (SJRIP) facility.
- Other drainage management actions to meet water quality objectives/load limits.
- Utilizing and installing drainage recycling systems to mix subsurface drainwater with irrigation supplies under strict limits.
- Implementing a compliance monitoring program with biological, water quality, and sediment components. Results of the monitoring program would be reviewed by an Oversight Committee (established in the three use agreements), with a potential for expansion.
- A single WDR for the GDA.
- An active land management program to utilize subsurface drainage on salt-tolerant crops.
- Low-interest loans for irrigation system improvements, such as gated pipe, sprinkler, and drip irrigation systems.
- An economic incentive program including tiered water pricing and tradable loads.
- A no-tailwater policy that would minimize silt from being discharged into the Drain and promote the secondary benefits of irrigation water management.
- Implementing drainwater displacement projects such as using subsurface drainage for dust control on roadways.
- Meeting with landowners as necessary to implement projects and policies cited above.

The GAF have developed a long-term plan for managing storm water that, since the beginning of the GBP in 1996, has been conveyed through the Drain along with the GBP's subsurface drainage from irrigation. The discharge of agricultural subsurface drainage will cease by the end of 2019 (unless water quality objectives are met), and agricultural subsurface drainage will be managed by the GAF participating districts and at the SJRIP. Going forward, the Proposed Project to be modified is referred to as a Long-Term Storm Water Management Plan (LTSWMP) for the period January 1, 2020 through December 31, 2045.

1.1.3 Current Need to Manage Storm Water

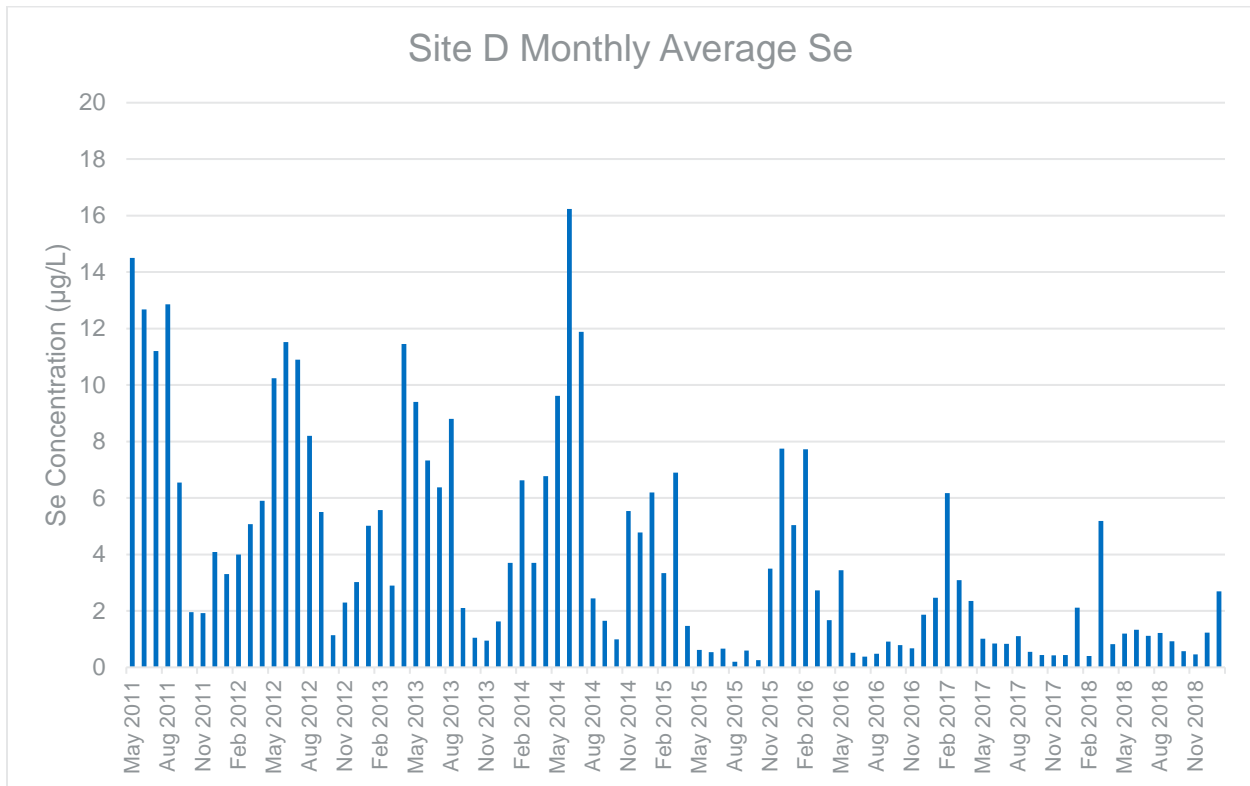
Early rain events tend to be absorbed in the soil profile. However, as significant rainfall occurs the soil profile becomes saturated; there is no longer room in the soil for the excess storm water and storm flows are generated. Once this occurs there will be discharge of storm water as well as accretion flows of shallow groundwater into regional drainage channels from adjacent fields. There is not a clear connection between the year type, amount or frequency of rainfall and the need to discharge to the San Luis Drain. Once the regional drains have reached their holding capacities and

the threat of ponding is imminent, discharge will occur. It should be further noted that the proposed SCADA sump shut-off system would be implemented prior to any release of storm-induced discharge.

During the February 1998 rainfall period, localized flooding occurred, which illustrates what happens if there is no outlet for the storm waters. Flooding that occurred along the Main Canal included lands on the downstream (left) side within GWD. Storm water may pond against the canal banks and ultimately break through the banks. This would be a significant event and could jeopardize water deliveries to agricultural areas outside of the GDA and to private, state and federal wetland areas.

Discharges from the GDA enter the San Joaquin River at the mouth of Mud Slough (North). Recent historical conditions reflect the result of the past projects on water quality. Specifically, selenium levels in Mud Slough (North) have reduced gradually each year since the implementation of the GBP and Westside Plan. The transition to the Long-Term Storm Water Plan Management Plan would continue this trend, resulting in significantly reduced discharges into Mud Slough (North). Figure 3 below shows the average monthly selenium concentrations at Mud Slough (North) (Site D) from 2011 to the end of 2018, illustrating a reducing trend in selenium concentrations, with recent spikes in concentrations occurring in months with significant rainfall.

Figure 3. Average Monthly Selenium Concentrations in Mud Slough (North), 2011 to 2018



1.2 PURPOSE OF THE ADDENDUM TO 2009 FINAL EIS/EIR (SCH # 2007121110)

1.2.1 CEQA Guidelines

Under section 15164(a) of the CEQA Guidelines, the lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the

conditions described in Section 15162 requiring preparation of a subsequent EIR have occurred. (See also Pub. Resources Code, § 21166.) Section 15162(a) of the Guidelines lists the conditions that would require the preparation of a subsequent EIR rather than an addendum.

- (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for the project unless the agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following
- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
 - (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
 - (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Accordingly, to comply with CEQA, the Authority prepared an Initial Study and accompanying technical reports to evaluate the proposed modifications to the GBP and evaluate whether the conditions described in CEQA Guidelines section 15162 and Public Resources Code section 21166 calling for further environmental review have occurred. Because substantial evidence demonstrates that the prior CEQA analyses retain their relevance; that the 2009 Final EIS/EIR fully analyzed and mitigated, where feasible, all potentially significant environmental impacts, if any, that would result from the modified Project; and that none of the conditions described in CEQA Guidelines section 15162 or Public Resources Code section 21166 have occurred as a result of the Proposed Project modifications, this Addendum has been prepared pursuant to section 15164 of the CEQA Guidelines.

1.2.2 Findings for this Addendum

This Addendum to the Grassland Bypass Project Final EIS/EIR (Reclamation 2009) is based on preparation of an Initial Study and accompanying technical reports under the CEQA Guidelines that covers all of the required environmental topics for an Initial Study (Authority 2019). The description of all of the project changes (Proposed Project) is provided in Section 2 of this Addendum, Description of Project Changes. The discussion of potential environmental impacts, mitigation measures, and

determination that an addendum is appropriate are provided in Section 3. References cited are contained in Section 4.

The analysis in this Addendum supplements the Initial Study findings and confirms that the Proposed Project, including proposed improvements at the SJRIP, would not result in any new significant impacts (adverse effects) nor in an increase in the severity of significant impacts previously identified in the Final EIS/EIR (Reclamation 2009b). Furthermore, the Proposed Project would not require the adoption of any new or substantially different mitigation measures (or project alternatives). While the current Proposed Project does propose changes to the SJRIP reuse facility not previously considered in 2009, including new short-term storage basins for 1,000 AF of temporary storm water containment and the SCADA system for tile sump control, these changes are considered to be minor technical changes given their size and the effectiveness of biological mitigation measures used since 2006. Additional surveys for cultural resources and construction monitoring are standard requirements for new construction.

This Addendum documents that the Proposed Project changes, since the GBP was evaluated in the 2009 Final EIS/EIR, do not trigger any of the conditions set forth in Public Resources Code section 21166 or CEQA Guidelines section 15162. Therefore, the preparation of an addendum for the LTSWMP as described in the CEQA Guidelines Section 15164 is appropriate.

P A R T 2

Description of Project Changes

2.1 PROJECT OVERVIEW

The GBP is proposed to continue after December 31, 2019 with local management of agricultural drainage and downstream coordination of rain-induced flows to the San Joaquin River utilizing the Drain as conveyance to avoid impacting wetland water delivery channels. The discharge of agricultural drainage to the Drain will cease by the end of 2019, and agricultural subsurface drainage will be managed by the GAF participating districts and by continued irrigation of salt-tolerant crops at the San Joaquin River Improvement Project (SJRIP). Going forward, the Project as proposed to be modified is referred to as a Long-Term Storm Water Management Plan (LTSWMP), for the period January 1, 2020 through December 31, 2045.

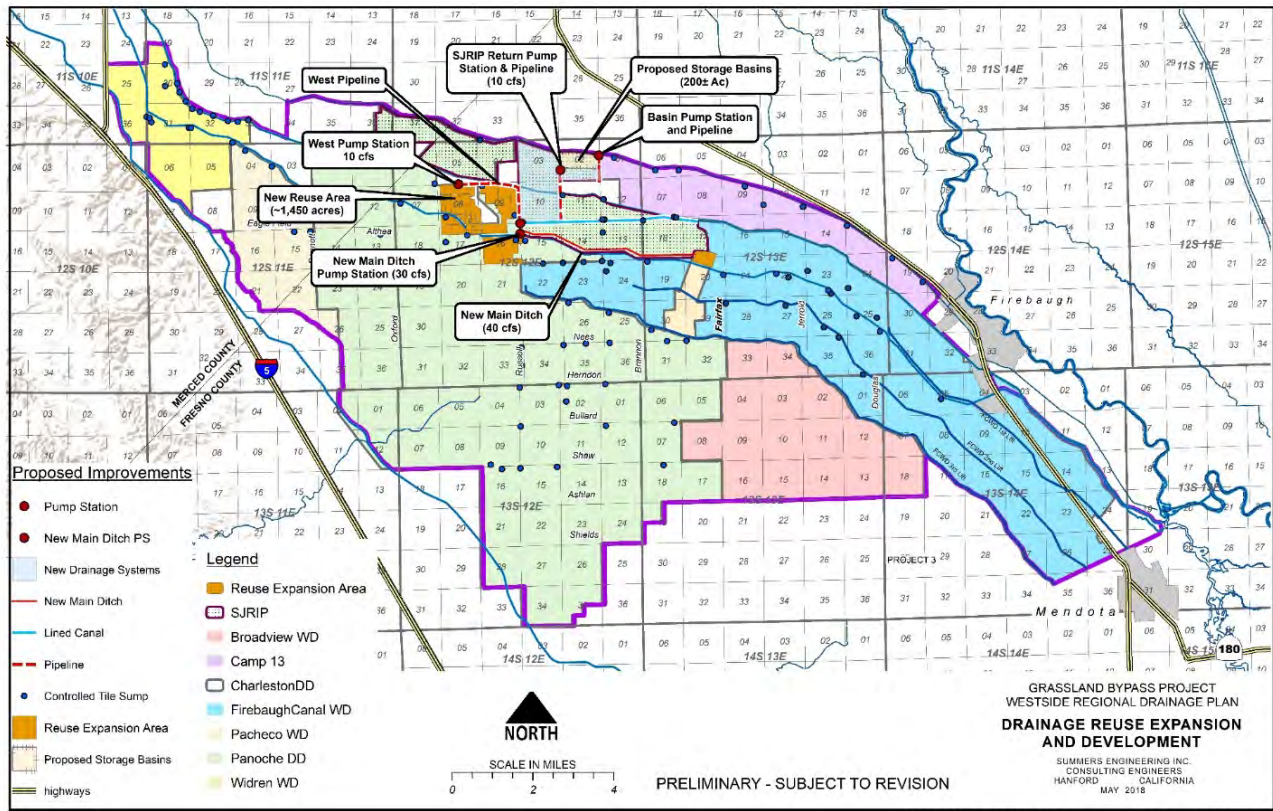
Therefore, the Proposed Project is continued use of the Drain at its current capacity (150 cfs) combined with the use of existing and new short-term storage basins to reduce storm-induced discharges to Mud Slough (North) in the San Luis National Wildlife Refuge and the California Fish and Wildlife Service China Island Refuge. The Proposed Project considers modifications to the previously analyzed project and includes measures to address the capacity limitations of the GBC and the Drain, storm event frequency and magnitude, and available storm water management tools to minimize discharges. It also considers some enhancements to existing facilities including securing ownership of land for purposes of the SJRIP, new pump/conveyance systems, additional storage basins, and a remote shut-off system for operation of tile sumps throughout the GDA.

The Project Area is primarily located in the northwestern portion of Fresno County and a portion of the south-central section of Merced County. This area consists of the GDA as well as adjacent land to the north through which subsurface drainage has historically flowed. The SJRIP is located in the north central section of the GDA on property containing approximately 6,000 acres with planned expansion of up to 1,500 additional acres of reuse area (including some acres already developed for salt-tolerant crops). See Figure 2, Grassland Bypass Project Location Map, contained in Section 1.

2.2 REVISED PROJECT DESCRIPTION

The 2010 Use Agreement has limited the permitted flow in the Drain to 150 cfs, because the connection facilities between the GDA and the Drain are limited to 150 cfs and to avoid the disturbance of sediments in the Drain. These facilities include a culvert underneath the Main Drain, Main Canal, and Helm Canal, the four-mile earth-lined GBC which connects the GDA drainage system to the Drain, the inlet to the Drain from the GBC and the outlet from the Drain to Mud Slough (North). The Proposed Project as modified would continue to use the existing GBC and related culvert, drain and canals to handle storm flows up to 150 cfs. Modifications to existing infrastructure would include a new automated system to turn off tile sumps within the GDA during storm events; improvements to the SJRIP delivery system to allow storm flows to be conveyed to more areas in order to make limited use of the SJRIP reuse area in the winter and of existing regulating ponds (with 500 acre feet [AF] capacity) that discharge to the reuse area; and new storage basins (approximately 200 acres) to handle up to 1,000 AF of storm water when storm flows are greater than 150 cfs (without ponding against canals or in the reuse area). The key project features are described in the following sections and shown on Figure 4, Drainage Reuse Expansion and Development.

Figure 4 – Drainage Reuse Expansion and Development



In addition, a Sediment Management Plan was evaluated in the 2009 Final EIS/EIR (SCH No. 2007121110; Reclamation 2009b) to return the Drain to its original capacity of 300 cfs. This plan allowed for placement of removed sediments on agricultural, industrial and/or residential lands. Removal commenced under the plan in 2015, 2016, 2017 and 2018 using excavators to remove the sediment and trucks to haul it to the SJRIP. As of August 2018, approximately 180,000 cubic yards of sediment has been removed for the Drain between the inlet to the Drain (Site A) and Henry Miller Avenue (approximately 14 miles). All removed sediment was hauled to the SJRIP and used to fill in unneeded drains. Future sediment removal will be accomplished similar to the 2017-2018 removal, but the location of the placement area likely will change due to the logistics of hauling material that is further away from the SJRIP. Measured selenium levels in the Drain sediment are below the threshold for application on industrial and residential sites. A planned industrial site has been located adjacent to the Drain at Highway 152, and an estimated 100,000 cubic yards could be placed at this location. This would be sufficient to store all of the remaining sediment in the Drain. Due to the narrow time-window available each year for sediment removal and the logistics related to hauling distances, the removal is expected to take an additional two years to accomplish, or by December 31, 2021. Approximately 95,000 cubic yards of sediment remain in the Drain and need to be removed, resulting in approximately 35 trips per day for approximately 2.5 months (70 working days total) over this time period. The nature and intensity of sedimentation and hauling activities associated with the Proposed Project modifications are consistent with, and well within the scope of, the activities previously analyzed in detail in the Grassland Bypass Project Final EIS/EIR for the 2010-2019 Project timeframe.

2.2.1 Available Storm Water Management Tools/Other Project Features

A small number of management tools are currently available to the GAF to minimize storm-related discharges and potential impacts to the wetland areas and the San Joaquin River. These include source

control projects, shallow groundwater pumping, and stormwater use for irrigation on the SJRIP. The Proposed Project would add specific enhancements and new facilities specified herein. Features associated with these management tools are shown on Figure 4.

2.2.1.1 Turn Off Tile Sumps

Subsurface drainage from irrigation in the GDA is collected in tile drain systems under farmers' fields that collect at a sump. Most tile discharges are controlled through a pump on each such tile sump that discharges into deep collector drains through which it flows to the GBP. As part of a Storm Event Plan, tile sumps would be turned off. Turning off tile sumps will utilize a portion of the shallow soil profile for storage and slow the rate at which shallow groundwater is discharged into the regional drains. This action alone is insufficient to completely eliminate the discharge of shallow groundwater from irrigated lands since, as the soil profile saturates, this water will overtop sumps and flow into the drain or seep through the soil and accrete into the drains, and would be discharged with the storm water. However, controlling sump discharge is a significant tool in reducing peak storm-related flows and improving water quality in storm-related discharges.

Remote tile sump control is a modification to existing sump control that will be provided through the implementation of a Supervisory Control and Data Acquisition (SCADA) system that will allow all of the tile pumps to be shut off from the appropriate district office. This improvement involves installation of radio and shutoff relays at each discharging tile pump throughout the GDA. Communications and repeater towers will be erected as required (two to four towers expected) to send the control signal from the SCADA computer at the district office to each of the pumps. These towers will range in height from 20 to 80 feet and are consistent with power line and other communication towers within the GDA, i.e., shorter than existing cellular communication and high-wire towers but taller than regular power poles. This will allow all discharging tile sumps to be remotely disabled prior to storm events and then reactivated after the storm event has passed. This enhancement improves the control and efficiency available for the measure of shutting off tile sumps.

2.2.2 Short-Term Storage Basin Usage

2.2.2.1 Existing Storage Basins

A storage basin or pond is defined most often as a small storage reservoir constructed to regulate an irrigation water supply by collecting and storing water for a relatively short period. There are currently some minimal storage basins within the GDA, including those in Panoche Drainage District and Pacheco Water District. These existing facilities provide approximately 500 AF capacity; storm water stored in these basins can be either diverted and reused for irrigation on the SJRIP reuse area, used at other areas within the GDA, or discharged into the Drain.

A concern with the use of storage basins in the GDA is the potential for possible exposure of waterfowl to water with elevated selenium if basins cannot promptly be drained. The plan is to accumulate storm water in the basins as needed to reduce peak flows during high rainfall events, typically beginning in December, for subsequent release of the storm water through the Drain or to the reuse area to the extent they can be used, given capacity constraints, to irrigate salt tolerant crops without ponding. To avoid impacts to wildlife, appropriate mitigation measures will be implemented for as long as the basins contain water (see Section 3.2.2). The basins would collect drainage during storm events as a tool to reduce peak flows and the associated discharge to the Drain, and then distribute the storm water to the reuse area during the early irrigation season and to the GBC outside of the irrigation season. The storage basins would be managed to prevent the evapo-concentration of selenium and other constituents and aggressively hazed to discourage water bird nesting. Water in the basins would be distributed to the SJRIP to meet irrigation demand as soon as practical. In rare cases, captured water may be discharged to the GBC to the Drain to prevent evapo-concentration if there is not sufficient

reuse capacity to drain the basins. Depending on water quality, some of the water may be blended into regional irrigation systems as well. By late May, the basins would be emptied.

2.2.2.2 Proposed Short Term Storage Basins and Pump Stations

The Proposed Project also includes new, short-term storage basins that total approximately 200 acres in size with the ability to hold an additional 1,000± AF of storm-induced drainage from the GDA. They would be operated in a similar manner as the existing basins explained above, i.e., filling begins with the first significant storms (typically December), and basins are emptied by May. The increased capacity reduces the quantity that must flow during the storm event to the GBC, the Drain, and ultimately to Mud Slough (North). This guards against both flow in the GBC exceeding the channel capacity as well as selenium concentrations in Mud Slough (North) exceeding the water quality objective established in 2016 by the Regional Board (Regional Board 2016).

The storage basins will consist of approximately four miles of levees (interior and exterior) amounting to approximately 300,000 cubic yards of compacted embankment and rip-rap for levee protection. Levees will have a top width of 12 to 16 feet and a depth of approximately 6 feet. The storage basins will be designed with clean and steep slopes, and water will be kept deep or the basins will be empty, in order to minimize attractiveness of the basins for waterbirds. A new pump station will be constructed to divert water from a major regional drain into the basins and a second pump station and conveyance pipeline (estimated 24" diameter) will be constructed to divert water out of the basins for reuse within the SJRIP.

Current land use at the proposed basin site is salt tolerant cropland (Jose Tall Wheatgrass) within the existing SJRIP. The conversion of 200 acres of this land to storage basins would provide a tool to reduce the amount of water discharged to the GBC and Drain during large storm events in the non-irrigation season. This loss or irrigable crops will be offset by planned SJRIP expansion.

The estimated construction time for the basins is approximately 4 months. The estimated construction time for the 2 pump stations and associated pipeline is approximately 3 months, and may or may not be concurrent with the basin construction. Construction periods would typically be limited to May through November (7 months) when storm events and flooding are unlikely, and adjusted according to the protective requirements for special status species as necessary.

Operations: A variety of factors will determine when storm induced drainage flows would be diverted into the basins. Local staff will consider soil saturation levels, forecasted rainfall amounts, water levels in regional drains, available capacity in the GBC and the flow rate in Mud Slough (North) (Site D) as factors for determining when to divert flows into the temporary storage basins. The goals of any diversion into the short-term storage basins would be to avoid exceeding capacity to discharge through the GBC into the Drain (so as to avoid any release into the historic path of the wetland conveyance channels), to prevent selenium water quality exceedances at Site D, and to minimize the overall discharge from the GDA. Water would be drained out of the basins as soon as the water could be utilized within the SJRIP.

BACK TO RESO 817-22

2.2.2.3 Reuse Area Expansion

The Grassland Bypass Project Final EIS/EIR stated that the SJRIP facility would be implemented on up to 6,900 acres of land within the GDA (Reclamation 2009b, p. 2-14). It included the following description:

“To continue to apply the salty water to the lands developed in Phase I, it will be necessary to install subsurface drainage systems. Installation of tile drainage systems will be required to maintain salt balance in the root zones and to maintain the

productivity of the reuse area on a long-term basis. Such installation would not be a prerequisite for commencement of reuse, would be prioritized based upon available funding and the needs of particular crops, and would be expected to proceed throughout Phase II. Currently (and for the foreseeable future) any tile water captured within the reuse areas is blended back with the reuse area irrigation supply and used on whatever crop is located downslope. Salt, Se, and other drainage constituents would be collected in the water coming out of the subsurface drainage systems, continue to be recirculated and utilized on site or, during any continuation of the Grassland Bypass Project, be discharged subject to load reduction obligations.” (p. 2-18)

The proposed expansion of 1,450 acres will take the existing reuse facility from 6,100 acres analyzed in the 2009 Final EIS/EIR to 7,550 acres of usable reuse area. This is an additional 650 acres over the maximum size anticipated in the 2009 Final EIS/EIR. This additional acreage would be managed in the same manner as the existing acreage with the same biological monitoring requirements established by the U.S. Fish and Wildlife Service (USFWS) in their Biological Opinion (see USFWS 2009). Therefore, this Addendum addresses the additional acreage. Much of this additional acreage is already planted to salt tolerant Jose Tall Wheatgrass, and only a change in ownership (private to district) would be needed for implementation.

Because the salt tolerant crops within the SJRIP have very little water demand in the winter, reuse capacity for storm-related flow is very limited in the period between November and February with greater reuse in the March to May period, depending on hydrologic conditions. Small existing storage basins in Pacheco and Panoche Water District provide limited water storage capacity within the GDA (up to 500 AF). In combination with storage basin usage, the maximum managed flow with facilities within the GDA is approximately 50 cfs for 15 days¹. Once this maximum is reached, discharge of some sort is required.

The primary environmental concern is an increased potential for ponding of seleniferous water within the fields of the SJRIP, which could be an attractive nuisance to wildlife, particularly birds. The amount of water that could be discharged to the SJRIP is less than what would be needed (i.e., only a partial solution), and other impacts would be created if the area is not enlarged to handle agricultural drainage. Therefore, an additional reuse area of approximately 1,450 acres is proposed on farmed land generally on the southwest side of the existing SJRIP facility. Mitigation contained in the Grassland Bypass Project Final EIS/EIR for the existing reuse facility would apply to this area also. This mitigation includes a contingency plan² in the event of inadvertent flooding in the reuse area due to breakage of a water supply canal or delivery facility.

2.2.3 Conveyance Activities

Additional conveyance activities are proposed for agricultural drainage and storm water conveyance within the GDA for the existing reuse area and its expansion and for storm water conveyance to the GBC during the winter months. These improvements, when combined with the proposed short-term storage basins and other conveyance activities, will increase the GBP’s capacity to manage storm-induced flows. These activities are listed below.

- **RP-1 Ditch Extension and Lining** The existing 3 miles of RP-1 Ditch will be replaced with a concrete lined channel and the ditch will be extended 1.8± miles to the eastern side of the SJRIP. The channel’s capacity will also be increased from approximately 25 cfs to 45 cfs.

¹ The maximum diversion rate could be as high as 70 cfs but this assumes that some pumps will be inaccessible due to wet conditions. 15 days comes from 3” over 6000 acres.

² This plan is presented in the *San Joaquin River Water Quality Improvement Project, Phase I Wildlife Monitoring Report*, 2005 (H.T. Harvey & Associates 2006).

Construction work will involve the placement of approximately 34,000 cubic yards of compacted embankment to build the canal pad, excavation of approximately 38,000 cubic yards of material to cut the design cross section, and placement of approximately 470,000 square feet of unreinforced concrete lining, along with miscellaneous appurtenances such as turnouts and road crossings. As a delivery channel, most of the ditch would be above grade with the invert extending approximately 24" below the existing top of ground. The alignment of the existing and proposed ditch is within an area historically farmed. Estimated construction time is 4 months.

The RP-1 Ditch extension and lining activities would significantly improve operational flexibility of the SJRIP by extending conveyance capacity to the far east section of the SJRIP (near Fairfax Avenue). Currently, there is only limited conveyance capacity to that portion of the reuse area, which underutilizes the overall reuse capacity of the SJRIP.

- **RP-1 Pump Station Enlargement and Pipeline.** A new electric pump station with a capacity of approximately 25 cfs will be installed in the Russell Avenue Drain near the existing RP-1 Pump Station. The pump station will consist of a pre-cast concrete sump, two low lift pumps, a manifold to connect to the new pipeline, electrical controls, and necessary appurtenances. A new pipeline will transmit the pumped water from the new pump station to the RP-1 Ditch, a distance of approximately 750 feet. The trench for the new pipeline would be approximately 6 feet deep and would run parallel to an existing pipeline installed for a similar purpose. The construction area for this activity has been extensively disturbed during previous construction activities. The pipe is expected to be 30" or 36" in diameter and likely to be reinforced concrete or PVC. Estimated on-site construction time is expected to be three weeks.

The proposed increase in the RP-1 pump-rate capacity would significantly improve operational flexibility of the SJRIP by increasing the conveyance capacity to the far east section of the SJRIP (near Fairfax Avenue). Currently, there is only limited conveyance capacity to that portion of the Reuse Area, which underutilizes the overall reuse capacity of the SJRIP.

- **West Pump Station and Pipeline.** A new pump station and pipeline will be installed on the westside of the SJRIP that will allow water to be pumped to the easterly SJRIP, where there is more crop water demand. The pump station will consist of a pre-cast concrete sump, 2 pumps (5± cfs each), a manifold, electrical controls and miscellaneous appurtenances. The pipeline is expected to be 21" diameter PVC pipe. Approximately 2.5 miles of pipe will be installed along existing field roads at a depth of 5 feet, discharging ultimately at the Russell Drain near the RP-1 pump station. An encroachment permit from Fresno County will be required to cross Russell Avenue. Estimated total on-site construction time is expected to be 3 months. The proposed pump station and pipeline would connect the westerly portion of the SJRIP (~1,800 acres) with the 4,000 acres of the SJRIP east of Russell Avenue and increase the rate of drawdown for the storage basins. The construction area for this activity has been extensively disturbed during previous construction activities that have been analyzed under CEQA.
- **SJRIP Return System.** A new electric pump station and pipeline will be installed on a major return drain within the SJRIP that will convey that water to the RP-1 Ditch. The pump station will have a capacity of 10 cfs and will consist of a pre-cast concrete pump sump, 2 pumps, manifold, electrical controls and other appurtenances. The pipeline is expected to be 21" diameter PVC, approximately $\frac{3}{4}$ of a mile in length, in a trench 5 feet deep, and will discharge into the RP-1 Ditch. Estimated on-site construction time for both the pipeline and the pump station is approximately 3 months. The construction area for this activity has been extensively disturbed during previous construction activities that have been analyzed under CEQA.

The proposed pump station and pipeline would improve the operation efficiency of the SJRIP by capturing internal return flows and returning them to the RP-1 ditch, which will allow for recirculation of this water over the largest possible area.

- **New Subsurface Drainage.** New subsurface drainage systems are proposed for up to 1,100 acres within the existing reuse area. Drains are to be placed approximately 8 feet below the ground surface with a spacing of approximately 400 feet. This area historically has been farmed and is currently planted to Jose Tall Wheatgrass. Construction would occur over a 3-month period, and the fields would be re-planted.

The proposed subsurface drainage systems would be located on a series of fields with a shallow water table that inhibits cultivation and operations. Subsurface drain water collected by these systems would be discharged into the SJRIP conveyance system for reuse.

Environmental Impact Discussion

3.1 INTRODUCTION

This section discusses whether the proposed modifications to the Grassland Bypass Project (GBP) analyzed in the 2009 Final EIS/EIR (SCH No. 2007121110) would result in any new or substantially more severe environmental effects than were previously identified. This section also includes a discussion of the original mitigation measures from 2009 and the need for implementation of those measures to continue (with or without refinements) to allow for the continuation of storm water management practices including use of the Drain. The discharge of subsurface agricultural drainage to the Drain will cease by the end of 2019, and agricultural subsurface drainage will be managed by the GAF participating districts and at the SJRIP. Going forward, the Project as proposed to be modified is called the Long-Term Storm Water Management Plan (LTSWMP) for the period January 1, 2020 through December 31, 2045. It would be implemented through a new use agreement with the U.S. Department of the Interior, Bureau of Reclamation for use of the Drain and with new WDRs from the Regional Board for discharge to Mud Slough (North). The proposed West Pipeline affects Russell Avenue; a permit will need to be obtained from Fresno County to cross the road. Other related improvements and practices at the SJRIP to implement the LTSWMP are included as well, such that the entirety of the Project is evaluated under CEQA.

The proposed changes to the 2009 project are called the Proposed Project. As the lead agency under CEQA, the Authority prepared an Initial Study using the CEQA Environmental Checklist supported by four technical reports on plan formulation, biological resources, sediment removal and surface water resources. An analysis of cultural resources was also made.

Sections discussing significant impacts to environmental resources identified in the 2009 Final EIS/EIR are titled Final EIS/EIR (2009) and sections describing the resulting impacts from the proposed changes to the 2009 project are titled Initial Study (2019).

3.2 IMPACTS RELATED TO PROJECT CHANGES

The environmental topics considered to have the greatest potential for new or more severe significant environmental impacts were surface water resources and biological resources. Differences in the potential impacts associated with the Proposed Project relative to those for the GBP described in the 2009 Final EIS/EIR (Proposed Action) are discussed below. For this CEQA discussion, the Proposed Project is compared to existing conditions for the 2015-2019 period, and the 2009 project was compared to existing conditions at the time of the issuance of the Notice of Preparation (December 20, 2007) for that project. The focus in this section is on impacts (adverse effects) identified as potentially significant in 2009 and mitigation to reduce those impacts to less than significant for surface water and biological resources. It also discusses the significant and unavoidable impacts to soils and groundwater resources identified in the 2009 Final EIS/EIR and how the Proposed Project does not increase the severity of those adverse effects.

3.2.1 Surface Water Resources

3.2.1.1 Final EIS/EIR (2009)

The 2009 Final EIS/EIR (Section 4, Surface Water Resources) identified significant and less-than-significant “beneficial” effects, although beneficial effects are not required to be identified under CEQA (only under NEPA). The beneficial effects were attributed to water quality for the following

parameters based on water quality objectives and modelling for reductions in drainage discharges over the 2010-2019 period:

- Selenium (Se), salinity, boron, and molybdenum in sloughs and San Joaquin River (SJR) upstream of the Merced River
- Se, salinity, boron, and molybdenum in the SJR downstream of the Merced River, salinity in sloughs/SJR

There was a determination of no impact for Se in wetlands during storm events and during dry weather, because Se concentrations were essentially unchanged from existing conditions.

The potentially significant impact (adverse effect) was for sediment accumulation in the Drain. Additional sediment may accumulate, but this impact could be mitigated by removal of all accumulated sediment (e.g., all sediments since completion of the 85-mile Drain in 1975) based on a Sediment Management Plan included in the 2009 Final EIS/EIR as Appendix B. The sediment would be removed in accordance with the proposed Use Agreement and applicable laws and regulations as well. This mitigation reduced the sediment accumulation impact to less than significant.

3.2.1.2 Initial Study (2019)

The projected storm water discharges for the Proposed Project were evaluated in Section 2.10 of the Initial Study. Discharges from the Project Area enter the San Joaquin River at the mouth of Mud Slough. Recent historical conditions reflect the result of the past projects on water quality. Specifically, selenium levels in Mud Slough (North) have reduced each year since the implementation of the GBP and Westside Plan. The transition to the Long-Term Storm Water Plan Management Plan would continue this trend, resulting in significantly reduced discharges into Mud Slough.

There is a general trend of decreasing flows between 2006 and 2014 and the elimination of summer flows to the Drain starting in 2015. Prior to 2015, the Drain flow appears to consist of a combination of year-round drainage and winter storm-induced drainage flows. From 2015, the flow appears to be mainly storm flows with a small component of post-storm drainage.

Hydrological conditions varied during Water Years 2015 to 2017, the period representing existing conditions. Water Year 2015 was critically dry, Water Year 2016 was below normal/dry, and Water Year 2017 was wet. Regardless of year type, flow in the Drain was maintained below 150 cfs.

One of the management tools for storm water runoff would be pumped diversions to the existing and proposed short-term storage basins. It is possible that these basins could completely contain the flows generated by such events. Once the rainfall subsides, the captured water would be drained for reuse as SJRIP irrigation water whenever practical. Depending on time of year, some water could be stored in the storage basins for a month or more.

Operationally, a variety of factors will determine when storm-induced drainage flows would be diverted into the basins. Local staff will consider soil saturation levels, forecasted rainfall amounts, water levels in regional drains, including the GBC, and the flow rate in Mud Slough North (Site D) as factors for determining when to divert flows into the temporary storage basins. The primary goal of any diversion into the short-term storage basins would be to avoid exceeding the 150 cfs capacity of the GBC and hence, required diversion into historic outlets through the wetlands; prevent selenium water quality exceedances at Mud Slough North (Site D); and minimize the overall discharge from the GDA. Water would be drained out of the basins as soon as there was reuse capacity for irrigation within the SJRIP.

The impacts to surface water resources are focused on water quality and are primarily based on changes in the Se, salt, and boron concentrations in the San Joaquin River and Mud Slough (North). The degree of water quality impact is based on the concentration in the receiving water relative to the water quality objectives (WQOs) contained in the Basin Plan for the San Joaquin River Basin (Regional Board 2016). An impact would be considered an adverse effect and significant if it resulted in an increase in the frequency of exceedances in the WQOs over what was measured under existing conditions (Water Years 2015 to 2017). An effect would be considered beneficial if it resulted in a decrease in the frequency of exceedances in the WQOs. Current Basin Plan WQOs and performance goals for Se, boron, and molybdenum for the lower San Joaquin watershed are summarized in the Initial Study. Total flow from the GDA to the Drain would not exceed 150 cfs due to capacity limitations in the siphon under the Main Canal and related facilities.

Under the Proposed Project, water quality in Mud Slough (North) downstream of the Drain is expected to improve relative to existing conditions due to the GAF modifying operation of the drainage system, including the integration of storage basins to reduce storm event discharge and turning off sumps prior to and during wet weather flows using the new SCADA system. The Se, boron, salt, and molybdenum concentrations are expected to decrease due to this discharge management of storm flows.

Under existing 2015-2019 conditions, Se concentrations in Mud Slough (North) downstream of the Drain were not above the current Se performance goal of 15 µg/L monthly mean. Based on 21 years of simulation, water quality in Mud Slough (North) downstream of the Drain is expected to improve under the Proposed Project relative to existing conditions due to the GAF modifying operation of the drainage system, including turning off sumps prior to and during wet weather flows using the new SCADA system and the integration of storage basins to reduce storm event discharge. However, on rare occasions Se concentrations are predicted to be above WQOs (5 µg/L 4-day average) in dry and critically dry years when dilution flows in Mud Slough upstream of the Drain are reduced (see Initial Study, Appendix D, Attachment A). When evaluated on an event basis (which could include one or more consecutive days), exceedances are expected to occur on average once every 3.5 years. These exceedances would occur less frequently than EPA guidelines which allow for a violation of water quality standards once every 3 years.

The Se concentrations are expected to be reduced under the Proposed Project, a beneficial effect. However, because the WQO would change from the monthly mean performance goal of 15 µg/L to a 4-day average of 5 µg/L WQO, the frequency of exceedances of the applicable water quality criteria would be increased (as noted above) as compared to existing conditions due to the reduced WQO (since the Final EIS/EIR was released in 2009). However, it is expected that the water quality in Mud Slough (North) as it relates to Se conditions would continue to be improved; the frequency of exceedances of the 2016 WQO is considered a less-than-significant impact.

Monthly average boron concentrations in Mud Slough downstream of the Drain are expected to be greater than 2 mg/L in some months during both the wet and dry season. When there is no flow from the Drain, concentrations would be the same as found in Mud Slough (North) upstream of the Drain (occasionally above a 2 mg/L monthly average), but storm water discharges from the Drain could occasionally contribute to exceedances of the 2 mg/L monthly average WQO downstream of the Drain in April. Because boron concentrations are expected to decrease during winter months due to turning off drainage sumps prior to and during wet weather flows, the frequency of exceedances above the WQO are expected to decrease as compared to existing conditions. Therefore, changes to boron concentrations would have a less-than-significant impact in comparison to existing conditions.

The Sediment Management Plan (2009) allowed for placement of removed sediments on agricultural, industrial and/or residential lands. Removal of the 40 years of accumulated sediment commenced in 2015, 2016, 2017 and 2018 using excavators to remove the sediment and trucks to haul it to the SJRIP.

As of August 2018, approximately 180,000 cubic yards of sediment has been removed from the Drain between the Drain Inlet (Site A) and Henry Miller Avenue (approximately 14 miles). All removed sediment was hauled to the SJRIP and used to fill in unneeded drains. Future sediment removal will be accomplished similar to the 2017-2018 removal, but the location of the placement area likely will change due to the logistics of hauling material that is further away from the SJRIP. Measured selenium levels in the Drain sediment are below the threshold for application on industrial and residential sites. A planned industrial site has been located adjacent to the Drain at Highway 152, and an estimated 100,000 cubic yards could be placed at this location. This would be sufficient to store all of the remaining sediment in the Drain. Due to the narrow time-window available each year for sediment removal and the logistics related to hauling distances, the removal is expected to take an additional year to accomplish, to December 31, 2020. Approximately 95,000 cy of sediment remain in the Drain and need to be removed. The nature and intensity of sedimentation and hauling activities associated with the Proposed Project modification are consistent with, and well within the scope of, the activities previously analyzed in detail in the Grassland Bypass Project Final EIS/EIR for the 2010-2019 timeframe. The capacity of the Drain would be restored to 300 cfs, while only 150 cfs capacity will be used for the Proposed Project. The amount of additional sediment accumulation for the period 2021-2045 would not interfere with use of the Drain for storm water conveyance, and the impact is less than significant.

The Se WQO would be met during most of the year, with only occasional exceedances of the 5 ppb 4-day average that would be short in duration, a less-than-significant impact as explained above. Refinements to the existing mitigation measures to further reduce the less-than-significant impacts from the expected periodic exceedances will be implemented for the Proposed Project, as follows:

- If the 5-ppb 4-day average not met with proposed management practices (shut off electric sumps), analyze operational data and develop adaptive management approach to implement additional corrective actions.
- Organize the Mitigation Sub-Committee comprised of local wildlife agencies as required in the 2010 Use Agreement to utilize funds deposited in the Supplemental Mitigation Project Fund to develop mitigation projects such as:
 - Refuge water supply augmentation (such as USFWS Blue Goose unit)
 - Increased water flows in Mud Slough after Drain flows cease
 - Habitat restoration projects
 - Species specific habitat establishment

The Long-Term Storm Water Management Plan includes selenium load targets for discharges to Mud Slough (North) and the San Joaquin River. Table 3-1 shows the Total Maximum Monthly Load (TMML) selenium load allocation as adopted in 2001 in the Basin Plan amendment for Selenium in the San Joaquin River along with proposed selenium load targets. The targets represent an approximately 75% reduction in selenium loading from the TMML Annual Load Allocations. A multi-year performance target requiring that the selenium load over a 3-year period at Site B be less than the sum of the 3-year target, based on water year type, would be used to determine if the load targets are being met. If the performance target is exceeded, the Dischargers will propose additional management practices to reduce the selenium loading to meet the performance goal. The selenium water quality objective will continue to be used to determine compliance with the Basin Plan.

Table 3-1. Selenium Annual Load Allocations for the Grassland Drainage Area³
 (pounds of selenium)

Selenium Load	Critical (Discharge Limit)	Dry/Below Normal (Discharge Limit)	Above Normal (Discharge Limit)	Wet (Discharge Limit)
TMML Annual Load Allocation	1075	2496	4162	4480
Annual Load Target	300	600	900	1200
Percent Reduction	72%	76%	78%	73%

In summary, the Proposed Project would not result in new significant impacts not already considered and mitigated in the 2009 Final EIS/EIR and would not substantially increase the severity of the previously identified impact. Less-than-significant impacts to water quality would not be increased to significant, and the sediment accumulation impact would not be worsened. Sediment removal initiated during the 2009 project would be completed and subsequent accumulation would not interfere with operation of the Drain over the 2020-2045 timeframe.

3.2.2 Biological Resources

3.2.2.1 Final EIS/EIR (2009)

The three sections of the Project Area used in the 2009 analysis (in Section 6.1.1) are:

- **Area 1 (the GDA):** the 97,400-acre source zone known as the GDA, located in the Central Valley of California, specifically in Merced and Fresno Counties.
- **Area 2 (Area 2):** 93 miles of wetlands channels, Salt Slough, and the San Joaquin River from the confluence of Salt Slough downstream to Mud Slough. This area is located within the GWD and state/federal wildlife management areas, and under current conditions does not receive water directly from the source zone (Area 1).
- **Area 3 (Area 3):** the Drain from Russell Avenue on the south to its northern terminus at Mud Slough, 6 miles of Mud Slough upstream of its confluence with the San Joaquin River, and the San Joaquin River downstream from Mud Slough to Crows Landing. This area comprises the drainage pathway from the source zone through the San Joaquin River, and, under current conditions, includes those habitats affected by selenium (Se)- and salt-rich drainage water.

Compared to existing conditions, the expanded reuse area may cause significant adverse impacts in Area 1 as crop changes lead to foraging habitat loss or degradation for species in the expansion area, as well as increased Se and higher potential for Se bioaccumulation in that area. By removing drainage water from Area 1, ponding is less likely to occur and less habitat is expected to be degraded (than under the No Action Alternative in both Area 2 and Area 1 outside of the reuse area). Area 3 will experience beneficial effects, as discharges of Se and salinity to Mud Slough and the San Joaquin River habitats and species would be lower than under existing conditions.

The acreage acquired for the expanded reuse area would gradually be planted with salt-tolerant crops. The change in crop use could lead to decreases in habitat or habitat value. Changes in land use and crop patterns for the conversion of 2,900 acres to salt-tolerant crops could reduce the area of cultivated crops that provide foraging habitat for Swainson’s hawk, northern harrier, burrowing owl, tricolored blackbird, pallid bat, and western red bat. Conversion of cultivated lands to salt-tolerant crops could reduce the abundance of prey utilized by these special-status species, a potentially significant adverse

³ The TMML annual load allocations in Table 3-1 are based on the sum of the monthly load allocation based on the water year calculation needed to meet the selenium water quality objectives at the San Joaquin River at Crows Landing.

impact compared to existing conditions. However, the Proposed Action does not include a reduction in the area of land cultivated for rice. (Section 6.2.2.2.1)

The 2009 Final EIS/EIR (Section 6.2.2.1.4) reported that drainage reuse at the SJRIP In-Valley Treatment/Drainage Reuse Facility, which involves application of subsurface drain water on the surface of fields to irrigate salt-tolerant crops, has the potential to result in highly seleniferous subsurface drainwater ponding in fields at the reuse facility, which can create a hazard to birds. Furthermore, the installation of subsurface drainage and collection systems would result in ground disturbance that may affect breeding success of burrowing species such as burrowing owls. The 2009 Final EIS/EIR concluded that all of these potentially significant impacts could be mitigated to less than significant through implementation of the measures described below:

“The following Measures 1 through 4 are required to mitigate for significant adverse impacts under CEQA associated with continued operation and expansion of the In-Valley Treatment/Drainage Reuse Facility. Mitigation 5 is required if Mitigations 1, 2, and 3 do not sufficiently reduce the exposure to Se” (Section 6.2.2.4):

- **MITIGATION 1: AVOIDING BURROWING OWLS**

In conformance with federal and state regulations regarding the protection of raptors, a pre-construction survey for burrowing owls will be completed in conformance with CDFG recommendations, no more than 30 days prior to the start of construction. If no burrowing owls are located during these surveys, no additional action would be warranted. However, if breeding or resident owls are located on, or within 250 feet of, the proposed construction site, the following mitigation measures will be implemented:

- A 250-foot buffer, within which no new activity would be permissible, will be maintained between project activities and nesting burrowing owls. This protected area will remain in effect until August 31, or may be terminated earlier at the CDFG’s discretion based upon monitoring evidence that indicate that young owls are foraging independently.

Owls may be evicted from the construction area to avoid take of individual owls via construction activities. However, CDFG does not permit the eviction of burrowing owls from burrows during the nesting season (February 1 through August 31). Eviction outside the nesting season may be permitted pending evaluation of eviction plans and receipt of formal written approval from the CDFG authorizing the eviction. If accidental take (disturbance, injury, or death of owls) occurs, the CDFG will be notified immediately.

- **MITIGATION 2: REDUCE EXPOSURE POTENTIAL BY REDUCING ATTRACTIVENESS OF IRRIGATION DITCHES FOR NESTING**

The majority of shorebird nesting on the existing reuse site consists of killdeer and recurvirostrids nesting within, or adjacent to, the irrigation ditches that deliver drainwater to the site. Adults nesting near irrigation ditches feed primarily in these ditches, though this is more typical of recurvirostrids than killdeer. Reducing the attractiveness of the ditches and their immediate surroundings as nesting and foraging habitat is necessary to minimize the level of shorebird exposure to Se.

Unused ditches have been filled in to prevent shallow ponded water from becoming an attractive nuisance. Sediment that has collected on the bottom of operational ditches will be removed to remove potential nest substrate when water levels are low. Smooth sides

and borders will be maintained along irrigation ditches to inhibit the common killdeer and recurvirostrid practice of using rough surfaces such as disked areas to conceal nests.

- **MITIGATION 3: REDUCE EXPOSURE POTENTIAL BY HAZING BIRDS FROM NESTING NEAR, AND FORAGING IN, IRRIGATION DITCHES**

Shorebird use of the existing project site is not homogenous (H.T. Harvey & Associates 2004, 2005). As noted above, shorebird nests at the existing project site are concentrated in the vicinity of irrigation ditches. Additionally, stilts and avocets are semicolonial, often nesting in close vicinity to each other. Hazing will be performed to reduce exposure by reducing the number of nesting birds. Methods of hazing may include firing noise making devices such as cracker shells, 15-mm bird bombs, and bird whistlers from a vehicle to discourage breeding birds from establishing nest sites. In addition, propane-operated cannons will be left operating on a 24-hour basis, if required. Cannon locations will be changed periodically to lessen acclimation.

- **MITIGATION 4: FLOODED FIELD CONTINGENCY PLAN**

In the spring of 2003, a pasture at the existing reuse area site attracted waterfowl when it was inadvertently flooded. This flooded area created ideal ecological conditions for shorebird foraging and nesting and thus, a number of pairs responded opportunistically and bred in the field. Recurvirostrid eggs collected near the pasture had highly elevated Se concentrations compared to other recurvirostrid eggs collected elsewhere on the site. The Panoche Drainage District has since developed a contingency plan for accidental flooding. This plan is presented in the *San Joaquin River Water Quality Improvement Project, Phase I Wildlife Monitoring Report*, 2005 (H.T. Harvey & Associates 2006). The plan includes provisions for immediate removal of unintended drain water as well as for increased monitoring near flooded sites. The provisions of this plan will be implemented in the event of ponding at the reuse area.

- **MITIGATION 5: PROVIDE COMPENSATION BREEDING HABITAT**

If after employing Mitigation Measures 1, 2, and 3, monitoring (described in Section 15) determines nesting shorebirds are exposed to elevated Se levels as a result of the Proposed Action, compensation habitat for residual impacts will be provided. (See compensation habitat protocols contained in the 2009 Final EIS/EIR, pages 6-49 through 6-52 which are incorporated by reference.)

3.2.2.2 Initial Study (2019)

The Proposed Project is making changes to existing infrastructure and farmed areas on existing agricultural land to accommodate storm water flows. No natural habitat is being modified for the new pump station, pipeline, reuse area, subsurface drains at the existing reuse area, communication towers, canal, and sediment removal activities. Sediments have been placed previously in the adjacent Drain right-of-way to dry and are then placed as fill material for unneeded drains at the reuse area or potentially on an area planned for commercial development. The proposed short-term storage basins (200 acres) would be located within the existing SJRIP on lands currently planted to Jose Tall Wheatgrass. The proposed expansion of 1,450 acres will take the existing reuse facility from 6,100 acres analyzed in the 2009 Final EIS/EIR to 7,550 acres of useable reuse area. This is an additional 650 acres over the maximum size anticipated in the 2009 Final EIS/EIR. This additional acreage would be managed in the same manner as the existing acreage with the same biological monitoring requirements established by the USFWS in their Biological Opinion (see USFWS 2009⁴). Therefore,

⁴ U.S. Fish and Wildlife Service. 2009. Final Biological Opinion, 2010-2019 Use Agreement for the Grassland Bypass Project, Merced and Fresno Counties, California. File No. 81420-2009-F-1036. Sacramento, CA. December 18.

the analysis in the Initial Study sufficiently addresses the additional acreage. Much of this acreage is already planted to salt tolerant Jose Tall Wheatgrass, and only a change in ownership (private to district) would be needed for implementation.

Because the Project site comprises fallowed and regularly disced land vegetated primarily by nonnative species, it does not provide high-quality habitat for migratory birds or bats. The habitat provides only limited food resources (primarily insects) for some migrant songbirds and migratory bats; therefore, it does not represent a unique or important resource for these animals. (Initial Study, Appendix B, Section 4.4.)

Waterbird use of the existing and proposed short term storage basins could negatively impact waterbirds through dietary selenium exposure. Increased water being stored in the existing basins and storm water temporarily stored in the proposed storage basins would potentially provide an attractive foraging habitat for waterbirds. The water is expected to contain high enough selenium concentrations that long-term exposure could result in reproductive impairment to sensitive waterbird species. If the duration of the exposure is long enough, reproductive impairment is possible even if the waterbirds forage on the Project site and nest elsewhere in the vicinity of the Project. Because of the conditions on the Project site and the avian species that may use the site for nesting, these impacts would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeded the use of native wildlife nursery sites. However, if waterbirds nest on the Project site, impacts on nesting birds from selenium exposure would be significant. Incorporation of Mitigation Measures BIO-2a through BIO-2f into the conditions of approval would ensure that adverse effects of selenium exposure on nesting waterbirds are avoided or substantially lessened to a less-than-significant level. Note that Mitigation Measures BIO-2a, BIO-2c, BIO2e, and BIO2f have been implemented previously at the SJRIP reuse site (since 2006), where they have significantly reduced the number of nesting shorebirds exposed to selenium. (These mitigation measures are provided in their entirety below from the Initial Study, Appendix B.)

For the new short-term storage basins (up to 200 acres for 1,000 AF of storm water storage), the proposed site is an area previously planted with salt tolerant crops that does not affect nearby wetlands but could be characterized as an attractive nuisance to wildlife who would be discouraged from using the basins by their design, maintenance protocols, and during its operation from December to May, by hazing in order to minimize their exposure to Se, similar to hazing being conducted for irrigation ditches.

Refinements to the 2009 biological mitigation measures for the expanded reuse area, new storage basins, and related ground disturbance during construction and operation are proposed. The measures are similar to the 5 types of measures listed above (Section 3.2.2.1) with minor changes based on monitoring of the area since 2001 and expanding use of the measures to apply to construction and operation of new features such as the short-term storage basins. The revised biological mitigation measures are:

- **Mitigation Measure BIO-1: Conduct a Preconstruction Survey for Burrowing Owl and Implement Avoidance Measures.** No more than 15 days before the start of initial ground-disturbing activities for the Project, a qualified biologist(s) knowledgeable of the species will conduct a take avoidance survey for the presence of burrowing owls within 500 ft of the area scheduled for disturbance.
- **Mitigation Measure BIO-2a: Reduce Se Exposure Potential by Reducing Attractiveness of Irrigation Ditches for Nesting.** Sediment that has collected on the bottom of the ditches will be periodically removed and irrigation ditches within the

- proposed expansion areas will be maintained with smooth sides and borders to reduce nesting attractiveness in and near irrigation ditches.
- **Mitigation Measure BIO-2b: Reduce Se Exposure Potential by Reducing Attractiveness of Storage Basins for Nesting.** The attractiveness of the existing and proposed short term storage basins to nesting shorebirds will be reduced through active management practices, including removing sediment and vegetation that has collected on the bottom of the ponds and maintaining smooth bottoms, sides and borders of the basins.
 - **Mitigation Measure BIO-2c: Reduce Se Exposure Potential by Hazing Waterbirds from the Project Site During Nesting Season.** Waterbirds shall be hazed from the Project site during the waterbird nesting season (March 15 to July 15) to reduce exposure of waterbirds to selenium by discouraging waterbirds from feeding where they could be exposed to selenium.
 - **Mitigation Measure BIO-2d: Reduce Se Exposure Potential by Hazing Waterbirds from the Storage Basins When Water is Present.** Waterbirds shall be hazed from the existing and proposed short term storage basins to reduce exposure of waterbirds to selenium by discouraging waterbirds from feeding or nesting where they could be exposed to selenium.
 - **Mitigation Measure BIO-2e: Implement a Flooded-Field Contingency Plan.** A contingency plan for accidental or inadvertent flooding has been developed for the SJRIP. The plan includes provisions for immediate removal of unintentionally released drainwater as well as for increased monitoring and hazing near flooded sites.
 - **Mitigation Measure BIO-2f: Monitor Mitigation Success and Provide Compensation Breeding Habitat.** The above mitigation measures will be implemented to reduce the exposure of birds to selenium. To evaluate the success of these measures, monitoring will be implemented to determine whether nesting waterbirds are still exposed to elevated selenium levels as a result of the Project. If they are, compensation habitat for residual impacts will be provided, following the protocol outlined below that has been adapted from a protocol developed by USFWS (1995) for determining and mitigating impacts on nesting waterbirds at evaporation basins.
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 - **Mitigation Measure BIO-2g: Conduct Preconstruction Nest Surveys for Infrastructure Installation Occurring During the Nesting Season.** Preconstruction nest surveys will be completed for all Project-related infrastructure installation activities that occur between February 1 and August 31 to comply with California Fish and Game Code Section 3503.5. A qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitats (including for raptors) within 500 feet of construction activities for presence of breeding or nesting birds. Surveys shall be conducted no more than 5 days prior to construction activities with a second survey conducted no more than 24 hours prior to the onset of construction. If active nests are found, no-disturbance buffers shall be implemented around each nest. If a nest is found in an area where ground disturbance is scheduled to occur, the area will be avoided either by delaying ground disturbance in the area until a qualified wildlife biologist has determined that the young have fledged or by re-siting the proposed Project component(s) to avoid the area.

In summary, the potentially significant impacts and mitigation measures to be implemented are not substantially different from those identified in the 2009 Final EIS/EIR. There are no new significant impacts to biological resources. While these impacts would occur over a larger area due to the modifications, they are not substantially more severe than in the 2009 Final EIS/EIR given the proven effectiveness of the mitigation measures.

3.2.3 Groundwater and Soil Resources

3.2.3.1 Final EIS/EIR (2009)

For the Grassland Bypass Project, 2010–2019, the salinity modeling identified the following potential impacts to soils and groundwater, compared to existing conditions in 2008 (Section 5.2.3.2):

- At the end of 2019, projected drainflow under the Proposed Action is similar to existing conditions. It is considered, therefore, to have no impact relative to existing conditions on drainwater production.
- Minimal projected net increases in the area affected by a shallow water table (1 square mile) indicate that the Proposed Action has a less-than-significant adverse impact relative to existing conditions.
- A small increase in the bare-soil evaporation rate compared to existing conditions is considered to be a less-than-significant impact relative to current evaporation rates.
- Flow model results for the Proposed Action indicate an almost 75 percent decrease in seepage to unlined canals compared to existing conditions (2008), a significant beneficial effect relative to existing conditions.
- Simulated unsaturated-zone soil salinity for the GDA increases from 1.0 dS/m in 2008 (existing conditions) to 1.9 dS/m in 2019. The increase in unsaturated-zone soil salinity relative to existing conditions is considered to be a less-than-significant impact because the soil remains productive.
- In the GDA, estimated soil selenium increases from 11 µg/L in 2008 to 21 µg/L in 2019, and boron increases from 0.9 to 1.3 mg/L. In the SJRIP during the same time period, soil selenium concentrations increase from 73 to 124 µg/L, and boron concentrations increase from 3.4 to 5.5 mg/L. The increase in selenium and boron concentrations relative to existing conditions is considered to be a significant unavoidable impact of irrigating western San Joaquin Valley soils. The concentrations will not affect agricultural productivity, but may with time influence selenium concentrations in underlying shallow groundwater and agricultural drainwater.
- Groundwater salinity in the GDA decreases from 6 dS/m in 2008 to 4 dS/m in 2019, a significant beneficial effect relative to existing conditions because the groundwater salinity decreases over time.
- In the GDA, simulated groundwater selenium concentrations decrease from 47 to 22 µg/L, and boron concentrations decrease from 6.0 to 3.7 mg/L. The continuation of the GBP is, therefore, considered to have a significant beneficial effect on selenium and boron concentrations relative to existing conditions.
- In the SJRIP, the unsaturated-zone soil salinity increases from 6.6 dS/m in 2008 to 11.2 dS/m in 2019. Although the soil salinity increases under Proposed Action conditions represent significant changes, they are spatially limited to at most 6,900 acres (6 percent of the GDA). The soil salinity changes are also considered reversible; impacted soils could be reclaimed and saline shallow groundwater removed when an alternative means of salt disposal becomes available under Phase III. Therefore, the continuation of the GBP is considered to have a less-than-significant adverse impact on unsaturated zone soil salinity in the GDA relative to existing conditions.
- Under the Proposed Action, simulated groundwater salinity concentrations beneath the SJRIP decrease from 23 dS/m in 2008 to almost 17 dS/m by 2019. Simulated groundwater selenium

concentrations also decrease from 816 to 419 µg/L, and boron concentrations decrease from 38.9 to 25.2 mg/L. Compared to existing conditions, the continuation of the GBP is considered to have a significant beneficial effect on groundwater quality beneath the SJRIP. Fields would be planted with salt-tolerant crops and managed to limit soil salinity impacts so that the land remains productive. Therefore, the area-limited application of undiluted drainwater is a less-than-significant impact to the GDA. Soil and drainwater quality monitoring are being conducted to track salinity changes within the SJRIP. Therefore, the primary concern is the increase in selenium and boron concentrations in soils in the GDA relative to existing conditions that is considered to be a significant unavoidable impact of irrigating western San Joaquin Valley soils. The concentrations of these two elements will not affect agricultural productivity, but may with time influence selenium concentrations in underlying shallow groundwater and agricultural drainwater.

Section 5.2.4 Cumulative Effects noted that the area underlain by a water table within 10 feet of land surface increased by about 20,000 acres per year during the period 1991-1997 and that salt has been imported and deposited into western San Joaquin Valley soils and water. The water table rise and salinization of soil and groundwater is a significant regional problem.

3.2.3.2 Initial Study (2019)

The ongoing reuse of agricultural drainwater on-farm within the GDA is not proposed to change. Key assumptions in drainwater management include recirculation of drainwater collected in sumps and reuse of drainwater from sumps. The SJRIP reuse area would be used to manage excess drainwater from GDA sumps by reusing it to irrigate salt-tolerant crops. Sumps for tile drains would be turned off prior to storm events, and storm runoff up to an equivalent volume of 3 inches of rain on the SJRIP could be reused within the 7,550 acres of the SJRIP reuse area prior to discharge to the GBC and Drain (to Mud Slough).

The issue is the expansion of the reuse area by 650 acres (from 6,900 analyzed in the 2009 EIS/EIR and the proposed 7,550 acres) and the use of storm water collected in the short-term storage basins for irrigation of salt tolerant crops at the SJRIP. The modelling performed in 2008 was not repeated in 2019. However, the drainage that would be captured in the storage basins is storm water, not agricultural subsurface drainwater (because the tile sumps would be shut off). Agricultural subsurface drainwater is of lower quality than storm water runoff. This capture and reuse of storm water would not substantially worsen the Se, salt, and boron concentrations in the soil (described above) and in shallow groundwater at the SJRIP and within the GDA. Therefore, compared to existing conditions in 2019, there are no new significant impacts (adverse effects) to groundwater and soil resources. The one significant unavoidable impact to soils in the 2009 Final EIS/EIR would not be substantially more severe due to the Proposed Project. The regional cumulative impact of water table rise and salinization of soil and groundwater from long-term irrigation of agriculture (and water deliveries to the federal wildlife refuges) continues, and it is not substantially more severe due to the Proposed Project, especially with water conservation practices employed throughout the GDA.

3.3 OTHER RESOURCE AREAS

Other resource areas evaluated in the Final EIS/EIR (2009) and addressed as necessary in this Addendum and the Initial Study (2019) in order to evaluate potential impacts of the Proposed Project include Land Uses (including agriculture, wildlife habitat, and recreation), Cultural Resources, Indian Trust Assets, Energy Resources, and Greenhouse Gases. The 2009 EIS/EIR also covered socioeconomic and environmental justice issues to comply with NEPA, and these topics are not revisited for this CEQA document. The Initial Study covered the additional environmental topics (to the surface water, biology, and groundwater and soils resources discussed above) of aesthetics, agricultural and forest resources, air quality, geology, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, public services, recreation,

transportation/traffic, tribal cultural resources, utilities and service systems, and wildfire. These resources are substantially unaffected by the Proposed Project for the reasons described in the Initial Study and summarized below. There are no new significant or substantially more severe impacts to these resources as a result of the Proposed Project.

3.3.1 Land Uses

3.3.1.1 Final EIS/EIR (2009)

The focus of the analysis in Section 7 was on three uses of land within the Project Area and vicinity: agriculture, wetland habitat, and recreation associated with the federal and state wildlife refuges.

Based on up to 6,900 acres of land in the SJRIP, GDA acreage in production is projected at 74,675 throughout the analysis period. The SJRIP lands would largely remain in agricultural production but would be planted with more salt-tolerant crops. Therefore, the Proposed Project would not be expected to result in any substantial land use changes, nor produce inconsistencies with Fresno or Merced County General Plan land use designations for the GDA. (p. 7-12)

Land uses within the Project Area would not be expected to change substantially over existing conditions, resulting in no adverse effect on wildlife habitat land uses within the Project Area. The Proposed Action would be consistent with General Plan policies pertaining to the preservation and protection of wildlife habitat and open space as well as water resources/habitat within the Project Area. No adverse impacts would be anticipated, and no mitigation required. (p. 7-18.)

The primary recreation activities in the Project Area include water-dependent activities. Fishing occurs directly in the rivers or sloughs, and recreation activities at the wildlife refuges or management areas are based on enjoying wildlife that use the wetland habitat. Under the Proposed Action, drainwater would continue to flow around the wetland habitats and into the Drain. After 28 miles, the water would enter Mud Slough where it would travel another 6 miles before reaching the San Joaquin River 3 miles upstream of its confluence with the Merced River. Recreational opportunities would not be expected to either increase or decrease compared to existing conditions. The Proposed Project would either be consistent with or have no bearing on the General Plan objectives and policies summarized in Section 7.1.1 and outlined in Appendix F relating to recreation and open space. (p. 7-20.)

3.3.1.2 Initial Study (2019)

The proposed SJRIP expansion of 1,450 acres will enlarge the existing reuse facility from 6,100 acres analyzed in the 2009 Final EIS/EIR to 7,550 acres of useable reuse area. This is an additional 650 acres over the maximum size (6,900 acres) anticipated in the 2009 Final EIS/EIR. Concerning agricultural land use, the proposed short-term storage basins would be constructed on land that has been used for drainage reuse as part of the SJRIP since 2001. Up to 200 acres of land would be converted from salt-tolerant crops to short-term storage basins, an insignificant amount of agricultural land taken out of production. However, no farmland would be permanently converted to other land uses. The majority of the new reuse area would remain planted to Jose Tall Wheatgrass and just have a change in ownership, with approximately 450 acres of conventional farmland converting to Jose Tall Wheatgrass. The facilitation of storm water management helps to maintain the viability of agriculture in the overall Project Area and protects water supply channels to the wetland management areas that drain to the San Joaquin River. (Sections 1.1.3.3 and 2.2.)

The Proposed Project does not modify land uses at any of the wildlife management areas/refuges. Furthermore, the reuse area and storage basins would be monitored and maintained to avoid use of the areas by waterfowl that would normally use the refuges for foraging and nesting. (Section 1.1.4.2.)

Hydrologic modeling indicates that the Proposed Project components, once fully implemented, will cause the Se water quality criteria to be met under most conditions, and water quality in Mud Slough (North) will be of better quality regarding Se than in the past. Under these future conditions, Mud Slough (North) could be opened to recreational fishing at the discretion of USFWS. (Section 2.16.)

3.3.2 Cultural Resources

3.3.2.1 Final EIS/EIR (2009)

Potential historic resources in the region of the GBP are largely related to agriculture, including farmsteads, labor camps, yards for distributing agricultural produce, feedlots, canneries, pumping stations, siphons, canals, drains, unpaved roads, bridges, and ferry crossings. Labor camps generally consist of at least one wooden bunkhouse or boarding house, a dining hall, a cookhouse, a washroom, and associated buildings. Due to the long history of agricultural use, it is unlikely that intact surface or shallow subsurface artifacts exist. Subsurface deposits may exist below the plow zone or capped beneath pavement or structures. Surface deposits may exist in areas relatively unaffected by development or agriculture. (Section 9.1.)

No impacts to historic properties are anticipated by the Proposed Action because it does not propose actions that may cause effects to historical properties. All actions are proposed to occur within the GDA and, in essence, continue similar operations to those conducted under the existing Use Agreement on lands previously disturbed by agricultural production. Future expansion of drainage water treatment facilities or management facilities at the San Joaquin River Water Quality Improvement Project (SJRIP) reuse facility that result from the implementation of this alternative would have no potential to affect historical properties. (Section 9.2.2.2.)

3.3.2.2 Initial Study (2019)

A confidential Cultural Resources Technical Report (AECOM 2019) was prepared to support the Initial Study, and report findings are provided primarily in Section 2.5. Direct and indirect CEQA Area of Potential Effects (C-APE) were developed in order to study the potential impacts of the Proposed Project. The Direct C-APE includes the footprints of all the areas that would be subject to ground disturbance by the project. The Indirect C-APE would account for indirect impacts to resources (i.e., visual effects to the setting of built environment resources) that would not be physically impacted by the project.

The records searches did not identify any archaeological resources in the 1.0-mile radius of the project footprint, only built environment resources. The previously recorded historic-age built environment resources in the Project Area include the Main Canal (P-27-000082 Merced County) and the Outside Canal (P-10-005796 Fresno County; P-24-000434 Merced County). The Delta-Mendota Canal (P-10-005166) is adjacent to the “Proposed Reuse Expansion” area.

The Proposed Project does not involve large-scale excavation, and most of the area has been disturbed by previous farming (primarily the top 12 inches of soil), conveyance construction, and road construction activities. The depth of disturbance involved in placing new facilities in an area that has been farmed or subject to earlier road and canal construction determines in part whether there is the potential to affect unknown surface and buried resources. Another issue is the potential for above ground facilities such as the SCADA communications towers and equipment boxes to affect historic resources, but there is some flexibility in siting the towers to consider proximity to historic canals. The storage basins would be on top of the ground surface and contained by raised levees that require limited excavation.

The Initial Study determined that impacts to historical and archaeological resources are less than significant for the following reasons, including commitments by the Project proponents to perform additional surveys and construction monitoring which is a common practice.

- **Historical Resources:** None of the Proposed Project activities, including constructing temporary storm water storage in storage basins, planting salt-tolerant crops in existing agricultural lands, improving existing water conveyances, installing subsurface drainage within existing reuse area, or installing adjacent new conveyances, would result in a substantial adverse change to known or potential historical resources in the Project Area (the four canals including the DMC and the Drain). The Proposed Project activities, including the installation of below grade (approximately 5 to 6 foot depth) pipelines, alteration of the non-historic age dirt-lined RP-1 Canal adjacent to the Outside Canal with a concrete lining, and installation of pump stations, would not result in demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.

The Proposed Project's expansion of the reuse area will be adjacent to portions of the Eagle Field Airport; however, there will be no physical changes to the airport itself or any associated features. A potential reuse expansion area in the vicinity of the Eagle Field Airport is currently planted to Jose Tall Wheatgrass, and no changes to the cropping pattern or irrigation methods are proposed.

The location of the proposed SCADA tower is dependent upon a radio survey that allows for some flexibility in siting to avoid resources if present. Once the tower location has been identified, an additional records search and survey would be required and conducted to determine if archaeological or built-environment resources are present. If resources are present and avoidance is not feasible for the required tower location, the resources would be recorded and evaluated prior to certification of the CEQA document in order to assess their historical significance as historical resources or unique archaeological resources, per Section 15064.5 of the CEQA Guidelines or Section 21083.2 of the PRC.

- **Archaeological Resources:** No archaeological resources were identified in the records searches performed for this project. However, conditions were not suitable for an archaeological survey of the Project Area and much of the C-APE has not been previously surveyed. Based on the soils types and alluvial deposition there is a low to moderate potential for resources to be present. Therefore, AECOM recommends that an archaeological survey be conducted in order to determine if there are archaeological sites (prehistoric or historic period) within the Project Area. If resources are present in the Project Area and avoidance is not feasible, the resources should be recorded and evaluated to assess their historical significance as historical resources or unique archaeological resources, per Section 15064.5 of the Guidelines or Section 21083.2 of the PRC.

Although no previously identified prehistoric resources have been identified in the C-APE, several isolated artifacts were discovered during a previous study just over 1.0-mile north of the proposed lined channel within the C-APE (Bureau of Reclamation 1983, cited in AECOM 2019). The presence of these artifacts warranted archaeological monitoring during ground disturbing activities. If the results of the archaeological survey of the current C-APE are positive, AECOM recommends mitigation in the form of preparation of an archaeological testing plan (including geoarchaeology) and/or an archaeological monitoring plan. All ground disturbing activities should be monitored by a qualified archaeologist. Due to the previously identified isolated artifacts, AECOM recommends mitigation in the form of construction worker training. Prior to construction, the construction contractor and subcontractors shall be informed of the legal and regulatory consequences of knowingly destroying cultural resources

or removing artifacts, human remains, bottles, and other significant cultural materials from the site. Significant cultural materials include but are not limited to aboriginal human remains; chipped stone; groundstone; shell and bone artifacts (both human and animal); concentrations of fire-cracked rock; bottle glass; ceramics; ash and charcoal; and historic features such as privies or building foundations/remains.

If cultural resources are uncovered during ground disturbing activities associated with the Proposed Project, work will stop within 50 feet of the initial find and a qualified professional archaeologist shall be notified regarding the discovery. The archaeologist shall determine whether the resource is potentially significant as per the CRHR and develop appropriate mitigation. The Authority shall comply with the mitigation requirements identified by the archaeologist.

- **Human Remains:** In the unlikely event that human remains are discovered during Project implementation, work in the immediate vicinity of the discovery will be suspended and the Authority will notify the Fresno or Merced County Coroner, depending on location of discovery. If the remains are deemed Native American in origin, the Coroner will contact the NAHC and identify a Most Likely Descendant pursuant to Public Resources Code Section 5097.98 and California Code of Regulations Section 15064.5. Work may be resumed at the landowner's discretion, but will only commence after consultation and treatment have been concluded. Work may continue on other parts of the Project while consultation and treatment are conducted.

3.3.3 Indian Trust Assets

3.3.3.1 Final EIS/EIR (2009)

As described in Chapter 11, Indian Trust Assets (ITAs) are legal interests in property held in trust by the U.S. for federally recognized Indian tribes or individual Indians. An Indian trust has three components: (1) the trustee, (2) the beneficiary, and (3) the trust asset. ITAs can include land, minerals, federally reserved hunting and fishing rights, federally reserved water rights, and in-stream flows associated with trust land. Beneficiaries of the Indian trust relationship are federally recognized Indian tribes with trust land; the U.S. is the trustee. By definition, ITAs cannot be sold, leased, or otherwise encumbered without approval of the U.S. The characterization and application of the U.S. trust relationship have been defined by case law that interprets Congressional acts, executive orders, and historic treaty provisions (Rivera, pers. comm., 2008a, cited in Reclamation 2009).

An examination of records held by the Bureau of Indian Affairs and Reclamation was conducted by the Regional ITA Coordinator. No reservations or rancherias are located within the Project Area. No known ITAs are found within the Project Area. The nearest ITA is a Public Domain Allotment, which is approximately 58 miles northeast of the Project location (Rivera, pers. comm., 2008b, cited in Reclamation 2009b). Therefore, no impacts would occur to ITAs caused by the Proposed Action.

3.3.3.2 Initial Study (2019)

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." Assembly Bill 52 establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21084.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources. PRC Section 21074 (a)(1)(A) and (B) defines

tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and meets either of the following criteria: a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California Native American tribes regarding those resources. The formal consultation process must be completed before a CEQA document can be released if a California Native American tribe traditionally and culturally affiliated with the geographic area of the proposed project requests consultation from the lead agency (PRC Section 21080.3.1). California Native American tribes to be included in the process are those that have requested notice of any proposed projects within the jurisdiction of the lead agency.

On August 23, 2017, the Dumna Wo Wah Tribal Government requested formal notice and information on proposed projects implemented in the Grassland Watershed under Public Resources Code section 21080.3.1. A description of this project was mailed to the tribal government on March 22, 2019, in advance of completion of Section 2.17 (Tribal Cultural Resources) of the Initial Study. Section 2.17 reports that the Authority has contacted the Amah Mutsun Tribal Band, the Dumna Wo Wah Tribal Government, the North Valley Yokuts Tribe, and the Southern Sierra Miwuk Nation and provided each tribal entity with a project description and a request for consultation. No responses were received, and no further consultation is required. Therefore, the Proposed Project is assumed to have no impact on tribal resources.

3.3.4 Energy Resources

3.3.4.1 Final EIS/EIR (2009)

The Proposed Action would increase energy consumption within the Project Area due to construction and operation of the San Joaquin River Water Quality Improvement Project (SJRIP). The power requirements associated with this facility would incrementally add to electricity consumption within the Project Area. Section 2.10.2.2 indicates that beginning in 2006, average annual power consumption within the GDA would be increased to approximately 21,735,630 kWh, resulting in a total power consumption for the entire GDA of approximately 23,415,880 kWh per year. The increase in power consumption is associated primarily with the implementation of the Phase III treatment facility which was estimated to consume 21,400,000 kWh, or 98 percent of the energy consumption at the SJRIP.

Some additional power would be consumed during the construction period for the treatment facility, although this amount would be small when compared to the power needs associated with facility operation. Additional power consumption would incrementally add to requirements for electricity usage within the Project Area, but would not be expected to exert a significant strain on electrical power supplies in the region. No significant adverse impacts are anticipated, and no mitigation is required.

3.3.4.2 Initial Study (2019)

The Proposed Project allows for deferral of the 2009 project’s Phase III treatment facility which was the major power consumption component of the 2009 project. Section 2.6 reports that modifications to the previously analyzed project in 2009 are proposed to include a number of components that would utilize electrical energy for operation. These components include:

- Up to four new pump stations to convey drain water throughout the SJRIP. These pump stations will improve operational flexibility throughout the SJRIP and increase the reuse capacity of the Project.
- Up to two new pump stations to divert storm-induced flows into the proposed short-term storage basins and an additional two new pump stations to convey water from those basins onto the SJRIP for reuse.
- SCADA transmitters and receivers for remote operation of existing tile sumps.
- Up to four new tile pumps for proposed subsurface drainage systems on the SJRIP.

All of the new pump stations will be driven with premium-efficiency, inverter-duty electrical motors. Most of the pump stations will also include variable frequency drives so that pump flow rate can be adjusted to match flow demand. The estimated total annual power consumption for the Proposed Project electrical components is 280,000 kwh/year, which is approximately equivalent to the power consumption of 40 California households. The use of high efficiency motors is consistent with California's energy conservation goals.

There is no local plan for renewable energy or energy efficiency. The incremental change in energy use would not be expected to exert a significant strain on electrical power supplies in the region. The Proposed Project modifications would not result in a new significant impact to energy resources or in significant impacts to utilities and infrastructure substantially more severe than the activities identified and analyzed in the previous environmental document.

3.3.5 Greenhouse Gases

3.3.5.1 Final EIS/EIR (2009)

Naturally occurring greenhouse gas emissions (GHGs) include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (NO₂), and ozone (O₃). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) are halocarbons that contain chlorine, while halocarbons that contain bromine are referred to as bromofluorocarbons (i.e., halons). In the amended CEQA Guidelines Section 15364.5, GHGs include, but are not limited to, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. In California, due to stringent air pollution control rules and regulations, natural gas is the only fossil fuel used to fire steam turbine, gas turbine, or combined cycle power plants. The primary concern here is for emissions that would be generated from equipment use (carbon dioxide and nitrous oxide through the burning of fossil fuels) rather than the emissions associated with ongoing agricultural practices (methane and nitrous oxide) and industrial activities (nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride). As stated in Section 12.2.1 (p. 12-11) of the 2009 Final EIS/EIR, the GHG of most concern is CO₂, since it is generated in extremely large quantities by the burning of fossil fuels and can last in the atmosphere for two centuries. In California, CO₂ is the major component of power plant GHG emissions, about 99.995 percent.

3.3.5.2 Initial Study (2019)

The Proposed Project would involve limited use of construction equipment (excavator, backhoe, graders, scrapers, trencher, sheep's foot compactor, and water trucks) for the pipeline installations, crossing Russell Avenue, installation of subsurface drains in a portion of the reuse area, 3 new electric pump stations and 1 expanded pump station with electric controls, communications towers, levees to create short term storage basins; and to extend a ditch and line a canal (approximately 8 hours per day

for up to 22 days/month, up to 7 months, May through November), and the completed removal of sediments from the Drain. All construction vehicles will be Tier 4 compliant and these activities are short-term and temporary in an agricultural area for the conveyance and reuse area improvements including the new storage basins and in wetland habitat area for the sediment removal. The tile sump control in the GDA would use electric power but not substantially (i.e., on or off events during the rainy season, not continuous operation). (Section 2.8.)

This equipment use involves the combustion of fossil fuels, a direct impact on the production of CO₂ and CH₄ with an indirect effect on CO₂ from the manufacturing of cement and from power production (generation of electricity from fossil fuels rather than hydropower) during project construction. This agricultural/storm water management type of use would not substantially introduce new sources or worsen existing sources of GHG emissions over project operation, and a full quantification of emissions and evaluation of GHG impacts was not deemed necessary for this non-development type of project. Operation of the new tile sump control system using electric power would result in minimal increased indirect GHG emissions from power generation by PG&E that are neither substantial nor significant (compared to existing conditions) and are more than offset by reductions in direct emissions from truck use for manual operation of the tile sumps. The SJRIP uses 8 workers and 4 trucks at present, and the proposed expansion would not increase this number of workers and trucks.

A CalTrans emissions model was used to estimate the impacts to air quality and emissions of GHGs for all of the construction and operational components of the Proposed Project. This modeling used a conservative approach, assuming that all of the construction work for the canal lining, pump stations, pipelines, subsurface drainage systems and ½ of the Drain sediment removal would occur in the same year. This construction schedule is unlikely, however, it would estimate a worst-case air quality and GHG emissions impact. Table 3-1 below shows the results of the construction emissions modeling.

Table 3-2 GHG Emissions from Project Construction

	NO x	ROG	PM10	PM2.5
<i>Threshold (lb per day)*</i>	54	54	82	54
Storage Basins	6.05	3.04	30	6.5
Sediment Removal (per year)	4.88	.94	0.2	4.3
Pump Station (4 total)	1.85	.68	5	1.1
Pipelines (all)	4.51	1.51	20	4.3
Lined Canal	5.29	1.4	6	1.5
Subsurface Drainage system	2.63	1.32	9.8	2.1
Total Emissions (lb per day)	25.21	8.89	71	19.9

*Thresholds per Bay Area Air Quality Management District

In the absence of Valley Air District thresholds, the Bay Area Air Quality Management District (BAAQMD) thresholds were used. Even with this conservative modeling approach, the estimated construction emissions (short term, peak emissions) are well below the thresholds of significance.

Operation of the Proposed Project will not contribute to GHG emissions compared to existing conditions. All of the proposed pump stations will include electrically powered motors, and all of the proposed land for the reuse area expansion is already farmed. Operational emissions are substantially less than construction emissions. Operations at the expanded reuse area would be the same as for existing conditions, since generally the change is in ownership rather than type of crop.

According to the Valley Air District (SJVAPCD), GHG emission from development projects, primarily occur through energy consumption and vehicle miles traveled (VMT). For development projects, BPS includes project design elements, land use decisions, and technologies that reduce GHG emissions. Project proponents can reduce GHG emissions from energy consumption through building designs that increase energy efficiency, water conservation, and the use of energy efficient appliances. For development projects, BPS also includes project design elements, land use decisions, and technologies that reduce GHG emissions during project operation over time. Project proponents can reduce GHG emissions from energy consumption through building designs that increase energy efficiency, water conservation, and the use of energy efficient appliances.

The Valley Air District's CEQA guidelines are for land use agencies and apply to stationary sources and development projects (SJVAPCD 2009). The Proposed Project herein is not a stationary source of emissions associated with land development. Rather, it is a project comprised of Improvements to primarily agricultural land for management of storm water. Emissions are associated primarily with the use of equipment during construction, and some of this equipment is used for ongoing agricultural operations in the GDA. Ongoing activity involves the planting of an expanded reuse area with Jose Tall Wheatgrass and the use of pump stations operated with electric power instead of diesel and with manual operation that would require a person to drive to each pump station in a truck or other vehicle (1 new worker and 1 round trip per day to the SJRIP). The existing reuse area requires 8 workers and 4 trucks who can also handle the expansion, i.e., no increase. Because the GHG emissions are lower than the thresholds established by the BAAQMD, it would not result in sufficient emissions to be more than a less-than-significant impact. It would not result in a more severe environmental impact, i.e., would not trigger a significant impact, than what was identified in 2009 for the Proposed Action.

To the extent that the Proposed Project can increase energy efficiency, water conservation, and the use of energy efficient appliances (i.e., equipment) by reducing equipment use that relies on fossil fuels and improving operational efficiencies (primarily through better remote tile sump control using electronic controls rather than persons driving trucks into the area for manual operation), it would contribute to meeting future GHG emission reduction targets.

3.4 MITIGATION MEASURES

The proposed mitigation measures to reduce potentially significant impacts from the Proposed Project are not substantially different from the measures employed for the 2009 Grassland Bypass Project. They are discussed in the preceding resource sections:

- Section 3.2.1.2 Surface Water Resources
- Section 3.2.2.2 Biological Resources

No other mitigation measures are required, because all other impacts are either less than significant or no impact. However, to the extent that the Proposed Project can increase energy efficiency, water conservation, and the use of energy efficient equipment by reducing equipment use that relies on fossil fuels and improving operational efficiencies (primarily through better remote tile sump control using electronic controls rather than persons driving trucks into the area for manual operation) and by deferring the need for a treatment plant at the SJRIP, it would contribute to meeting future GHG emission reduction targets in the region and the state.

3.5 ENVIRONMENTAL DETERMINATION

The analysis in this Addendum supplements the Initial Study findings and confirms that the Proposed Project would not result in any new significant impacts (adverse effects) nor in an increase in the severity of significant impacts previously identified in the Final EIS/EIR (Reclamation 2009b). Furthermore, the Proposed Project would not require the adoption of any new or substantially different mitigation measures (or project alternatives). While the current Proposed Project does propose changes to the SJRIP reuse area not previously considered in 2009, e.g. the new storage basins for 1,000 AF of temporary storm water containment and the SCADA system for tile sump control, these changes are considered to be minor technical changes given their size and the effectiveness of biological mitigation measures used since 2006. Additional surveys for cultural resources and construction monitoring are standard requirements for new construction.

P A R T 4

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U.S. Fish and Wildlife Service (USFWS). 2009. Final Biological Opinion, 2010-2019 Use Agreement for the Grassland Bypass Project, Merced and Fresno Counties, California. File No. 81420-2009-F-1036. Sacramento, CA. December 18.

4.2 PERSONAL COMMUNICATION

Dumna Wo Wah Tribal Government. 2017. Letter from Robert Ledget, Tribal Chairman, to Panoche Water District. Request for formal notification of proposed projects within the Dumna Wo Wah Tribal Government Tribe's geographic area of traditional and cultural affiliation under CEQA, Public Resources Code Section 21080.3.1, subd. (b). August 23.

Appendix A – Public Comments & Responses

APPENDIX A

Public Comments and Responses

INTRODUCTION

This document provides the public comments received on the *Grassland Bypass Project Long-Term Storm Water Management Plan, 2020-2045, an Addendum to the Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) for the Grassland Bypass Project, 2010-2019* and responses to those comments by the CEQA lead agency, the San Luis and Delta-Mendota Water Authority (Authority). Although a formal public review process is not required for an addendum, the Authority conducted a 30-day public review period from August 14 to September 13, 2019. A Notice of Availability was mailed electronically to 65 agencies, organizations, and interested parties who previously expressed interest in the 2009 Grassland Bypass Project and/or participated in a public information meeting on June 18, 2019 in Sacramento, California and was distributed on the Regional Board Lyrus list. The Addendum was not sent to the State Clearinghouse (SCH) because no formal review (i.e., distribution by the SCH to all state responsible and trustee agencies) was required. Written comments were received from 10 agencies, organizations, and individuals during the review period. This Appendix A together with the revised text comprise the *Final Addendum to the Final EIS/EIR for the Grassland Bypass Project, 2010-2019*, State Clearinghouse No. 2007121110.

Based upon material contained in the responses to comments, recirculation of the Addendum is not required under the CEQA Guidelines Section 15088.5 which addresses the process for an EIR that has not been certified. The intent here is to provide Authority decision-makers and regulatory agencies with further information on how concerns raised by the public have been addressed in a coherent and comprehensive manner. This Appendix A, Public Comments and Responses, contains the following information:

Text Revisions. In responding to comments, changes were made to the text of the Addendum. The revisions do not change any of the conclusions reached.

Key Topics in the Comment Letters (Key Comments). Key topics are those that were identified in one or more letters and pose questions or opinions on project operations, environmental impacts, project alternatives, and/or the type of CEQA document appropriate for the Proposed Project for 2020-2045. These topics are listed in a table showing the source (comment letter) of the key comment.

Master Responses to the Key Comments. The same issue or question was raised by multiple commenters or a single comment was raised of particular importance. Responses to these comments that were determined to be most instructive to decision-makers prior to making findings on the Addendum and approving the Proposed Project are provided independently from the letters. A list of the master responses is provided first, followed by the text of the responses. These responses help to clarify project information and technical analyses. They provide a comprehensive response to many of the comments received rather than an argumentative, statement by statement discourse to each letter.

Comment Letters. All letters and written comments on the Addendum received from 10 agencies, organizations, and interested individuals during the review period are listed in the following Table of Contents and in Section A2. They are provided in their entirety following the Master Responses.

All comments are important to not only the environmental assessment process but also future decision-making by the agencies with authority to implement the Long-Term Storm Water Management Plan and to responsible agencies involved in future permitting and oversight. The brevity of the response does not suggest that the comment topic is less important than one that warrants a lengthy explanation.

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A1. TEXT REVISIONS

The first paragraph of Section 1.1.3 (page 1-3) has been replaced with following wording:

Early rain events tend to be absorbed in the soil profile. However, as significant rainfall occurs the soil profile becomes saturated; there is no longer room in the soil for the excess storm water and storm flows are generated. Once this occurs there will be discharge of storm water as well as accretion flows of shallow groundwater into regional drainage channels from adjacent fields. There is not a clear connection between the year type, amount or frequency of rainfall and the need to discharge to the San Luis Drain. Once the regional drains have reached their holding capacities and the threat of ponding is imminent, discharge will occur. It should be further noted that the proposed SCADA sump shut-off system would be implemented prior to any release of storm-induced discharge.

The proposed selenium water quality goal of 3 ppb, 4-day average at Site D will be eliminated from the LTSWMP in favor of the existing adaptive management approach. Therefore, the following text from the Addendum is eliminated (p. 3-4):

The Se WQO would be met during most of the year, with only occasional exceedances of the 5 ppb 4-day average that would be short in duration, a less-than-significant impact as explained above. Refinements to the existing mitigation measures to further reduce the less-than-significant impacts from the expected periodic exceedances will be implemented for the Proposed Project, as follows:

- ~~Establish a Mud Slough (North) water quality goal of 3 ppb Se, 4-day average. For every 3 months that meet this 3 ppb performance goal, 1 exceedance of 5 ppb 4-day average is allowed.~~
- If the 5-ppb 4-day average not met with proposed management practices (shut off electric sumps), analyze operational data and develop adaptive management approach to implement additional corrective actions.

The following wording was added to the Addendum at page 3-4 and will be included in proposed Waste Discharge Requirements to provide selenium load targets to the discharge from the San Luis Drain into Mud Slough (North):

The Long-Term Storm Water Management Plan includes selenium load targets for discharges to Mud Slough (North) and the San Joaquin River. Table 3-1 shows the Total Maximum Monthly Load (TMML) selenium load allocation as adopted in 2001 in the Basin Plan amendment for Selenium in the San Joaquin River along with proposed selenium load targets. The targets represent an approximately 75% reduction in selenium loading from the TMML Annual Load Allocations. A multi-year performance target requiring that the selenium load over a 3-year period at Site B be less than the sum of the 3-year target, based on water year type, would be used to determine if the load targets are being met. If the performance target is exceeded, the Dischargers will propose additional management practices to reduce the selenium loading to

meet the performance goal. The selenium water quality objective will continue to be used to determine compliance with the Basin Plan.

Table 3-1. Selenium Annual Load Allocations for the Grassland Drainage Area¹
 (pounds of selenium)

Selenium Load	Critical (Discharge Limit)	Dry/Below Normal (Discharge Limit)	Above Normal (Discharge Limit)	Wet (Discharge Limit)
TMML Annual Load Allocation	1075	2496	4162	4480
Annual Load Target	300	600	900	1200
Percent Reduction	72%	76%	78%	73%

A2. KEY COMMENTS

Key comments cover topics that were identified in one or more letters and pose questions or opinions on project operations, environmental impacts, project alternatives, and/or the type of CEQA document appropriate for the Proposed Project for 2020-2045. They include the following:

- Project Operations
 - A. Storm Event and Agriculture Drainage
 - B. Monitoring Program
 - C. Short-Term Storage Basin Operation
 - D. SJRIP Expansion/Drainage Management
 - E. Need Use Agreement
- Biological Impacts
 - F. Wildlife Entrapment, Movement, and Health
 - G. Swainson's Hawk
- Hydrology Impacts
 - H. Se-Salt Load limits/Adaptive Management
 - I. Remove 3 ppb Se Mitigation
 - J. 5 ppb Se Objective Not Protective

¹ The TMML annual load allocations in Table 3-1 are based on the sum of the monthly load allocation based on the water year calculation needed to meet the selenium water quality objectives at the San Joaquin River at Crows Landing.

- K. Salt Discharge Increase Since 2014
- L. Detailed Mud Slough Modeling
- M. NPDES Permit and Clean Water Act
- CEQA Compliance
 - N. Need for New EIR/EIS
 - O. Cumulative Effects Analysis
 - P. Land Retirement Alternative

These topics are listed in Table 1. Correspondence of Comments to Key Issues, showing the source (comment letter) of the key comment and topics covered by the subsequent master responses. The comment letters were received from the following interested parties:

Federal

U. S. Fish and Wildlife Service (USFWS), San Luis National Wildlife Refuge, Kim Forrest, Refuge Manager

State

California Department of Fish and Wildlife (CDFW), Ms. Julie A. Vance, Regional Director,

Central Valley Regional Water Quality Control Board (CVRWQCB or Regional Board), Ashley Peters, P.E., Water Resource Control Engineer

Public Agencies

Contra Costa County (CCCo),

Contra Costa Water District (CCWD), Ms. Leah Orloff, Water Resources Manager

Grassland Water District (GWD), Ricardo Ortega, General Manager

Organizations

Coalition of 10 Organizations (PCL Coalition): Planning and Conservation League (PCL), Pacific Coast Fishermen's Association, Center for Biological Diversity, Restore the Delta, California Water Impact Network, Environmental Justice Coalition for Water, Southern California Watershed Alliance, Save California Salmon, California Sportfishing Protection Alliance, AquAlliance

Law Offices of Stephan C. Volker (Law Offices), representing Pacific Coast Federation of Fishermen, California Sportfishing Protection Alliance, Friends of the River, San Francisco Crab Boat Owners Association, Inc., Institute for Fisheries Resources, and Felix Smith

The Bay Institute (TBI), Mr. Gary Bobker, Program Director

Individuals

Patricia Schifferle (PS)

Table 1. Correspondence of Comments to Key Issues

	USFWS	CDFW	CVRWQCB	CCCo	CCWD	GWD	PCL et al	Law Offices	TBI	PS
Project Operations										
A – Storm/ag Discharge					X		X	X	X	
B - Monitoring				X	X		X			
C – Basins					X	X	X	X		X
D – Drainage Management				X			X	X		
E – New UA				X	X					
Biological Impacts										
F – Wildlife	X	X								
G – Swainson’s Hawk		X								
Hydrology Impacts										
H – Load Limits				X	X			X	X	X
I – 3ppb Goal			X							
J – Se WQO							X			
K – Salt Discharge				X	X					
L – Mud Sl. Modeling				X	X					
M – NPDES Permit							X	X		X
CEQA Compliance										
N – EIS/EIR Need							X	X		X
O – Cumulative Effects							X			X
P – Land Retirement							X			

A3. MASTER RESPONSES

The master responses follow the list of key comments in Section A2. To see the details of each comment, refer to the letters provided in Section A3 in the order listed above in Section A2.

RESPONSE A. STORM EVENT AND AGRICULTURE DRAINAGE

The Grassland Bypass Project, implemented beginning in 1997, has successfully reduced to zero the discharge of agriculturally produced, subsurface drain water from the Grassland Drainage Area (GDA) during the irrigation season. Overall discharges from the GDA into the San Luis Drain have been reduced from 37,800 acre feet (AF) at the start of the Grassland Bypass Project (measured at Site A) to less than 3,800 acre feet in 2018 – a 90% reduction in discharge. Selenium, salt, and boron loads have all been reduced by similar ratios, and discharges from the GDA after 2014 have been comprised entirely of storm-induced drainage flows. Selenium concentrations in Mud Slough at Site D have been reduced from monthly averages above 20 ppb in the late 1990s to less than 3 ppb by 2018. Monthly average selenium concentration in the San Joaquin River at Crows Landing (Site N) have not exceeded 2 ppb since 2009, and they are now frequently below detection limits. Weekly selenium samples from the San Joaquin River at China Island (Site R) – within the only segment of the San Joaquin River still listed on the 303d

list for Selenium – have never exceeded the 5 ppb water quality objective in the entire six year record of sampling at that site. And 115 of the 219 samples (November 2013 to July 2019) collected at Site R have resulted in no detection of selenium. All of these water quality improvements are a direct result of the implementation of the Grassland Bypass Project since 1997.

The current Proposed Project does not continue to discharge agricultural drain water during the irrigation season. Furthermore, the new SCADA system will allow for the shut off of 100% of the surface drains during storm events and will keep much of this type of storm-induced drainage out of the San Luis Drain. A critical goal of the Long-Term Storm Water Management Plan (LTSWMP) is to meet the future selenium water quality objective in Mud Slough (North), and the project modifications proposed in the Addendum are intended to meet that objective.

It is important to understand the type of water being managed under the Long-Term Storm Water Management Plan. As explained in the Addendum, the water managed by this Plan is storm-induced drainage and is not a result of agricultural irrigation, and will occur regardless of any activities engaged within the GDA. Because these events occur outside of the irrigation season, there are very few tools available to reuse or otherwise divert this drainage. The storm-induced drain water can either be held back, resulting in a number of negative environmental affects, or discharged in a controlled fashion. This condition is very different from the “High Rainfall Exemption” of the previous Use Agreement, which is not an appropriate guidance criteria to meet the objectives of the LTSWMP.

The Addendum includes six objectives for the LTSWMP:

1. To eliminate, to the extent feasible, storm water drainage discharged from the GDA into wetland water supply conveyance channels.
2. To facilitate storm water management that maintains the viability of agriculture in the Project Area and protects water quality in the San Joaquin River.
3. To keep storm water drainage from breaking into irrigation and wetland water supply channels and causing damage.
4. To avoid ponding of storm water that could impact the integrity of water supply channels and impact soil and water quality.
5. To avoid unplanned/inadvertent/unmanaged ponded water containing selenium (Se) that could impact birds within the GDA as well as downstream habitat and water quality in the wetland areas and wildlife refuges.
6. To provide an outlet for storm water to flow to the San Joaquin River from the GDA (similar to what occurred historically and before the Use Agreement for use of the SLD), that also protects the integrity and quality of wetlands and wildlife refuges.

These objectives will be the guiding principles for the management of storm-induced drain water. Discharges from the Grassland Drainage Area will occur when storm runoff have accumulated in the regional drains beyond their capacity to contain them. At this point, the risk of unmanageable ponding and flooding, as well as the risk to canal levees due to oversaturation,

becomes substantial; and discharge to the San Luis Drain is necessary. As indicated in the Addendum, all tile sumps would be shut off prior to storm events and would remain off for the duration of discharge. The chaotic and unpredictable nature of rainfall events, as well as the large number of other variables that affect storm runoff, prevent the establishment of a hard “trigger”, such as accumulated precipitation, that would cause discharge.

In their comments on the Addendum to the 2009 Final EIR for the Grassland Bypass Project, the PCL Coalition asserts that cessation of agricultural activities and fallowing of the nearly 100,000-acre GDA will stop the flow of storm water and the associated contaminants. Their comment letter misconstrues existing conditions and fails to recognize that the Project modifications addressed by the Addendum result entirely from the facts that (1) storm events generate rain-induced flows, which include mineralized discharges and (2) water flows downhill. These two conditions are physical realities that can neither be caused nor prevented by any action implemented by the Grassland Area Farmers. The Project modifications presented in the Addendum describe the tools available to help manage these inevitable discharges, which if left unmanaged, would pond up against natural barriers (like the Outside Canal levees), cause widespread flooding of mineralized water during the peak periods of migratory bird nesting, and then concentrate as the ponded water evaporates.

RESPONSE B. MONITORING PROGRAM

The comment is that the Addendum must describe in detail a Monitoring Plan to monitor key selenium, salinity, boron concentrations and flow discharges into the Bypass and at downstream locations.

The Authority agrees that an aggressive and thorough monitoring program, similar to what is currently in place, is necessary for the successful operation of the Long-Term Storm Water Management Plan; and this type of document is not an appropriate part of the Addendum. A number of state and federal agencies (including the Regional Water Quality Control Board and the U.S. Bureau of Reclamation) will issue permits and requirements for monitoring the Project, and these documents have not yet been developed. In particular, the Waste Discharge Requirements issued by the Regional Water Quality Control Board, will include robust monitoring requirements and be available for public review prior to adoption. However, it is not part of the CEQA process.

In short, the PCL Coalition commented that proposed and existing Monitoring and Reporting Program for the GBP are not sufficient to address environmental impacts and protect beneficial uses. This comment contains substantial errors related to the level of monitoring occurring downstream of the Grassland Bypass Project. The comment states “Station A, B, C, I2, F, J, K, L/L2, M/M2, G and H have all been eliminated from required monitoring”. No, the current Monitoring Program effectively monitors all of the discharges from the Grassland Bypass project. The proposed Addendum does not plan to substantially alter the robust Monitoring Program from its current form (explained below). Final monitoring protocols will be established by the Regional Board.

Station A – Inlet to the San Luis Drain includes real-time monitoring for flow and EC and is sampled for selenium and boron. Although this data is not required as part of Order R5-2015-0094, the data is collected and is publicly available.

Station B – Discharge from the San Luis Drain to Mud Slough (North) has been continuously monitored and reported to the Regional Board since the project began in 1997. Because the location of flow measurement is downstream of the water quality sample collection point, the site was divided into Station B2 for flow and B3 for water quality in the 2015 Order, however they remain the same sampling locations.

Station C – Mud Slough (North) upstream of the San Luis Drain. This site continues to be monitored for EC, boron and selenium and this data is publicly available on the CEDEN website.

Station I2 – A backwater site on Mud Slough (North). This site has never been part of the Regional Board’s monitoring order and was voluntarily monitored by the Grassland Basin Drainers through 2015. This site did not provide useful information compared to other sites already monitored and was eliminated for that reason.

Station F – Salt Slough at Lander Avenue continues to be monitored for EC, boron, and selenium and this data is publicly available on the CEDEN website.

Stations J and K – The headworks of the Camp 13 Ditch and Agatha Canal. These two canals are water supply channels for the Grassland Water District. The gates that connect drainage channels to these canals are sealed except for during extreme storm events, at which point they may be opened. Under these circumstances, which have not happened since 2005, comprehensive monitoring would occur at Stations J and K, and this monitoring requirement is included in the 2015 order. Outside of these extreme conditions, no discharge from the GDA into either the Camp 13 Ditch or the Agatha Canal would occur, and there is no reason for the Grassland Area Farmers to take responsibility for monitoring of those sites.

Stations L/L2 and M/M2 – The Santa Fe and San Luis Canals. These are monitored weekly for selenium, boron, and EC and the associated data is available on the CEDEN website. Additional monitoring would be implemented by the Grassland Area Farmers under extreme storm conditions if discharges to the Camp 13 or the Agatha canals occurred.

Station G – The San Joaquin River at Fremont Ford. This site is upstream of the Mud Slough discharge to the San Joaquin River and historic data has demonstrated that the discharges from Mud Slough have no impact on this segment of the San Joaquin River and there is no reason to include it in the monitoring program.

Station H – The San Joaquin River at Hills Ferry Road. This site was abandoned and replaced by Site R in 2013 for two primary reasons: 1) The site was located too close to the Merced River and the interaction between Merced River flows with the San Joaquin River at this location during high flow periods is poorly understood and 2) because site access became a problem, preventing regular access for sample collection.

Station R – The San Joaquin River at the China Island Unit. This site is a replacement for Station H and is located approximately 1.4 river miles (0.9 linear miles) upstream of Station H. It is located approximately 1.5 miles downstream from Mud Slough (North) discharge to the San Joaquin River. Sampling at this site began in 2013.

RESPONSE C. REGULATING RESERVOIRS OPERATION

Biological Impacts

CDFW recommends that the Authority conduct water analyses for selenium concentration for the short-term storage basins to determine the potential impact to wildlife. While the Authority plans to implement a water quality monitoring program for the proposed reservoirs whenever there is water present within them, the proposed location and operating criteria are such that the selenium concentration within the ponds is somewhat predictable. Continuation of ongoing mitigation and monitoring measures with enhancements (design measures) will reduce adverse impacts to less than significant levels. These measures include:

- Levee design to discourage nesting. This will include steep levee slope kept clean and denuded similar to existing practices for drains.
- Aggressive bird hazing efforts during nesting season, as currently conducted, when water is present within the ponds.
- Reservoir cell designed to facilitate hazing and cleaning efforts.
- Annual nest monitoring and reporting.

These measures are based on the last 13 years of successful habitat modification and hazing efforts implemented on the San Joaquin River Improvement Project to discourage waterbird nesting as documented in monitoring reports prepared by HT Harvey since 2006. These monitoring efforts demonstrate that an aggressive and planned hazing program at the reuse area involving observation by trained employees, directed maintenance efforts and targeted noise-making devices have minimized nesting activity by waterbirds within the reuse area. Therefore, similar results are expected with the new regulating reservoirs.

The Authority received a comment letter from the Grassland Water District. This letter included the following statement concerning the wetland habitats and regulating reservoirs.

“We believe the Project is essential to the continued protection of wildlife and wildlife habitat in the Grassland Ecological Area, the importance of which is recognized under international treaties and federal law. Continued use of the San Luis Drain is essential to manage and convey stormwater flows around these wetland habitats, and to prevent the ponding of stormwater on agricultural lands near the Grassland Ecological Area, which may cause an unwanted wildlife attraction. The implementation of short-term regulating basins will add needed flexibility to manage and prevent the introduction of flows into GWD’s wetland water conveyance system. We appreciate the design considerations and proposed management of these basins that will prevent wildlife attraction and use.”
(Grassland Water District 2019, included in Section A3.)

The PCL Coalition is concerned that the short-term storage basins could affect waterbirds similar to the historical Kesterson Reservoir back in 1982. There are many important differences between the SJRIP expansion and the GBP LTSWMP Project and what happened at Kesterson National Wildlife Area. The Kesterson National Wildlife Area was a mosaic of open water, freshwater marsh, seasonal wetland and upland habitats designed to attract birds. The SJRIP is actively and intensely farmed, and its interior roads and water conveyances are kept clean of vegetation. Water is not allowed to pond on the reuse area. Though over time, several avian

species have been observed on the existing reuse area, the observed densities of birds counted in censuses that have been part of the SJRIP monitoring program since 2003 have been less than one bird per project acre. For the short-term storage basins, see the above discussion of continuation of ongoing mitigation and monitoring measures with enhancements (design measures).

Concerning Mr. Stephen C. Volker's assertion that hazing displaces wildlife and would be ineffective, the following clarification is provided. The planned design measures to reduce the attractiveness of the short-term storage basins are indeed similar to those successfully utilized by the 2009 project in reducing the attractiveness of previously existing water conveyances within the project to birds. These measures include steep sided banks kept clean of vegetation, clean and level bottoms, and water management directed to minimize the presence of shallow water where shorebirds like to forage. While it will be easier to incorporate these design elements when starting from scratch, it is not accurate to say that it cannot be achieved at the previously existing storage ponds. Improvements have already been made at these ponds, and will continue, one pond cell at a time, until the design elements are in place.

The Authority disagrees that hazing birds in the context of our Project would result in new "significant impacts." Black-necked stilts and American avocets, the two principal species being hazed, are very mobile species accustomed to adjusting both foraging and nesting locales to find the most suitable conditions for both. Suitable foraging and nesting habitats are present near the Project in rice fields and the seasonal wetlands in the south grasslands area. Hazing discourages birds from both nesting and foraging where they could be exposed to project related selenium. The daily hazing of birds from the short-term storage ponds during the regular workweek when water is present will be sufficient to prevent long-term exposure and nesting.

The combination of hazing and measures to reduce habitat attractiveness to birds described above has reduced stilt and avocet nesting there to 2 nest attempts or fewer on an annual basis since 2009.

Substantial evidence to support the conclusion in the Addendum that there are no new potentially significant impacts to wildlife and their habitats that would require substantially new mitigation measures, just minor refinements. Management of the SJRIP adjacent to important wetland habitats since 2001 has demonstrated that the expanded Project will not be an attractive nuisance or disturbance to wildlife and, therefore, is unlikely to adversely affect waterfowl and other wildlife using these nearby habitats.

Hydrology Impacts

Contra Costa Water District stated that the "Draft Addendum and Initial Study should also include details of comprehensive monitoring plans as well as monitoring details for the new regulating reservoirs and the expanded reuse area if any." The monitoring plan details will be incorporated into the new use agreement with USBR and also into the WDRs for the Regional Board. See Response B. Substantial changes to existing monitoring plan are not expected for the discharges, but monitoring of the new regulating reservoirs and expanded reuse area will be incorporated into the ongoing water quality and biological monitoring programs. Also see Response D below for the reuse area.

Mr. Volker is concerned that "...the impounded wastewater will simply create additional saturated soils, ponds of contaminated water, and polluted run-off, all of which will continue to enter the Drain through seepage, and ultimately discharge into Mud Slough." This comment demonstrates a misunderstanding of the physical processes proposed in this Addendum. The stated intention of the proposed short-term storm water basins is to reduce the discharge of storm-induced runoff by diverting a large portion of these flows into the basins, where it will be reused on the SJRIP as soon as reuse capacity becomes available. This drainage management tool will reduce the volume of discharge from the GDA into the SLD by up to 1000 acre feet per year. Since no basin is fully water-tight, there will be some seepage from the basins into adjacent unlined drains. However, the proper design and construction of the basins, combined with the natural heavy clay soils of the site and region (of which the basin levees will be constructed), will reduce this seepage to small, likely insignificant, volumes. Any seepage that could occur would mingle with water already in the regional drains (from rainfall) and at the same water quality (since that seepage is already a source of water within the drains). During storm events, when discharge from the GDA is occurring, this drain water would be discharged to the San Luis Drain along with other storm-induced drainage. However, outside of those storm events, any seepage into the regional drains would be reused on the SJRIP. A common-sense review indicates that the volume of water captured by the basins will far exceed the small amount that would seep out. Furthermore, the SJRIP includes a comprehensive internal monitoring program that covers shallow groundwater quality.

RESPONSE D. SJRIP EXPANSION/DRAINAGE MANAGEMENT

Concerns with drain water reuse at the expanded facility are explained primarily in the Contra Costa County and PCL Coalition comment letters, and issues with size and wildlife management are raised also in the Stephen C. Volker letter.

The flooding contingency plan² has been implemented since its inception in 2006, and there has not been an instance where the contingency plan has had to be utilized. The Panoche Drainage District has been aggressively proactive in preventing such events from occurring. The flooded field conditions that occurred in 2003, and prompted the development of the flooded field contingency plan in 2006, have not happened again in the 16 years since that event. Improved field management (including land leveling), staff training and additional water management infrastructure, as well as aggressive monitoring, have prevented the flooded conditions from occurring since the 2003 event. Annual biological monitoring has shown that these efforts, combined with the hazing program, have effectively reduced impacts to wildlife to less than significant levels. It is of note that the cessation of discharge demanded by Mr. Volker would, by physical necessity, create these very flooded conditions that the Proposed Project is designed to prevent.

As described above in Response C, the design of the new short-term basins include elements that will discourage both feeding in and nesting at the basins. Efforts to implement these design elements at the existing short-term basin have begun. The Authority disagrees that the water temporarily stored in the short-term basins, which are devoid of vegetation and have steep-sided slopes to reduce shallow water foraging areas for waterbirds and where bird hazing will occur

² This plan is presented in the *San Joaquin River Water Quality Improvement Project, Phase I Wildlife Monitoring Report*, 2005 (H.T. Harvey & Associates 2006). The plan includes provisions for immediate removal of unintended drain water as well as for increased monitoring near flooded sites.

when birds congregate there, will substantially increase bird use in the reuse area. In contrast, birds will be attracted to the nearby wetland habitat managed by the Grassland Water District for their benefit.

The Project exists in an area of above normal selenium exposure due to selenium rich soils, and that baseline exists without the operation of the SJRIP. As part of the SJRIP monitoring program, the Authority's biologists analyzed selenium content of eggs collected in the vicinity of the project, but more than a mile from the SJRIP as reference samples. The 149 black-necked stilt and American avocet reference eggs collected from 2003 to 2013 ranged from 1.7 to 44 ppm selenium (dry weight), and the geometric mean was 10.2 ppm selenium. Approximately a third of the reference eggs collected had selenium concentrations exceeding 15 ppm.

It is not surprising, therefore, that some of the stilt and avocet eggs collected from the mitigation sites the project has provided contained elevated levels of selenium. Stilt and avocets feeding in the surrounding areas likely move to the compensation habitats immediately prior to laying eggs. It does not follow, however, that the mitigation sites are not providing a compensation benefit for the SJRIP. Active management of the SJRIP has reduced stilt and avocet nesting there to 2 nest attempts or fewer on an annual basis since 2009. The compensation areas have provided attractive nesting habitats above what is normally available within rice fields where low-selenium irrigation water is provided to dilute the selenium exposure many shorebirds are exposed to in the vicinity. Table 9 in the Biological Resources Report for the Initial Study (Appendix B) supporting the Draft Addendum demonstrates that the compensation areas provided by the Grassland Bypass Project since 2009 have had more stilt and avocet nest attempts than have occurred on the SJRIP, and that many of those nests have successfully hatched young.

Mr. Volker asserts that significant new and increased impacts would occur on the surrounding environment from the reuse area expansion of 650 acres. The additional 650 acres of drainage reuse area proposed here represent a 9% increase over the 6,900 acres of reuse area permitted in the 2009 Final EIS/EIR. The crops grown and water management will be identical to the existing project. The potential impacts to wildlife from the proposed modest increase in project size are identical to the potential impacts the project has been successful at ameliorating. The proposed infrastructure additions to the project also have similar potential impacts as the existing project and the Project description describes how those potential impacts will be reduced to less-than-significant levels. The results of the biological and water quality monitoring noted in the Response C above, clearly show no significant impact and demonstrate that the hazing and mitigation measures implemented on the SJRIP are effective and sufficient to reduce impacts to less than significant.

The Proposed Project modifications described in the Addendum do not propose any changes to the concept of drainage treatment. Although it is accurate to state that the Authority has not yet found a viable treatment method to effectively treat subsurface drain water, this fact is not relevant to the management of storm water described in the Addendum. Even a fully functional treatment system would have no impact on the discharge of storm-induced drain water. Drainage treatment is not a relevant topic for the Long-Term Storm Water Management Plan, and a discussion of it is not needed in this Addendum. The U.S. Bureau of Reclamation and others (e.g., Reticle, Inc., UCLA) continue to evaluate treatment systems such as reverse osmosis

and electrostatic deionization. The option for treatment remains for future consideration and additional CEQA analysis as appropriate.

RESPONSE E. USE AGREEMENT NEEDED

Contra Costa County stated that the Addendum must include a copy of the proposed Use Agreement under which the Grassland Bypass would be operated after December 31, 2019 when the existing Use Agreement expires. The new Use Agreement is a separate document from the EIS/EIR Addendum and is still in development. This document will include many of the requirements and obligations of the previous Grassland Bypass Projects, and it will be available for public review prior to adoption by Reclamation and the Authority. However, it is not part of the current CEQA process.

RESPONSE F. WILDLIFE ENTRAPMENT, MOVEMENT, AND HEALTH

CDFW commented that the proposed concrete lined ditch, RP-1, should be designed to prevent wildlife entrapment and not impact wildlife movement.

The RP-1 ditch is surrounded on all sides by intensely manipulated farm habitats, thus wildlife densities in the Project Area are significantly lower than what occurs in natural habitats such as along the San Luis Drain north of Henry Miller Road where deer entrapment has been an issue. The purpose of the proposed concrete lining is to support hazing efforts and discourage nesting in waterways containing elevated levels of selenium. The RP-1 lined ditch will be located between the Delta-Mendota and Outside canals, which represent existing barriers, but RP-1 includes frequent road crossings unlike the two existing canals. The installation of RP-1 will, therefore, not have a significant effect on movement of wildlife in the project area.

CDFW commented that the San Luis Drain (Drain) is a significant part of the Proposed Project and that deer entrapment in the Drain is a serious issue that is not addressed by the Initial Study or the Addendum.

The San Luis Drain is owned and operated by the U.S. Bureau of Reclamation (USBR) who is responsible for making physical improvements to keep deer out. The Proposed Project amendment affects the quantity, and to a lesser extent, the quality of water discharged from the Grassland Drainage Area into the Drain. The Proposed Project, as described, has no physical impact on the San Luis Drain, beyond the introduction of sediment, or its surroundings. The San Luis Drain itself, is an existing part of the landscape, and the risk of deer entrapment exists at the same level regardless of the implementation of the Proposed Project. The risk to deer would exist even if discharges from the Grassland Drainage Area ceased entirely, and it is in the process of being addressed through the federal project under the USBR.

Concerning the issue that wildlife could be exposed to elevated levels of selenium in the regulating basins, see Response C above which concludes that management of the SJRIP adjacent to important wetland habitats since 2001 has demonstrated that the expanded Project will not be an attractive nuisance or disturbance to wildlife and, therefore, is unlikely to adversely affect waterfowl and other wildlife using these nearby habitats.

In summary, The Addendum analysis, supporting documents including an Initial Study and appendices, and the responses to comments contained herein support a finding that the potential

to impact biological resources is not more severe than identified in the 2009 EIS/EIR, including no new significant impacts. Furthermore, ongoing mitigation and design features discussed herein with biological and water quality monitoring studies that build on past monitoring requirements serve to protect biological resources from harm. The entrapment of deer into the San Luis Drain is the responsibility of the USBR who is addressing this issue. The existing measures for Swainson's hawk are sufficient and have avoided the need for take authorization. See Response G below.

RESPONSE G. SWAINSON'S HAWK

As CDFW correctly points out, Swainson's hawk are present throughout the Project Area. The existing mitigation measures and monitoring procedures have resulted in the annual identification and reporting on Swainson's hawk activity in the "Bird Censuses" section of the annual monitoring report, including a figure depicting the number and location of nests. Nesting substrate within, and in the vicinity of, the San Joaquin River Improvement Project (SJRIIP) is patchily distributed and relatively unchanging and, as the Department states, Swainson's hawk exhibit high nest-site fidelity year after year. Ground disturbing construction activities will be performed outside of the Swainson's hawk nesting season in order to provide maximum protection of the species. Preconstruction surveys for nesting birds, including Swainson's hawks, and a plan to implement the appropriate buffers around detected nests are part of the Project description for construction events occurring during the nesting season (see Section 1.2, page 5 of the biology technical report which is Appendix B of the Initial Study) in the unlikely event that construction activities need to be conducted during the nesting season. The existing measures are sufficient and have avoided the need for take authorization since their adoption and implementation in 2001.

RESPONSE H. SELENIUM AND SALT LOAD LIMITS AND ADAPTIVE MANAGEMENT

A critical goal of the Long-Term Storm Water Management Plan is to meet the future selenium water quality objective in Mud Slough (North), and the Project modifications proposed in the Addendum are intended to meet that objective.

In 2001 the Regional Board adopted a Basin Plan Amendment for Selenium in the San Joaquin River. This Basin Plan Amendment calculated selenium loads on a monthly and annual basis as a Total Maximum Monthly Load (TMML). This TMML identifies the allowable loads to the San Joaquin River to meet water quality objectives.

The 2009 Use Agreement included a reduction in selenium loads from the TMML (adopted by the Regional Board and approved by the State Board) to very low numbers that would reflect the goals of reducing agricultural-related discharges to Mud Slough (North) and the San Joaquin River. For the last two years (2018 and 2019) of coverage under the 2009 Use Agreement, the annual selenium load limits were very low and intended to be equal to one month's discharge. The Use Agreement provided for annual incentive fee credits if selenium loads went above the allocated amounts and provided for a "termination" if load values reached a termination level. These termination levels are 24% to 28% compared to TMML levels and are shown in Table 2.

Table 2. Proposed Annual Selenium Load Target

Water Year Type	TMML Value Annual (lbs Se)	Annual Target Value (lbs Se)	% Target Value to TMML
Critical Year	1075	300	28%
Dry-Below Normal Year	2496	600	24%
Above Normal Year	4162	900	22%
Wet Year	4480	1200	27%

It is proposed that there be a selenium load target (load target) equal to the termination loads in the 2009 Use Agreement. These loads were vetted in the negotiations for the 2009 Use Agreement and are significantly less than the TMML loads. The Grassland Bypass Project met these target values in the years 2015-2018 and is expected to meet them in 2019. However, the amount of storm water that will occur in future years is unknown. It is difficult to predict what storm flows will be, as there can be local variations. Therefore, it is proposed that a multi-year performance goal be considered in determining if the load target has been met. The performance goal would state that the selenium load over a 3-year period at Site B would be equal to or less than the 3-year targets based on the water year type. If the performance goal was exceeded, the Grassland Basin Drainers would propose additional management practices with the goal of reducing loads to levels that meet the performance goal.

CCCo commented that the intent of the existing 2010-2019 Use Agreement was to reduce and eventually eliminate the contribution of the Grassland Drainage Area discharges to salinity in the San Joaquin River and Delta.

The 2009 Use Agreement included specific provisions regarding the necessity for a long-term storm water plan and envisioned the fact that, during rain events, discharges would continue to occur. The Long-Term Storm Water Management Plan, described in the Addendum, is that plan now developed. The focus of the Grassland Bypass Project and, by extension, the Long-Term Storm Water Management Plan is reducing the discharge of selenium to the San Joaquin River. As a result of that implementation, salt load to the San Joaquin River has been reduced by 80%.

Salinity in the San Joaquin River, along with its assimilative capacity, is a broad issue that encompasses far more than the Grassland Bypass Project. The CV-SALTS effort is working towards the development of a Salinity Management Plan for the Central Valley which will address issues for San Joaquin River salinity inputs upstream of the Delta. Delta salinity issues are being addressed through the Bay-Delta planning processes. Establishing separate load limits, in addition to these programs, is redundant and unnecessary.

An adaptive management plan is already an integral part of the Grassland Bypass Project, and will continue with the Long-Term Storm Water Plan. The Long-Term Storm Water Management Plan includes, as part of the new Use Agreement and the Waste Discharge Order, an aggressive monitoring program to monitor the flow and quality of discharges from the GDA as well as the receiving water bodies. Additionally, an internal monitoring program has been implemented by the Authority to manage, direct and control discharges to the extent possible. These monitoring procedures, combined with the existing drainage management tools, as well as

the new tools in the Proposed Project, provide the GDA with a de facto adaptive management program that has supported the successful operation of the GBP since its implementation in 1997.

The current Waste Discharge Order requires the submission of an annual monitoring report (AMR) which, among other requirements, requires an evaluation of water quality data, exceedances of water quality criteria, and “Actions taken to address water quality exceedances that have occurred, including but not limited to, revised or additional management practices implemented”. Implicit in these requirements is the fact that exceedances of water quality objectives will be addressed by new actions.

RESPONSE I. REMOVE 3 PPB SELENIUM MITIGATION MEASURE

The Regional Board commented that the 3 ppb value would not be acceptable in revised Waste Discharge Requirements (WDRs). Therefore, it has been removed from the Proposed Project. See Section A1 of this document.

RESPONSE J. 5 PPB SE WATER QUALITY OBJECTIVE NOT PROTECTIVE

The PCL Coalition commented that the 5 ppb Se water quality performance goal in Mud Slough and the SJR upstream of Merced is not protective of downstream beneficial uses and public trust resources. The Authority disagrees with this assertion. The Proposed Project does not modify the existing water quality objective for Mud Slough (North) or the San Joaquin River, which were established by the Central Valley Regional Water Quality Control Board (Regional Board), and the Authority expects to comply with that water quality objective with the Proposed Project. The proposed selenium water quality goal of 3 ppb, 4-day average at Site D will be eliminated from the LTSWMP. In short, the Proposed Project is designed to meet applicable water quality objectives which are designed to be protective of beneficial uses of water.

RESPONSE K. SALT DISCHARGE INCREASE SINCE 2014

This response addresses Contra Costa Water District’s concern with salt. Since 2014, when the discharges to the San Luis Drain were reduced to storm water discharges only, the discharged salinity from the Grassland Area has increased. This indicates a potential salt accumulation in the reuse area as the discharge flows decrease.

Discharge through Site A from the entire Grassland Drainage Area (GDA) has reduced dramatically since the project began in 1997. By 2014, discharge from the GDA was less than 20% of the 1st year’s discharge and had been reduced by 90% by 2018. By 2015, discharges from the GDA during the irrigation season were eliminated. This reduction in discharge has resulted in a similar reduction the load of salt discharged, however, the salinity concentration, measured at Site A, has increase somewhat since 2013.

Many factors could be influencing salt discharges from the area including regional salinity impacts associated with the recent sustained drought. However, the Authority has very little influence on these factors and has only one tool, tile sump shut-off, that will have any impact on the salinity levels of the storm-induced discharges. A system to remotely turn off tile sumps during storm events is included in the Proposed Project. The SJRIP includes a comprehensive

internal monitoring program that covers shallow groundwater quality, soil quality, and applied water quality, all of which are used to track trends in salinity and selenium for the Project.

RESPONSE L. DETAILED MUD SLOUGH MODELING

Contra Costa County requested detailed modeling of the future changes in salinity and selenium in Mud Slough and downstream, and the corresponding loads as a result of the proposed stormwater discharges.

Appendix D, Surface Water Resources Technical Report, of the Initial Study is a hydrologic analysis of the likely discharge conditions and resulting water quality for critically dry, below normal, and wet water year types. The model used historical hydrology for 21 years from 1997 through 2017, which covered 5 critical year types, 5 dry year types, 2 below normal year types, 3 above normal year types, and 6 wet year types, including the extremely wet year of 1997/98. This model included the impacts of the short-term storage basins on discharged volumes but did not include the impact of shutting off all of the tile sumps, which were difficult to simulate and analyze. As a result, the hydrologic model produced a conservative evaluation of the impacts of implementation of the Long-Term Storm Water Management Plan.

RESPONSE M. NPDES PERMIT AND CLEAN WATER ACT

The PCL Coalition commented that “A National Pollutant Discharge Elimination System (NPDES) permit must be required.” PCL cites the Clean Water Act as defining “pollutant” as including “agricultural waste discharged into water,” but fails to note key exemptions contained in that Act. First, NPDES permits apply to discharges from a point source, and section 33 U.S.C. Section 1362(14) exempts return flows from irrigated agriculture from the statutory definition of “Point Source:

“...any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture (33 U.S.C. Section 1362(14).”

Section 33 U.S.C. Section 1342(l)(1) specifically exempts “return flows from irrigated agriculture” from NPDES permitting:

“(l) Limitation on permit requirement

(1) Agricultural return flows

The Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture, nor shall the Administrator directly or indirectly, require any State to require such a permit.”

Given those exemptions, California has chosen to regulate discharges from irrigated lands through the issuance of waste discharge permits. The same approach is applied to storm water runoff from irrigated lands. The current Grassland Bypass Project is permitted through Waste Discharge Requirements (Order R5-2015-0094), and discharges under the proposed Long-Term Storm Water Management Plan would also be permitted through Waste Discharge Requirements.

The PCL Coalition characterizes discharges occurring from the GBP as of “selenium-laden drainage and contaminated groundwater,” citing data during winter/spring of 2017 of water entering the Drain. The Authority notes that in the very wet winter and spring of 2017, storm flows entered the Drain with tests on four occasions exceeding the December 31, 2019 Mud Slough objective of 5 ppb selenium (4-day running average). These sporadic exceedances nonetheless indicate enormous reductions, with 3 of the exceedances less than 6 ppb and the balance of readings not only less than 5 ppb, but most in the 1-2 ppb levels. Actions are proposed in the Long-Term Storm Water Management Plan to eliminate the exceedances, including automating controls over drainage sumps so that they may be shut off around storm events, infrastructure improvements at SJRIP to assist in maximizing the ability to broadly direct stormwater away from discharges out of the Grassland Drainage Area, and temporary holding ponds to help control discharges of storm-related flows. Partial sump shut-offs during storm events were implemented in 2018 and 2019. In 2018, there were only two measurement of selenium above 5 ppb, and 41 of the 48 samples were less than 2 ppb. Only a partial record of 2019 is available; however, available data shows only two measurements above 5 ppb during storm events. In contrast, selenium measurements at Site D exceeded 5 ppb 22 times out of 44 tests during 2013, when none of the sumps were shut off. Finally, the Draft Addendum included a proposal for an interim target of 3 ppb in Mud Slough which is not being included in the final Addendum. However, an additional incentive to maintain not only the water quality objective but to address concerns about load is being added to the proposed action in response to this and other comments.

Concerning the comments from Stephen C. Volker that the discharge of water from the San Luis Drain under the permits for the Grassland Bypass Project violates the Clean Water Act, the Authority and its engineers disagree. That is the contention of Mr. Volker on behalf of PCFFA and his other clients in pending litigation. The San Luis & Delta-Mendota Water Authority expects to demonstrate in the litigation that no NPDES permit is required. Furthermore, the Authority has not admitted that the San Luis Drain is a point source or that discharges from the Drain as utilized for the Grassland Bypass Project require an NPDES permit. Mr. Volker contends that waters discharged through the Grassland Bypass Project and San Luis Drain are commingled agricultural return flows and non-agricultural “wastewater,” but it is the position of the Authority that all water discharged from the Drain fits within the definition of “Irrigated agriculture” described in the recent Ninth Circuit opinion. As a result of that opinion, these issues must be resolved in the District Court. They have not been decided. The Grassland Bypass Project is permitted under waste discharge requirements issued under California’s interpretation of the Clean Water Act and is consistent and appropriate for discharges of return flows from irrigated agriculture. Issuance of waste discharge requirements for proposed discharges of storm water runoff from irrigated lands would also be consistent, would continue to impose stringent limits to protect the environment, and would benefit adjoining wetlands by preventing flood-related flows from following their natural course through wetland water delivery channels or creating flood-generated ponds to attract waterfowl.

RESPONSE N. NEED A FULL EIS/EIR

The PCA Coalition and Stephen C. Volker comment letters assert that continuation of Proposed Project is a “substantial change” with “numerous impacts that are significant” and which “should

be analyzed in a full EIR/EIS.” These comments misconstrue existing conditions and mischaracterize the legal standards pertaining to the CEQA baseline (CEQA Guidelines section 15125(a)) and requirements for subsequent environmental review under Public Resources Code section 21166 and CEQA Guidelines section 15162.

Public Resources Code section 21166 and CEQA Guidelines section 15162 define the situations in which a supplemental or subsequent EIR is required. Public Resources Code Section 21166 lays out three broad situations:

- When there have been substantial changes to the project which will require major revisions of the EIR,
- When there have been substantial changes to the circumstances that will require major revisions to the EIR, and
- When there is new information that could not have been known in the EIR that is now available.

CEQA Guidelines section 15162 further defines each of those specific situations in which a supplemental or subsequent EIR is appropriate:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The operative question is “whether circumstances have changed enough to justify repeating a substantial portion of the process.” (*Committee for Green Foothills v. Santa Clara County Bd. of Supervisors* (2010) 48 Cal.4th 32, 54-55 citing *Bowman v. City of Petaluma* (1986) 185

Cal.App.3d 1065, 1073.) Case law is illustrative of this substantive statutory test over any arbitrary time or use limits. For example, addenda were properly used in cases where many years had elapsed between the original EIR and later project revisions (see *Mani Bros. Real Estate Grp. v. City of Los Angeles* (2007) 153 Cal.App.4th 1385, 1399 (“*Mani Bros.*”) [15 years between the original project EIR and addendum, and overall project size increased by approximately 18.5 percent]; addenda were used where the project's appearance had changed dramatically (see *Fund for Environmental Defense v. County of Orange* (1988) 204 Cal.App.3d 1538 [designs changed, square footage increased by 30 percent, number of buildings increased, and project site newly surrounded by wilderness park]; *River Valley Preservation Project v. Metropolitan Transit Development Bd.* (1995) 37 Cal.App.4th 154 [light rail project changed by raising the elevation of a segment of a berm by a factor of two to three times the original height and replacing a golf course with a wetland]); and addenda have also been properly used multiple times over the course of many years. (*Citizens Against Airport Pollution v. City of San Jose* (2014) 227 Cal.App.4th 788 [eighth addendum to an airport master plan, which included changes to the size and location of future air cargo facilities, replacement of facilities, and the modification of two taxiways, was held to be a proper addendum.])

The analysis in the Addendum confirms that the proposed Project changes would not result in any new significant adverse impacts, nor an increase in the severity of significant adverse impacts previously identified in the 2009 Final EIS/EIR. The Project modifications would not require the adoption of any considerably different mitigation measures or alternatives, and to the extent Project modifications have been identified, they further lessen or avoid previously identified environmental impacts and result in environmental benefits relative to existing conditions. Although there have been some changes in the circumstances surrounding the Project since the 2009 Final EIS/EIR was approved, the changes are considered minor technical changes and the analysis in this Addendum demonstrates that there would be no new or more severe impacts due to these changes than previously evaluated and disclosed.

Differences in potential impacts associated with the proposed Project modifications relative to those previously described in the 2009 Final EIS/EIR are discussed in the Initial Study, which explained that the ongoing reuse of agricultural drain water on-farm within the GDA is not proposed to change. Continuation of existing uses has no cognizable environmental impact under CEQA. (*North Coast Rivers Alliance v. Westlands Water District* (2014) 227 Cal.App.4th 832; see *Citizens for East Shore Parks v. California State Lands Commission* (2011) 202 Cal.App.4th 549 [current and operative conditions are properly included in the CEQA baseline]; *World Business Academy v. California State Lands Commission* (2018) 24 Cal.App.5th 476.)

The SJRIP reuse area would be used to manage excess drain water from GDA sumps by reusing it to irrigate salt-tolerant crops. Sumps for tile drains would be turned off prior to storm events, and storm runoff up to an equivalent volume of 3 inches of rain on the SJRIP could be reused within the 7,550 acres of the SJRIP reuse area prior to discharge to the GBC and Drain (to Mud Slough).

Expansion of the reuse area by 650 acres (from 6,900 analyzed in the 2009 Final EIS/EIR to the proposed 7,550 acres) and use of storm water collected in the short term storage basins for irrigation of salt tolerant crops at the SJRIP are Project modifications that do not result in new or more severe impacts than previously evaluated. Drainage that would be captured in the storage basins is storm water, not agricultural subsurface drainwater (because the tile sumps would be

shut off). Agricultural subsurface drainwater is of lower quality than storm water runoff. This capture and reuse of storm water would not substantially worsen the Se, salt, and boron concentrations in the soil (described above) and in shallow groundwater at the SJRIP and the GDA. Compared to existing conditions, analysis in the Addendum/Initial Study shows that there are no new significant adverse impacts to groundwater, soil, or other resources associated with the Project modifications. Other resource areas evaluated in the Final EIS/EIR (2009) were addressed as necessary in the Addendum/Initial Study, including aesthetics, agricultural and forest resources, air quality, geology, hazards and hazardous materials, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, tribal cultural resources, utilities and service systems, and wildfire. These resources are substantially unaffected by the proposed Project modifications for the reasons described in the Initial Study and summarized in the Addendum. There are no new significant or substantially more severe impacts to these resources as a result of the proposed Project changes.

The analysis in the Addendum/Initial Study confirms that the proposed improvements at the SJRIP would not result in any new significant adverse impacts, nor in an increase in the severity of significant impacts previously identified in the 2009 Final EIS/EIR. Furthermore, the Project modifications would not require the adoption of any new or substantially different mitigation measures or project alternatives. While the Project does propose new storage basins for 1,000 AF of temporary storm water containment and the SCADA system for tile sump control, these changes are considered to be minor technical changes given their size and the effectiveness of biological mitigation measures used since 2006. Additional surveys for cultural resources and construction monitoring are standard requirements for new construction.

The significant unavoidable impact to soils described in the 2009 Final EIS/EIR would not be more severe due to the proposed project modifications. The regional cumulative impact of water table rise and salinization of soil and groundwater from long-term irrigation of agriculture (and water deliveries to the federal wildlife refuges) continues, and it is not substantially more severe due to the proposed Project modifications, especially with water conservation practices throughout the GDA. The evaluation in the Addendum/Initial Study further showed there would not be any new or substantially more severe cumulative impact of Project implementation. When there is no substantial evidence of an individual potentially significant effect, the lead agency may reasonably conclude a project's effects will not be cumulatively considerable and need not require an EIR on that basis. (*Hollywoodians Encouraging Rental Opportunities (HERO) v. City of Los Angeles et al.* (2019) 37 Cal.App.5th 768; *Sierra Club v. West Side Irrigation District* (2005) 128 Cal.App.4th 690, 701-702; *North Coast Rivers Alliance, supra*, 227 Cal.App.4th at p. 875.)

Because none of the conditions described in CEQA Guidelines section 15162 or Public Resources Code section 21166 have occurred as a result of the proposed Project modifications, the Addendum is appropriate to comply with CEQA pursuant to section 15164 of the CEQA Guidelines. (*Save Our Heritage Organisation v. City of San Diego* (2018) 28 Cal.App.5th 656 [upholding validity of CEQA Guidelines section 15164 and emphasizing that when an EIR has been prepared for a project, reopening the EIR process is only required under very limited circumstances].)

Furthermore, see Response A on the Grassland Bypass Project’s success in reducing the discharge of agriculturally-produced subsurface drain water from the GDA resulting in water quality improvements.

RESPONSE O. CUMULATIVE EFFECTS ANALYSIS

As discussed in Response O above, the evaluation in the Addendum/Initial Study further showed there would not be any new or substantially more severe cumulative impact of Project implementation.

Section 4.2.3 in the 2009 Final EIS/EIR described the many regional plans underway in 2009 to improve water quality in the San Joaquin River (pp. 4-68 to 4-71). Cumulative effects are impacts associated with the action alternatives that are not significant on their own but, when combined with the impacts of other projects and plans in the region, can have incremental effects that would result in a significant effect. The implication is that numerous insignificant effects can create a significant effect. This section discussed seven other plans and programs in the Central Valley and Bay-Delta regions that could have significant cumulative effects and found that most of these plans contributed to beneficial effects on water quality.

The comments from PCA Coalition assume that additional pollutants are being discharged to the San Joaquin River system from the Proposed Project which is not correct. There has been a 90% reduction in agricultural discharge to the San Luis Drain from 1997 – 2018. (see Response A) The monitoring data show improvements to water quality, and there is no need for the Authority to do further analysis of downstream impacts in comparison to existing conditions in any CEQA analysis for improvements (positive effects) in water quality discharges. The PCL/AA Coalition can follow water quality trends in the Bay-Delta by consulting with the California Data Exchange Center (CDEC) and the California Environmental Data Exchange Network (CEDEN). By meeting water quality objectives established by the Regional Board, the Authority and the proposed LTSMWP to the GBP are consistent with their Basin Plan which is all that is required.

Also see Section 2.21 of the GBP Long-Term Storm Water Management Plan Initial Study (August 2019) that addresses cumulative impacts for the environmental issues of biology, greenhouse gas emissions, and hydrology. The conclusion is that any limited, incremental impacts to the identified resources are not triggering cumulatively considerable impacts nor are they contributing in a substantial manner to existing cumulative issues in the Project Area.

Concerning a comment to include “Los Banos discharges and CCID and other contaminated ground water discharges into the Delta-Mendota Canal and California Aqueduct,” the response is the following. The storm water discharges from Los Banos are outside of the Grassland Drainage Area and not part of the scope of the Proposed Project. Likewise, the Authority is not aware of any “contaminated ground water discharges” into the Delta-Mendota Canal (DMC) or the California Aqueduct. Sumps along the DMC from approximately Brannon Avenue to Washoe Avenue were disconnected from the DMC in 2014. These are water supply conveyance facilities, and they do not discharge into the San Joaquin River. The cumulative impact issue is for the San Joaquin River, since this is the Project’s water body of concern due to discharges at Mud Slough.

RESPONSE P. LAND RETIREMENT ALTERNATIVE

As explained in Response A, cessation of agricultural activities and fallowing of the nearly 100,000-acre GDA will not stop the flow of storm water in the GDA. To abandon the project now and retire the entire Grassland Drainage Area, as is demanded by the PCL/AA Coalition, would result in widespread and uncontrolled flooding during virtually every storm event. The floodwater waters would pond up against the Outside Canal levees and create selenium contaminated habitat attractive to waterbirds. Implementation of the Long-Term Stormwater Plan, as described in the Addendum, is designed to prevent these events from occurring.

Furthermore, land retirement is inconsistent with the Project objectives; therefore, it is not a viable alternative to the proposed modifications to the 2009 project. See Appendix A, Plan Formulation Report, attached to the GBP Long-Term Storm Water Management Plan Initial Study (August 2019), Section 2 for the Project objectives. This Appendix A, Section 3.1.2.2 addresses land retirement as follows:

- “What would be the impacts if the land is taken out of production and not irrigated?”

“Storm water is generated by rainfall and therefore would need to be dealt with regardless of agricultural activities. Agricultural districts manage the storm water by regulating the drainage conveyance facilities and routing the flows. If large portions of land were to be taken out of production (i.e., retired), the base of financial support from those productive lands would be lost, decreasing or ultimately eliminating available funding for infrastructure maintenance and storm water management activities so that some or all of the storm water would flow unmanaged. In this scenario, storm flows would saturate the soils, pond at the ends of fields and up against the major canals, where it would supersaturate the canal embankments and put the integrity of the canal at risk. The ponded water would accumulate selenium from accreted groundwater, which would concentrate as the ponds evaporated. In extremely wet years, levee breaches of the DMC or other major canals could occur, which would result in major impacts to the regional water conveyance system affecting the entire Central Valley.

“Appendix G in the 2009 Final EIS/EIR found that the total estimated value of crops grown in the GDA and the SJRIP reuse facility in 2007 was estimated to be \$237.8 million based on farm level prices (see Table G-5). This estimate is based on acreages in Table G-4 plus the 2007 acreage in the SJRIP reuse facility. (Value per acre is based on data from Fresno County and represent farm level rather than retail price.) Farm revenues were projected to rise to a peak of \$233.8 million in 2019. Large scale land retirement would substantially reduce farm revenues (and profits). As a result, regional economic activity will also be affected (reduced) because of the many linkages between production agriculture and myriad other sectors of the economy. “ (pp. 3-6, 3-7)

RESPONSE Q. ADDITIONAL RESPONSE TO CONTRA COSTA WATER DISTRICT AND GRASSLAND WATER DISTRICT COMMENTS.

- Are there practical ways to describe storm events?

Response - Addendum Section 1.1.3 defines storm-induced drainage and is modified to read as follows:

Early rain events tend to be absorbed in the soil profile. However, as significant rainfall occurs the soil profile becomes saturated; there is no longer room in the soil for the excess storm water and storm flows are generated. Once this occurs there will be discharge of storm water as well as accretion flows of shallow groundwater into drainage conveyance channels from adjacent fields. There is not a clear connection between the year type, amount or frequency of rainfall and the need to discharge to the San Luis Drain. Once the regional drains have reached their holding capacities and the threat of ponding is imminent, discharge will occur. It should be further noted that the proposed SCADA sump shut-off system would be implemented prior to any release of storm-induced discharge.

- Can the salt load limits for Years 2018-2019 in the current Use Agreement be applied to the Long-term Storm Water Management Plan (LTSWMP)?

Response: Salt load limits have not been proposed for the LTSWMP. The salt load limits in the 2009 Use Agreement were developed prior to 2009 and much has been learned about the amount of salt discharged compared to selenium. However it should be noted that selenium load targets have been proposed in the Addendum. Discharge of salt will be comparable to these selenium values. The discharge of salt is also governed by the San Joaquin River Salt and Boron TMDL.

- Are the selenium loads limits protective?

Response - The proposed selenium load limits are less than 30% of the selenium TMML included in the Basin Plan. Additionally, implementation of the LTSWMP is expected to meet the Mud Slough selenium water quality objective. Successful implementation of the Grassland Bypass Project has already resulted in non-irrigation season selenium concentrations consistently below 3 ppb in Mud Slough and only two samples exceeded the 5ppb selenium objective in 2018. Site R (San Joaquin River d/s of Mud Slough) selenium results have measured no detection in 115 out of 222 samples from 2013 to mid-2019. Of the 38 samples collected in 2018, 27 resulted in no detection and the highest detected concentration of selenium was 1.57 ppb.

- A table should be provided of that summarizes the data on wet and dry year storm water discharges and estimates the volume of storm water discharges you expect will occur in different year types.

Response – Such a table is available at the following location:

<https://www.sfei.org/gbp/reports/monthly>

These reports provide data from 1996 to 2019 in all year types. The prediction of storm water discharges will follow the actual discharges in 2015-2018 which are years in which ag related discharges had been eliminated. In addition mitigation measures proposed as part of the project such as short term storage basins and shutting off sumps during storm events will further reduce storm water discharges from these historic values.

- Add clearer references to the proposed monitoring plan for the LTSWMP.

Response – A mitigation monitoring and reporting program is part of the Addendum resolution. In addition the Central Valley Regional Board has released the tentative waste discharge

requirements for the LTSWMP and include a monitoring and reporting program.

The tentative WDRs can be found at:

https://www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders/grassland/r5-2015-0094-01_tent_wdr.pdf

A4. COMMENT LETTERS

Insert Comment Letters Here



United States Department of the Interior



FISH AND WILDLIFE SERVICE

San Luis National Wildlife Refuge Complex
 Post Office Box 2176
 7376 South Wolfsen Road
 Los Banos, California 93635

11 September 2019

Via mail and email

Mr. Joseph C. McGahan, Drainage Coordinator
 San Luis & Delta-Mendota Water Authority
 P.O. Box 2157
 Los Banos, CA 93635
 jmcgahan@summerseng.com

***Re: Grassland Bypass Project Long-Term Storm Water Management Plan 2020-2045
 Addendum to Final EIS/EIR, 2010-2019 SCH No. 2007121110 - Draft August 2019
 Additional Comments***

Dear Joe:

I submitted comments regarding this Plan on 10 May 2019, embedded in the document. I am now submitting additional comments on a single subject: deer entrapment in the San Luis Drain. There is absolutely no mention of deer entrapment in the Plan, despite the fact that it has repeatedly been brought to the attention of the Drain managing agencies by the California Department of Fish & Wildlife and the U.S. Fish & Wildlife Service for over a year. A supplemental EIR would be required if new significant environmental effects have been identified, which this problem may be.

There is no discussion of wildlife movement whatsoever. The *Administrative Draft – CEQA Initial Study – Long-Term Storm Water Management Plan for the Grassland Drainage Area*, under 2.4 Biological Resources, includes the question: “Would the project: d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?” “**No Impact**” is checked. That is profoundly incorrect. Please find attached a location map, “Deer Trapped in San Luis Drain”, prepared by CDFW.

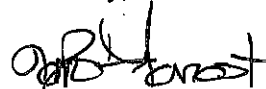
As stated in my 10 May 2019 comments, “The Drain bisects and creates a major barrier through high-quality habitat for many miles, negatively impacting many species. Deer get trapped and die in the San Luis Drain every year. Annually, about 5 dead deer and 2-3 live deer that often die from cruel injuries (hooves worn off) are removed from the Drain by USFWS. This is a waste of resources, incredibly cruel, hazardous for staff, and a burden -- distracting from normal, and urgent, duties. USFWS has pulled out 30 deer -- dead, dying, and alive -- between 2015 and 2018. Users of the San Luis Drain and USBR need to design -- with CDFW/USFWS approval -- and install 4 or 5 mechanisms along the Drain in high deer use areas, to allow deer to escape the Drain. All installation, maintenance, and removal (with CDFW/USFWS approval) should be the responsibility of USBR and San Luis Drain users. A map of locations where live and dead deer have been removed has been provided by USFWS. These locations are a starting point for considering where the mechanisms should be located. The escape mechanisms should be installed for a minimum of three years to determine efficacy. If they are

effective, they should remain in place -- and maintained -- permanently. This is a cooperative effort among the concerned agencies. Because the San Luis Drain is a USBR facility, primary responsibility lies with USBR; CDFW and USFWS have researched, consulted, and continually provides labor to remove live and dead deer. CDFW and USFWS have the expertise to provide technical or physical assistance with installation of the escape mechanisms. If the mechanisms are successful, maintenance should be overseen by USBR. Alternatives would include installing ramps made of different materials, such as soil or concrete, or tearing out some of the deteriorating lining of the canal to expose bare ground. However, if USBR intends to continue utilizing the Drain, these alternatives are likely to diminish the capacity of the Drain or reduce its functionality.”

This Addendum evaluates modifications to the Project and continued operation and management of the Drain for the next 25 years. The Addendum considers enhancements to existing facilities, including securing ownership of land, new pump/conveyance systems, additional temporary storage basins, and a remote shut-off system for control of tile sumps throughout the Grassland Drainage Area. Those are surely some very expensive options required for re-using the Drain. A compilation of numerous design options for ungulate escape from -- or avoidance of -- concrete canals was sent to the U.S. Bureau of Reclamation by CDFW and USFWS; some of which were designed, constructed, and utilized elsewhere by the USBR. These surely are less expensive than the many other enhancements being considered. Unfortunately, we have not received any response to these suggestions.

Please contact me (Kim_Forrest@fws.gov, 209/826-3508) if you have any questions.

Sincerely,



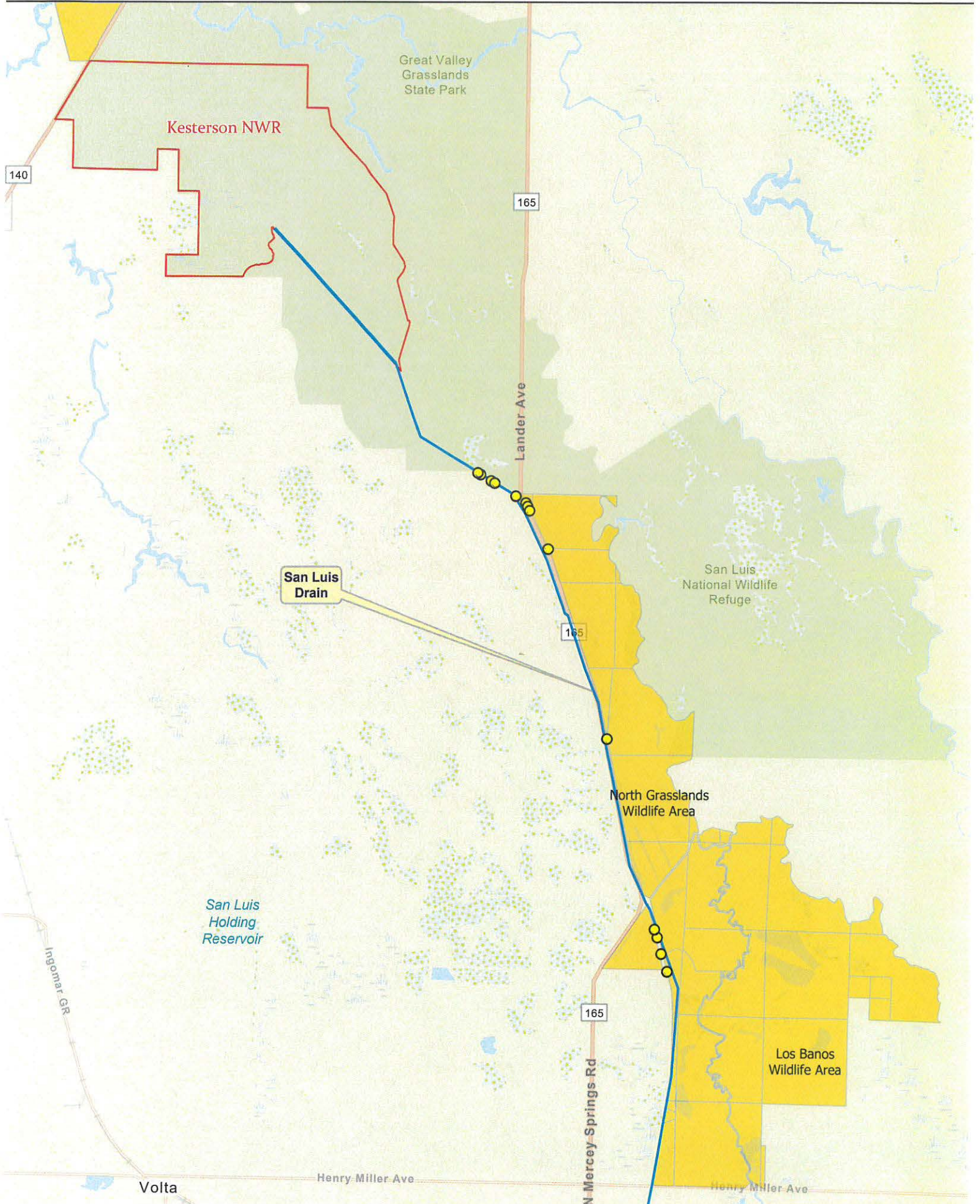
Kim Forrest
Refuge Manager

Enclosure

Cc: Polly Wheeler, Assistant Regional Director-NWRS; FWS
Stacy Armitage, Refuge Supervisor; FWS
Julie Vance, Regional Director; CDFW
Andy Gordus, Toxicologist; CDFW
Steve Miamoto, Wildlife Habitat Supervisor II; CDFW
Sean Allen, Wildlife Habitat Supervisor II; CDFW
Cristen Langer, Environmental Scientist; CDFW



Deer Trapped in San Luis Drain Locations - ●



Page	Report	kforrest Comment
1-3	<p>“This Project includes continued implementation of components of the Westside Regional Drainage Plan (SJVDP 1990) to manage subsurface drain water.”</p> <p>“The discharge of agricultural drainage will cease by the end of 2019, and agricultural subsurface drainage will be managed by the GBD participating districts and at the SJRIP. Going forward, the Project as proposed to be modified is referred to as a Long-Term Storm Water Management Plan (LTSWMP) for the period January 1, 2020 through December 31, 2035.”</p>	<p>Combining analysis of storm-water and agricultural subsurface drainwater makes this analysis confusing.</p> <p>If you are also including management of agricultural subsurface drainwater, then the title "LTSWMP" is misleading misnomer.</p>
1-3	<p>This area consists of the Grassland Drainage Area (GDA) as well as adjacent land to the north through which subsurface drainage has historically flowed.</p>	<p>This would be a good time to change the name "Grassland Drainage Area", as it is very confusing and inaccurate. It is not draining the "Grasslands", per "Grassland BYPASS Project".</p>
1-5	<p>1.1.2 “Storm Event Frequency and Magnitude”</p>	<p>Include a discussion of the quality of the storm water.</p>
1-6	<p>1.1.3.1 “Turn Off Tile Sumps”</p>	<p>If there are still tile sumps operating, then "The discharge of agricultural drainage will cease by the end of 2019" is not true.</p>
	<p>1.1.3.2.2 Proposed Reservoirs and Pump Stations</p> <p>“A new pump station will be constructed at a major regional drain in order to capture winter runoff. This pump station will have an estimated capacity of 10 cfs and will consist of a pre-cast concrete sump, pump and motor, electrical controls, manifold and appurtenances. The pump station will connect to a mile long pipeline (21”) to convey water into the regulating reservoirs for short term storage.”</p>	<p>The Kesterson Reservoir was initially planned for "short term storage"...until downstream recipients balked.</p>
1-9	<p>“...Currently (and for the foreseeable future) any tile water captured within the reuse areas is blended back with the reuse area irrigation supply and used on whatever crop is located downslope. Salt, Se, and other drainage constituents would be collected in the water coming out of the subsurface drainage systems, continue to be recirculated and utilized on site or, during any continuation of the Grassland Bypass Project, be discharged subject to load reduction obligations.”</p>	<p>Where is this "salt, SE, and other drainage constituents" coming from, if "The discharge of agricultural drainage will cease by the end of 2019"?</p>
	<p>“Because the salt tolerant crops within the SJRIP have very little water demand in the winter, reuse capacity is very limited in the period between November and February.”</p>	<p>Thus, the reuse capacity is limited during the timing of storm events -- and at the same time as the vast majority of wildlife /waterbird use.</p>
1-14	<p>“MITIGATION 3: NEAR, IN, MITIGATION REDUCE EXPOSURE POTENTIAL BY HAZING</p>	<p>This is a physical construction avoidance measure. It does not prevent exposure to "highly seleniferous" water post-construction.</p>

	<p>BIRDS FROM NESTING AND FORAGING IRRIGATION DITCHES”</p>	<p>Resurrecting the nightmare of the Kesterson Reservoir battle albeit 200 acres instead of 1,200... Where is the documentation that the extraordinary hazing effort at Kesterson was successful enough to repeat about 20 miles away?</p>
<p>1-14</p>	<p>Mitigation 3: Reduce Exposure by Hazing</p>	<p>Just say "killdeer, stilts, and avocets" -- no one uses the term "recurvirostrids".</p>
<p>1-15</p>	<p>“If after employing Mitigation Measures 1, 2, and 3, monitoring (described in Section 15) determines nesting shorebirds are exposed to elevated Se levels as a result of the Proposed Action, compensation habitat for residual impacts will be provided.”</p>	<p>Where? Who's land? Where will you get the water? Who will manage it?</p>
<p>1-17</p>	<p>“Land uses include wildlife refuge/wetlands areas including the Grassland Water District and the California Department of Fish and Wildlife’s North Grasslands Wildlife Area (China Island, Gadwall, and Salt Slough units) of approximately 7,400 acres of wetlands, riparian habitat and uplands. These restored and created wetlands are now habitat for Swainson’s hawk and sandhill crane and drain into the San Joaquin River.”</p>	<p>Need to include San Luis NWR (26,000 acres) and the FWS easements on ~90,000 acres. These and CDFW lands support more than Swainson’s hawk and sandhill cranes: they support ~1/2-million waterfowl (60% of the Pacific Flyway waterfowl and 20% of the waterfowl in North America), 250,000 shorebirds, and 47 species listed as endangered, threatened, or sensitive. If you are going to detail almonds and pistachios, you need to describe the profound wildlife use of the "Surrounding Lands". And they've been using the area for a lot longer than 100 years. These lands receive over 300,000 visitors per year.</p>
<p>2-4</p>	<p>“All of the modifications occur within a rural area in agricultural use/production, and sediment removal occurs on a portion of the Drain that runs through the Grasslands Ecological Area. These areas are not scenic vistas from the ground given the lack of roads, residences, and general public recreation sites in the affected portions. While there are public wildlife refuges and private hunting clubs within the Project Area in the vicinity of the Drain and the San Joaquin River, the new communication towers (SCADA system), conveyance of storm water, and expansion of the reuse area would not affect users’ enjoyment/views of these areas. Construction to enlarge the culverts and GBC, if selected, would occur within the agricultural area and not affect visitors to the duck clubs and wildlife refuges. The refuges are managed primarily for waterfowl and other species, not for high intensity general recreation.”</p>	<p>Over 300,000 visitors per year.</p>

2-11

2.4 Biological Resources

The Drain bisects and creates a major barrier through high-quality habitat for many miles, negatively impacting many species. Deer get trapped and die in the San Luis Drain every year. Annually, about 5 dead deer and 2-3 live deer that often die from cruel injuries (hooves worn off) are removed from the Drain by USFWS. This is a waste of resources, incredibly cruel, hazardous for staff, and a burden -- distracting from normal, and urgent, duties. USFWS has pulled out 30 deer -- dead, dying, and alive -- between 2015 and 2018. Users of the San Luis Drain and USBR need to design - with CDFW/USFWS approval -- and install 4 or 5 mechanisms along the Drain in high deer use areas, to allow deer to escape the Drain. All installation, maintenance, and removal (with CDFW/USFWS approval) should be the responsibility of USBR and San Luis Drain users. A map of locations where live and dead deer have been removed has been provided by USFWS. These locations are a starting point for considering where the mechanisms should be located. The escape mechanisms should be installed for a minimum of three years to determine efficacy. If they are effective, they should remain in place -- and maintained -- permanently.

This is a cooperative effort among the concerned agencies. Because the San Luis Drain is a USBR facility, primary responsibility lies with USBR; CDFW and USFWS have researched, consulted, and continually provides labor to remove live and dead deer. CDFW and USFWS have the expertise to provide technical or physical assistance with installation of the escape mechanisms. If the mechanisms are successful, maintenance should be overseen by USBR.

Alternatives would include installing ramps made of different materials, such as soil or concrete, or tearing out some of the deteriorating lining of the canal to expose bare ground. However, if USBR intends to continue utilizing the Drain, these alternatives are likely to diminish the

	<p>capacity of the Drain or reduce its functionality.</p> <p>"Material in this section is supported by Appendix B, Biological Resources Impact Analysis, prepared specifically for the SJRIP Proposed Expansion Project."</p>	<p>"SJRIP Proposed Expansion Project Biological Resources Impact Analysis" appears to analyze existing conditions of WATER USED TO IRRIGATE CROPS, not the changed conditions -- including a new 200-ACRE REGULATING RESERVOIR. This study states "Water samples from the sources of drainwater used to irrigate the existing SJRIP reuse site ranged from 43 to 761 ppb selenium ...well exceeded the 32 ppb threshold ... associated with a high probability of reproductive effects, including reduced hatchability and increased occurrence of embryonic deformities...". What about the impacts when this becomes standing water during the high bird use Nov-Mar time period??</p>
<p>2-13</p>	<p>"As discussed in Appendix B (Section 6.1), water samples from the sources of drain water used to irrigate the existing SJRIP reuse site ranged from 43 to 761 ppb selenium from 2003 to 2005 (Panoche Drainage District data). These sources well exceeded the 32 ppb threshold that CH2M Hill et al. (1993, cited in Appendix B) associated with a high probability of reproductive effects, including reduced hatchability and increased occurrence of embryonic deformities (Table 2)."</p> <p>"Specific impact statements and mitigation measures to reduce the potentially significant impacts to less than significant for special status species are excerpted below from Appendix B (Section 7.2)."</p>	<p>43 - 761 ppb selenium is incredibly high!</p> <p>Impacts to ALL species -- especially waterbirds -- are the issue, not just special status species.</p>
<p>2-15</p>	<p>"Waterbirds shall be hazed from the Project site during the waterbird nesting season (March 15 to July 15) to reduce exposure of waterbirds to selenium by discouraging waterbirds from feeding where they could be exposed to selenium."</p> <p>"Mitigation Measure BIO-2f: Monitor Mitigation Success and Compensation Breeding Habitat."</p>	<p>Waterbirds would be exposed year-round, not just during nesting season.</p> <p>The Kesterson Reservoir Debacle was an unmitigated disaster, an abysmal failure, on an international scale. Which do you think this mini-me project could be successful? You have not introduced any fabulous new ideas.</p>
<p>2-16</p>	<p>"Effects on adjacent habitat in the NWRs would be noise from equipment use within the Drain to remove sediment."</p> <p>"According to Appendix B, the results of a query of the CNDDDB (2018) for sensitive habitats</p>	<p>"NWRs" is national wildlife refuges, which does not include State areas and private wildlands.</p> <p>That is inaccurate, and the CNDDDB is an inadequate source of information. There</p>

	<p>indicate that no sensitive habitats are present on or within 5 miles of the Project site."</p>	<p>are tons of wetlands and vernal pools within 5 miles of the Project site -- if you are referring to the entire San Luis Drain as the "Project site". Which is confusing -- are you only referring to the SJRIP area?</p>
<p>2-17</p>	<p>"In 1990, the Central Valley Habitat Joint Venture (CVHJV) partnership developed its first strategic plan to deliver partnership-based waterfowl habitat conservation, the <i>Central Valley Habitat Joint Venture Implementation Plan</i> (1990 Plan), and the USFWS is the administering agency."</p>	<p>This may be a good place that the Grasslands Ecological Area is one of 6 Ramsar Wetlands of International Importance in California and 39 in the U.S. It is also an Audubon "Important Bird Area" and a Western Hemisphere Shorebird Reserve Network site.</p>
<p>2-27</p>	<p>2.9 Hazards and Hazardous Materials "Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?"</p>	<p>Wildlife and selenium...?</p>
<p>2-28</p>	<p>"Concerning the sediments removed from the Drain, they are not a hazardous waste based on analysis of previously removed material contained in Appendix C of this Initial Study, Sediment Removal from the San Luis Drain, 2016-2018."</p>	<p>What about the 43 - 761 ppb selenium in the water ponding in the SJRIP?</p>
<p>2-39</p>	<p>"The Proposed Project provides the capture and conveyance of storm water flows and the management of runoff from storm events to benefit agricultural and wetland habitat land uses by protecting the integrity of water supply channels to both of these uses. The primary public facility affected is the federal San Luis Drain and the discharge of storm waters into Mud Slough in the Los Banos Wildlife Area operated by CDFW."</p>	<p>The San Luis Drain discharges into Mud Slough on San Luis NWR, operated by USFWS.</p>



State of California – Natural Resources Agency
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 Central Region
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GAVIN NEWSOM, Governor
 CHARLTON H. BONHAM, Director



September 13, 2019

Joseph C. McGahan, Drainage Coordinator
 San Luis & Delta-Mendota Water Authority
 Post Office Box 2157
 Los Banos, California 93635

**Subject: Grassland Bypass Project, 2010-2019
 Notice of Availability of an Addendum to the Final Environmental Impact
 Statement/Environmental Impact Report (EIS/EIR)
 State Clearinghouse (SCH) No. 2007121110**

Dear Mr. McGahan:

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of an Addendum to the Final Environmental Impact Statement/Environmental Impact Report for the Grassland Bypass Project, 2010-2019, from the San Luis & Delta-Mendota Water Authority for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish and G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

Water Pollution: Pursuant to Fish and Game Code Section 5650, it is unlawful to deposit in, permit to pass into, or place where it can pass into "Waters of the State" any substance or material deleterious to fish, plant life, or bird life, including non-native species. It is possible that without mitigation measures, implementation of the Project could result in pollution of Waters of the State from storm water runoff or Project-related erosion. Potential impacts to the wildlife resources that utilize these watercourses include, but are not limited to, the following: increased sediment input from vegetation removal and ground disturbance causing increased erosion; toxic runoff associated with Project implementation; temporal loss of wildlife habitat; and/or impairment of wildlife movement along riparian corridors. The Regional Water Quality Control Board and United States Army Corps of Engineers also have jurisdiction regarding discharge and pollution to Waters of the State.

In this role, CDFW is responsible for providing, as available, biological expertise during public agency environmental review efforts (e.g., CEQA), focusing specifically on project activities that have the potential to adversely affect fish and wildlife resources. CDFW provides recommendations to identify potential impacts and possible measures to avoid or reduce those impacts.

PROJECT DESCRIPTION SUMMARY

Proponent: San Luis & Delta-Mendota Water Authority

Objective: The San Luis & Delta Mendota Water Authority has prepared an Addendum to the 2009 Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR; SCH No. 2007121110) for consideration of the Grassland Bypass Project

(Project). The 2009 EIS/EIR addressed the potential environmental effects/impacts that would result from implementation of a new Use Agreement for the Project that allowed for continued use of the Federal San Luis Drain (Drain) for the period 2010 through 2019 for discharge of agricultural drainwater and storm water into Mud Slough and drainwater reuse at an expanded San Joaquin River Improvement Project (SJRIP). The Addendum to the Final EIS/EIR has been prepared to evaluate modifications to the Project and continued operation and management of the Drain and related improvements at the SJRIP for the next 25 years.

The original Project managed and discharged subsurface drainage flows from irrigation of the 97,000-acre Grassland Drainage Area (GDA). Participants in the Project applied multiple tools to reduce the amount of subsurface agricultural drainage being discharged, such as source control, recirculation and shallow groundwater pumping, along with use of collected drainage to irrigate salt tolerant crops at the SJRIP. The Project utilized the 4-mile Grassland Bypass Channel to convey drainage discharged from the GDA to the Drain at a point near Russell Avenue, used a 28-mile segment of the Drain to convey the remaining flows around wetland habitat areas, and ultimately discharged to Mud Slough and subsequently to the San Joaquin River. Over the last 32 years, the Project has reduced the volume of agricultural drainage water discharged from the GDA by over 90%, resulting in substantial environmental improvements to wetlands water supply channels and the San Joaquin River.

The Addendum evaluates continued use of the Drain at its current capacity (150 cubic feet per second) combined with the use of existing and new short-term storage basins to continue storm-induced discharges to Mud Slough in the San Luis National Wildlife Refuge and the CDFW China Island Wildlife Area. The Addendum considers modifications to the previously analyzed project and enhancements to existing facilities, including securing ownership of land for purposes of the SJRIP (i.e., irrigation of salt tolerant crops), new pump/conveyance systems, additional temporary storage basins, and a remote shut-off system for control of tile sumps throughout the GDA after 2019, for a period of 25 years to 2045.

Location: Grasslands watershed in Fresno and Merced Counties. The Project Area is the area that could be affected substantially by actions taken within the Grassland Drainage Area (GDA). It is located on the western side of the San Joaquin Valley, and the GDA and other Project features are located primarily in the counties of Merced and Fresno. The inclusion of the San Joaquin River to Crows Landing for compliance monitoring adds Stanislaus County to the Project Area.

Timeframe: Next 25 years.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist the San Luis & Delta-Mendota Water Authority in adequately identifying and/or mitigating the Project's

significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document.

The Addendum to the 2009 EIS/EIR indicates that the Project's impacts would be less than significant with the implementation of mitigation measures described. The mitigation measures of the 2009 EIS/EIR appear to be insufficient in reducing impacts to a level that is less than significant. CDFW wants to emphasize the adequacy of mitigation measures for special-status species including, but not limited to, the State threatened Swainson's hawk (*Buteo swainsoni*).

I. Environmental Setting and Related Impact

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or the United States Fish and Wildlife Service (USFWS)?

COMMENT 1: Swainson's Hawk (SWHA)

Issue: SWHA have been observed to nest within and near the Project area. The California Natural Diversity Database (CNDDDB) shows SWHA occurrences throughout the Project area (CDFW 2019). The proposed Project will involve activities near large trees that may serve as potential nest sites.

Specific impacts: CDFW concurs with the mitigation measures as presented on page 2-14 Mitigation Measure BIO-2g: Conduct Pre-construction Nest Surveys for Infrastructure Installation Occurring During the Nesting Season and on page 46 of the H. T. Harvey & Associates Biological report. The document states that the construction of the infrastructure will occur outside the nesting season to reduce nesting bird impacts. CDFW further recommends the Project proponents consult with CDFW staff before construction begins. Should construction occur during the nesting season, CDFW recommends pre-construction nest surveys as presented on page 46 of the Biological Report and in consultation CDFW staff. CDFW wants to emphasize that without appropriate avoidance and minimization measures for SWHA, potential significant impacts could result from Project activities include nest abandonment, loss of nest trees, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of SWHA without appropriate incidental take authorization would be a violation of Fish and Game Code.

Evidence impact is potentially significant: SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the San Joaquin Valley limits their local distribution and abundance (CDFW 2016). The Project as proposed will

involve noise, groundwork, and movement of workers that could affect nests and has the potential to result in nest abandonment, significantly impacting local nesting SWHA.

Recommended Potentially Feasible Mitigation Measure(s)

Because suitable habitat for SWHA is present throughout the Project area, CDFW recommends conducting the following evaluation of the Project area, editing the MND to include the following measures specific to SWHA, and that these measures be made conditions of approval for the Project.

Mitigation Measure 1: SWHA Surveys

To evaluate potential impacts, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting SWHA following the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC, 2000) prior to project implementation. The survey protocol includes early season surveys to assist the Project proponent in implementing necessary avoidance and minimization measures, and in identifying active nest sites prior to initiating ground-disturbing activities as presented on page 2-14 Mitigation Measure BIO-2g: Conduct Pre-construction Nest Surveys for Infrastructure Installation Occurring During the Nesting Season and page 46 of the H. T. Harvey & Associates Biological report.

Mitigation Measure 2: No-disturbance Buffer

If ground-disturbing Project activities are to take place during the normal bird breeding season (March 1 through September 15), CDFW recommends that additional pre-activity surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project implementation. CDFW recommends a minimum no-disturbance buffer of 0.5 mile be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

Mitigation Measure 3: SWHA Take Authorization

CDFW recommends that in the event that an active SWHA nest is detected during surveys, consultation with CDFW is warranted to discuss how to implement the project and avoid take. If take cannot be avoided, take authorization through the issuance of an Incidental Take Permit, pursuant to Fish and Game Code Section 2081(b) is necessary to comply with CESA.

II. Specific Comments

COMMENT 2: Grassland Bypass Project – Long-term Storm Water Management Plan, Initial Study. Page 1-9. Section 1.1.3.2 Regulating Ponds/Reservoirs Usage.

The Proposed Project includes an existing pond and the construction of a new pond to temporarily store storm water from approximately December through May. This period includes the migratory bird breeding season, which could result in impacts to avian embryos due to selenium levels. CDFW recommends the Project proponents conduct water analyses for selenium concentration for these storage ponds to determine potential impacts to waterfowl and other wildlife that utilize them.

COMMENT 3: Grassland Bypass Project – Long-term Storm Water Management Plan, Initial Study. Page 1-11. Section 1.1.3.4 Additional Conveyance Activities.

“The existing 3-mile PR-1 Ditch will be replaced with a concrete lined channel and the ditch will be extended 1.8± miles to the eastern side of the SJRIP.” CDFW recommends that the concrete lined ditch be designed to prevent wildlife entrapment and not impact wildlife movement, see comment below for Page 2-9.

COMMENT 4: Grassland Bypass Project – Long-term Storm Water Management Plan, Initial Study. Page 2-9. Section 2.4 Biological resources. d.

CDFW does not concur with the “No Impact” conclusion for “Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery.”

The Drain is a significant part of this Project and there was no evaluation for wildlife impacts as a result of continuing the use of the Drain. CDFW staff have previously informed the Project proponents that mule deer (*Odocoileus hemionus*) entrapment (Photographs 1 and 2) is a serious issue in the Drain, particularly north of Henry Miller Road. CDFW staff have also previously provided information for deer bridge crossings and escape ramps. See Figure 1 for deer entrapment locations for potential locations to install deer bridge crossing and escape ramps.

In addition to the impacts to deer, deer entrapment is a significant safety concern for state and federal employees as staff have to enter the Drain to retrieve dead or live deer (Photograph 3).

COMMENT 5: Grassland Bypass Project – Appendix A: Plan formulation report long term storm water management plan for the Grassland Drainage area Long-term Storm Water Management Plan. Page 3-6.

The first paragraph states that the tile systems can be shut off during storm events provided that they are accessible. This statement conflicts with other sections that state automated remote turn-off systems will be installed to shut off the sump pumps (see page 3-8). CDFW recommends this discrepancy be addressed.

COMMENT 6: Grassland Bypass Project – Appendix A: Plan formulation report long term storm water management plan for the Grassland Drainage area Long-term Storm Water Management Plan. Page 3-9.

This section indicates that wildlife could be exposed to elevated selenium in the regulating basins. CDFW recommends Project proponents analyze the water for selenium concentration for these regulating basins to determine potential impacts to waterfowl and other wildlife that may utilize them.

III. Editorial Comments and/or Suggestions

Nesting birds: CDFW concurs that Project implementation occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project area to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. Prior to initiation of Project activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once Project activities begin, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and immediately consult with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the Project area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status species and natural communities detected during Project surveys to CNDDDB. The CNDDDB field survey form can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

FILING FEES

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & Game Code, § 711.4; Pub. Resources Code, § 21089).

CDFW appreciates the opportunity to comment on the Project to assist the San Luis & Delta-Mendota Water Authority in identifying and mitigating the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>). If you have any questions, please contact Jim Vang, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-4014 extension 254, or by electronic mail at Jim.Vang@wildlife.ca.gov.

Sincerely,


for Julie A. Vance
Regional Manager

cc: See Page Nine

cc: Regional Water Quality Control Board
Central Valley Region
1685 "E" Street
Fresno, California 93706-2020

United States Army Corps of Engineers
San Joaquin Valley Office
1325 "J" Street, Suite #1350
Sacramento, California 95814-2928

ec: Joseph C. McGahan, Drainage Coordinator
San Luis & Delta-Mendota Water Authority
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Kim Forrest, Refuge Manager
San Luis NWR
Kim_Forrest@fws.gov

Literature Cited

CDFW. 2016. Five Year Status Review for Swainson's Hawk (*Buteo swainsoni*).
California Department of Fish and Wildlife. April 11, 2016.

CDFW. 2019. Biogeographic Information and Observation System (BIOS).
<https://www.wildlife.ca.gov/Data/BIOS>. Accessed August 23, 2019.

Swainson's Hawk Technical Advisory Committee (SWHA TAC). 2000. Recommended
Timing and Methodology for Swainson's Hawk Nesting Surveys in California's
Central Valley. Swainson's Hawk Technical Advisory Committee, May 31, 2000.

Appendix 1. Photographs and Figure.

Photograph 1. Mule deer trapped in the San Luis Drain.



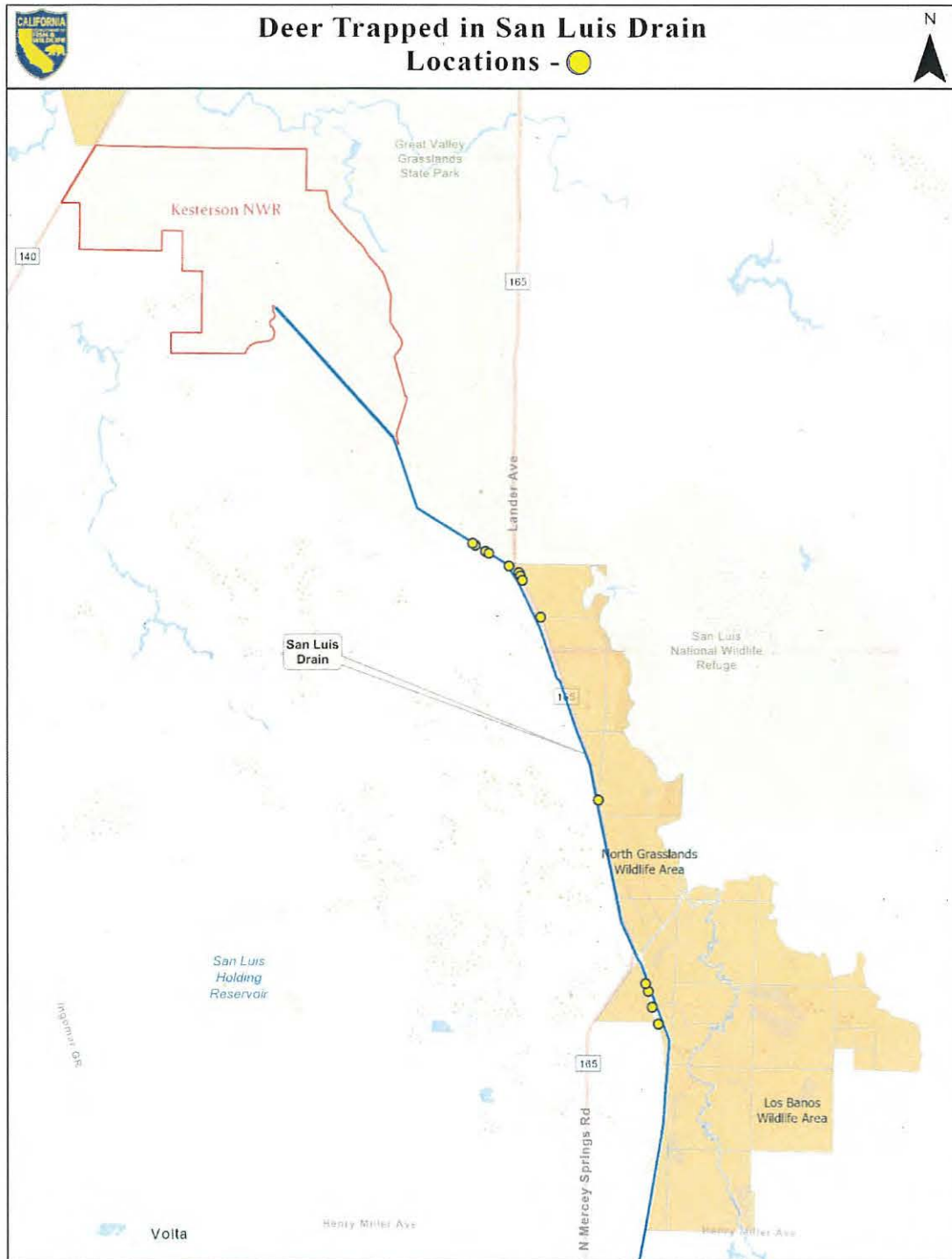
Photograph 2. Dead mule deer in San Luis Drain.

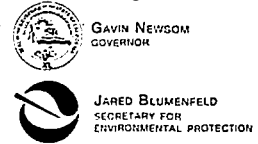


Photograph 3. State and Federal employees rescuing deer from the San Luis Drain.



Figure 1. Locations where mule deer have been trapped in the San Luis Drain and for further discussions as to recommended locations to install deer bridge crossings and escape ramps.





Central Valley Regional Water Quality Control Board

13 September 2019

Joseph C. McGahan, Drainage Coordinator
San Luis & Delta-Mendota Water Authority
Post Office Box 2157
Los Banos, CA 93635

COMMENTS TO NOTICE OF AVAILABILITY (NOA) OF AN ADDENDUM TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT AND ENVIRONMENTAL IMPACT REPORT FOR THE GRASSLAND BYPASS PROJECT, SCH# 2007121110, MERCED COUNTY AND FRESNO COUNTY

Pursuant to the San Luis & Delta-Mendota Water Authority's 14 August 2019 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Notice of Availability (NOA) of an Addendum to the Final Environmental Impact Statement and Environmental Impact Report* and associated documents for the Grassland Bypass Project, located in Merced County and Fresno County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore, our comments will address concerns surrounding those issues.

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3)

KARL E. LONGLEY ScD, P.E., CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

Subsurface drainage from the Grassland Drainage Area is known to contain selenium concentrations at levels that have the potential to impact receiving waters. To address selenium impacts, the Basin Plan contains a water quality objective of 5 micrograms per liter ($\mu\text{g/L}$) (4-day average) for Mud Slough (north) and the San Joaquin River from the Mud Slough confluence to the Merced River. Prior to the year 2020, a performance goal of 15 $\mu\text{g/L}$ (monthly mean) for selenium applies. The Basin Plan also prohibits the discharge of agricultural subsurface drainage water to Mud Slough (north) and the San Joaquin River from the Mud Slough confluence to the Merced River after 31 December 2019 unless water quality objectives for selenium are being met.

In your Addendum to the Final Environmental Impact Statement and Environmental Impact Report for the Grassland Bypass Project, 2010-2019, you state that the selenium water quality objective would be met during most of the year with occasional exceedances and propose a modification to existing mitigation measures that would establish a water quality goal of 3 $\mu\text{g/L}$ (4-day average) for selenium, which for every three (3) months it is met one (1) exceedance of the 5 $\mu\text{g/L}$ (4-day average) water quality objective would be allowed.

This mitigation measure does not meet Basin Plan requirements and would not be allowed in revised Waste Discharge Requirements (WDRs). If discharges to Mud Slough (north) are to be permitted beyond 31 December 2019, WDRs for the Grassland Bypass Project must be revised or new WDRs issued. These WDRs cannot permit discharges that exceed criteria established by the Basin Plan. All monitoring results for selenium will be compared to the Basin Plan water quality objective and any exceedances of the objective will result in action by the Central Valley Water Board pursuant to the Basin Plan's requirements.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:

http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

If you have questions regarding these comments, please contact me at (916) 464-4857 or Ashley.Peters@waterboards.ca.gov.



Ashley Peters, P.E.
Water Resource Control Engineer

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Department of
Conservation and
Development

Contra
Costa
County

John Kopchik
Director

Water Agency

30 Muir Road
Martinez, CA 94553

Phone: 925-674-7824



September 13, 2019

Joseph C. McGahan
Drainage Coordinator
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635
Email: jmcgahan@summerseng.com

Re: Contra Costa County comments on Addendum to the Final EIS/EIR for Grassland Bypass Project

Dear Mr. McGahan,

Contra Costa County appreciates this opportunity to formally review the draft Addendum to the Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) for consideration of the Grassland Bypass Project (GBP) prepared by the San Luis & Delta Mendota Water Authority (SLDMWA) and released on August 14, 2019.

The Final EIS/EIR was certified by the SLDMWA on October 8, 2009 (SCH #2007121110). The 2009 Final EIS/EIR addressed the potential environmental effects/impacts that would result from implementation of a new Use Agreement for the GBP that allowed for continued use of the Federal San Luis Drain (Drain) for the period 2010 through 2019 for discharge of agricultural drainwater and storm water into Mud Slough (North) and of drainwater reuse at an expanded San Joaquin River Improvement Project (SJRIP). The Addendum evaluates modifications to the GBP and continued operation and management of the Drain and related improvements at the SJRIP for the next 25 years.

The U.S. Bureau of Reclamation (Reclamation) is apparently managing compliance with the National Environmental Policy Act (NEPA) for continued use of the Drain separate from this California Environmental Quality Act (CEQA) Addendum.

Contra Costa County covers a large area within the Delta. The County borders on Old River to the east and Suisun and San Pablo Bays in the north. The County is the ninth most populous county in California, with more than one million residents. Many of our residents rely on the Delta for their municipal, industrial and irrigation water supplies, for their livelihood, and

Contra Costa County comments on Addendum to the Final EIS/EIR for the Grassland Bypass Project

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recreation. The quality of Delta water, health of the Delta ecosystem, Delta recreation and water supply are, therefore, of major importance to the County and its residents.

Discharges from the Grassland area into the San Joaquin River will reach the Sacramento-San Joaquin Delta (Delta) and affect salinity and selenium concentrations there. They have the potential to adversely impact the health and safety of the residents of Contra Costa County and the 23 million other people that rely on the Delta as their source for drinking water. High selenium loads into the San Joaquin River and Delta will also impact key fish species. This can lead, through biological opinions and Delta operations criteria, to more stringent restrictions on the ability of urban agencies to divert water from the Delta to meet their water supply needed.

The County appreciates the efforts of the Grassland area farmers, since 1996, to significantly reduce their discharges of selenium and salinity to the San Joaquin River. Over the last 32 years, the Grassland Bypass Project has succeeded in reducing the volume of agricultural drainage water discharged from the Grassland Drainage Area by over 90%, resulting in substantial environmental improvements to wetlands water supply channels and the San Joaquin River. The GBP is now highly likely to achieve its goal of eliminating all discharges of agricultural drainage by December 31, 2019. The GBP is a nationally-recognized model for how to address contaminated drainage and protect environmental resources.

The adequacy of the Draft Addendum may be addressed by taking action on the following comments.

- 1. The Addendum must include a copy of the proposed Use Agreement under which the Grassland Bypass would be operated after December 31, 2019 when the existing Use Agreement expires.**

The Draft Addendum, on page 3-1, acknowledges that the proposed project would be implemented through a new Use Agreement with the Bureau of Reclamation for use of the Drain and with new Waste Discharge Requirements (WDR) from the Central Valley RWQCB for discharge to Mud Slough (North).

The previous Use Agreements for the Grassland Bypass Project provided detailed requirements regarding selenium and salt load limits and monitoring. Any extension of use of the San Luis Drain beyond December 31, 2019 should require similar definitions, environmental commitments, and restrictions to protect the water quality for fish and wildlife in Mud Slough and the San Joaquin River and users of water from the Sacramento-San Joaquin Delta.

Since the new Use Agreement will be a federal document, the CEQA lead agency may consider that the Use Agreement be controlled by Reclamation through a separate NEPA process. However, the Use Agreement is needed to memorialize how the GBP will be operated by the Grassland area farmers and should be included in this CEQA Addendum.

Contra Costa County comments on Addendum to the Final EIS/EIR for the Grassland Bypass Project

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2. The Addendum must describe in detail a Monitoring Plan to monitor key selenium, salinity, boron concentrations and flow discharges into the Bypass and at downstream locations.

The previous Use Agreements for the GBP included comprehensive multiagency monitoring programs to ensure that environmental commitments were being met, selenium and salinity loads are not excessive, and allow problem areas to be identified. A detailed monitoring plan should be incorporated in to the new Use Agreement and Addendum.

3. The Addendum must provide a definition of a stormwater-driven event.

Appendix F (High Rainfall Exemption) of the January 2010 – December 2019 Agreement for Continued Use of the San Luis Drain (Agreement No. 10-WC-20-3975) on page 36 specifies the high rainfall conditions under which the Grassland area drainers would be given an exemption for their selenium discharges.

The Addendum evaluates continued use of the San Luis Drain at its current capacity (150 cfs) combined with the use of existing and new short-term storage basins to reduce storm-induced discharges to Mud Slough (North) in the San Luis National Wildlife Refuge and the California Fish and Wildlife Service China Island Refuge.

The same concept needs to be used for the proposed continued use of the Bypass for excess stormwater discharge. The Addendum and new Use Agreement must include well-defined limits on when discharges can be made through the Drain to ensure that selenium-laden water is only discharged into Mud Slough and the San Joaquin River when there is a high rainfall event and there is more runoff than can be handled by short-term storage basins and the enlarged reuse area.

4. The Addendum must set salinity load limits for the proposed stormwater discharge project.

The current 2010-2019 Use Agreement includes salinity load targets. These were intended to avoid a situation where actions taken by the drainers successfully removed selenium from the agricultural drainage but were less successful in removing salinity. Selenium goals could be met and still result in an increase in salinity concentrations and loads in the Bypass.

The Central Valley RWQCB adopted WDR that set salinity targets at Crows Landing in the San Joaquin below the Merced and at Vernalis. However, the intent of the existing 2010-2019 Use Agreement was to reduce and eventually eliminate the contribution of the Grassland area discharges to salinity in the San Joaquin River and Delta. Any “assimilative capacity” available under the RWQCB’s WDR should not be used as an opportunity to increase salinity discharges from the Grassland drainage area.

Contra Costa County comments on Addendum to the Final EIS/EIR for the Grassland Bypass Project

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At the very least, EC limits should be set for discharges from the Bypass that are equivalent to the proposed objective of 3 ppb Selenium (LTSWMP Initial Study, page 1-14) so that the discharge of salinity is also limited.

The Central Valley RWQCB recently adopted Salt and Nitrate amendments to the Basin Plan that allow upstream San Joaquin River salinity discharges at concentrations that are higher (1,600 and 2,200 $\mu\text{S}/\text{cm}$) than the State Water Resources Control Board's (SWRCB) south Delta agricultural water quality standards (1,000 $\mu\text{S}/\text{cm}$ and formerly 700 $\mu\text{S}/\text{cm}$ for April-August) and the recommended Secondary Maximum Contaminant Level (SMCL) for the protection of a municipal beneficial use of 900 $\mu\text{S}/\text{cm}$ (as an annual average).

On December 12, 2018, the SWRCB adopted Resolution No. 2018-0059 and relaxed the Water Rights Decision 1641 south Delta agriculture standard for April-August from 700 $\mu\text{S}/\text{cm}$ to 1,000 $\mu\text{S}/\text{cm}$. This allows degradation of water quality in the south Delta in direct conflict with the state Antidegradation Policy (SWRCB Resolution No. 68-16) and the federal Antidegradation Policy (40 C.F.R. §131.12), as well as California Water Code §85020(e) which states that:

The policy of the State of California is to achieve the following objectives that the Legislature declares are inherent in the coequal goals for management of the Delta: ...

*(e) **Improve water quality** to protect human health and the environment consistent with achieving water quality objectives in the Delta.*

The County requests that the Addendum and new Use Agreement establish specific seasonal and annual selenium, salinity and boron load and concentration goals for Mud Slough as part of the continued use of the Grassland Bypass rather relying the Central Valley RWQCB (through CV-SALTS) or the SWRCB to establish protective objectives for this area.

5. The Addendum must provide detailed modeling of the future changes in salinity and selenium in Mud Slough and downstream, and the corresponding loads, as a result of the proposed stormwater discharges.

The Initial Study appears to rely on the analysis in Section 2.10 (Hydrology and Water Quality) to determine that the proposed project will have a less-than-significant impact to Mud Slough, and, therefore, states that no new mitigation measures are required. However, the Initial Study appears to rely on historical data with no computer simulations, and assumed future impacts will be less than historical.

A simulation of the amount of excess stormwater remaining after filling the existing and new storage basins and releasing stormwater to the SJRIP when soils are not completely saturated should be completed. The discharge of excess stormwater from the Grassland area through the Bypass should also be modeled over a range of historical rainfall events. This would disclose more specifically whether there will be any adverse environmental effects on Mud Slough, the San Joaquin River and the Delta.

Contra Costa County comments on Addendum to the Final EIS/EIR for the Grassland Bypass Project

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Thank you for considering Contra Costa County's comments on the Draft EIS. County staff and consultants are available to answer any questions you may have and to provide further input on this project. Please contact me at (925) 674-7824.

Sincerely,



Ryan Hernandez, Manager
Contra Costa County Water Agency

cc: John Kopchik, Director Conservation and Development
Leah Orloff, Contra Costa Water District
Gary Bobker, The Bay Institute
Rachel Zwillinger, Defenders of Wildlife



September 13, 2019

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Jerry Brown

Subject: Long-Term Storm Water Management Plan for the Grassland Bypass Project 2020–2045

Dear Mr. McGahan:

Contra Costa Water District (CCWD) appreciates the opportunity to comment on the Draft Long-Term Storm Water Management Plan 2020–2045 – Addendum to the Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) for consideration of the Grassland Bypass Project (Draft Addendum) and the associated Initial Study. CCWD has engaged in the stakeholder process that negotiated the previous Agreements for Use of San Luis Drain for the Grassland Bypass Project between the Bureau of Reclamation and the San Luis & Delta Mendota Water Authority (Use Agreements) over the past several decades, and we look forward to continuing our good relationship with the Grassland Area Farmers as we work towards a sustainable storm water management plan.

First, we would like to applaud the Grassland Area Farmers for successfully implementing the Grassland Bypass Project over the past 30 years, which has kept selenium-rich drainage out of the adjacent wildlife area and reduced the discharged selenium load by 96% and salt load by 80%. The significant reduction in discharged contaminants and salt helps protect our precious shared water resources and downstream beneficial uses. The Grassland Bypass Project has proved to be a feasible in-valley solution for agricultural drainage issues and should be used as a model for the entire Central Valley as it is seeking sustainable valley-wide salinity alternatives.

The Final Addendum should include quantifiable constraints to ensure that the trend of selenium and salt discharge reduction is not reversed and loopholes are not created by storm water discharge permits. CCWD also would like to encourage continued efforts towards reaching the goal of “zero discharge” in both selenium and salt as new technologies become available. Addressing the following specific comments in the Final Addendum will ensure that it is adequate under the California Environmental Quality Act.

1. The impacts of storm water discharges with the proposed management plan should be quantified.

The remaining element of drainage management from the Grassland Area, that of storm water management, will be challenging. Due to the uncertainties associated with storm water events, the Initial Study for the Long-Term Storm Water Management Plan did not provide quantitative

Joseph C. McGahan, San Luis & Delta-Mendota Water Authority
Long-Term Storm Water Management Plan for the Grassland Bypass Project 2020–2045
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evaluation of discharges and water quality impacts with full implementation of the proposed mitigation measures. Instead, the Initial Study used historical data from 2015 to 2018 as a surrogate and assumed the actual impacts in the future would be less. CCWD agrees with the assessment that storm water events are inherently uncertain, but historical precipitation levels over a longer period should be used to estimate discharges in order to analyze likely impacts for a range of flows over different water year types.

2. A storm-driven event should be clearly defined.

The Addendum and the new agreement to use the San Luis Drain beyond 2019 (Storm Water Use Agreement) are only intended to address storm water discharge. The Draft Addendum should include a clear and quantifiable definition of a storm-driven event under which the San Luis Drain would be used. Without a clear definition, it is possible that storm water discharge permits could provide a loophole for discharging agricultural drainage and might create unintended environmental consequences.

3. Seasonal and annual load and concentration limits for selenium and salt should be specified.

The current Agreement for Continued Use of San Luis Drain (Use Agreement) clearly defines milestones to guide continuous reductions in selenium and salt discharges from the Grassland Area. In the Draft Addendum, seasonal and annual load and concentration limits, no greater than the limits for Year 2019 in the current Use Agreement, should be applied. These limits would also provide checkpoints for storm water management in the long term – if the limits are exceeded, the environmental impacts should be re-evaluated, and new actions to keep discharges within the limits should be explored.

4. Details of comprehensive monitoring plans should be added.

The current Use Agreement is implemented with a comprehensive water quality monitoring plan to ensure that the selenium and salt loads are not exceeded and a comprehensive biological monitoring plan to track of the contaminant levels in bird eggs in the area. These monitoring plans are key to measuring the progress of the Grassland Bypass Project and identifying effective drainage management actions and should continue to be implemented under the future Storm Water Use Agreement. Therefore, the Draft Addendum and Initial Study should also include details of comprehensive monitoring plans, as well as monitoring details for the new regulating reservoirs and the expanded reuse area if any.

5. The sustainability of the Reuse Area for the San Joaquin River Improvement Project should be evaluated more closely.

Figure 1 below shows the daily and monthly average salinity of the discharge from the Grassland Bypass Project as electrical conductivity (EC) values for 2000 to 2019. Since 2014, when the discharges to the San Luis Drain were reduced to storm water discharges only, the discharged salinity from the Grassland Area has increased. Although some freshening was observed after wet seasons, the overall salinity was higher post-2014 than pre-2014, when discharges occurred throughout the year. This indicates potential salt accumulation in the

Joseph C. McGahan, San Luis & Delta-Mendota Water Authority
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Reuse Area as the discharge flows decrease. If salt keeps accumulating, the discharged salt loads and impacts on downstream water quality could increase, even with the same or lesser discharge flows. It is also possible that salt accumulation in the Reuse Area would impact the continued use of the Grassland Area in the long term, which is key to success of the Grassland Bypass Project. These potential outcomes and impacts need to be more closely evaluated. If needed, more aggressive actions, such as land retirement and desalination, should be considered to achieve salt balance and to obtain sustainability of the Reuse Area without discharging more drainage into the San Luis Drain.

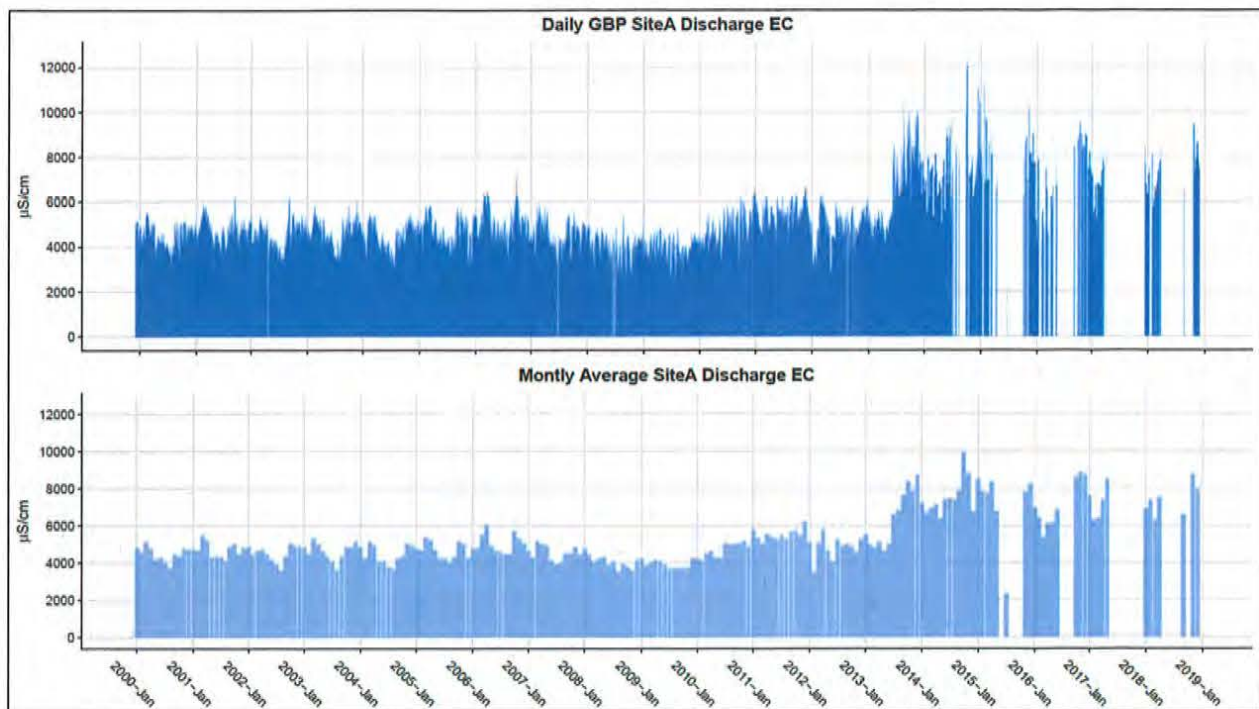


Figure 1 Electrical conductivity (EC) of discharges from Grassland Bypass Project (GBP) (2000 – 2019)

6. The Storm Water Use Agreement must be consistent with the Draft Addendum, and should also reflect the above comments.

It is our understanding that the Storm Water Use Agreement will be negotiated with, and a separate NEPA (National Environmental Policy Act) document prepared by, the Bureau of Reclamation later this year. CCWD appreciates being included in this stakeholder process. However, without the publication of a draft Storm Water Use Agreement, we are not able to review the details of the actual long-term storm water management plan at this time. The Storm Water Use Agreement must be consistent with the Draft Addendum, and both documents should also incorporate our comments in this letter.

Joseph C. McGahan, San Luis & Delta-Mendota Water Authority
Long-Term Storm Water Management Plan for the Grassland Bypass Project 2020–2045
September 13, 2019
Page 4

If you have any questions, please do not hesitate to get in touch with Lucinda Shih at (925) 688-8168 or lshih@ccwater.com, or with Yuan Liu at (925) 688-8282 or yliu@ccwater.com. We look forward to continuing to work with you on this important project.

Sincerely,



Leah Orloff
Water Resources Manager

LHS/YL:wec

cc: Ryan Hernandez, Contra Costa County
Gary Bobker, The Bay Institute
Rachel Zwillinger, Defenders of Wildlife

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September 13, 2019

VIA E-MAIL

Joseph C. McGahan, Drainage Coordinator
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635
jmcgahan@summerseng.com

Re: Addendum to EIS/EIR for Grassland Bypass Project, 2010-2019,
SCH No. 2007121110

Dear Mr. McGahan,

Grassland Water District and Grassland Resource Conservation District (collectively, GWD) submit these comments on the Addendum to the Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Grassland Bypass Project, prepared by the San Luis & Delta-Mendota Water Authority. The Addendum addresses the continued operation and management of the Grassland Bypass Project, including the operation and management of the San Luis Drain, and related improvements at the San Joaquin River Improvement Project, for the next 25 years.

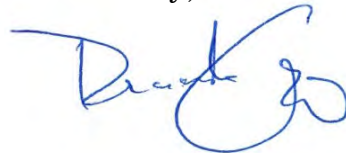
GWD is directly affected by the management of agricultural tail water and storm-induced flows that are contained and conveyed by the Grassland Bypass Project. The Project, as designed, has successfully diverted these flows around the sensitive wetlands within GWD and adjacent wildlife refuges, preventing the degradation of wetland habitat and the impermissible co-mingling of flows with higher-quality water that is delivered to wetlands under federal law.

We believe the Project is essential to the continued protection of wildlife and wildlife habitat in the Grassland Ecological Area, the importance of which is recognized under international treaties and federal law. Continued use of the San

Luis Drain is essential to manage and convey stormwater flows around these wetland habitats, and to prevent the ponding of stormwater on agricultural lands near the Grassland Ecological Area, which may cause an unwanted wildlife attraction. The implementation of short-term regulating basins will add needed flexibility to manage and prevent the introduction of flows into GWD's wetland water conveyance system. We appreciate the design considerations and proposed management of these basins that will prevent wildlife attraction and use.

Thank you for providing us the opportunity to submit these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ricardo Ortega", with a stylized flourish at the end.

Ricardo Ortega
General Manager



September 9, 2019

Joseph C. McGahan, Drainage Coordinator
 San Luis & Delta-Mendota Water Authority
 P.O. Box 2157
 Los Banos, CA 93635

Sue McConnell, PG
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Rain L. Emerson, M.S.
 Environmental Compliance Branch Chief
 Bureau of Reclamation, South-Central California Area Office
 1243 N Street, Fresno, CA 93721

Via Email

Re: Coalition Comments on Grassland Bypass Project Long-Term Storm Water Management Plan EIR Addendum and Initial Study--A Full EIR-EIS is Required.

Thank you for the opportunity to provide public input concerning the proposed Grasslands

Bypass Project Long-Term Storm Water Management Plan, 2020 – 2035 (GBP Stormwater Plan) as described in Notice of Availability (SCH No. 2007121110), draft Addendum to the 2009 GBP EIR/EIS and CEQA Initial Study.¹

The GBP began in 1995 as a two-year program, and its Federal use agreements for the San Luis Drain have been extended now through Three Use Agreements. All of these permits and environmental reviews and findings were predicated on zero discharge at the end of each period. First for 5 years, then 10 more and then 10 more. All that time--25 years--the polluted discharge was exempted from meeting protective water quality standards or only required to meet relaxed standards. Furthermore, over that 25 years the project steadily reduced both monitoring of the discharge and compliance with water quality standards. The Grassland Drainers under the GBP Storm Water Plan are now proposing a 4th Federal Use Agreement starting in January 2020. Enough is enough. Too much time has already passed without adequate progress on meeting water quality standards. Species are hanging by a thread and migratory bird deformities continue. If the 4th Federal Use Agreement is not approved by December 31, 2019, all discharges (including stormwater) into the San Luis Drain from the GBP are required to cease, and this is what should happen. The cessation of these selenium laden pollutants has been promised for the last 25 years and must stop. Further, providing an addendum rather than a full EIR/EIS to accurately inform decision makers does not comply with CEQA and NEPA requirements.

The First Use agreement² (1995) for the San Luis Drain authorized use of a 28-mile portion of the Drain by the San Luis Delta Mendota Water Authority (SLDMWA) to carry agricultural drainage water to Mud Slough. There was no stipulation to discharge stormwater. In fact, in a 1997 report titled, “A Storm Event Plan for Operating the Grassland Bypass Project”³ by the Grassland Area Farmers and the SLDMWA, several issues were identified regarding major storm events in the GBP including:

1. *Storm water runoff carries sediment that should not be transported in the Grassland Bypass, or deposited in the San Luis Drain;*
2. *It is not possible during major storm events to separate agricultural drainage water from surface runoff and storm water flows;*
3. *It will not be possible to divert all of the commingled surface runoff, storm water flows, and agricultural drainage water through the Grassland Bypass Channel during major storm events.*
4. *During some storm events, the instantaneous flow rate in Panoche Creek, which carries water from hills adjacent to the agricultural area can exceed 12,000 cubic feet per second, while the average daily flow rate during such events can exceed 2,000 cubic feet*

¹ Available at these links: http://sldmwa.org/grasslandbypass/NOA_CEQA_GBP%20Addendum%2008-14-19.pdf
<http://sldmwa.org/grasslandbypass/LTSWMP%20Initial%20Study%20080519.pdf>
<http://www.sldmwa.org/grasslandbypass/LTSWMP%20Addendum%20080519.pdf>

² See <http://calsport.org/news/wp-content/uploads/GBP-First-Use-Agreement-1995.pdf>

³ See pages 2-3: “A Storm Event Plan for Operating the Grassland Bypass Project” by the Grassland Area Farmers and the SLDMWA, 1997.

per second. These flows can generate more than 40,0000 acre-feet of water during a two-week period that includes a storm event.

Further, both the purpose of the project and use agreement confirm the use only for agricultural drainage. For example, the Grassland drainers stated explicitly in 1997, "*The Grassland Bypass Channel and the San Luis Drain were designed and constructed explicitly for the purpose of conveying agricultural drainage water. Neither facility can accommodate storm water flows nor surface runoff from major storm events.*"⁴ The 1995 First Use Agreement stated clearly, "*The AUTHORITY has requested that the UNITED STATES permit it to use a portion of the San Luis Drain consisting of approximately 28 miles from the terminus (Kesterson Reservoir) to Milepost 105.72, Check 19 (near Russell Avenue) for the discharge and transportation of a maximum flow of 150 cubic feet per second (cfs) of drainage water to Mud Slough (said portion hereinafter referred to as the Drain)*" highlight added.⁵ Finally the NEPA documents all stated the purpose of the project was for "*a field experiment designed to evaluate approaches to agricultural drainage management. There is no commitment, at this time, to approve long-term use of the Drain.*"⁶

These issues of permitting continued discharge of pollutants from the Federal San Luis Drain are significant and should not be handled by an Addendum to the 2009 GBP EIR/EIS that planned on zero discharge to the San Luis Drain after 2019.

We, the signatory organizations on these comments, recommend that the proposed 15-year extension to use the San Luis Drain to discharge stormwater into Mud Slough (North) and the San Joaquin River from Sack Dam to the Merced River be denied and that no permit or use agreement be granted. At a minimum a full Environmental Impact Report/Statement (EIR/EIS) must be completed. The CEQA addendum process being proposed would allow storm water and agricultural drain water laced with selenium (and other toxic drainwater constituents such as salt, sulfates, boron, and mercury) through the federal San Luis Drain to Mud Slough and the San Joaquin River and the Delta Estuary. Below, we detail our concerns in several areas and recommend what we believe is the only reliable and cost effective public solution--order the cessation of this polluted discharge and retire these drainage impaired lands as determined in federal study after study.⁷

⁴ Ibid. page 12.

⁵ Op. cit. First Use Agreement 1995 pages 1-2.

⁶ USBR,SLDMWA,EPA& USFWS letter to Karl Longly, CVRWQCB 11-3-95 pg 2 <http://calsport.org/news/wp-content/uploads/USBR-SLDMWA-EPA-USFWS-11-3-95-Ltr-to-CRWQCB.pdf> and Supplemental Environmental Assessment April 1991 and the FONSI dated October 18,1991.

⁷ The San Joaquin Valley Drainage Program (SJVDP) *A Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley*, also known as the "Rainbow Report" (September 1990) Also see USGS *Technical Analysis of In-Valley Drainage Management Strategies for the Western San Joaquin Valley, California* Open-File Report 2008-1210 By: Theresa S. Presser and Steven E. Schwarzbach

The CEQA/NEPA analysis in the 2009 GBP EIR/EIS does not support an “Addendum”

Under CEQA Guidelines section 15164, an Addendum presents changes to an EIR that are not significant enough to require a supplemental EIR. A supplemental EIR is required if, as defined in Section 15162(a)(1), (a) there have been substantial changes to the Project; (b) new significant environmental effects have been identified; or (c) there has been a substantial increase in the severity of previously identified significant effects. The GBP Stormwater Plan is a substantial change from the 2009 GBP EIR/EIS. In the 2009 EIR/EIS it was assumed that all drainage discharges into the San Luis Drain would cease by the end of 2019.

Under the proposed GBP Stormwater Plan selenium contaminated discharges would continue adding additional stormwater commingled with subsurface agricultural drainage into the San Luis Drain for an additional 15 years. This is a substantial change and should be analyzed in a full EIR/EIS. Further, there are numerous impacts that are significant and need to be disclosed, including: 1) cumulative impacts to downstream beneficial uses 2) the failure to meet protective water quality standards 3) impacts to endangered and listed species and 4) migratory bird impacts. All of these impacts warrant a full EIR/EIS analysis to adequately inform decision makers of the risks posed by continuing these discharges without proper permits and compliance with the Clean Water Act, including state and federal non-degradation policies.

The undersigned organizations, have a long-standing interest in the GBP because contaminants in agricultural drainage discharges have profound effects to the environment, including effects to downstream waterways, aquatic life, and migratory birds. We include our previous comments on the GBP EIR/EIS and Basin Plan Amendment by reference.⁸

<https://pubs.er.usgs.gov/publication/ofr20081210> Also see USBR Final Environmental Impact Statement in May 2006 and signed the Record of Decision (ROD) for the *San Luis Drainage Feature Re-evaluation EIS* in March 2007, selecting the “In-Valley/ Water Needs/ Land Retirement Alternative.”

⁸ Coalition comments of environmental, fishing and environmental justice organizations opposed U.S. EPA's proposed federal water quality criteria for selenium applicable to California. March 28, 2019.

<http://calsport.org/news/wp-content/uploads/PCL-et.-al-Cmt-Letter-EPA-Ca-Selenium-Criteria-Doc-No.-EPA-HQ-OW-2018-00....pdf>

Comments of the Pacific Coast Federation of Fishermen's Associations Requesting Denial of Proposed Waste Discharge Requirements for Surface Water Discharges from the Grassland Bypass Project, Stephan C. Volker, June 22, 2015

https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/wdrs_development_archive/2015may/2015_05_gbp_com_pcffa.pdf

Re: Land Retirement Benefits to Grasslands Bypass Project and Draft Waste Discharge Requirements, Coalition Letter to CVRWQCB Follow-up on Grasslands WDR, September 8, 2014

<http://calsport.org/news/wp-content/uploads/Coalition-response-letter-to-Longley-re-gbp-land-retirement.pdf>

Coalition Comments Re Draft Waste Discharge Requirements for the Grassland Bypass Project, June 30, 2014. <http://calsport.org/news/wp-content/uploads/Final-coalition-comments-on-Draft-GBP-WDR-6.30.14.pdf>

The proposed drainers' GBP Stormwater Plan effectively sanctions continued excessive pollution, especially during stormwater events, of Mud Slough (North), the San Joaquin River, and ultimately the Sacramento-San Joaquin Delta, by failing to enforce science-based protective water quality standards for selenium and allowing the continued contamination of these water bodies. Excess selenium in streams kills or deforms fish and other aquatic life and is a human-health concern in drinking-water supplies. Under the proposed Stormwater Plan, selenium (and other drainwater constituents, such as salt, sulfates, boron, and mercury) will continue to be discharged from the federally owned San Luis Drain directly into the waters of the state and nation. The failure to enforce protective selenium water quality objectives transfers pollution from these Grassland drainers through this federal drain to the waters of the state, harming beneficial uses of these waters for our members' commercial beneficial use, the domestic water supply, public health, and other public trust values. In addition, impacts of climate change which were not considered in previous environmental assessments in concert with implementation of the GBP Stormwater Plan must be disclosed in a full EIR/EIS review.

The GBP Drainers propose to continue to use the federally owned San Luis Drain from 2020 to 2035 to convey stormwater commingled with contaminated agricultural drainage water to the San Joaquin River via Mud Slough (North). The GBP Stormwater Plan includes a number of management actions and commitments that will not be sufficient to protect downstream beneficial uses..

Coalition Comments: Grasslands Bypass Project -- Violations of the Endangered Species Act and Reduced Monitoring Threaten Endangered Species and Public Health, November 27, 2013 <http://calsport.org/news/wp-content/uploads/2013/12/Coalition-Letter-on-GBP-ESA-Violations-Monitoring-Reductions-LTR.Corrected-.pdf>

Coalition Comments: Opposition to the Proposal to Curtail Monitoring at the Grassland Bypass Project. August 11, 2011 <http://calsport.org/news/wp-content/uploads/2011/09/Opposition-To-Grassland-Bypass-Monitoring-Reductions.pdf>

CSPA, CWIN and AquAlliance submit Comments to State Water Board Regarding Grassland Bypass Project and Basin Plan Amendment. September 22, 2010. <http://calsport.org/news/cspa-cwin-and-aqualliance-submit-comments-to-state-water-board-regarding-grassland-bypass-project-and-basin-plan-amendment/>

Sierra Club et. al. Comments: Grassland Bypass Project & San Joaquin River Selenium Basin Plan Amendments September 22, 2010. https://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/sjr_selenium/comments092210/jim_metropulos.pdf

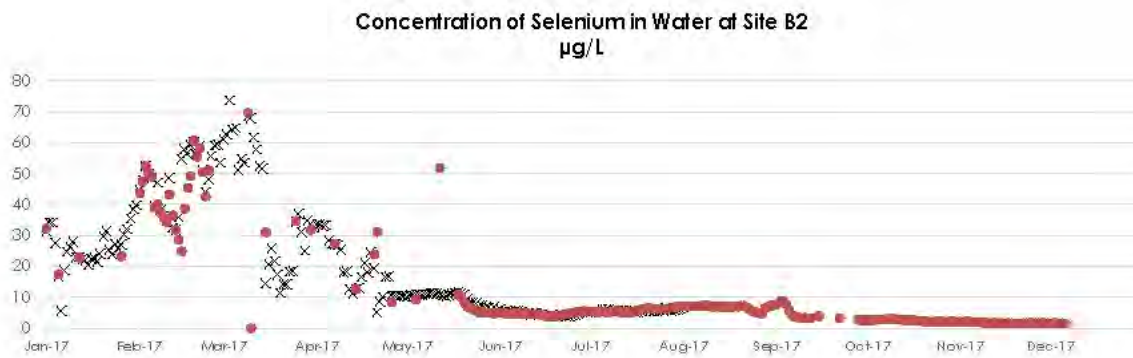
Comments of California Sportfishing Protection Alliance and California Water Impact Network on the draft environmental impact report for the Irrigated Lands Regulatory Program and related documents. Also attached are several comments prepared by three expert consultants September 27, 2010 <http://calsport.org/doc-library/pdfs/207.pdf>

Environmental Coalition Comments on Draft Staff Report for Grasslands Bypass Project Basin Plan Selenium Amendments to The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, April 26, 2010 https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/grasslands_bpa_coalition_ltr.pdf

A National Pollutant Discharge Elimination System (NPDES) permit must be required.

The US EPA and by delegation California State and Regional Boards have the authority to regulate agricultural drainage under the Clean Water Act (CWA), having comprehensive federal statutory authority for regulating pollutant discharges to the nation’s navigable waters. The term “pollutant” includes “agricultural waste discharged into water” and the term “navigable waters” encompasses the San Joaquin River, its principal tributaries, and arguably inflowing ditches and drains. Thus, discharges of agricultural drainage water to the San Joaquin River and its tributaries is subject to regulation under the CWA (Thomas and Leighton-Schwartz, 1990). The GBP Stormwater Plan should be required to obtain a NPDES permit to discharge pollution to navigable waters or to discharge commingled groundwater, surface water and agricultural drainage containing pollutants such as selenium, boron, salt, sulfate and mercury.⁹

Significant discharges of selenium-laden drainage and contaminated groundwater still is occurring from the GBP. For example, during the winter/spring of 2017, water quality monitoring data clearly show high selenium concentrations (e.g., 20-40 µg/L) associated with high flow conditions in water entering the San Luis Drain from the GBP. The figure below shows selenium concentrations at Site B2 in the San Luis Drain during 2017.



Although the San Luis Drain flow adds a relatively small percentage of flow to Mud Slough, it nevertheless substantially increased the selenium concentrations in Mud Slough in 2017 to unacceptably high levels of 5-10 µg/L. Dilution is not the solution to pollution—especially in the case of selenium, which bioaccumulates in the food chain and magnifies impacts on fish, wildlife, migratory birds and terrestrial species (Lemly and Skorupa, 2007; Skorupa 1998; USDI 1998).

⁹ <https://www.epa.gov/cwa-404/clean-water-act-section-402-national-pollutant-discharge-elimination-system>

Greater outflow of the San Joaquin River associated with CVP and SWP operations in the Delta could result in even further transport of selenium and sulfate from agricultural drainage discharges in the San Joaquin River and into the Delta (Lucas and Stewart 2007). Also, note the Lucas and Stewart (2007) discussion on seasonal trends of bivalve selenium concentrations in the North Delta and its relationship to the San Joaquin River, “*Several explanations for the temporal trends in bivalve Se concentrations (which did not exist in the 1980’s) are possible. One possibility is that refinery inputs of selenium have been replaced by San Joaquin River inputs. Models indicate that if SJR inflows to the Bay increase, as they may have in recent years with barrier management, particulate Se concentrations in the Bay could double, even with no increase in irrigation drainage inputs to the SJR. The fall increase in Se in C. amurensis also occurs during the time period when the ratio of SJR/Sac River inflow is highest. Further changes in water management could exacerbate these trends...*”.

Stormwater runoff from GBP and its upstream watershed can also contain elevated concentrations of mercury. Results from the CalFed Mercury study found elevated levels of mercury in fish from the lower San Joaquin River and Mud Slough (Davis et al. 2000; Slotton et al. 2000). A significant finding of the CalFed Mercury Study in the San Joaquin Basin was that Mud Slough contributes about 50% of the methylated mercury at Vernalis (legal boundary of the Delta), but only 10% of the water volume during the non-irrigation season (September to March) (Stephenson et. al., 2005).

Sulfate loading in the San Joaquin River from the GBP discharges in concert with Delta operations could result in downstream environmental impacts that should be considered in a full EIR/EIS. Sulfate reducing bacteria are the primary agents responsible for the methylation of mercury in aquatic ecosystems. Wood et al. (2006) found that sulfate concentrations are about seven times higher in the San Joaquin River than in the Sacramento River, and that addition of sulfate is predicted to stimulate methylmercury production when it is limiting. Two factors influencing sulfate concentrations in the Bay-Delta are the electrical conductivity (EC) and the ratio of San Joaquin River to Sacramento River water.

The 5 ppb Se water quality performance goal in Mud Slough and San Joaquin River upstream of Merced is not protective of downstream beneficial uses and public trust resources.

Pursuant to the Endangered Species Act (ESA) of 1973 (as amended), and prior to the USEPA promulgating water quality objectives (including selenium) for the State of California in the California Toxics Rule (CTR), the USEPA was required to consult with the US Fish and Wildlife Service and the National Marine Fisheries Service (Services) and obtain the Services’ concurrence that none of the proposed criteria would jeopardize any ESA-listed species. Upon that review, the Services found that the 5 µg/L chronic criterion for selenium proposed by USEPA in the CTR would likely jeopardize 15 ESA-listed species (Emphasis added). To avoid a final “Jeopardy Opinion” from the Services, and the associated legal ramifications, the USEPA agreed to reevaluate their CWA criteria guidance for selenium by 2002 (FWS and NMFS 2000).¹³

¹³ <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OW-2018-0056-0009&contentType=pdf>

To comply with the Service’s 2000 Biological Opinion on the CTR, USEPA in November 2018 proposed new water quality objectives for California (lentic and lotic water, and fish tissue) that would be protective of listed species: Federal Selenium Criteria for Aquatic Life and Aquatic-Dependent Wildlife Applicable to California Docket RIN, 2040-AF79 EPA-HQ-OW-2018-0056 FRL-9989-46-OW. The USEPA's proposed rule did not include waters within known selenium-contaminated geographical areas, including tributary flows into the San Francisco Bay Delta system such as, the San Joaquin River from Sack Dam to Vernalis, Mud Slough, Salt Slough, along with the water supply channels in the Grassland watershed, and the Grasslands Ecological Area in Fresno and Merced Counties. Instead, the USEPA proposed rule defers to existing State established water quality objectives for Mud Slough (North) and the San Joaquin River upstream of the Merced River of 5 µg/L 4-day average (as defined in the Regional Board’s June 2010 Basin Plan Amendment to address Selenium Control in the San Joaquin River Basin¹⁴).

Supporting documentation for this USEPA Docket for Selenium in California includes 2 reports by USFWS: Species at Risk from Selenium Exposure in California Inland Surface Waters, Enclosed Bays and Estuaries, for a list of species considered most at risk for selenium exposure in CA¹⁵ and Species at Risk from Selenium Exposure in the San Francisco Estuary¹⁶. The species identified at most risk for selenium exposure in the San Joaquin Valley and San Francisco Estuary were denoted as:

Mammals:	Buena Vista Lake Ornate Shrew;
Birds:	Bald Eagle, California Black Rail, California Clapper Rail, California Least Tern, Greater Scaup, Lesser Scaup, White-winged Scoter, Surf Scoter, Black Scoter;
Reptiles:	Giant Garter Snake;
Fish:	Chinook Salmon, Steelhead, Green Sturgeon, White Sturgeon, Delta Smelt, and Sacramento Splittail.

The proposed GBP Stormwater Plan is seeking to comply with the selenium water quality objectives specified in the 2010 Basin Plan Amendment (5 µg/L, 4-day average), but the proposal is lax, allowing for high spikes of selenium contaminants that will bio-accumulate throughout the ecosystem. The Stormwater plan includes mitigation measures that establish a Mud Slough (North) water quality “goal” of 3 µg/L Se, 4-day average. For every 3 months that meet this 3 µg/L performance goal, one exceedance of 5 µg/L 4-day average is allowed. These goals and objectives would likely result in harm to aquatic fish and wildlife as denoted in the Service’s 2000 Biological Opinion on the CTR. We recommend that State and Federal Fish and Wildlife agencies be consulted on the effects of implementation of the GBP Stormwater Plan and relaxed standards that are not protective of migratory birds and endangered anadromous fish populations.

¹⁴ https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/sac_sj_basins_salinity_staffrpt.pdf

¹⁵ <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OW-2018-0056-0144&contentType=pdf>

¹⁶ <https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OW-2018-0056-0265&contentType=pdf>

Our organizations have submitted several comment letters on protective selenium objectives in California.¹⁷ In March 2019, PCFFA and others provided comments to the USEPA on their proposed selenium criteria for California.¹⁸ We recommended that a chronic, legally binding selenium objective of no greater than 2 µg/L (4-day average) be included in the GBP Stormwater Plan for receiving waters of stormwater/drainage discharges. That comports with the recommendations of several experts that the criterion should be 2 µg/L or less (DuBowy 1989; Lemly and Skorupa 2007; Peterson and Nebeker 1992; Swift 2002). Exceeding the water criterion should trigger additional biological monitoring to determine if the tissue criteria for selenium proposed by USEPA has also been exceeded.

The Proposed and Existing Monitoring and Reporting Program for GBP are not sufficient to assess environmental impacts and protect beneficial uses.

The monitoring and reporting program that was revised by the Regional Board in 2015¹⁹ is inadequate to determine the level of pollution being discharged by the GBP and adjacent agricultural lands, and the harm it is causing to the environment. We have provided comments three times on the inadequacies of the Revised Monitoring and Reporting Program for the GBP. We hereby incorporate by reference our coalition letters of August 11, 2011, April 22, 2013, and November 26, 2013, and June 22, 2015. We also refer to comments submitted to the Regional Board by USFWS on the Revised Monitoring and Reporting Program for the GBP dated June 22, 2015 and June 25, 2015.²⁰ The USFWS recommended that the Regional Board reinstate weekly water quality monitoring for selenium at GBP Stations J, K, and L2 as exceedences of 2 µg/L are still occurring in those wetland channels, those channels are listed on the State's 303(d) list as impaired for selenium, and elevated selenium in those channels could be resulting in harm to federally listed species.

As part of Regional Board **ORDER R5-2015-0094**, Waste Discharge Requirements for the GBP (2015 WDR), sampling frequencies for Mud Slough, Grasslands wetland channels, and Salt Slough were reduced or completely eliminated. Stations A, B, C, I2, F, J, K, L/L2, M/M2, G and H have all been eliminated from required monitoring. We can see no technical justification or rationale for this reduction in monitoring for a project that has exceeded water quality objectives

¹⁷ <http://calsport.org/news/wp-content/uploads/EPA-Selenium-Cmt-LTR-Re-Docket-No.-EPA-HQ-OW-2004-0019.pdf> and <http://calsport.org/news/wp-content/uploads/Technical-Review-2004-EPAs-Draft-Tissue-Based-Selenium-Criterion.pdf>

¹⁸ Coalition comments of environmental, fishing and environmental justice organizations oppose U.S. EPA's proposed federal water quality criteria for selenium applicable to California. March 28, 2019. <http://calsport.org/news/wp-content/uploads/PCL-et.-al-Cmt-Letter-EPA-Ca-Selenium-Criteria-Doc-No.-EPA-HQ-OW-2018-00....pdf>

¹⁹ https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/fresno/r5-2015-0094.pdf

²⁰ https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/wdrs_development_archive/2015may/2015_05_gbp_com_usfws.pdf See this link for a copy of the USFWS letter to Ms. Margaret Wong Regional Water Quality Control Board, Central Valley Region: USFWS Comments on the May 2015 Draft Waste Discharge Requirements for the Surface Water Discharges from the Grassland Bypass Project and the Discharges to Groundwater from the Growers in the Grassland Drainage Area @ <http://calsport.org/news/wp-content/uploads/Exhibit-5.pdf>

and standards for more than 20 years. Significant spikes of selenium and other drain water pollutants are not being monitored under the existing monitoring and reporting requirements.

In addition, we specifically protested the change in the Hills Ferry monitoring site (Site H) to China Island (Site R). There is a comprehensive database with documented selenium water quality violations at Hills Ferry. Site R appears closer to the mouth of the Merced River than Site H, allowing for greater dilution and underrepresenting the contaminant threat in the San Joaquin River upstream of the Merced River.

We also opposed adoption of the monitoring and reporting program in the 2015 WDR and recommended a more robust monitoring plan similar to the 2001 GBP monitoring requirements. The reduction in monitoring frequency and locations will prevent the collection of necessary data sufficient to protect public trust values, endangered species and evaluate compliance with water quality standards. Here we reference and reiterate our previous comments and recommend a vigorous monitoring program that does not hide or understate the discharge of selenium and other toxins through stormwater discharges into Mud Slough and the San Joaquin River.

We further recommend that monitoring and reporting for total mercury and methyl-mercury concentrations in water and biotic tissue be required at all sampling locations of the GBP to establish a mass-balance of sources of mercury in this watershed.

The Stormwater Detention Basins - Another Kesterson in the Making - Effects to Wildlife Are Not Disclosed.

The proposed GBP Stormwater Plan includes use of an unspecified acreage of existing ponds and the addition of up to 200 acres of stormwater detention basins (regulating reservoirs) to store and regulate disposal or distribution of stormwater. How is such a basin different from an evaporation pond? Proposed use of regulating ponds to help control flow as a part of the engineered reuse system and ponding during flood events in the GBP area also may create a potential wildlife exposure risk similar to those originally realized at Kesterson National Wildlife Refuge (Presser and Ohlendorf, 1987). Ponding of stormwater and agricultural drainage will support an aquatic food chain and be attractive hazard to birds within a short period of time.

Selenium poses a hazard to fish and wildlife because of its toxicity at environmentally relevant concentrations and its tendency to accumulate in food chains (Skorupa, 1998). The San Joaquin Valley provides critically important habitat for wintering waterfowl of the Pacific Flyway. Eight to twelve million ducks and geese, along with hundreds of thousands of shorebirds and other marsh birds annually winter or pass through the valley. The history of the ecological impacts of disposal of selenium at Kesterson National Wildlife Refuge within the valley is well documented (e.g., Presser and Ohlendorf, 1987; SJVDP, 1990a, b). Additionally, from 1986 to 1993, the National Irrigation Water-Quality Program (NIWQP) of the U.S. Department of the Interior (USDOI) studied whether contamination was induced by irrigation drainage in 26 areas of the western United States. This program developed guidelines to interpret effects on biota of selenium (USDOI, 1998). These guidelines, along with revisions based on more recent studies and modeling, can be used to interpret and guide management and mitigation of the risk of

selenium in food chains and wildlife.²¹ The GBP reuse areas present opportunities for wildlife use and selenium exposure. Proposed use of regulating ponds to help control flow as a part of the engineered reuse system and ponding during stormwater events in the GBP area also may create a potential wildlife exposure risk similar to those originally realized at Kesterson National Wildlife Refuge²² (Presser and Ohlendorf, 1987).

The GBP has been monitoring and reporting annual bird use from April thru June at the SJRIP drainage reuse area since 2008. Many of those reports are posted on the SFEI website, however, no reports have been posted since the 2015 report. We note that additional reports were made available during the public comment period at this website.²³

The 2017 wildlife monitoring report for the GBP drainage reuse area (SJRIP) documented 50 avian species were observed at the drainage reuse area between April 13 and June 21, 2017. Eighteen species either were observed nesting or were suspected of nesting, including Swainson's hawk, a species listed by the State of California as a threatened. Twelve of the species observed—spotted sandpiper, least sandpiper, whimbrel, western wood-peewee, willow flycatcher, American pipit, savannah sparrow, White-crowned sparrow, common yellowthroat, yellow warbler, Wilson's warbler, and western tanager—were present only as spring Migrants.²⁴

The draft Addendum notes that the filling of these stormwater detention basins will begin with the first significant storm (typically December), and basins will be emptied by May. So, the potential is that stormwater commingled with drainage water will be stored in basins for up to 6 months! If these basins will hold water longer than 30 days, a state water permit is required (CCR, Title 23, Sec, 657-658). As described in Skorupa et al (2004), low winter temperatures substantively increase the toxicity of dietary selenium to birds, fish, and mammals. And the SJRIP wildlife monitoring reports do document use of the drainage reuse area by a large number of avian species (50 in 2017), including twelve species that are spring migrants. We recommend, therefore, that effects of disposal of selenium in the SJRIP and stormwater detention basins consider the effects of winter stress to birds in an EIR/EIS analysis.

Expansion of the SJRIP Drainage Reuse Area--An Unpermitted Selenium Disposal Site Masquerading as a Treatment Facility.

The GBP Stormwater Plan Addendum includes a proposed expansion of the existing drainage reuse area from 6,100 acres analyzed in the 2009 EIR/EIS to 7,550 acres of reuse area and increase in acreage of 1,450 acres. A significant environmental concern at the SJRIP is ponding of seleniferous drainage water within the fields of the reuse area. The addendum includes mention of a contingency plan in the event of inadvertent flooding, but only a reference to the

²¹ <https://pubs.usgs.gov/pp/p1646/>

²² <https://pubs.usgs.gov/of/2008/1210/>

²³ <http://www.summerseng.com/grasslandbypassproject.htm>

²⁴ <https://drive.google.com/file/d/1mudCtShFmoQ-RW0YJaVF2-oia2TIXqn5/view>

plan is included in the Addendum. It should be noted that bird use could increase in the vicinity of the SJRIP with the addition of drainwater detention basins.

Further, the 2017 SJRIP Wildlife Monitoring Report noted that the mitigation site for the SJRIP, which was supposed to provide compensation for avian exposure at the SJRIP, documented extremely elevated selenium concentrations in some bird eggs collected there. This suggests that the mitigation site is not providing compensation benefit for the SJRIP and also highlights the breadth of selenium contamination and wildlife exposure in this area.²⁵

Table 5. Selenium Concentrations in Recurvirostrid Eggs from the Mitigation Site in 2017

ID Number	Field Number ¹	Date	Embryo ²		Embryo Age (days)	Selenium (ppm, dry wt) ³	Log	
			Condition	Status			Base 10	Anti-Log
Black-Necked Stilt								
PM-01	MS-01	June 9	U	U	1	3.74	0.5729	
PM-02	MS-02	June 9	L	N	13	4.52	0.6551	
PM-03	MS-03	June 9	U	U	1	5.54	0.7435	
American Avocet								
PM-04	MA-01	June 9	L	N	9	51.1	1.7081	
PM-05	MA-02	June 9	U	U	1	8.7	0.9395	
Arithmetic/geometric mean						14.7	0.9238	8.4
Standard deviation						20.4	0.4591	2.9
Standard error							0.2053	1.6
Lower limit of 95% confidence interval							0.5214	3.3
Upper limit of 95% confidence interval							1.3263	21.2

¹ See Appendix H.

² L = live; N = normal; U = unknown.

³ ppm, dry wt = parts per million dry weight.

Treatment Methods Have Not Operated Effectively.

The 2009 EIR/EIS for the GBP included treatment as a significant component of the plan to reduce selenium in discharges to the San Luis Drain. What is the status of the treatment plant? The 2009 GBP EIR/EIS included a bio-treatment plant to reduce the selenium load being discharged, and to achieve the zero discharge of subsurface agricultural drainage after 2019. There is no mention of treatment in the GBP Stormwater Plan. More than thirty million dollars has been invested in a demonstration treatment plant that still is not functioning and where a federal audit found questionable expenditures.²⁶

²⁵ Ibid. page 20.

²⁶ <https://www.doioig.gov/reports/bureau-reclamation%E2%80%99s-cooperative-agreement-no-r16ac00087-panoche-drainage-district>

Long term viability and legality of GBP Drainers' Proposed Actions.

Given that the latest plan for adding the discharge polluted storm water is a 15-year program, it raises questions regarding the long-term viability of the actions proposed in the GBP Stormwater Plan. The 2009 EIR/EIS relied on unproven treatment technologies to treat and reduce the volume of drainage from the GBP that would need to be disposed of. These treatment technologies have yet to prove reliable or cost effective. Without treatment, how will drainage volumes and selenium loads be managed at the SJRIP? Can the SJRIP remain viable after 15 additional years of irrigation with selenium and salt-laden drainage? What is the life of the reuse area before too much salt accumulation prevents future agricultural use? Where is the selenium and salt that is accumulated in the SJRIP ultimately disposed of? All of these questions need to be evaluated in a full EIR/EIS. Dubbed a treatment area, the SJRIP is looking more and more like an unpermitted selenium and salt disposal facility.

Reuse of polluted drainage in the GBP's SJRIP drainage reuse area won't eliminate the loading of wastes. It is simply stockpiling wastes on land. The continued recycling of agricultural drainage will ultimately turn vast areas of the Central Valley into wastelands. The practice of drainage reuse is not sustainable and will inevitably lead to having to permanently fallow more and more land.

Land Retirement should be considered as a viable alternative.

Our organizations have previously submitted comments to the Regional Water Board about the success of land retirement in relation to the GBP's drainage volume load reductions.²⁷ The USBR's 2004 Broadview Water Contract Assignment Draft Environmental Assessment cites Summer's Engineering as predicting a load reduction of 17,000 tons of salt, 1,500 pounds of selenium, and 52,000 pounds of boron to the San Joaquin River each year from the cessation of irrigation on 9,200 acres of agricultural land in Broadview Water District as per Table 4-1 below (USBR 2004). This amounts to a per acre reduction of 0.28 AF of drainage, 1.85 tons of salt, 0.16 pounds of selenium and 5.65 pounds of boron.

²⁷ See Coalition letter to CVRWQCB on Selenium Basin Plan Amendment, April 26, 2010, p 15-16; http://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/grasslands_bpa_coalition_ltr.pdf and Coalition letter to Karl Longley on Land Retirement Benefits to Grasslands Bypass Project and Draft Waste Discharge Requirements: <http://calsport.org/news/wp-content/uploads/Coalition-response-letter-to-Longley-re-gbp-land-retirement.pdf>

**TABLE 4-1
DRAINAGE AND WATER QUALITY EFFECTS OF PROPOSED ACTION ON THE
SAN JOAQUIN RIVER**

	Existing Conditions	Under Proposed Action Conditions	Estimated Reduction Attributable to Proposed Action
BWD Drainage to San Joaquin River (afy)	3,700	1,100	2,600
BWD Estimated Salt Production (tons/yr)	24,300	7,300	17,000
BWD Estimated Selenium Production (lbs/yr)	2,140	640	1,500
BWD Estimated Boron Production (lbs/yr)	74,000	22,000	52,000

Source: Summers Engineering, 2003

Land retirement likely accounted for most of the reductions in selenium, and the majority of reductions in drainage volume, boron and salt claimed by the Grasslands Bypass Project in the 2009 EIR/EIS.

The US EPA, in a letter regarding the Bay Delta Conservation Plan,²⁸ strongly recommended the USBR’s Land Retirement Program be revived to save water and prevent further selenium contamination and impacts to endangered species (page 13):

Recommendations: *To mitigate for the project’s impacts to selenium levels in the estuary as a result of the BDCP operations, consider reviving and funding the Bureau of Reclamation’s Land Retirement Program¹⁷ to remove from cultivation and irrigation large areas of selenium laden lands on the West side of the San Joaquin Valley. This would save irrigation water, reduce discharges of selenium into the San Joaquin River basin, and advance attainment of selenium reduction targets¹⁸ set by EPA and the Central Valley Regional Water Quality Control Board. Evaluate the extent to which restoration of these “retired” lands to the native plant community could also contribute to the recovery of threatened and endangered plants and animals listed by FWS. Consider analyzing the cost/benefit of implementing treatment technologies vs. land retirement. Although cost/benefit analyses are not required under NEPA, such an analysis may be useful to decision makers and the public in this case.”*

Further, the USBR’s the San Luis Drainage Feature Re-Evaluation (SLDFRE) Final EIS in 2006 found that land retirement was the most cost-effective solution to managing drainage in the San Luis Unit. Three land alternatives were evaluated in the SLDFRE EIS, 306,000 acres, 194,000 acres and 100,000 acres respectively. The Final EIS found that the only environmentally and economically preferred alternative was to retire 306,000 acres (In-Valley/Drainage Impaired Area Land Retirement).²⁹ It’s clear from the NED findings in Table N-10 below that additional land retirement would provide increased net economic benefits.

²⁸ <http://calsport.org/news/wp-content/uploads/bay-delta-conservation-plan-deis.pdf>

²⁹ SLDFRE Final EIS, Appendix N, Table N-10, page N-17, accessed at https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=2240

**Table N-10
Benefit/Cost Summary
Changes Relative to the No Action Alternative (\$/year in 2050)**

Subarea	In-Valley Disposal	Out-of-Valley Disposal	In-Valley/ Groundwater Quality Land Retirement	In-Valley/ Water Needs Land Retirement	In-Valley/ Drainage-Impaired Area Land Retirement
Total NED Benefit	\$37,962,000	\$38,430,000	\$31,164,000	\$20,629,000	\$9,931,000
Total NED Cost	51,225,000	51,370,000	46,767,000	30,778,000	6,288,000
Net NED Benefit	-\$13,263,000	-\$12,940,000	-\$15,603,000	-\$10,149,000	\$3,643,000

Notes:

Values represent net NED benefits relative to No Action.

Values rounded to nearest \$1,000. Totals may not add due to rounding.

Moreover, the US Fish and Wildlife Service, in their Fish and Wildlife Coordination Act Report (FWCAR) for SLDFRE, recommended that all of the northerly area within the San Luis Unit (GBP Drainage Area) be retired as well,³⁰ but USBR did not consider that alternative. The Service concluded on page 67 of the FWCAR, *“To avoid and minimize risks and effects to fish and wildlife resources in the San Joaquin Valley and Pacific Flyway, the Service recommends land retirement on all drainage impaired lands in the SLU. This approach would maximize the elimination of drainage at its source, and therefore avoidance of adverse fish and wildlife effects.”*

By ignoring permanent land retirement, the GBP Stormwater Plan Addendum will continue to kick the can down the road and concentrate and store salt, selenium, boron and other toxic substances in the shallow aquifers of the Grasslands area. This creates an ongoing risk of toxic selenium discharges to wetland water supply channels, Mud Slough, the San Joaquin River and the Bay-Delta estuary, especially in wetter years.

Conclusion

We urge all polluted discharges of agricultural drainwater and stormwater cease as required under the current federal Use Agreement and Water Board WDR. We recommend land retirement and curtailing the importation of additional water supplies that mobilizes these contaminants on the west side of the Southern San Joaquin Valley. Despite repeated promises, no viable treatment has been developed in the more than two decades of myriad attempts. Before proceeding to load even more contaminants on downstream beneficial uses, we recommend no new use agreement be granted and before any further discharges of either stormwater, agricultural drainage or contaminated groundwater are permitted, that a full EIS/EIR be completed. Before the proposed drainers' GBP Stormwater Plan is considered, a complete environmental analysis is needed. The EIS/EIR should include:

³⁰ SLDFRE Final EIS, Appendix M, USFWS FWCAR accessed at https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=2236

- A National Pollutant Discharge System Permit prior to any additional use of the federal San Luis drain for discharge of contaminants from the west side into the San Joaquin River and Delta Estuary;
- A comprehensive cumulative effects analysis of stormwater and drainage disposal into Mud Slough and the San Joaquin River and Delta Estuary;
- A chronic, legally binding selenium objective of no greater than 2 µg/L (4-day average) is established for receiving waters of stormwater/drainage discharges;
- No exceedance of the 2 µg/L selenium water criterion which if exceeded should trigger all discharges to cease and additional biological monitoring to determine if the tissue criteria for selenium proposed by USEPA in November 2018 has also been exceeded;
- An analysis of effects of disposal of selenium in the SJRIP and stormwater detention basins to wildlife including factors such as winter stress;
- A description of the status and viability of drainage treatment at the SJRIP;
- A description and evaluation of the long-term viability of drainage disposal strategies at the SJRIP and describe where is the salt, selenium and other contaminants that accumulate are ultimately disposed. This should not become an unregulated dumping ground for west side contaminants.

Finally, Congress in its authorization of the San Luis Unit in 1960, never envisioned use of the San Luis Drain for stormwater discharge. As stated Congress provided a under specified conditions including approval by the State of California³¹ for “...*provision for constructing the San Luis interceptor drain to the Delta designed to meet the drainage requirements of the San Luis unit...*”, *Senate Report No 154, page 2, San Luis Unit, Central Valley Project, California, April 8, 1959.*³² This brings into question whether the "Drain" can be legally used for storm water discharge without Congressional approval.

The use of the federal San Luis Drain for stormwater also raises consistency questions with existing State Board orders. The California State Water Resources Control Board (SWRCB), following the Kesterson debacle, issued its Order WQ 85-1 in February 1985. The SWRCB found that agricultural drainage and wastewater reaching Kesterson Reservoir “is creating and threatening to create conditions of pollution and nuisance” (Emphasis added). The Order then warned “If the Bureau closes Kesterson Reservoir and continues to supply irrigation water to Westlands Water District without implementing an adequate disposal option, continued irrigation in the affected area of Westlands Water District could constitute an unreasonable use of water”

³¹ See PL86-488 San Luis Act June 3, 1960: Proviso: (2) *received satisfactory assurance from the State of California that it will make provision for a master drainage outlet and disposal channel for the San Joaquin Valley,which will adequately serve, by connection therewith, the drainage system for the San Luis unit or has made provision for constructing the San Luis interceptor drain to the delta designed to meet the drainage requirements of the San Luis unit as generally outlined in the report of the Department of the Interior, entitled "San Luis Unit, Central Valley Project," dated December 17, 1956.* The State of California has not made such a provision and Congress never consider the use of the drain for stormwater.

³² See H. Rpt 399...<http://calsport.org/news/wp-content/uploads/Exhibit-3.pdf>
S. Rpt 154...<http://calsport.org/news/wp-content/uploads/Exhibit-4.pdf>

(Emphasis added). We urge the project proponents and State and Federal permitting agencies to not repeat the mistakes made at Kesterson Reservoir in the 1980's. The continued irrigation of these toxic soils constitutes an unreasonable use of water and continued and future disposal of agricultural drainage in ponds, land, and in surface waters will cause significant harm to public trust resources and violates non-degradation policies.

Thank you for your consideration,



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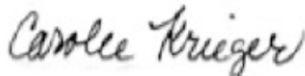
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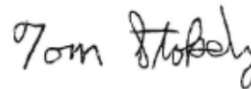
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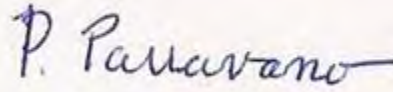
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September 13, 2019

via U.S. Mail and email

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Re: Comments of Pacific Coast Federation of Fishermen’s Associations, California Sportfishing Protection Alliance, Friends of the River, San Francisco Crab Boat Owners Association, Inc., Institute for Fisheries Resources, and Felix Smith on the Addendum to the Final Environmental Impact Statement / Environmental Impact Report for the Grassland Bypass Project, 2010-2019, SCH No. 2007121110

Dear Mr. McGahan:

We submit the following comments on the San Luis & Delta Mendota Water Authority’s (“SLDMWA’s”) Addendum to the Final Environmental Impact Statement / Environmental Impact Report for the Grassland Bypass Project (“Addendum”) on behalf of Pacific Coast Federation of Fishermen’s Associations, California Sportfishing Protection Alliance, Friends of the River, San Francisco Crab Boat Owners Association, Inc., Institute for Fisheries Resources, and Felix Smith (collectively, “PCFFA”).

Since 1995, the Grassland Bypass Project (“GBP”) has conveyed water contaminated with pollutants, including selenium, through the San Luis Drain (“Drain”) to Mud Slough, a water of the United States. After the original five-year term, use of the GBP was extended through 2009, and again through 2019. And now, despite being made fully aware of the detrimental consequences of the GBP’s discharge of pollutants, SLDMWA proposes to extend the term of the Drain Use Agreement once again. But any extension must be denied because the negative impacts to the environment from the GBP’s unlawful discharge of pollutants to Mud Slough and the San Joaquin River are unacceptable.

As you are aware, the Drain’s discharge of pollutants into Mud Slough, a water of the United States, without a National Pollutant Discharge Elimination System (“NPDES”) permit

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violates the Clean Water Act, 33 U.S.C. section 1251, et seq. (“CWA”). Any extension of the GBP Use Agreement would be in furtherance of that CWA violation. Therefore SLDMWA is barred by law from seeking an extension of the Use Agreement. Instead, it must apply for the NPDES permit that is required for the Drain’s discharge of pollutants.

Additionally, SLDMWA and its co-operator the U.S. Bureau of Reclamation must complete a Subsequent Environmental Impact Report (“SEIR”) and Supplemental Environmental Impact Statement (“SEIS”) to comply with the California Environmental Quality Act, Public Resources Code section 21000 et seq. (“CEQA”) and the National Environmental Policy Act, 42 U.S.C. section 4321 et seq. (“NEPA”).¹ Under CEQA Guidelines section 15162, a subsequent EIR must be prepared when:

- “(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR . . . due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR . . . due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, . . . shows any of the following:
 - The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.”

14 C.C.R. (“CEQA Guidelines”) § 15162(a).

¹ United States Fish and Wildlife Service must also comply with NEPA in evaluating whether to approve the modifications contemplated by the Addendum. Initial Study 1-1.

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Similarly under NEPA, an SEIS is required wherever “[t]he agency makes substantial changes in the proposed action that are relevant to environmental concerns; or [t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.” 40 C.F.R. § 1502.9(c). And where, as is the case here, an EIS is “more than 5 years old,” it should be “carefully re-examined” to determine if a supplement is required. 46 Fed.Reg. 18026 (Mar. 23, 1981), as amended 51 Fed.Reg. 15618 (Apr. 25, 1986), Question 32. “[I]f there remains ‘major Federal actio[n]’ to occur, and if the new information is sufficient to show that the remaining action will ‘affect the quality of the human environment’ in a significant manner or to a significant extent not already considered, a Supplemental EIS *must* be prepared.” *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989), quoting from 42 U.S.C. § 4332(2)(C) (emphasis added).

Both the test under CEQA for an SEIR, and the test under NEPA for an SEIS, are easily met here. The GBP has significant adverse impacts due to its discharge of substantial quantities of selenium and other pollutants whose cumulative effects are severe and growing – and unstudied. Contrary to the Addendum’s claim that “the prior CEQA analyses retain their relevance,” the evidence in the Addendum shows otherwise. The project proposed in the Addendum makes substantial changes to the GBP that were *not* previously considered and that substantially *increase* the impacts evaluated in the 2009 FEIS/FEIR. Therefore, SLDMWA’s reliance on an addendum – rather than a Subsequent EIR and a Supplemental EIS – fails to provide decisionmakers and the public with the information needed to make an accurate and informed decision, in violation of CEQA and NEPA.

I. SLDMWA MUST NOT GRANT A USE AGREEMENT EXTENSION WITHOUT FIRST OBTAINING AN NPDES PERMIT

By allowing an extension of the GBP Use Agreement, SLDMWA is authorizing the continued discharge of pollutants, including selenium, from the Drain into Mud Slough, a water of the United States. SLDMWA has admitted that the Drain, a point source under the CWA, discharges pollutants into waters of the United States. That discharge requires an NPDES permit under the CWA. SLDMWA cannot lawfully authorize the continuance of this ongoing violation of the CWA. Therefore the extension should be denied in its entirety. SLDMWA’s attempted end-run around this legal mandate – by claiming that the Drain is exempt from the CWA NPDES permit requirement – was forcefully rejected by the Ninth Circuit in its recent ruling, *PCFFA v. Glaser*, ___ F.3d ___, 2019 WL 4230097 (Sept. 6, 2019), Slip Op. at 8-19.²

On September 6, 2019, the Ninth Circuit ruled that PCFFA’s lawsuit challenging SLDMWA’s and the Bureau of Reclamation’s failure to secure an NPDES permit for the GBP as required by the CWA was wrongfully dismissed by the district court. The Ninth Circuit held that

² The Ninth Circuit’s Slip Opinion in *PCFFA v. Glaser* is attached as Exhibit 1.

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“Congress intended for discharges that include return flows from activities unrelated to crop production to be excluded from the statutory exception, thus requiring an NPDES permit for such discharges.” *PCFFA v. Glaser*, Slip Op. at 15. The wastewaters discharged through the GBP, and specifically through the Drain, are comingled and include both agricultural return flows and non-agriculture wastewater. Therefore, an NPDES permit is required for operation of the Drain.

The Court correctly ruled that “the defendant carries the burden to demonstrate the applicability of a statutory exception to the CWA” and that neither SLDMWA nor Reclamation had presented such evidence. *Id.*, at 10. Indeed, they could not carry that burden because there is overwhelming evidence to the contrary that the flows through the Drain are not composed “entirely” of irrigated agricultural return flows. As PCFFA properly alleged, “discharges from highways, residences, seepage into the [Drain] from adjacent [unfarmed] lands, and sediments from within the [Drain]” comingle with the irrigated agriculture return flows. *Id.*, at 17. Because the polluted waters that discharge from the Drain are comingled flows, the Drain cannot lawfully operate without an NPDES permit. Therefore, SLDMWA cannot authorize an extension of the GBP Use Agreement unless and until such a permit has been lawfully obtained.

II. Extension of the Use Agreement Will Cause New Significant Environmental Effects and Will Substantially Increase the Severity of Previously Identified Effects Necessitating Preparation of an SEIR/SEIS.

The Addendum studies the impacts of the Long-Term Storm Water Management Program (“LTSWMP”). If approved, the LTSWMP will add approximately 200 acres of “storage basins,” expand the Project’s reuse area and otherwise modify the operation of the Project. These changes will have significant impacts that require preparation of an SEIR and SEIS. SLDMWA’s contrary claims are meritless.

A. Surface Water, Groundwater, and Soils

The Addendum states that the LTSWMP’s use of 200 acres of storage basins to collect storm water for subsequent release will not significantly impact water quality. Addendum 3-4. The Addendum claims that, by impounding storm flows, and metering their release onto the reuse area, contaminated discharges would be reduced or avoided. *Id.* This assertion is based on the assumption that storm water that would be collected in these storage basins from December to May would not discharge pollutants such as selenium, boron, salt, and molybdenum to Mud Slough and thence the San Joaquin River. Addendum 3-3. That premise is false. An NPDES permit is therefore required for any such discharge. Unless and until an NPDES permit is secured, this project may not proceed further.

In an attempt to reduce the contaminated groundwater in these discharges, the LTSWMP calls for wastewater sumps to be turned off “prior to and during wet weather flows.” *Id.* But as the impounded storm water collects in these storage basins, it will interact with the already

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impaired groundwater and soils underlying and surrounding the basins, and collect and mobilize these contaminants. Hence, the impounded wastewater will simply create additional saturated soils, ponds of contaminated water, and polluted run-off, all of which will continue to enter the Drain through seepage, and ultimately discharge into Mud Slough.

Further, the approximately 180,000 cubic yards – so far – of contaminated sediment SLDMWA claims it has removed from the Drain will leach additional contaminants back into the system. Much of this sediment was apparently relocated – but never treated – to old drains, and placed in other parts of the reuse area. Water will continue to infiltrate this contaminated sediment, and remobilize these contaminants – including high levels of selenium and other pollutants – into the water table, and the San Luis Drain.

The LTSWMP would also expand the size of the reuse area. The Addendum states that the expansion is necessary because the existing reuse area cannot successfully manage the seleniferous water without dangerous ponding. Addendum 1-11. In other words, the reuse area was unable to serve the purpose for which it was designed. Instead of reevaluating the wisdom of the system, SLDMWA is doubling-down on the Project by expanding its size. But the SLDMWA did not perform any new modeling of the water quality impacts associated with the LTSWMP, including impacts resulting from the increase in the size of the reuse area or the use of these storage basins. Addendum 3-11. By relying on out-of-date modeling that does not accurately reflect the LTSWMP's impacts or the conditions at the reuse area, SLDMWA has precluded informed decisionmaking and therefore failed to comply with CEQA and NEPA. Under CEQA Guidelines section 15162 and 40 C.F.R. section 1502.9(c), these new and substantially increased impacts must be thoroughly studied in an SEIR/SEIS.

B. Biology

The changes contemplated in the Addendum will substantially increase the severity of previously identified biological impacts and cause significant new biological impacts that were not considered in the 2009 FEIS/FEIR. For example, the Addendum proposes “to accumulate storm water in the [storage basins in the GDA] as needed to reduce peak flows during high rainfall events . . . for subsequent release of the storm water through the Drain or to the reuse area.” Addendum 2-3. As the Addendum acknowledges, use of storage basins in the GDA has the potential to expose waterfowl to water with elevated selenium levels if the basins cannot promptly be drained. Addendum 2-3. But nothing in the Addendum, 2009 FEIS/FEIR, or the Initial Study indicates that the basins will be promptly drained, or that these impacts will be otherwise mitigated to insignificance.

The Addendum claims that “[w]ater in the basins would be distributed to the SJRIP to meet irrigation demand as soon as practical,” but “as soon as practical” does not ensure that the basins will be “promptly drained” to protect wildlife. Addendum 2-3. In fact, SLDMWA will only deviate from its primary goal of distributing the water “as soon as practical” “[i]n rare cases

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... to prevent evapo-concentration if there is not sufficient reuse capacity to drain the basins.” Addendum 2-3 to 2-4. The only guarantee the Addendum provides is that the basins would be emptied by late May. Addendum 2-4. Aside from a late May deadline, the Addendum fails to provide any guidelines or criteria for when the basins will be drained, nor does it even consider what actions and facilities would be needed to promptly drain the basins to protect wildlife.

The Addendum and Initial Study argue that mitigation measures designed to limit impacts of irrigation ditches in the 2009 FEIS/FEIR will help “avoid impacts to wildlife” from these storage basins, but the mitigations proposed are probably – if not demonstrably – ineffective and have their own impacts that must be considered in an SEIR/SEIS. Addendum 2-3; Initial Study 2-14 to 2-16. The 2009 FEIS/FEIR proposed mitigations to make irrigation ditches less attractive and to haze birds to limit nesting and foraging in those irrigation ditches. Addendum 3-6. The majority of the measures designed to make irrigation ditches less attractive are inapplicable to the storage basins, both because the physical structures are different and because the storage basins already exist, limiting the potential to incorporate mitigations. And hazing has significant impacts because it displaces wildlife from its foraging, breeding and nesting habitat. Those impacts must be examined in an SEIR/SEIS. CEQA Guidelines § 15162(a); 40 C.F.R. § 1502.9(c). In any event, hazing would be ineffective because it relies on observation to determine when it is necessary – a self-defeating requirement since these storage basins will not be monitored 24 hours a day, 7 days a week.

Furthermore, the project includes a 1,450-acre expansion of the existing reuse facility – the SJRIP – to 7,550 acres. The 2009 FEIS/FEIR analyzed a 6,100 acre reuse facility, and the proposed expansion “is an additional 650 acres over the maximum size anticipated in the 2009 Final EIS/EIR.” Addendum 2-5; 2009 FEIS/FEIR 2-2. While the “additional acreage would be managed in the same manner as the existing acreage with the same biological monitoring requirements established by the U.S. Fish and Wildlife Service (USFWS) in their Biological Opinion,” that does not negate the significant new and increased impacts that this substantial change will have on the surrounding environment. Addendum 2-5; CEQA Guidelines § 15162(a); 40 C.F.R. § 1502.9(c). As the Addendum admits, “[t]he primary environmental concern is an increased potential for ponding of seleniferous water within the fields of the SJRIP, which could be an attractive nuisance to wildlife, particularly birds.” Addendum 2-5.

Indeed, in “2003, a pasture at the existing reuse area site attracted waterfowl when it was inadvertently flooded. This flooded area created ideal ecological conditions for shorebird foraging and nesting and thus, a number of pairs responded opportunistically and bred in the field. *Recurvirostrid eggs collected near the pasture had highly elevated [selenium] concentrations.*” Addendum 3-6 to 3-7 (emphasis added). But the Addendum dismisses this concern, claiming that “other impacts would be created if the area is not enlarged to handle agricultural drainage.” Addendum 2-5. But deliberating exposing waterfowl to these poisonous waters is a crime under the takings prohibition of the Migratory Bird Treaty Act, 16 U.S.C. section 703. An SEIR/SEIS is needed both to assess the Project’s impacts on wildlife, and also

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to determine what these “other” undisclosed impacts may be and to allow the public and decisionmakers to weigh them and make an informed decision.

The Addendum and Initial Study again rely on ineffective mitigation measures from the 2009 FEIS/FEIR in an ill-advised attempt to reduce these new significant and substantially increased impacts. Supposedly, “[m]itigation contained in the Grassland Bypass Project Final EIS/EIR for the existing reuse facility would apply to this area also. This mitigation includes a contingency plan in the event of inadvertent flooding in the reuse area due to breakage of a water supply canal or delivery facility.” Addendum 2-5; Initial Study 1-11. But this one-page contingency plan is vague and fails to provide any enforceable guidelines. The plan, if it can even be called that, recommends that “ponded water . . . be eliminated through the discharge of the water into a tail-water return system *or* by pumping the water into one of the supply channels in the project *or* a tail-water return system” within 24 hours. Initial Study, Appendix D, D-2 (emphasis added). But nothing in this contingency plan explains when or how to utilize any of the options presented. Nor does the plan enforce the 24-hour ponding elimination requirement. Instead, the contingency plan defers mitigation for ponding that occurs for more than 24 hours, stating that “an event-specific monitoring plan will be developed to monitor the impacts on bird species resulting from exposure to ponded water.” Initial Study, Appendix D, D-2. In other words, make it up as you go. That approach is the exact opposite of the searching examination and public review of a project’s impacts *before project approval* that CEQA and NEPA demand.

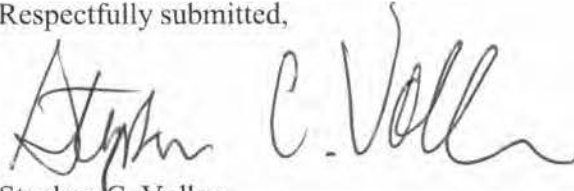
While acknowledging that the SJRIP field will be increased in size, that field flooding has occurred, and that the flooded field created “ideal ecological conditions for shorebird foraging and nesting, and thus, a number of pairs responded opportunistically and bred in the [contaminated] field,” the Addendum simultaneously dismisses this concern. Instead, SLDMWA claims that a vague and unenforceable mitigation measure that was never analyzed with regard to a reuse area of this size is sufficient. But it is not. An SEIR/SEIS is required to analyze the impacts of the proposed project. CEQA Guidelines § 15162; 40 C.F.R. § 1502.9(c).

For the foregoing reasons, particularly the Ninth Circuit’s recent ruling requiring an NPDES permit for commingled discharges of pollutants into a water of the United States, any extension of the GBP Use Agreement should be denied. SLDMWA must prepare an SEIR/SEIS to consider the impacts of the proposed Project, including the impacts to surface water, groundwater, soil, and biology. SLDMWA’s reliance on an Addendum to support this highly impactful extension violates the CWA, CEQA and NEPA.

Please make these comments part of the public record in this proceeding.

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Respectfully submitted,

A handwritten signature in black ink that reads "Stephan C. Volker". The signature is written in a cursive style with a large, prominent "S" and "V".

Stephan C. Volker

Attorney for Pacific Coast Federation of Fishermen's
Associations, California Sportfishing Protection Alliance,
Friends of the River, San Francisco Crab Boat Owners
Association, Inc., Institute for Fisheries Resources, and
Felix Smith

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Enclosures

LIST OF EXHIBITS

1. *Pacific Coast Federation of Fisherman's Associations, et al. v. Glaser, et al.*, Ninth Circuit Case No. 17-17130, September 6, 2019 (for publication)

EXHIBIT 1

FOR PUBLICATION

**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

PACIFIC COAST FEDERATION OF
FISHERMEN’S ASSOCIATIONS;
CALIFORNIA SPORTFISHING
PROTECTION ALLIANCE; FRIENDS OF
THE RIVER; SAN FRANCISCO CRAB
BOAT OWNERS ASSOCIATION, INC.;
THE INSTITUTE FOR FISHERIES
RESOURCES; FELIX SMITH,
Plaintiffs-Appellants,

v.

DONALD R. GLASER, Regional
Director of the U.S. Bureau of
Reclamation; UNITED STATES
BUREAU OF RECLAMATION; SAN LUIS
& DELTA MENDOTA WATER
AUTHORITY,
Defendants-Appellees.

No. 17-17130

D.C. No.
2:11-cv-02980-
KJM-CKD

OPINION

Appeal from the United States District Court
for the Eastern District of California
Kimberly J. Mueller, District Judge, Presiding

Argued and Submitted June 10, 2019
San Francisco, California

Filed September 6, 2019

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P.C.F.F.A. v. GLASER

Before: MARY M. SCHROEDER and MILAN D. SMITH, JR., Circuit Judges, and DOUGLAS L. RAYES,* District Judge.

Opinion by Judge Milan D. Smith, Jr.

SUMMARY**

Clean Water Act

The panel reversed the district court's judgment in an action alleging that the drainage system managed by the U.S. Bureau of Reclamation and the San Luis & Delta Mendota Water Authority discharged pollutants into surrounding waters in violation of the Clean Water Act, 33 U.S.C. §§ 1251–1387.

The Central Valley Project is a federal water management project. The Grasslands Bypass Project, jointly administered by the defendants, is a tile drainage system that consists of a network of perforated drain laterals underlying farmlands in California's Central Valley that catch irrigated water and direct it to surrounding waters.

The Clean Water Act generally requires that government agencies obtain a National Pollutant Discharge Elimination System permit before discharging pollutants from any point

* The Honorable Douglas L. Rayes, United States District Judge for the District of Arizona, sitting by designation.

** This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

source into navigable waters of the United States. There is an exception to that permitting requirement “for discharges composed entirely of return flows from irrigated agriculture.” 33 U.S.C. § 1342(l)(1).

The panel held that the district court properly interpreted “discharges . . . from irrigated agriculture,” as used in § 1342(l)(1), to mean discharges from activities related to crop production. The panel held that the district court ought to have begun its analysis with the statutory text, but its reliance on legislative history to construe this portion of the statute was not erroneous. The panel further held, however, that the district court erred by interpreting “entirely” to mean “majority,” and by placing the burden on plaintiffs to demonstrate that the discharges were not covered under § 1342(l)(1), rather than placing the burden on defendants to demonstrate that the discharges were covered under § 1342(l)(1). The panel concluded that the district court’s erroneous interpretation of the word “entirely” was the but-for cause of the dismissal of plaintiffs’ Vega claim (concerning groundwater discharges from lands underlying a solar product), and the panel therefore reversed the district court’s dismissal of that claim. The panel further concluded that the district court’s dismissal of plaintiffs’ other claims was also erroneous, reversed the dismissal of those claims, and remanded for the district court to reconsider them under the correct interpretation of § 1342(l)(1).

The panel held that the district court erred by striking plaintiffs’ seepage and sediment theories of liability from plaintiffs’ motion for summary judgment because the first amended complaint encompassed those claims.

COUNSEL

Stephan C. Volker (argued), Alexis E. Krieg, Stephanie L. Clarke, and Jamey M.B. Volker, Law Offices of Stephan C. Volker, Berkeley, California, for Plaintiffs-Appellants.

Brian C. Toth (argued) and Martin F. McDermott, Attorneys; Eric Grant, Deputy Assistant Attorney General; Jeffrey H. Wood, Acting Assistant Attorney General; United States Department of Justice, Environment & Natural Resources Division, Washington, D.C.; Amy L. Aufdenberge, Office of the Solicitor, Department of the Interior, Washington, D.C., for Defendants-Appellees Donald R. Glaser and United States Bureau of Reclamation. Eric J. Buescher (argued), and Joseph W. Cotchett, Cotchett Pitre & McCarthy LLP, Burlingame, California; Diane V. Rathmann, Linneman Law LLP, Dos Palos, California; for Defendant-Appellee San Luis & Delta Mendota Water Authority.

OPINION

M. SMITH, Circuit Judge:

California's Central Valley features some of the most fertile agricultural land in the United States, but it typically receives less rainfall than necessary to cultivate the crops grown in the Valley. To help address this problem, the federal government has constructed and managed several irrigation and drainage projects.

Plaintiffs, a group of commercial fishermen, recreationists, biologists, and conservation organizations, sued Defendants Donald Glaser, the United States Bureau of

Reclamation, and the San Luis & Delta Mendota Water Authority, alleging that the drainage system managed by Defendants discharges pollutants into surrounding waters, in violation of the Clean Water Act (CWA), 33 U.S.C. §§ 1251–1387. Plaintiffs appeal several rulings by the district court in favor of Defendants that ultimately led to the stipulated dismissal of Plaintiffs’ single claim remaining for trial. We reverse and remand.

FACTUAL AND PROCEDURAL BACKGROUND

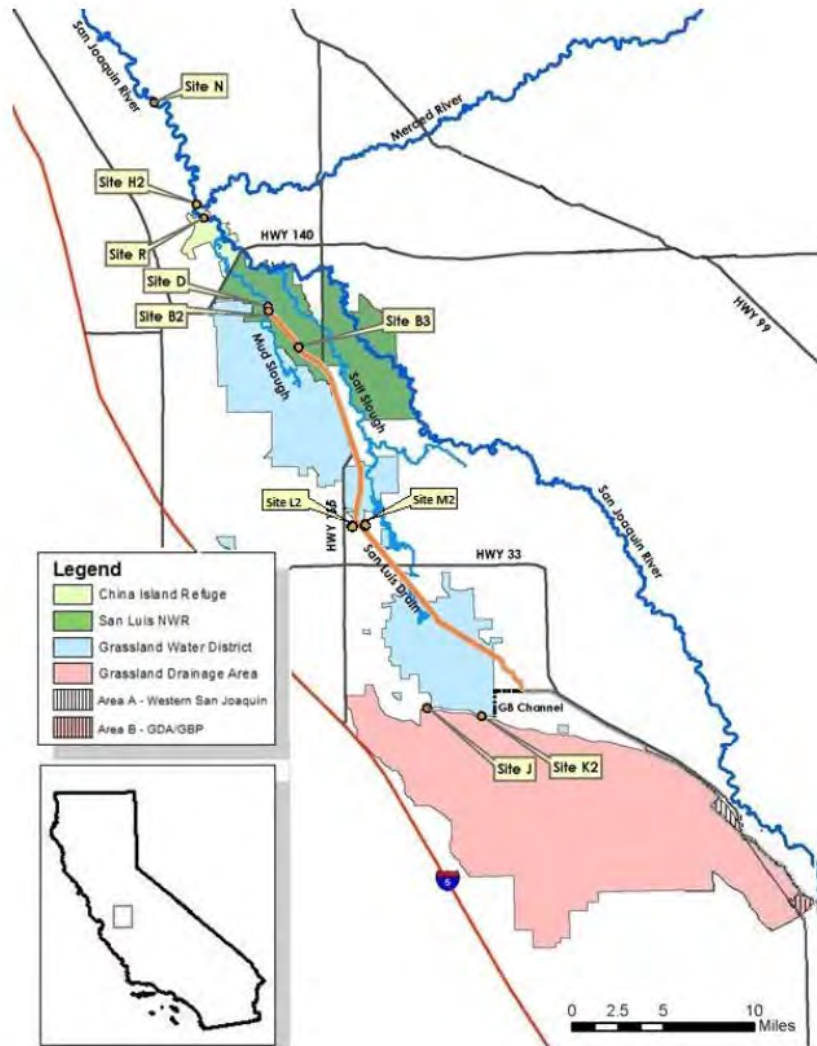
A. Factual Background

As “the largest federal water management project in the United States,” the Central Valley Project (CVP) “provides the water that is essential to [the California Central Valley’s] unparalleled productivity.” *Cent. Delta Water Agency v. United States*, 306 F.3d 938, 943 (9th Cir. 2002). Among other functions, the CVP “transfer[s] water from the Sacramento River to water-deficient areas in the San Joaquin Valley and from the San Joaquin River to the southern regions of the Central Valley.” *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 594 (9th Cir. 2014).

“Any water project that brings fresh water to an agricultural area must take the salty water remaining after the crops have been irrigated away from the service area.” *Firebaugh Canal Co. v. United States*, 203 F.3d 568, 571 (9th Cir. 2000). Otherwise, irrigating the selenium and salt-rich soils causes pollutants to leach into groundwater. The Grasslands Bypass Project (the Project), jointly administered by Defendants, was created for this purpose. The Project is “a tile drainage system that consists of a network of perforated drain laterals underlying farmlands in California’s Central Valley that catch irrigated water and

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direct it to” surrounding waters. The map below depicts the Project’s location:



The Project includes the San Luis Drain (the Drain), labeled on the map above, which is designed to collect and convey contaminated groundwater from lands adjacent to and upstream of the Drain to Mud Slough. As both parties acknowledge, the Drain discharges substantial quantities of selenium and other pollutants into the Mud Slough, the San Joaquin River, and the Bay-Delta Estuary.

B. Procedural Background

Plaintiffs filed their initial complaint in November 2011, alleging that Defendants violated the CWA by discharging pollutants into the waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit, in violation of 33 U.S.C. § 1311(a). After the district court granted Defendants' motion to dismiss with leave to amend, Plaintiffs filed their First Amended Complaint (FAC).

Defendants then moved to dismiss the FAC. The court granted the motion as to all but one of Plaintiffs' claims. It determined that Plaintiffs had plausibly alleged facts "that, when accepted as true, suggest [that] at least some amount of the Project's discharges may be unrelated to crop production."

The parties then filed cross-motions for summary judgment. The court denied Plaintiffs' motion for summary judgment and granted in part Defendants' motion for summary judgment. The court held that three of Plaintiffs' theories of liability in their motion for summary judgment—arguments about discharges from "seepage into the [Drain] from adjacent lands, and sediments from within the [Drain]"—did not arise from the allegations in their FAC. Accordingly, the court struck those three theories of liability. The court also determined, however, that there was a

genuine dispute of material fact as to whether groundwater discharges from lands underlying a solar product violated the CWA (the Vega Claim). It therefore denied Defendants' motion for summary judgment as to that claim.

Plaintiffs moved to file a second amended complaint. The court denied that motion. The court also denied Plaintiffs' motion to reconsider its order ruling on the cross-motions for summary judgment. The parties then stipulated to the dismissal of Plaintiffs' lone remaining claim "because the discharges from the Vega Solar Project property do not make up a majority of discharges from the [Project]." The district court entered judgment for Defendants.

JURISDICTION AND STANDARD OF REVIEW

We have jurisdiction pursuant to 28 U.S.C. § 1291. We review *de novo* the district court's grant of summary judgment. *Nat. Res. Def. Council, Inc. v. County of Los Angeles*, 725 F.3d 1194, 1203 (9th Cir. 2013). We also review *de novo* "the district court's interpretation of the CWA and its implementing regulations." *Olympic Forrest Coal. v. Coast Seafoods Co.*, 884 F.3d 901, 905 (9th Cir. 2018).

ANALYSIS

I. The District Court's Interpretation of § 1342(l)(1)

The CWA generally requires that government agencies obtain an NPDES permit before discharging pollutants from any point source into navigable waters of the United States.¹

¹ The CWA defines "point source" as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock,

33 U.S.C. § 1323(a). There is an exception to that permitting requirement, however, “for discharges composed entirely of return flows from irrigated agriculture” *Id.* § 1342(l)(1).

The parties do not disagree that the Mud Slough, the San Joaquin River, and the Bay-Delta Estuary constitute navigable waters of the United States. They also do not dispute that the Drain “discharges substantial quantities of selenium and other pollutants.” At issue then is whether the Drain’s discharges required Defendants to obtain an NPDES permit, or whether the discharges were exempt from the permitting requirement pursuant to § 1342(l)(1).

Plaintiffs argue that the district court committed three errors in its interpretation of § 1342(l)(1). First, they contend that the district court erred by placing the burden of proving that the Drain’s discharges were not exempt on Plaintiffs instead of requiring that Defendants prove that the Drain’s discharges were exempt. Second, they argue that the court erred in interpreting what constitutes “discharges . . . from irrigated agriculture” when it held that all discharges from the Drain are exempted so long as they are not generated by activities unrelated to crop production. Third, they assert that the district court erred by interpreting the word “entirely” as meaning most. We address each argument in turn.

A. Burden of Proving the Statutory Exception

In its pretrial order, the district court stated that Plaintiffs bore the burden of demonstrating that the discharges at issue

concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” 33 U.S.C. § 1362(14).

were not exempt from the CWA’s permitting requirement pursuant to § 1342(l)(1). Plaintiffs argue that such an interpretation of the statute was erroneous because the burden was on Defendants to prove that the discharges at issue were covered by § 1342(l)(1).

We agree. To establish a violation of the CWA, “a plaintiff must prove that defendants (1) discharged, i.e., added (2) a pollutant (3) to navigable waters (4) from (5) a point source.” *Comm. to Save Mokelumne River v. E. Bay Mun. Util. Dist.*, 13 F.3d 305, 308 (9th Cir. 1993). After a plaintiff establishes those elements, however, the defendant carries the burden to demonstrate the applicability of a statutory exception to the CWA. *See N. Cal. River Watch v. City of Healdsburg*, 496 F.3d 993, 1001 (9th Cir. 2007). Because § 1342(l)(1) contains an exception to the CWA’s permitting requirement, Defendants had the burden of establishing that the Project’s discharges were “composed entirely of return flows from irrigated agriculture.”

B. Interpretation of “Irrigated Agriculture”

The district court construed § 1342(l)(1) as exempting discharges that are related to crop production from the CWA’s permitting requirement. The parties agree that, by focusing on the statute’s legislative history *ab initio*, rather than commencing its analysis with the text, the district court’s interpretive method was flawed.

“It is well settled that ‘the starting point for interpreting a statute is the language of the statute itself.’” *Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc.*, 484 U.S. 49, 56 (1987) (quoting *Consumer Prod. Safety Comm’n v. GTE Sylvania, Inc.*, 447 U.S. 102, 108 (1980)). Section 1342(l)(1) states that

“[t]he Administrator shall not require a permit under this section for discharges . . . from irrigated agriculture.” 33 U.S.C. § 1342(l)(1). Here, rather than starting its analysis with the text, the district court focused first on the Senate Committee Report accompanying the CWA to hold that the relevant statutory text—“discharges . . . from irrigated agriculture”—meant discharges that “do not contain additional discharges from activities unrelated to crop production.”

Although we agree that the district court ought to have begun its analysis with the statutory text, its reliance on legislative history to construe this portion of the statute was not erroneous. “It is a fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.” *Davis v. Michigan Dep’t. of Treasury*, 489 U.S. 803, 809 (1989). “The purpose of statutory construction is to discern the intent of Congress in enacting a particular statute.” *Robinson v. United States*, 586 F.3d 683, 686 (9th Cir. 2009) (quoting *United States v. Daas*, 198 F.3d 1167, 1174 (9th Cir. 1999)).

Section 1342(l)(1) does not define “irrigated agriculture.” In determining the plain meaning of a word, we may consult dictionary definitions in an attempt to capture the common contemporary understandings of a word. *See Transwestern Pipeline Co., LLC v. 17.19 Acres of Prop. Located in Maricopa Cnty.*, 627 F.3d 1268, 1270 (9th Cir. 2010). The definition of agriculture—“the science or art of cultivating the soil, harvesting crops, and raising livestock,” *Webster’s Third New International Dictionary* 44 (2002)—shows that the term has a broad meaning that

encompasses crop production. The “ordinary, contemporary, and common meaning” of agriculture likewise supports a broad interpretation of the term. *United States v. Iverson*, 162 F.3d 1015, 1022 (9th Cir. 1998).

Although the plain meaning of the statutory text demonstrates that agriculture has a broad meaning, it does not resolve whether the discharges at issue here are exempt from the CWA’s permitting requirement.² As a result, “we may [also] use canons of construction, legislative history, and the statute’s overall purpose to illuminate Congress’s intent” in enacting § 1342(l)(1). *Ileto v. Glock, Inc.*, 565 F.3d 1126, 1133 (9th Cir. 2009) (quoting *Jonah R. v. Carmona*, 446 F.3d 1000, 1005 (9th Cir. 2006)).

In this instance, we begin by considering the legislative history of § 1342(l)(1). In its original form, the CWA did not contain any exceptions to its permitting requirement. *See Nw. Env’tl. Def. Ctr. v. Brown*, 640 F.3d 1063, 1072 (9th Cir. 2011), *rev’d and remanded sub nom. Decker v. Nw. Env’tl. Def. Ctr.*, 568 U.S. 597 (2013). Five years after its enactment, however, Congress amended the CWA to include an exception for discharges composed entirely of return flows from irrigated agriculture. *Id.* at 1073. “Congress did so to alleviate EPA’s burden in having to issue permits for every agricultural point source.” *Id.* By passing § 1342(l)(1), Congress sought “to limit the exception to only those flows which do not contain additional discharges from activities unrelated to crop production.” S. Rep. No. 95-370, 35 (1977), *as reprinted in* 1977 U.S.C.C.A.N. 4326, 4360.

² One issue disputed by the parties, for example, is whether discharges from fallow and retired lands fall under § 1342(l)(1). The plain meaning of the statutory text does not definitively answer that question.

This history supports the district court’s interpretation of “irrigated agriculture” as used in § 1342(l)(1).

The statute’s legislative history also reveals that Congress passed § 1342(l)(1) to treat equally under the CWA’s permitting requirement farmers relying on irrigation and those relying on rainfall. *See* 123 Cong. Rec. 39,210 (Dec. 15, 1977) (statement of Sen. Wallop: “This amendment corrects what has been a discrimination against irrigated agriculture. . . . Farmers in areas of the country which were blessed with adequate rainfall were not subject to permit requirements on their rainwater run-off, which in effect . . . contained the same pollutants.”); 123 Cong. Rec. 26,702 (Aug. 4, 1977) (statement of Sen. Stafford: “This amendment promotes equity of treatment among farmers who depend on rainfall to irrigate their crops and those who depend on surface irrigation which is returned to a stream in discreet conveyances.”). Indeed, one legislator said that an NPDES permit would not be required for “a vast irrigation basin that collects all of the waste resident of irrigation water in the Central Valley and places it in [the San Luis Drain] and transport[s] it . . . [to] the San Joaquin River.” *Brown*, 640 F.3d at 1072. This history supports the view that Congress intended for “irrigated agriculture,” as used in § 1342(l)(1), to be defined broadly and include discharges from all activities related to crop production.

Plaintiffs argue that such an interpretation of the statutory exception is erroneous because it would exempt fallow and retired lands from the CWA’s permitting requirement. That result, however, complies with our prior case law addressing the Project. We have ordered Defendants, in separate litigation, to provide drainage “to lands receiving water through the San Luis Unit.” *Firebaugh Canal Co.*, 203 F.3d at 572. The retirement of

farmlands was a component of that drainage plan. *Firebaugh Canal Water Dist. v. United States*, 712 F.3d 1296, 1300 (E.D. Cal. 2013). To hold that drainage from retired lands does not fall under the CWA’s statutory exception for discharges from irrigated agriculture would lead to contradictory and illogical results. *Cf. United States v. Fiorillo*, 186 F.3d 1136, 1153 (9th Cir. 1999). We decline to require Defendants to provide a drainage plan that includes the retirement of farmland, on the one hand, and hold that those activities violate the CWA absent a permit, on the other.

For these reasons, § 1342(l)(1)’s statutory text, as well as its context, its legislative history, and our prior case law on the Project, demonstrate that Congress intended to define the term “irrigated agriculture” broadly. Accordingly, we hold that the district court’s interpretation of the phrase was accurate.

C. Interpretation of “Entirely”

We next address Plaintiffs’ contention—which Defendants do not dispute—that the district court erred by holding that § 1342(l)(1) exempts discharges from the CWA’s permitting requirement unless a “majority of the total commingled discharge” is unrelated to crop production. They argue that such an interpretation of the statutory text was mistaken because the text states that the exception applies to “discharges composed *entirely* of return flows from irrigated agriculture.” 33 U.S.C. § 1342(l)(1).

We agree that the district court’s majority rule interpretation misconstrued the meaning of “entirely,” as used in § 1342(l)(1). Although “entirely” is not defined by the statute, we begin by considering its “ordinary, contemporary, common meaning.” *Iverson*, 162 F.3d

at 1022. “Entirely” is defined as “wholly, completely, fully.” *Webster’s Third New International Dictionary* 758 (2002). That definition differs significantly from “majority,” the meaning that the district court gave the term.

The district court rejected a literal interpretation of “entirely” because it reasoned that it “would lead to an absurd result.” We disagree. “Claims of exemption, from the jurisdiction or permitting requirements, of the CWA’s broad pollution prevention mandate must be narrowly construed to achieve the purposes of the CWA.” *N. Cal. River Watch*, 496 F.3d at 1001. Given the many activities related to crop production that fall under the definition of “irrigated agriculture,” Congress’s use of “entirely” to limit the scope of the statutory exception thus makes perfect sense. The text demonstrates that Congress intended for discharges that include return flows from activities unrelated to crop production to be excluded from the statutory exception, thus requiring an NPDES permit for such discharges.

D. Effect of Errors on Plaintiffs’ Claims

Having determined that the district court erred by placing the burden of demonstrating eligibility for the exception on Plaintiffs, rather than on Defendants, and by misinterpreting “entirely,” as used in § 1342(l)(1), we next consider the effect of those errors on Plaintiffs’ claims. Defendants argue that the district court’s errors were harmless because “the record contains no evidence of *any* discharge of pollutants unrelated to agricultural flows.”

We begin with Plaintiffs’ Vega Claim. The district court denied Defendants’ motion for summary judgment as to that claim because it determined that “Plaintiffs [] have provided sufficient evidence to raise an inference that discharges

underneath the Vega Project originate from the solar project itself, as opposed to [from] other nearby agricultural lands.” Plaintiffs stipulated to the dismissal of that claim because they were “unlikely to succeed [in demonstrating that] the discharges from the [Vega Claim] do not make up a majority of discharges from the [Project].” The district court’s interpretation of the word “entirely” to mean “majority”—which both parties now concede was erroneous—was thus the but-for cause of the dismissal of Plaintiffs’ Vega Claim. It is reasonable to believe that Plaintiffs would have proceeded to trial under the correct interpretation of § 1342(1)(1), which requires Defendants to prove that the discharges were composed entirely of return flows from irrigated agriculture. We therefore reverse the district court’s dismissal of that claim.

The district court’s dismissal of Plaintiffs’ other claims was also erroneous. In its order ruling on the parties’ cross-motions for summary judgment, the district court determined that, apart from the Vega Claim, Plaintiffs had failed to “provide any evidence” to show that discharges stemmed from activities unrelated to crop production. Because the burden of demonstrating the applicability of § 1342(1)(1) should have been on Defendants, rather than on Plaintiffs, however, Plaintiffs were not required to present any evidence. Instead, Defendants ought to have been required to demonstrate that the discharges at issue were composed entirely of return flows from irrigated agriculture. Accordingly, the lack of evidence demonstrating that the discharges stemmed from activities unrelated to crop production should not have been fatal to Plaintiffs. *Cf. Gilbrook v. City of Westminster*, 177 F.3d 839, 871 (9th Cir. 1999) (“Such an inference from lack of evidence would amount to no more than speculation.”). We therefore reverse the district court’s dismissal of Plaintiffs’ other claims and

remand for the district court to reconsider them under the correct interpretation of § 1342(l)(1).

II. The District Court’s Striking of Plaintiffs’ Claims

Plaintiffs argue that the district court also erred by striking their theories of liability “based on discharges from highways, residences, seepage into the [Drain] from adjacent lands, and sediments from within the [Drain]” from Plaintiffs’ motion for summary judgment. The court held that those claims were not encompassed by Plaintiffs’ FAC.

“Rule 8’s liberal notice pleading standard . . . requires that the allegations in the complaint ‘give the defendant fair notice of what the plaintiff’s claim is and the grounds upon which it rests.’” *Pickern v. Pier 1 Imports (U.S.), Inc.*, 457 F.3d 963, 968 (9th Cir. 2006) (quoting *Swierkiewicz v. Sorema N.A.*, 534 U.S. 506, 512 (2002)). “A party need not plead specific legal theories in the complaint, so long as the other side receives notice as to what is at issue in the case.” *Am. Timber & Trading Co. v. First Nat’l Bank of Oregon*, 690 F.2d 781, 786 (9th Cir. 1982). But if a “the complaint does not include the necessary factual allegations to state a claim, raising such claim in a summary judgment motion is insufficient to present the claim to the district court.” *Navajo Nation v. U.S. Forest Serv.*, 535 F.3d 1058, 1080 (9th Cir. 2008).

Here, Plaintiffs’ FAC alleged that the Drain discharged “polluted groundwater . . . originating from parcels where no farming occurs because, for instance, these parcels have been fallowed or retired from agricultural use.” The theories of liability struck by the district court argued that Defendants violated the CWA because the Drain picked up seepage from non-irrigated land on its way to the Mud Slough, and

because the Drain discharged pollutants from seepage and sediment within the Drain.

Although we agree with Defendants that Plaintiffs' complaint did not specifically allege their seepage and sediment theories of liability, we reject the contention that Defendants had not been given fair notice of those theories. Plaintiffs' essential allegation was that the Drain's discharges violated the CWA because of where the contaminants in the discharges originated from—"for instance, [] parcels [that] have been fallowed or retired from agricultural use." Plaintiffs' seepage and sediment claims, which alleged that contaminants from "highways, residences, seepage . . . and sediment" commingled with other discharges and thereby violated the CWA, alleged that contaminants originated from other locations, too. Those allegations were thus encompassed by the allegations in the FAC. Indeed, at oral argument, Defendants conceded that they "received [Plaintiffs'] expert witness reports," "were on notice as to what their expert was talking about," and "had enough information to respond" to the seepage and sediment theories of liability discussed in Plaintiffs' expert witness reports. These facts, when taken together, compel the conclusion that Plaintiffs' FAC provided Defendants with fair notice of their seepage and sediment theories of liability. Accordingly, we reverse the district court's striking of Plaintiffs' seepage and sediment claims from their motion for summary judgment.³

³ The district court held, in the alternative, that Plaintiffs' seepage and sediment claims were "unsupported by evidence." Because we hold that the district court erred in its interpretation of § 1342(l)(1), however, we remand Plaintiffs' seepage and sediment claims for the district court to determine whether they survive summary judgment under the correct interpretation of the statutory exemption.

CONCLUSION

The district court properly interpreted “discharges . . . from irrigated agriculture,” as used in § 1342(1)(1), to mean discharges from activities related to crop production. It erred, however, by interpreting “entirely” to mean “majority,” and by placing the burden on Plaintiffs to demonstrate that the discharges were not covered under § 1342(1)(1), rather than placing the burden on Defendants to demonstrate that the discharges were covered under § 1342(1)(1). The district court also erred by striking Plaintiffs’ seepage and sediment theories of liability from Plaintiffs’ motion for summary judgment because the FAC encompassed those claims.

REVERSED and REMANDED.



September 13, 2019

Joseph C. McGahan, Drainage Coordinator
San Luis & Delta-Mendota Water Authority
P.O. Box 2157
Los Banos, CA 93635
By email to: jmcgahan@summerseng.com

RE: GRASSLANDS BYPASS PROJECT STORMWATER MANAGEMENT PLAN

Dear Mr. McGahan,

This letter is submitted as the comments of the Bay Institute regarding the draft Addendum to the Final Environmental Impact Statement / Environmental Impact Report for the Grassland Bypass Project (GBP), 2010-2019, SCH No. 2007121110, regarding the Long-term Stormwater Management Plan. The Bay Institute has worked with Grassland Area growers for over twenty years to ensure that the GBP was effectively designed and implemented to virtually eliminate the discharge of selenium to local waters from anthropogenic sources. The success of this effort demonstrates how in-valley management approaches can solve the Central Valley's agricultural drainage problems.

In previous discussions with you and Grassland Area growers, we have identified three overarching issues that must be addressed in the final Addendum to ensure that use of the San Luis Drain starting on January 1, 2020, to convey stormwater discharge does not undo the success of the GBP.

First, it may be appropriate to permit use of the Drain to convey stormwater discharge. However, stormwater events that would result in uncontrollable discharge should be defined clearly and measurably so as to ensure that the Drain is only used to convey stormwater discharges and that baseline agricultural drainage discharges are not included.

Second, the limits on loading and concentrations of selenium identified for 2019 in the current agreement for use of the Drain should be retained in any future agreements and permits. Given the persistent and bioaccumulative properties of selenium in the environment, these limits are critical both to lock in the benefits of the current management regime and to ensure that stormwater discharges do not add significantly to selenium loading in local waters.

Third, the long-term Stormwater Management Plan should specifically identify the elements of an adaptive management plan for addressing the potential for elevated selenium levels in

Comments of TBI re: GBP draft long-term Stormwater Management Plan

September 13, 2019

Page 2

stormwater discharge, including monitoring regimes and metrics that would trigger review and if necessary remedial action.

Thank you for the opportunity to comment on the draft Addendum. Please contact me at (415) 272-6616 or bobker@bay.org if you have any questions regarding these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Bobker". The signature is fluid and cursive, with a large initial "G" and a long, sweeping underline.

Gary Bobker
Program Director

Joe McGahan

From: Patricia Schifferle <pacificadvocates@hotmail.com>
Sent: Wednesday, September 11, 2019 10:27 AM
To: Sue.McConnell@waterboards.ca.gov; Joe McGahan; remerson@usbr.gov
Subject: Comments on Grassland Bypass Project Long-Term Storm Water Management Plan EIR Addendum and Initial Study-

Categories: Red Category

Joe, Sue and Rain

Thank you for the opportunity to comment.

I adopt by reference the comments submitted by PCL and 20 other conservation, fishing and tribal NGOs calling for a full EIR/EIS, a NPDES permit as required pursuant to the Clean Water Act and Porter Cologne, and federal and state non-degradation policies.

In addition, the cumulative impacts from Los Banos storm water discharges along with CCID and other contaminated ground water discharges into the Delta Mendota canal and California aqueduct need to be analyzed, disclosed and assessed in any environmental review for the continued use of the federal San Luis Drain to be used for discharge to US waters of the state and Nation.

Further with the recent 9th circuit ruling, reported at, __F.3d__, 2019 WL [4230097](#) , and the previous GBP proposed storm water event plan (https://www.waterboards.ca.gov/centralvalley/water_issues/grassland_bypass/storm_event_plan.pdf August 1997) that indicated storm water and agricultural drain flows could not be separated, it is imperative that the proposed discharges are monitored for Selenium and other contaminants and that they do not exceed daily, weekly and monthly limits pursuant to the Clean Water Act.

Also the proposed plan and draft CEQA documents did not contain an extensive stormwater prevention plan other than discharging into some ponds without much if any detail. These “hot” ponds are likely to create a nuisance and hazards for migratory birds and need full monitoring and controls to ensure compliance with federal and state law.

Regards,

Patricia Schifferle

<PCL et. al Cmt Letter GBP Stormwater Plan CEQA _09-09-2019.pdf

PDD RESO 817-22 EXHIBIT B

PANOCHÉ DRAINAGE DISTRICT
Firebaugh, California

CONTRACT DOCUMENTS

**Short Term Storage Basins
Pump Station, Earthwork, & Facilities**

Volume I

Bids will be received at the office of the
Panoche Drainage District
52027 W. Althea Avenue
Firebaugh, CA 93622

Prior to 2:00 p.m. on July 6, 2022

**Summers Engineering, Inc.
Consulting Engineers
Hanford, California
Telephone Number (559) 582-9237
FAX Number (559) 582-7632**

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NOTICE TO BIDDERS

PANOCHE DRAINAGE DISTRICT
52027 W. Althea Avenue
Firebaugh, CA 93622

The Proposal will be received at the office of the Panoche Drainage District, 52027 W. Althea Avenue, Firebaugh, CA 93622 prior to 2:00 p.m. on July 6, 2022 for the following work:

Short Term Storage Basins – Pump Station, Earthwork, & Facilities

The work includes:

- Construction of two pump stations including approximately 117 cubic yards of reinforced concrete, manifolds, and metal trash racks and grating.
- Construction of a 36" PVC pipeline (2,016 linear feet), 24" PVC Pipelines (5,548 linear feet) and 18" PVC Pipelines (8,427 linear feet).
- Construction of a 42" Rubber Gasket Reinforced Concrete pipeline (4,000 linear feet).
- Compacted earth embankment for storage basin levees (145,000 cubic yards) and filling of existing drains (18,065 cubic yards).
- Installation of an electrical control building, electrical equipment and motor control centers, and electrical wiring.
- Miscellaneous other appurtenances as indicated on the drawings.

The Contract Documents, including reduced Contract Drawings and Specifications, may be secured at the office of Summers Engineering, Inc., 887 North Irwin Street, P. O. Box 1122, Hanford, CA 93232, (559) 582-9237 after May 23, 2022 upon payment of \$40.00 for the electronic documents. The **payment is required to bid the project** and will include access to the Dropbox for the electronic written specifications, electronic drawings, bid sheets, we will provide the planholder list weekly updates, addendums and project notifications as required. **This payment is non-refundable.**

Questions concerning these documents should be directed to Summers Engineering., Inc. at (559) 582-9237.

The Project is a public works project subject to California prevailing wage requirements and Federal Davis-Bacon wage requirements.

The District will hold a **Mandatory Job showing** at the project location at 10:00 a.m. on June 9, 2022 to assist the bidders.

Bidding contractors must hold a current Class A contractor’s license valid in the state of California.

The bids must be accompanied by a certified check or bidder's bond for ten percent (10%) of the amount of the bid and made payable to Panoche Drainage District. The certified check or bidder's bond shall be given as a guarantee that the bidder will enter into a contract, if awarded a contract, and will be declared forfeited if the bidder refuses or neglects to enter into said contract within 10 days after being requested to do so. The successful bidder will be required to furnish a performance bond in an amount equal to one hundred percent (100%) of the contract price and a labor and materials bond in an amount equal to fifty percent (100%) of the contract price, said bonds to be secured from a financially responsible surety company, satisfactory to the District, authorized to do business in the State of California.

Each Proposal submitted in response to this invitation shall include the cost of all work, labor and materials to complete the project. It shall, furthermore, include all materials and labor of whatever kind required in regard to providing adequate sheeting, shoring and bracing of excavations.

The bids will be opened in public at the above mentioned prescribed time and date. Award will be made to the lowest responsible bidder, however, the District reserves the right to reject any or all bids, to waive informalities in the bid, and to postpone the date of bid opening. In all respects the successful bidder shall comply with requirements of law pertaining to public works contracts.



Ara Azhderian
Panoche Drainage District



Date

INVITATION FOR BIDS

Section 1.01. General:

Notice is hereby given that the Panoche Drainage District (“District”), will receive sealed bids (“Bids”) for the Short-Term Storage Basins—Pump Station, Earthwork, and Facilities Project (“Project”) as follows:

SUBMIT PROPOSALS TO:	Panoche Drainage District office 52027 W. Althea Avenue Firebaugh, CA 93622
DISTRICT CONTACT	Chris Linneman, Summers Engineering, Inc. 559-582-9237 Linneman@Summerseng.com
ESTIMATED COST:	Approximately \$10,500,000
CONTRACTOR’S LICENSE REQUIRED	Class A

The anticipated schedule, which is subject to change, is as follows:

<u>Event</u>	<u>Date</u>
IFB issued	May 23, 2022
Mandatory Pre-bid meeting and site visit	June 9, 2022
Deadline for questions, 5:00 p.m.	June 28, 2022
Bids due by 2:00 p.m.	July 6, 2022
Notice of Intent to Award	July 8, 2022
Board Meeting to award contract	July 12, 2022
Anticipated Notice to Proceed	July 13, 2022

The Project generally consists of construction of two pump stations including reinforced concrete, manifolds, and metal trash racks and grating; construction of 36”, 24’, and 18’ PVC pipelines; construction of a 42” Rubber Gasket Reinforced Concrete pipeline; compacted earth embankment for storage basin levees and filling of existing drains;

installation of an electrical control building, electrical equipment and motor control centers, and electrical wiring; and miscellaneous other appurtenances.

Notice is hereby given that the Project is a public works project within the requirements of Division 2, Part 7, Chapter 1 of the California Labor Code, and that each Bidder and all Subcontractors are required to be registered with the Department of Industrial Relations (“DIR”) pursuant to Labor Code section 1725.5 at the time of bidding. **Failure of the Bidder or a listed Subcontractor to be registered at the time of bidding shall render the Bid non-responsive and unavailable for award.**

Compliance with Federal laws and regulations is required, including as referenced in the Contract’s Special Provisions. To the extent Federal and State requirements conflict, the more stringent requirement will control.

Contract documents are available from Chris Linneman at Summers Engineering, Inc., 887 North Irwin Street, P.O. Box 1122, Hanford, CA 93232, who can be contacted by email at Linneman@Summerseng.com.

Section 1.02. Pre-Bid Meeting:

A *mandatory* pre-Bid meeting and site visit will be held on **June 9, 2022 beginning at 10:00 a.m.** to assist prospective Bidders to become familiar with this Invitation for Bids (“IFB”), the Project, and the site. Bidders should meet at the time and Location indicated in the **Bulletin** no later than the time the pre-bid meeting is scheduled to begin.

Attendance for the duration of the meeting is mandatory. By submitting a Bid, the Bidder represents that it has visited the Project site and is familiar with the local conditions under which the Work will be performed. Access to the Project site after the mandatory site visit will be granted only with the District’s prior approval, which will

require advanced notice and a scheduled appointment, which approval may be withheld at the District's discretion.

The District will maintain a record of who attends pre-Bid meeting and will maintain the list of interested Bidders ("Bidders List"). Bidders attending the pre-Bid meeting are encouraged to confirm that the District has their correct contact information. Bidders will be deemed to know all information communicated during the meeting.

Section 1.03. Prevailing Wage Requirements:

This Project is a public works project subject to prevailing wages under Labor Code Section 1771. Upon Contract award, Contractor and its Subcontractors shall fully comply with all the provisions of the California Labor Code governing the performance of public works contracts and federal labor compliance requirements including, but not limited to, payment of prevailing wages, limitations on time worked, compliance with apprentice requirements, maintenance of payroll records, posting of wages at the job site, and prohibitions against discrimination. Bidders are encouraged to review the **Contract for Construction** for greater detail regarding labor compliance requirements.

This project is subject to a Labor Compliance Program and compliance monitoring and enforcement by DIR. The general prevailing wage rates applicable to the work are set by the Director of DIR. Copies of the prevailing rate of per diem wages are on file at the PDD office, 52027 W. Althea Avenue, Firebaugh, CA, and shall be made available to any interested party upon request. They may also be obtained on the Internet at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>.

This Project is at least partially federally funded. As a result, the Contractor must comply with the Davis-Bacon Act, 40 U.S.C. sections 3141-3148, as supplemented by applicable regulations. Copies of applicable Davis-Bacon prevailing wages are available at www.wdol.gov/dba.aspx. **The higher of the applicable prevailing wage rates will**

apply. Additional Federal labor compliance requirements, as specified in the contract attached hereto as **Contract for Construction**, also apply.

Section 1.04. Questions and Addenda:

Any questions from potential Bidders or subcontractors regarding this IFB may be directed in writing to Chris Linneman by e-mail at Linneman@Summerseng.com **no later than the deadline reflected above.** The District is not obligated to respond to any question unless it is timely submitted in writing as required. Bidders and subcontractors are requested not to contact other District staff or Board members in connection with this selection process. Failure to adhere to this policy may be grounds for rejection of the bid.

The District will reply regarding substantive issues by addenda which will be distributed to Bidders on the Bidders List. Questions received after the deadline may not be answered. Only questions answered by formal written addenda will be binding. Oral responses, or email responses, shall not be binding on the District.

Bidders are encouraged to submit questions regarding any ambiguity, uncertainty, or other perceived flaw in this IFB as soon as the issue is identified. Any such issue which is not raised prior to the deadline to submit Bids shall be waived, and the District will not consider any challenge based on the contents, structure, or terms of this IFB after the bidding deadline.

The District reserves the right to cancel or revise this IFB in part or in its entirety. If the District cancels or revises this IFB, then it will do so by addenda distributed to Bidders on the Bidders List. The District also reserves the right to extend the date responses are due. All bids shall be prepared with full consideration of any addenda issued by the District. Bidders shall have the responsibility of checking, prior to bidding, for any addenda issued by the District.

Section 1.05. Subcontractor Requirements:

Pursuant to the provisions of California Public Contract Code sections 4100 to 4114 (“Subcontractor Listing Law”), every Bidder shall set forth in its Bid:

- A. The name, contractor license number, DIR public works registration number, and location of the place of business of each Subcontractor.
- B. The portion of the Work that will be done by each Subcontractor. If the Bidder fails to specify a Subcontractor for any portion of the Work in excess of one half of one percent (0.5%) of the Bidder’s total Bid, then the Bidder agrees that it is fully qualified to perform that portion itself, and that the Bidder shall perform that portion itself.

The Bidder must use the listed subcontractors for the portion of work listed unless the District approves substitution under the Subcontractor Listing Law.

Section 1.06. Bidder References:

The Bidder shall submit a minimum of three (3) references for similar projects completed in the past five (5) years. A “similar” project must satisfy all of the following criteria: (a) be a project performed for a public owner, (b) the Bidder was the prime contractor **or** the Bidder’s subcontract was worth at least \$5,000,000, (c) the prime contract amount was at least \$3,000,000, and (d) the work involved construction of a pump station and construction of pipelines. At least two references must be for projects on which the Bidder was the prime contractor.

If the Bidder will not construct the compacted earth embankment for storage basin levees, then the Bidder shall submit a minimum of two (2) additional references for embankment or levee construction projects completed in the past five (5) years for the listed subcontractor that will construct the embankment.

References shall include all information required by **Proposal**.

PDD will attempt to contact the references by telephone during normal business hours on the two (2) business days following the bid date. Bidders should ensure that their references are aware that they should be receiving a call from PDD during that time. If PDD is unable to speak with the references within three days following the bid date, then the Bidder may be deemed not to have submitted all required references and its bid may be rejected as non-responsive. Alternatively, at PDD's sole and absolute discretion, PDD may determine the references contacted to be sufficient. The Bidder may submit more than the minimum number of references to ensure that PDD can contact the required number of references.

Section 1.07. Bidding Requirements:

Submit Bids in a sealed envelope, marked "**BID FOR SHORT-TERM STORAGE BASINS—PUMP STATION, EARTHWORK & FACILITIES PROJECT,**" and include the Bidder's company name and address on the envelope. Bids shall be submitted on the enclosed **Proposal** and shall include at least three references with all information. Bids must be submitted on or before the deadline specified above. Late Bids will not be accepted.

Each Bidder shall provide with its sealed Bid security consisting of cash, a California bank's Cashier's Check, Certified Check or Money Order made payable to "Panoche Drainage District," or a Proposal Bond from a surety authorized to do business in California in the form included in the **Proposal** (or equivalent) for not less than ten percent (10%) of the Bid amount.

Each Bid shall be accompanied by the Non-Collusion Affidavit, the Subcontractor Listing Form, and the Iran Contracting Certification, the Suspension and Debarment Certificate,

Anti-Lobbying Certification required in accordance with 43 C.F.R.. Part 18, failure to include the required documents with the Bid will cause the Bid to be rejected.

In accordance with State of California Executive Order N-6-22 and consistent with Executive Order 14065 issued by United States President Joseph R. Biden Jr., the District is refraining from entering into contracts with any individuals or entities that are determined to be a target of economic sanctions imposed by the U.S. or State government in response to Russia's actions in Ukraine, while such economic sanctions are in effect and to the full extent that such sanctions prohibit contracting. Please see the following website for additional information regarding sanctions and sanctioned entities: <https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions>. By submitting a Bid, the Bidder certifies that it is not an entity subject to such sanctions.

In addition, to ensure compliance with current orders and facilitate response to any future orders that may be issued relative to Russia's actions in and with respect to Ukraine, the District is requiring all Bidders to submit within two (2) days after they submit their Bids the Certification Regarding Russian Sanctions attached to the Proposal. **This, and all certifications are required.**

In accordance with Public Contract Code section 7105(a), Bidder shall separately bid the insurance premium to obtain insurance to indemnify the District for any damage to the Project in excess of five percent of the contracted amount caused by earthquakes in excess of a magnitude of 3.5 on the Richter Scale and tidal waves. The cost of such insurance **shall not** be considered in determining the lowest responsible bidder, but the District may elect to require such insurance for the price bid upon award of the Contract to the selected Bidder.

Bids shall be valid and may not be withdrawn for a period of ninety (90) days after the Bid due date, except pursuant to California Public Contract Code section 5103.

Bidders shall develop and submit their Bid at their own expense. The District will not reimburse any costs associated with the development and submittal of any Bid.

The successful Bidder shall be required to execute a Payment Bond and Performance Bond, issued by an admitted surety insurer, in conformance with the requirements set forth in the Contract Documents and in substantially the form included in these **Contract Documents** each for not less than one hundred percent (100%) of the Contract Price.

Submission of a bid indicates acceptance by the Bidder of the conditions contained in this IFB and the terms of the attached form Contract. Any changes to, or qualifications of, requirements will render the bid non-responsive and unavailable for award.

Section 1.07. Contract Award:

The District does not discriminate on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, age, sexual orientation, military and veteran status, or other protected class in consideration for an award of a Contract.

The District reserves the right to award the Contract, to reject any or all Bids, to waive immaterial irregularities in a Bid, and to reject nonresponsive or conditional Bids or Bids submitted by non-responsible Bidders.

If the District awards the Contract under the IFB, then the award shall be to the lowest responsible Bidder meeting the specifications of the IFB.

The District may make such investigations as it deems necessary to determine the Bidder's responsibility, including its ability to perform the work, and the Bidder shall furnish to the District all such information and data for this purpose as the District may request. The District may contact references other than those supplied by the Bidder.

The District shall identify the selected Bidder either in a Notice of Intent to Award the Contract provided to Bidders that submitted Bids on the IFB or in the Board agenda for the meeting at which the Contract is to be awarded.

Any Bidder may protest the intended award of a Contract on the IFB on the ground that the Bidder should have been selected for award in accordance with the evaluation and selection standards in the IFB. A protesting Bidder must provide the District with a written statement of protest specifying all facts, evidence, and law supporting the protest. Any protest must be received by the District within five (5) business days after the bid due date, but no later than the Board meeting at which the Contract is to be awarded. Failure to timely protest waives any right to contest the District's award.

If the lowest responsible Bidder fails or refuses to execute the Contract for the Project, then the District may, in its discretion, award the Contract to the second-lowest responsible Bidder. In that case, the lowest responsible Bidder's Bid Bond or other Bid security shall be forfeit to the District. If the second-lowest responsible Bidder fails or refuses to execute the Contract for the Project, then the District may, in its discretion, award the Contract to the third-lowest responsible Bidder. In that case, the second-lowest responsible Bidder's Bid Bond or other Bid security shall be forfeit to the District.

If the Contract provides for retention, then, pursuant to the Public Contract Code, the Contract shall permit, at the Contractor's sole expense, the substitution of securities in lieu of retention. The terms of such provisions shall be according to the requirements of the Public Contract Code Section 22300.

PROPOSAL

(MUST BE SIGNED BY PROPOSER)

PROPOSAL FOR SHORT TERM STORAGE BASINS - PUMP STATION, EARTHWORK, & FACILITIES

TO: Panoche Drainage District

SUBMITTED BY: _____

Name of Bidder

_____ Address

_____ Phone #

_____ E-mail address

The undersigned Bidder is hereby certifying that the Bidder is licensed and in good-standing in accordance with the Contractors State License Board, has the following license classifications, and is registered with the Department of Industrial Relations (DIR) as indicated below.

License number: _____. License type: __. License expiration date: _____.

DIR Registration # _____ Expiration date: _____

The undersigned Bidder is hereby certifying that the Bidder is not subject to any sanctions imposed by the U.S. government or government of the State of California in response to Russia's actions in Ukraine.

Initials: _____

On behalf of Bidder, the undersigned represents that Bidder has carefully examined the proposed Contract Documents consisting of the Invitation for Bids, the Bid Form, the Contract for Construction, the Bid Bond, the Performance Bond, the Payment Bond, the Contract Drawings and Plans, all other Invitation for Bids Attachments, any and all

Addenda, and the Contractor's Guarantee. Bidder has reviewed and fully understands the scope of work required by this Bid. Being familiar with conditions affecting the work, Bidder hereby proposes and agrees to furnish and provide all labor, materials, supervision, transportation, tools, equipment, services and other facilities necessary and required for the expeditious completion of the Work in strict conformity with the Contract Documents.

Bidder agrees to complete the work within the time indicated, subject to liquidated damages for any unexcused delay.

Enclosed is (mark appropriate box)

- A certified check,
- A cashier's check,
- A money order,
- A bid bond (on the District's form or equivalent), or
- Cash

in the amount of ten percent (10%) of the Bid amount, made payable to the Panoche Drainage District ("District"), to be left in escrow with the District as a guarantee that Bidder will enter into the Contract and will furnish specified insurance and bonds. Bid security shall be returned upon execution of the Contract and Contractor providing required bonds and other Contract documents.

Bidder notified the District of any discrepancies, ambiguities, inconsistencies, errors or omissions in the Invitation for Bids and Attachments and applicable Federal, State, and local regulations or requirements, and/or of any doubt about the meaning of any of the Contract Documents.

If awarded the Contract, the undersigned shall execute said Contract and furnish the necessary Performance and Payment Bonds and any required insurance certificates within five (5) calendar days after the District's Board awards said Contract and shall begin work as set forth in the written Notice to Proceed from the District to Contractor.

The undersigned further acknowledges receipt of the following Addenda, which are a part of the Contract Documents: *(Include All Addenda Received)*

NO.____ DATE_____

NO.____ DATE_____

NO.____ DATE_____

NO.____ DATE_____

NO.____ DATE_____

NO.____ DATE_____

The work is to be done in strict conformity with the Contract Documents, and at the following Lump Sum and/or Unit Prices:

Item No.	Work or Material	Quantity	Unit	Unit Cost	Amount
1.	Furnish & Install (F&I) 36" PVC Pipe ①	2,016	Linear Feet	_____	_____
2.	F&I 42" Rubber Gasket Reinforced Concrete Pipe ①	4,000	Linear Feet	_____	_____
3.	F&I 18" PVC Pipe ①	3,345	Linear Feet	_____	_____
4.	F&I 24" PVC Pipe ①	100	Linear Feet	_____	_____
5.	F&I 24" PVC Pipe w/ Alfalfa Valve Turnouts ①	5,448	Linear Feet	_____	_____
6.	F&I 18" PVC Pipe w/ Alfalfa Valve Turnouts ①	5,082	Linear Feet	_____	_____
7.	F&I Air Release Valve Installation ①	2	Each	_____	_____
8.	F&I Discharge Manifold		Lump Sum	_____	_____
9.	F&I Reinforced Concrete ①	117	Cubic Yards	_____	_____
10.	F&I Compacted Embankment for Drain Fill ①	18,065	Cubic Yards	_____	_____
11.	F&I Compacted Embankment for Basin Levees ①	145,000	Cubic Yards	_____	_____
12.	F&I Rip-Rap	460,480	Square Feet	_____	_____
13.	F&I Basin Discharge Structures ①	4	Each	_____	_____
14.	F&I Spill Structures ①	4	Each	_____	_____

Item No.	Work or Material	Quantity	Unit	Unit Cost	Amount
15.	F&I Spill Ditch and Connections ①		Lump Sum		
16.	F&I Prefabricated Stairway & Support Slab		Lump Sum		
17.	F&I Miscellaneous Metal	4,641	Pounds		
18.	F&I Isolation, Bypass, and Dewatering for Basin Feed Pump Station Inlet ①		Lump Sum		
19.	F&I Reinforced Concrete Lining at Basin Feed Pump Station Inlet ①	811	Square Feet		
20.	F&I Compacted Aggregate Base at Basin Feed Pump Station	80	Cubic Yards		
21.	F&I Concrete Service Pad	500	Square Feet		
22.	F&I Chain link Fencing	233	Linear Feet		
23.	F&I 48" Pedestrian Gate	2	Each		
24.	F&I 14' Vehicle Gate	2	Each		
25.	F&I 48"x96" Reinforced Concrete Box Culvert	26	Linear Feet		
26.	F&I Electrical Control Building Slab & Foundation		Lump Sum		
27.	F&I Electrical Control Building		Lump Sum		
28.	F&I Electrical Equipment (including undergrounding, MCC, Switchgear, panels, lights, and other appurtenances)		Lump Sum		
29.	F&I Erosion Control Measures		Lump Sum		
				Total Amount	

① The above items shall include in their bid amount the cost of all sheeting, shoring, sloping, or other methods required for worker protection and safety during said installation.

Total lump sum Bid amount is:

In words: _____ Dollars.

In figures: \$ _____

In determining the amount bid by each Bidder, the District shall disregard mathematical errors in addition, subtraction, multiplication, and division that appear obvious on the face of the bid. When such a mathematical error appears on the bid, the District shall have the right to correct such error and to compute the total amount bid by said Bidder on the basis of the corrected figure or figures.

Where a unit price does not agree with an extended price, the unit price shall prevail over the extended price. Where a unit price and extended price is omitted, the District will understand the item to have been bid at a price of \$0. Where the sum of the extended prices does not equal the bid price, the sum of the extended prices shall control.

The undersigned has checked carefully all of the above figures and understands that the District will not be responsible for any errors or omissions on the part of the undersigned in making up this Bid.

AGREEMENT

It is understood and agreed that if written notice of the District’s acceptance of this Bid is provided to the undersigned Bidder after the opening of the Bid, the undersigned Bidder will execute and deliver to the District the Contract for Construction in accordance with the Bid as accepted, within two (2) business days after receipt of notification of award. If the Bidder to whom an award is made fails or refuses to execute the Contract for Construction within two (2) business days from the date of receiving notification of award, or fails to provide necessary bonds or insurance in the time required, then the District may declare the Bidder’s bid security forfeited as damages.

The undersigned Bidder agrees that the information and representations provided herein are made under penalty of perjury.

NOTE: If Bidder is a corporation, then the legal name of the corporation shall be set forth below, together with the signatures of authorized officers or agents and the document shall bear the corporate seal; if Bidder is a partnership, then the true name of the firm shall be set forth below together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership; and if Bidder is an individual, then his/her signature shall be placed below.

The undersigned has the authority to so bind Bidder to these representations and agreements.

NAME OF PROPOSER: _____

BY: _____

Signature

Type/Print Name

Title

DATE: _____

PANOCHÉ DRAINAGE DISTRICT REFERENCE FORM

Reference 1

Project Title:

Project

Owner:

Address:

Contact Name and Position:

Contact Phone: _____

Contact Email: _____

Project Amount: _____

Project Dates: _____

Project Description: _____

Reference 2

Project Title:

Project

Owner: _____

Address:

Contact Name and Position:

Contact Phone: _____ Contact Email: _____

Project Amount: _____ Project Dates: _____

Project Description: _____

Reference 3

Project Title:

Project

Owner: _____

Address:

Contact Name and Position:

Contact Phone: _____ Contact Email: _____

Project Amount: _____ Project Dates: _____

Project Description: _____

If Subcontract:

Prime Contractor name: _____

Prime Contractor contact name/position: _____

Prime Contractor contact phone/email: _____

Subcontract amount: _____

Subcontract scope: _____

BID BOND FORM

We, _____, as principal, and _____, as Surety are held and firmly bound unto the Panoche Drainage District, hereafter referred to as "Obligee," in the penal sum of ten percent (10%) of the total amount of the Bid of the Principal submitted to the Obligee for the Work described below, for the payment of which sum we hold and firmly bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

WHEREAS, the Principal is submitting a Bid to the Obligee, for

(Copy here the exact description of work, including location, as it appears on the Bid)

for which Bids are to be opened at _____, CA on _____

(Insert date of Bid opening)

NOW, THEREFORE, if the Principal is awarded the Contract and after the prescribed forms are presented to it for signature, enters into a written contract, in the prescribed form, in accordance with the Bid, and files two bonds with the Obligee, one to guarantee faithful performance of the contract and the other to guarantee payment for labor and materials as provided by law, then this obligation shall be null and void; otherwise, it shall remain in full force.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time for award of a contract after opening of Bids, alteration, addition, modification, or supplement to the terms of the Invitation for Bids, the Work to be performed thereunder, or the Contract Documents, shall in any way affect the Surety's obligations under this Bond, and the Surety does hereby waive notice of any such change,

extension of time, alteration, addition, modification or supplement to the terms of said Invitation for Bids, the Work to be performed thereunder, or the Contract Documents.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including reasonable attorneys' fees to be fixed by the court.

Dated: _____, 20__

Principal: _____

By: _____

Surety: _____

Address: _____

Telephone: _____

Attorney in Fact: _____

(Bond Continues Next Page)

(Attach Attorney-In-Fact Certificate, Corporate Seal and Surety Seal)

NOTICE:

A CERTIFICATE OF ACKNOWLEDGMENT IN ACCORDANCE WITH THE PROVISIONS OF CIVIL CODE SECTION 1189 MUST BE ATTACHED FOR EACH PERSON EXECUTING THIS AGREEMENT ON BEHALF OF BIDDER AND SURETY.

NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA

COUNTY OF _____

_____, being first duly sworn, deposes and says that he or she is _____ [Title] of _____, the party making the foregoing Bid, that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or sham; that Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham Bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham bid or to refrain from submitting a bid; that Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the price proposal of Bidder or any other bidder, or to fix any overhead, profit, or cost element of the Bid, or of that of any other Bidder. All statements contained in the Bid are true. Bidder has not, directly or indirectly, submitted its Bid or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham Bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a Bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the Bidder.

Signed: _____

Title: _____

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Subscribed and sworn to before me this _____ day of _____, 20__, by _____ proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

(seal)

Signature

SUBCONTRACTOR LISTING FORM

LIST OF SUBCONTRACTORS FOR: _____

(PROPOSER)

PROJECT: _____

Pursuant to the provisions of sections 4100 to 4114 of the California Public Contract Code, the undersigned hereby designates below the names, portions of work, contractor license numbers, place of business, and DIR registration number of each Subcontractor. Failure to list a subcontractor for a portion of work in excess of one-half of one percent of the Bid amount will obligate the Contractor to perform that portion of the work. Failure to submit this form with the Bid will result in the Bid being rejected as non-responsive and being unavailable for award. Please check one of the boxes and sign below:

We are not using any Subcontractors.

All of our Subcontractors performing at least 1/2 of 1% of the Work are listed below.

SUBCONTRACTOR NAME	PORTION OF WORK	PLACE OF BUSINESS	LICENSE NO.	D.I.R. NUMBER

Signed

IRAN CONTRACTING CERTIFICATION

Pursuant to California Public Contract Code (PCC) section 2204, an Iran Contracting Act certification is required for solicitations of goods or services of \$1,000,000 or more.

To submit a Bid to the Panoche Drainage District, you must complete **ONLY ONE** of the following two paragraphs. To complete paragraph 1, check the corresponding box **and** complete the certification for paragraph 1. To complete paragraph 2, simply check the corresponding box.

1. We are not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services (“DGS”) pursuant to PCC 2203(b), and we are not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

OR

2. We have received written permission from the Panoche Drainage District to submit a Bid pursuant to PCC 2203(c) or (d). *A copy of the written permission from the Panoche Drainage District is included with our Bid..*

CERTIFICATION FOR PARAGRAPH 1:

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY, that I am duly authorized to legally bind the Bidder to the clause in paragraph 1. This certification is made under the laws of the State of California.

BIDDER: _____ Date _____

BY: _____

Signature

Type/Print Name

Title

Executed in the County of _____, State of _____.

SUSPENSION AND DEBARMENT CERTIFICATE

Bidder hereby certifies, to the best of its knowledge and belief, except as expressly disclosed on this Certificate, that:

The Bidder and/or any of its Principals:

1. Are not presently debarred, suspended, proposed for debarment or suspension, or declared ineligible for award of the contract by any Federal, State, or local agency.
2. Have not, within a three-year period preceding this Bid, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) contract or subcontract; violation of Federal or State antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property.
3. Are not presently indicted for, or otherwise criminally or civilly charged by a government entity with, commission of any of the offenses enumerated in Item 2. above.
4. The Proposer has not, within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal, State, or local agency.

"Principals," for the purposes of this certification, means: officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

Bidder further certifies that it is not listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180

that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Bidder shall provide immediate written notice to the District if, at any time prior to contract award, Bidder learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance will be placed when making the award, if and when made. If it is later determined that Bidder knowingly rendered an erroneous certification, in addition to other remedies available to the District, the District may terminate the Contract resulting from this solicitation for default.

BIDDER: _____ Date _____

BY: _____

Signature

Type/Print Name

Title

BYRD ANTI-LOBBYING AMENDMENT CERTIFICATION

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit OMB Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts) in excess of \$150,000 and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance is placed in awarding the Contract. Submission of this certification is a prerequisite for making or entering into this Contract imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chapter 38, Administrative Remedies for False Claims and Statements, as well as any California remedies, apply to this certification and disclosure, if any.

I certify that I am duly authorized to legally bind the Contractor to this certification, that the contents of this certification are true, and that this certification is made under the laws of the State of California.

Contractor's Name: _____

Date: _____ Signature: _____

Print Name/Title: _____

CERTIFICATION REGARDING RUSSIAN SANCTIONS

For purposes of this Certification, "Sanctions" means any sanctions imposed by the United States government or government of the State of California in response to Russia's actions in Ukraine.

By signing below, the Bidder certifies that (*mark one*):

- no owner that owns more than ten percent (10%) of the Bidder is subject to any Sanctions *or*
- in the table below, Bidder has identified all of its owners that own more than ten percent (10%) of the Bidder and that are subject to Sanctions:

Owner Name	Percent Ownership

By signing below, the Bidder certifies that (mark one):

- no subcontractor of any level that will perform more than five percent (5%) of the contract work is subject to any Sanctions *or*
- in the table below, Bidder has identified all of its subcontractors of any level that will perform more than five percent (5%) of the contract work and that are subject to Sanctions:

Subcontractor Name	Work to be Performed

Contractor's Name: _____

Date: _____ Signature: _____

Print Name/Title: _____

CONTRACT FOR SHORT-TERM STORAGE BASINS PUMP STATION, EARTHWORK, AND FACILITIES

This agreement is made and entered into this ___ day of____, 2022, by and between the Panoche Drainage District, acting by and through its Governing Board (“Owner”) and _____, a California [type of business, *e.g.*, corporation] (“Contractor”). Owner and Contractor may be referenced herein individually as “Party” or collectively as the “Parties.”

AGREEMENT

Owner and Contractor hereby agree as follows:

SCOPE OF WORK.

Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor and materials and transportation necessary to perform and complete in a good and workmanlike manner to the satisfaction of Owner, all work called for and in the manner designated in, and in strict accordance with, the Contract Documents as defined in Section 2 hereof, the Work for the construction of short-term storage basins, including without limitation the pump station, earthwork, and facilities.

CONTRACT DOCUMENTS.

The Contract Documents, sometimes referred to as “the Contract,” consist of the Invitation to Bid, the Bid, this Agreement, the Bid Bond, the Payment Bond, the Performance Bond, the General Conditions, the Special Conditions, the Guarantee Form, Labor Compliance Program, the Technical Specifications, the Hazardous Materials Requirements, the contract drawings and plans, all duly issued addenda, interpretations, Directives, Change Orders, and supplemental drawings.

DEFINITIONS.

Unless otherwise specifically provided herein, all words and phrases defined in the General Conditions shall have the same meaning and intent in this Agreement.

CONTRACT AMOUNT.

Owner agrees to pay, and Contractor agrees to accept, for the full and complete performance of the Work of this Agreement the sum of _____ Dollars (\$_____), subject to adjustment as provided in the Contract Documents.

PAYMENTS.

Monthly progress payments and final payment shall be made in accordance with the General Conditions of the Contract Documents.

TIME OF COMPLETION.

The Work shall be commenced on the date specified in the Owner's Notice to Proceed, and shall be fully completed as described in the Contract Documents by February 15, 2023 together with such additional time as may be provided by any Change Order issued pursuant to the Contract Documents.

Time is of the essence in this Agreement and the Contract Documents. Failure of Contractor to complete the Work by the completion date and in the manner provided for by the Contract Documents shall subject Contractor to liquidated damages as hereinafter provided in this Agreement and the Contract Documents.

LIQUIDATED DAMAGES.

Liquidated damages may be assessed against Contractor in accordance with the General Conditions in the amount of \$2,000 per calendar day if Contractor fails to complete the Work within the Contract Time. The provision for liquidated damages in the Contract Documents shall not be applicable nor act as a limitation upon Owner if Contractor abandons the Work. In such event, Contractor shall be liable to Owner for all losses incurred.

PERFORMANCE AND PAYMENT BONDS.

Contractor, upon executing this Agreement and as a condition precedent to Owner executing this Agreement, shall file a Performance Bond and a Payment Bond with Owner, in the form provided with the Contract Documents. These bonds shall be issued by a surety company authorized to

do business in the State of California and shall be maintained during the entire life of the Contract at the expense of Contractor. Each bond shall be in the amount of one hundred percent (100%) of the Contract amount. The Performance Bond shall guarantee the faithful performance of the Contract. The Payment Bond shall be in accordance with California Civil Code sections 9550 and 9554. Any alteration or alterations made in any provision of the Contract shall not operate to release any surety from any liability on any bond required hereunder, and the consent to make such alterations is hereby given, and any surety on said bonds hereby waives the provisions of Section 2819 of the Civil Code.

LABOR COMPLIANCE.

Contractor and its Subcontractors shall fully comply with all provisions of the California Labor Code governing the performance of public works contracts, including, but not limited to, payment of prevailing wages, limitations on time worked, compliance with apprentice requirements, maintenance of payroll records and prohibition against discrimination, as described more fully in the General Conditions.

Contractor and its Subcontractors shall fully comply with all Federal requirements, including without limitation those related to Equal Employment Opportunity, Contract Work Hours and Safety Standards, and Drug Free Workplace as reflected in the Special Provisions, Exhibit B hereto.

ASSIGNMENT.

Neither this Agreement nor any rights herein of Contractor shall be assigned, including without limitation subcontracted, without the written consent of Owner first obtained.

AGREEMENT BINDING.

This Agreement shall bind and insure to the heirs, devisees, assignees and successors in interest of Contractor and to the successors in interest of Owner in the same manner as if such parties had been expressly named herein.

UNFAIR COMPETITION.

Pursuant to California Public Contract Code section 7103.5, by entering into this public works contract to supply goods, services, and materials, Contractor for itself and its subcontractors agrees to assign to Owner all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700 of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to this Agreement. This assignment shall be made and become effective at the time Owner tenders final payment to Contractor, without further acknowledgment by the parties.

GOVERNING LAW.

This Agreement will be governed by and construed in accordance with the laws of the State of California and the laws of the United States.

NO THIRD PARTY BENEFICIARIES.

This Agreement is entered into solely between Owner and Contractor. There are no third-party beneficiaries, intended, unintended, or otherwise to this Agreement.

Contractors are required by law to be licenses and regulated by the Contractor's State License Board, which has jurisdiction to investigate complaints against contractors if a complaint is filed within three years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

CONTRACTOR:

PANOCHÉ DRAINAGE DISTRICT

Ara Azhderian

[address]

52027 W. Althea Avenue

[address]

Firebaugh, CA 93622

By: _____

By: _____

Title: _____

Title: General Manager

PERFORMANCE BOND
(To be Submitted After Award)

BOND NO.: _____

PREMIUM: _____

Panoche Drainage District

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the PANOCHÉ DRAINAGE DISTRICT (hereinafter "District") has awarded to _____ (hereinafter "Principal") a contract for _____ (hereinafter "Project").

WHEREAS, the work to be performed by Principal is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, said Principal is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, we, the undersigned Principal and _____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the District in the sum of _____ DOLLARS, (\$ _____), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if said Principal, or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the two-year guarantee of all materials and workmanship; and shall indemnify and save harmless the District, its officers and agents, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees including reasonable attorneys' fees, incurred by District in enforcing such obligation.

The obligations of Surety hereunder shall continue so long as any obligation of Principal remains. Nothing herein shall limit the District's rights or Principal's or Surety's obligations under the Contract, law or equity, including, but not limited to, Code of Civil Procedure section 337.15.

Whenever Principal shall be, and is declared by the District to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the District's option:

- (1) Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or
- (2) Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of

the lowest responsive and responsible bidder, arrange for a Contract between such Proposer, the Surety and the District, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term “balance of the contract price” as used in this paragraph shall mean the total amount payable to Principal by the District under the Contract and any modification thereto, less any amount previously paid by the District to Principal and any other set offs pursuant to the Contract Documents.

(3) Permit the District to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term “balance of the contract price” as used in this paragraph shall mean the total amount payable to Principal by the District under the Contract and any modification thereto, less any amount previously paid by the District to Principal and any other set offs pursuant to the Contract Documents.

If Surety does not proceed as provided in Paragraphs 1-3 with reasonable promptness, Surety shall be deemed to be in default on this Bond seven (7) days after receipt of additional written notice from the District to Surety demanding that the Surety perform its obligations under this Bond, and the District shall be entitled to enforce any remedy available to it.

Surety expressly agrees that the District may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by Principal. Surety shall not utilize Principal in completing the Project nor shall Surety accept a bid from Principal for completion of the Project if the District, when declaring Principal

in default, notifies Surety of the District's objection to Principal's further participation in the completion of the Project.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed there under shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20____, then names and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

Principal: _____

By: _____

Surety: _____

Address: _____

Telephone: _____

Attorney in Fact: _____

(Attach Attorney-In-Fact Certificate, Corporate Seal and Surety Seal. This bond must be accompanied by a current Power of Attorney Appointing the Attorney-in-Fact)

NOTICE:

A CERTIFICATE OF ACKNOWLEDGMENT IN ACCORDANCE WITH THE PROVISIONS OF CIVIL CODE SECTION 1189 MUST BE ATTACHED FOR EACH PERSON EXECUTING THIS AGREEMENT ON BEHALF OF PRINCIPAL AND SURETY.

PAYMENT BOND

(To be Submitted After Award)

BOND NO.: _____

PREMIUM: _____

Panoche Drainage District

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the PANOCHÉ DRAINAGE DISTRICT (hereinafter "District") has awarded to _____, (hereinafter "Principal") an agreement for _____ (hereinafter the "Project").

WHEREAS, the work to be performed by Principal is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter the "Contract"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, said Principal is required to furnish a bond in connection with said Contract providing that if Principal or any of its subcontractors shall fail to pay for any materials, provisions, or other supplies, or terms used in, upon, for or about the performance of the Work contracted to be done, or for any work or labor done thereon of any kind the Surety on this bond will pay the same together with a reasonable attorney's fee in case suit is brought on the bond.

NOW, THEREFORE, we, the undersigned Principal and _____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the District in the sum of _____ DOLLARS, (\$_____), said

sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Principal, or its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay for any materials, provisions, or other supplies or machinery used in, upon, for or about the performance of the Work contracted to be done, or for work or labor thereon of any kind, or fail to pay any of the persons named in California Civil Code Section 9100, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Principal and his subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, and all other applicable laws of the State of California and rules and regulations of its agencies, then said Surety will pay the same in or to an amount not exceeding the sum specified herein. In case legal action is required to enforce the provisions of this bond, the prevailing party shall be entitled to recover reasonable attorneys' fees in addition to court costs, necessary disbursements and other consequential damages. In addition to the provisions hereinabove, it is agreed that this bond will inure to the benefit of any and all persons, companies and corporations entitled to make claims under Section 9100 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

The said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or additions to the terms of the said Contract or to the work to be performed thereunder or the specification accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20____, then names and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

Principal: _____

By: _____

Surety: _____

Address: _____

Telephone: _____

Attorney in Fact: _____

(Attach Attorney-In-Fact Certificate, Corporate Seal and Surety Seal. This bond must be accompanied by a current Power of Attorney Appointing the Attorney-in-Fact)

NOTICE:

A CERTIFICATE OF ACKNOWLEDGMENT IN ACCORDANCE WITH THE PROVISIONS OF CIVIL CODE SECTION 1189 MUST BE ATTACHED FOR EACH PERSON EXECUTING THIS AGREEMENT ON BEHALF OF PRINCIPAL AND SURETY.

SECTION 1

ARTICLE 1. DEFINITIONS AND PRINCIPLES OF INTERPRETATION

Section 1.01. Definitions.

Whenever the following terms, titles, or phrases are used in the Contract Documents, the intent and meaning thereof shall be as defined in this article.

Section 1.02. Addendum/Addenda.

“Addendum” or “Addenda” are written documents furnished by the Owner before award of the Contract, interpreting or modifying plans and specifications or answering questions of intended bidders, and shall be incorporated in and are a part of the Contract Documents.

Section 1.03. Engineer.

The “Engineer” is the engineering firm(s) engaged as an agent by the Owner to perform the services set forth in the Contract Documents.

The Engineer is designated by the Owner as the Owner’s agent to perform all functions delegated to the Engineer by the Contract Documents.

Section 1.04. Engineer’s Instruction Bulletin.

“Engineer’s Instruction Bulletins” are supplemental drawings or instructions which may be issued as necessary from time to time to make clear or define in greater detail the intent of the Contract Drawings and Specifications. There may be a change in Contract Sum or Contract Time involved with the work shown in the Bulletin.

Section 1.05. Bid.

“Bid” shall mean the offer of the bidder to do the work, when submitted on the prescribed bid form, properly executed and bonded, at the designated time and location.

Where the solicitation required submittal of a proposal, "Bid" shall be understood to mean the proposal submitted to perform the work on the prescribed form, properly executed and bonded, at the designated time and location.

Section 1.06. Board.

"Board" shall mean the duly elected officials constituting the governing Board of the Panoche Drainage District.

Section 1.07. Change Order.

"Change Order" shall mean a written order to the Contractor, issued after execution of the Contract, signed by the Owner and the Contractor, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time. Change Orders may incorporate CCDs.

Section 1.08. Closeout Documents.

Documents as required to meet the requirements of final completion as defined in Article 21.

Section 1.09. Construction Change Directive.

"Construction Change Directive," "Directive," or "CCD" shall mean a written order to the Contractor, issued after execution of the Contract, signed by the Owner or the Owner Representative directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both, and which shall be used in the absence of total agreement with the Contractor on the terms of a Change Order or when time does not permit processing of a Change Order prior to implementation of the change.

Section 1.10. Contract Documents.

The "Contract Documents" shall include the Invitation for Bids, the Bid Form, the

Agreement for Construction, the Bid Bond, the Performance Bond, the Payment Bond, these General Conditions, the Special Conditions, the General Requirements, Exhibits, the Technical Specifications, the Contract Drawings and Plans, all duly issued Addenda, Interpretations, Change Orders, Directives, supplemental drawings, Engineer's Instruction Bulletins, the Contractor's Guarantee and Bond, the Hazardous Materials Requirements, and the Contract Schedule.

Section 1.11. Contract Drawings or Plans.

The "Contract Drawings" (sometimes referred to as "Drawings" or "Plans") are the graphic and pictorial portions of the Contract Documents, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams. This information may be developed and stored in a 3D or 4D model of the Project. Once approved, all such drawings are incorporated into and become a part of the Contract Documents.

Section 1.12. Contract Schedule.

The "Contract Schedule" is the schedule produced by the Contractor in response to the requirements of the Contract Documents. See Section 13.02 for specific requirements.

Section 1.13. Contract Sum.

"Contract Sum" is the total amount payable by the Owner to the Contractor for the performance of the Work under the Contract Documents. The Contract Sum is the amount stated in the Agreement for Construction, including authorized adjustments thereto.

Section 1.14. Contract Time.

"Contract Time" shall mean the period specified for completion of the Work, as set forth in the Agreement for Construction and adjusted by any Change Order issued pursuant to the Contract Documents.

Section 1.15. Contractor.

“The Contractor” shall mean the person or persons, partnership, or corporation, who have entered into the Agreement for Construction of the Work with the Owner or its legal representatives, or successors, assigns, executors, or heirs. The Contractor is required by law to be licensed and will perform work or render services as a prime contractor in or about the construction of the Work.

Section 1.16. Date of Completion.

The “Date of Completion” for the purpose of determining when the Work is complete is the date certified by the Owner Representative when construction of the Work is 100% complete, including acceptance by the Engineer of all punch list corrections. See Article 21 for the meaning of “completion” for the purpose of determining acceptance of the Work and when final payment is due.

Section 1.17. Day.

Unless otherwise expressly defined, a “day” shall mean a calendar day of 24 hours, including each and every day of the year.

Section 1.18. Interpretations.

“Interpretations” are all clarifications, additional instructions, and explanations issued by the Engineer pursuant to Article 5 hereof, after award of the Contract.

Section 1.19. Materials and Equipment.

“Materials” is a generic term which shall include all building materials, articles, supplies, and equipment delivered to the project for incorporation in the Work. “Materials” includes everything incorporated into the Work except labor, unless otherwise noted.

“Equipment” shall mean all pre-manufactured or partially preassembled products or components, assembled or partially assembled before delivery to the Site.

Section 1.20. Notice to Proceed.

“Notice to Proceed” is the notice given to the Contractor following execution of the Agreement for Construction and receipt of all required preconstruction submittals as itemized in the notice of intent to award. The Notice to Proceed establishes the start of the Work and authorizes the Contractor to begin construction.

Section 1.21. Owner.

“Owner” shall mean the Panoche Drainage District, a California joint powers authority.

Section 1.22. Owner Representative.

“Owner Representative” shall mean the Owner’s designated agent engaged to perform all functions delegated to the Owner Representative by the Contract Documents. The Owner Representative may or may not be a construction manager. The Owner Representative will be the Contractor’s primary contact during construction of the Project.

Section 1.23. Product Data.

“Product Data” shall mean illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.

Section 1.24. Project.

“Project” shall mean the total design and construction of the work of improvement described in the Contract Documents, of which the Work may be the whole or a part and which may include construction by Owner or by separate contractors.

Section 1.25. Project Inspector.

The “Project Inspector” shall mean the person or persons employed or engaged as (an) independent contractor(s) by the Owner to inspect the performance of the Work by the Contractor for compliance with the Contract Documents. The Project Inspector is hereby designated as an agent of the Owner for such purpose and no other. The Project Inspector is supervised by, and reports to, the Engineer. The authority of the Project Inspector to monitor the work shall be strictly limited to that authority specified herein and in Title 24, California Code of Regulations, and no additional authority has been granted nor shall be inferred.

Section 1.26. Proposed Change Order/Work Order.

A “Proposed Change Order/Work Order” or “PCO” is the name given to a document issued by the Contractor proposing a change to the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. A PCO shall be used by the Contractor to respond to a Request for Proposal, a Request for Information or an Engineer’s Instructional Bulletin. A PCO is not effective to authorize the proposed change to the Work, to the Contract Sum or to the Contract Time unless it is accepted in writing by the Owner.

Section 1.27. Provide.

“Provide” shall mean to furnish, install, and connect complete and ready for use.

Section 1.28. Reference to Codes.

Unless otherwise noted, all references to statutes are to the laws of the State of California and/or of the United States as codified in the various specified codes.

Section 1.29. Request for Information.

“Request for Information” or “RFI” is the name given to a document issued by the Contractor seeking clarification and/or additional information regarding an aspect of the Work. The response to the RFI does not constitute authorization or direction to proceed

with any changed or additional work. Changed or additional work must be separately authorized by the Owner.

1. Should the Contractor require clarification or additional information of the Contract Documents, and after the Contractor has consulted with the Project Inspector, the Contractor will direct the request to the Owner Representative on a Request for Information (RFI) form. (See appendix.)
2. Each RFI will be submitted to the Owner Representative un-numbered. The Owner Representative will number each RFI sequentially and will maintain an RFI log. The Contractor shall describe on the RFI the problem or clarification being requested. The description provided should be complete and adequate to permit a written response without additional communications with the Contractor. The Contractor shall attach any related information or correspondence that may have been received from Subcontractors or vendors on the subject. In instances where the Contractor believes there may be a conflict between elements of the plans and specifications, the Contractor should identify the conflict and indicate the manner in which it interprets the Contract Documents.
3. The Owner Representative will review the request and take one or more of the following steps:
 - a. Return the request to the Contractor for additional information.
 - b. Forward the request to the Engineer for response, copying the Project Inspector.
 - c. Provide response and return to the Contractor with copies to the Engineer and Project Inspector.

4. The Engineer or other appropriate party receiving the RFI, will attempt to provide a response to the Owner Representative within seven (7) calendar days of receipt. The Owner Representative will in turn review the response and forward it to the Contractor. Should the response to an RFI be required by a specific critical date the Contractor shall indicate that date on the RFI.
5. If the Engineer's review indicates a change or revision is necessary to the Contract Documents, the Engineer will prepare the appropriate drawings and/or specifications required to define the change or revision. These documents will be transmitted to the Owner Representative for review and incorporation into the Contract Documents. The Owner Representative will transmit the revised documents to the Contractor.
6. If the Contractor believes the clarification or direction provided by the response to the RFI will impact the cost or schedule of the Project, the Contractor shall provide prompt notification to the Owner Representative, according to the General Conditions. After consultation with the Engineer, the Owner Representative may prepare a Request for Proposal, PCO/Work Order and/or Change Order.

Section 1.30. Request for Proposal.

A "Request for Proposal" or "RFP" is the name given to a document issued by the Owner Representative requesting pricing information and/or an adjustment in Contract Time for a described scope of work. An RFP is not a Change Order, a Directive or a direction to proceed with the scope of work described in the RFP. The Contractor's response to the RFP shall be in the form of a Proposed Change Order.

Section 1.31. Samples.

"Samples" shall mean physical examples which illustrate materials, equipment or

workmanship and establish standards by which the Work will be judged.

Section 1.32. Shop Drawings.

“Shop Drawings” shall mean drawings, diagrams, schedules and other data specifically prepared by the Contractor or any subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

Section 1.33. Site.

“Site” is the area within which the Project is to be constructed.

Section 1.34. Special Inspector.

The “Special Inspector” shall mean the person or persons employed or engaged as (an) independent contractor(s) by the Owner to inspect the performance of specific aspects of the work as required by Title 24, California Code of Regulations.

Section 1.35. Special Provisions.

The “Special Provisions” are specific clauses setting forth conditions or requirements peculiar to the Work, and supplementary to the General Conditions and Technical Specifications.

Section 1.36. Specifications.

“Specifications” include the special provisions, general conditions, general requirements, and technical specifications applicable to the Work, all duly executed and issued addenda and interpretations, and all modifications approved by the Owner pursuant to a Change Order.

Section 1.37. Subcontractor.

“Subcontractor” shall mean each person or firm who is required by law to be and who is licensed to and will perform work, labor, or render services to the Contractor in or about

the construction of the Work, or who, under subcontract to the Contractor, fabricates and installs a portion of the work or improvement.

“Subcontractor” shall include all persons or firms within the authority of the Subletting and Subcontracting Fair Practices Act, Chapter 2 of Division 5, Title I of the Public Contract Code, commencing with Section 4100.

Section 1.38. Submittal.

“Submittal” shall mean all product data, shop drawings, manufacturers’ instructions, samples, Equals, substitution requests and all other submissions that the Contractor is required to provide to the Owner and/or the Engineer.

Section 1.39. Substantial Completion.

“Substantial Completion” shall mean the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so Owner can occupy or utilize the Work for its intended use, and only minor corrective Work remains to be performed, all required approvals, certificates of occupancy and other sign-off from any public agencies with jurisdiction have been obtained, (provided such approvals are not delayed as a result of causes unrelated to Contractor’s or its Subcontractors’, Sub-subcontractors’, or Suppliers’ performance or failure to perform the Work or to satisfy its obligations under the Contract Documents) and Contractor has cleaned up and removed all equipment, tools and other materials from the Work area. Contractor shall secure and deliver to Owner written warranties and guaranties from its Subcontractors, Sub-subcontractors and Suppliers bearing the date of Substantial Completion or some other date as may be agreed to by Owner and stating the period of warranty as required by the Contract Documents.

Section 1.40. Substitution.

“Substitution” shall mean a system, process, product or material similar in form or

function and equal in quality and performance to that shown or specified, but differing in some essential element, e.g., chemical composition, mechanism of action, surface finish, dimensions, durability, electrical or mechanical or plumbing requirements. See also: Equal.

Section 1.41. Supply.

“Supply” shall mean to furnish only, complete and ready for installation, including shipping, delivery, protection, and any assembly required prior to installation.

Section 1.42. Work.

The “Work” shall mean that scope of work defined in Section 00 73 00, Article 1 of these Specifications and includes all labor, materials, equipment and services provided or to be provided by the Contractor to fulfill its obligations. The Work may constitute the whole or a part of the Project.

ARTICLE 2. CONTRACT DOCUMENTS

Section 2.01. The Contract.

The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the Owner and the Contractor and supersedes all prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Change Order as defined in Section 1.07. Nothing contained in the Contract Documents shall create any contractual relationship between the Owner, the Owner Representative or the Engineer and any Subcontractor or sub-subcontractor, or between the Owner Representative or the Engineer and the Contractor.

Section 2.02. General Intent of Contract Documents.

It is the overriding intent of the Contract Documents that the work performed shall result in a complete and operable project in satisfactory condition for occupancy, with all mechanical equipment in functional operating condition and fit for the use for which it is intended, and which complies in all respects with the Contract Documents. No extra compensation will be allowed for anything omitted but fairly implied to be included in the Contract Documents. The prices paid for the various items in the bid shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all items necessary to complete the Work as provided by the Contract Documents.

Section 2.03. Labor and Materials.

Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, light, heat, utilities, transportation and other facilities and services necessary for the execution and completion of the Work in accordance with the Contract Documents and any applicable code or statute, whether or not specifically described herein, as long as same is reasonably inferable there from as being necessary to produce the intended

results, whether temporary or permanent, and whether or not incorporated or to be incorporated in the Work.

Section 2.04. Complementary Feature of Various Parts of Contract Documents.

The Contract Documents, including the Specifications and Plans and Drawings, are complementary and what is called for by any one shall be as binding as if called for by all. In case of conflict, large scale (detail) Drawings shall govern over small-scale Drawings, the Specifications shall govern over both the Construction Administrative Procedures Manual and the Contract Drawings except as noted below, special provisions shall govern over both the Contract Drawings and the general conditions, and subsequent addenda, Interpretations, or approved change orders shall govern over the original documents, unless a different order of precedence is noted elsewhere in conjunction with a specific portion of the documents.

In case of conflict between the Drawings and Specifications, the Drawings shall govern in matters of quantity and size, the Specifications in matters of quality. In case of conflict within the Drawings involving quantities or within the Specifications involving quality, the greater quantity and the higher quality shall be provided.

Where on any Drawing a portion of the Work is drawn out and the remainder is indicated in outline, the drawn-out parts shall apply to all other like portions of the Work. Where ornament or other detail is indicated as starting, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to other similar parts in the Work, unless otherwise indicated.

Scale drawings, full-size details, and specifications are intended to be fully coordinated and to agree. Where not specifically stated otherwise, all work and materials necessary for each unit of construction, even though only briefly mentioned or indicated, shall be furnished and installed fully and completely, including, but not limited to, the

manufacturer's instructions and/or recommendations, as part of this Contract.

Any material specified by reference to the number, symbol, or title of a specified standard such as a Commercial Standard, a Federal Specification, a trade association standard, or other similar standards, shall comply with the requirements in the latest approved revision thereof and any amendments or supplements thereto in effect on the date of Notice to Bidders, except as limited to type, class, or grade, or modified in such reference. The standards referred to, except as modified in the Specifications, shall have full force and effect as though printed in these Specifications.

Section 2.05. Ownership and Use of Documents.

All original Drawings and Specifications prepared by the Engineer are and shall remain the property of the Owner.

Section 2.06. Successors and Assigns.

The Owner and the Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it in whole or part without the written consent of the Owner nor shall the Contractor assign any moneys due or to become due to it hereunder without the prior written consent of the Owner.

Section 2.07. Written Notice.

Written notice may be accomplished by personal delivery, United States mail, overnight mail, facsimile, e-mail (with confirmation of receipt), or any other form of commercially accepted communication. The written notice shall become effective upon delivery. Delivery is complete when the notice is hand delivered to Contractor's home office, job-site office, or to Contractor's superintendent; or when the facsimile transmission is

complete if completed by 5:00 p.m. on a business day, or otherwise on the following business day; or when an e-mail return receipt is sent; or seven (7) days after mailing by U.S. mail; or upon actual delivery as evidenced by a delivery receipt.

Section 2.08. Rights and Remedies.

The duties and obligations of the Contractor imposed by the Contract Documents and the rights and remedies of the Owner available there under shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

The failure of the Owner, the Owner Representative, the Project Inspector or the Engineer to insist in any one or more instances upon the strict performance of any one or more of the provisions of this Contract or to exercise any right herein contained or provided by law, shall not be construed as a waiver or relinquishment of the performance of such provision or right(s) or of the right to subsequently demand such strict performance or exercise such right(s) and the rights shall continue unchanged and remain in full force and effect.

The Contractor agrees that it can be adequately compensated by money damages for any breach of this Contract which may be committed by the Owner and hereby agrees that no default, act or omission of the Owner, the Owner Representative, the Project Inspector or the Engineer, shall constitute a material breach of the Contract entitling the Contractor to cancel or rescind the provisions of the Contract or to suspend or abandon performance of all or any part of the Work. The Contractor hereby waives any and all rights and remedies to which it might otherwise be or become entitled, saving only its right to money damages.

Section 2.09. Unenforceability of any Clause.

If any clause or provision of the Contract Documents is held to be unenforceable or

invalid, then that provision of the Contract shall be stricken and the remaining portion shall remain in full force and effect.

ARTICLE 3. BONDS AND BONDING; INDEMNIFICATION AND INSURANCE

Section 3.01. Bonds: Time to Submit.

Within ten (10) days after receipt of Notice of Intent to Award, and before the Owner will execute the Agreement for Construction, the Contractor to whom the Work is awarded shall furnish and deliver to the Owner bonds as set forth below in Sections 3.03, 3.04 and 3.05.

Section 3.02. Qualifications of Surety.

All bonds shall be duly executed by a responsible corporate surety listed in the current version of the United States Department of the Treasury circular entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies," admitted by the State of California Department of Insurance to do business in the State of California and acceptable to Owner.

Section 3.03. Performance Bond.

The Contractor shall submit a faithful Performance Bond on the form provided with the Contract Documents, conditioned upon the faithful performance by the Contractor of all requirements of the Contract Documents. The amount of the bond shall be in a sum no less than one hundred percent (100%) of the total Contract Sum.

Section 3.04. Labor and Materials Payment Bond.

The Contractor shall also submit a bond on the form provided with the Contract Documents, which in all respects complies with California Civil Code sections 9550 and 9554. This bond, hereinafter referred to as a "Payment Bond," shall be in a sum no less than one hundred percent (100%) of the Contract Sum.

Section 3.05. Additional Bonding Requirements.

All bonds submitted shall include the following:

1. Full name and address of the Contractor, Surety, and Owner
2. Contract Date
3. Exact Contract Sum
4. Project name, address, and bid package number.
5. Signature of the Contractor
6. Corporate Seal if Applicable
7. Signature of authorized Surety representative.
8. Notarization of the Contractor and Surety
9. Power of Attorney
10. Local contact for Surety, with name, phone number, and address to which legal notices may be sent

Section 3.06. Bond Costs in Bids.

All costs for Labor and Material Payment Bonds and Performance Bonds were included in the bid.

Section 3.07. Indemnification.

3.07.1 Owner shall indemnify, defend and hold harmless the Contractor and its successors, assigns, officers, directors, shareholders, partners, members, agents and employees from and against any claims, damages, costs, expenses (including reasonable attorneys' fees), judgments or liabilities arising from the negligent or intentional acts or omissions of Owner or its officers, agents, or employees, with respect to Owner's use, operation, repair, alteration and occupancy of the Site and/or the Project and the performance of Owner's obligations herein or arising from the presence of hazardous materials that predates the Contract.

3.07.2 The Contractor shall indemnify, defend with counsel acceptable to Owner and hold harmless Owner, its officers, officials, agents and employees from and against

any and all third party claims, damages, costs, expenses (including reasonable attorneys' fees), judgments or liabilities arising out of or in any way connected with the performance or attempted performance of the provisions hereof, or in any way arising out of or connected with the Project, including but not limited to, equitable relief, stop payment notice actions (but only when not caused by Owner's failure to make payments in accordance with the Contract Documents) or any acts or omissions, any wrongful act, or any negligent act or omission to act, whether active or passive, on the part of Contractor or any of its agents, employees, independent contractors, Subcontractors or suppliers; provided, further, without limiting the foregoing, that the indemnity is intended to apply to any wrongful acts, or any actively or passively negligent acts or omissions to act, committed jointly or concurrently by Contractor, Contractor's agents, employees, independent contractors, Subcontractors or suppliers.

3.07.2.1 To the fullest extent permitted by law, Contractor's duty to defend shall extend, without limitation, to any suit or action founded upon any third party losses, claims, demands, damages, costs, expenses, attorney's fees, or liability of every nature arising out of or in any way connected with the performance or attempted performance of the provisions hereof, or in any way arising out of or connected with the Contract Documents, including exhibits.

3.07.2.2 Contractor's defense and indemnity obligations expressly extend to and include any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of damages to adjacent property caused by the conduct of the work for the Project by Contractor or any party for whom Contractor is liable.

3.07.2.3 Contractor's defense and indemnity obligations expressly extend to and include any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of the violation by Contractor, Contractor's agents,

employees, or independent contractors, Subcontractors or suppliers of any provisions of federal, state or local law, including applicable administrative regulations.

3.07.2.4 Contractor's defense and indemnity obligations also expressly extend to and include any claims, demands, damages, costs, expenses, or liability occasioned by injury to or death of any person, or any property damage to property owned by any person while on or about the Site or as a result of the work for the Project, whether such persons are on or about the Site by right or not, whenever the work is alleged to have been a contributing cause in any degree whatsoever.

3.07.2.5 Nothing contained in the foregoing indemnity provisions shall be construed to require Contractor to indemnify Owner in contravention of Section 2782 of the Civil Code for the active sole negligence or willful misconduct of the Owner, its agents, employees, or independent contractors.

3.07.2.6 In claims against any person or entity herein indemnified that are made by an employee of Contractor or an employee of any of Contractor's agents, independent contractors, Subcontractors or suppliers, a person indirectly employed by Contractor or by any of Contractor's agents, independent contractors, Subcontractors or suppliers, or anyone for whose acts Contractor or any of Contractor's agents, independent contractors, Subcontractors or suppliers may be liable, the defense and indemnification obligations herein shall not be limited by any limitation on amount or type of damages, compensation, or benefits payable by or for Contractor or Contractor's agents, independent contractors, Subcontractors or suppliers under workers' compensation acts, disability acts, or other employee benefit acts.

3.07.2.7 Contractor's defense and indemnification obligations shall not be limited by any assertion or finding that the person or entity indemnified is liable by reason of a non-delegable duty.

3.07.2.8 Nothing contained in the foregoing defense and indemnity provisions shall be construed to require Contractor to defend or indemnify Owner to the extent the claims, damages, costs, expenses, judgments, fines, penalties or liabilities arise out of the actions or inaction of the Engineer or its subconsultants, or any other person, firm or entity providing design or other professional services in connection with the Project.

3.07.2.9 Should Contractor be required to investigate or defend any third party claims or actions that are subsequently determined not to be the sole responsibility of Owner, Owner shall then reimburse Contractor its unrecovered out-of-pocket costs, including reasonable attorneys' fees and any insurance deductibles, to the proportionate extent that Owner is determined not to be responsible.

Section 3.08. Indemnification of Adjacent Property Owners.

In the event the Contractor enters any agreement with the owners of any adjacent property to enter upon or adjacent to such property for the purpose of performing this Contract, Contractor shall fully indemnify, defend and save harmless such person, firm, or corporation, state or other governmental agency which owns or has any interest in the adjacent property. The form and content of the indemnification agreement shall be approved by the Owner prior to commencement of any work on or about such property. These provisions shall be in addition to any other requirements of the owners of adjacent property.

Section 3.09. Insurance.

3.09.1 General.

Contractor shall obtain, and maintain during the entire Contract Time, and for any extended length of time identified under these requirements, all insurance required by Sections 3.10.3 and 3.10.4; Contractor shall obtain, and maintain during the entire Project all insurance required by Section 3.10.6. Certificates of Insurance and required endorsements, including but not limited to Additional Insured Endorsements and Waivers of Subrogation in favor of Owner, the Engineer, the Construction Manager, and any other Owner Consultants, and each of their officers, officials, directors, trustees, agents, employees and volunteers (herein after collectively referred to as "Additional Insureds"), shall be delivered to Owner within five (5) days of execution of the Contract by Owner. Contractor shall not commence work until all required insurance documentation has been submitted to and accepted by Owner. If Owner requests copies of the Insurance Policy or Policies, Contractor agrees to provide certified copies within 30 days of Owner's request.

Every policy shall be endorsed or shall provide in the policy form to state that the policy shall not be canceled, materially reduced, or non-renewed without thirty (30) days prior written notice to Owner (ten [10] days for non-payment of premium).

Failure of Contractor to maintain all required insurance as required during the Project shall constitute a default entitling Owner to all rights and remedies that exist under this Agreement and/or by law.

The insurance required in this agreement shall be with carriers, on forms, and in amounts acceptable to Owner and shall be subject to the approval of Owner. Any acceptance of insurance certificates by Owner, however, shall in no way limit or

relieve Contractor of duties and responsibilities in this agreement.

3.09.2 Effective Date of Policies.

The insurance required by Sections 3.10.3 and 3.10.4 shall be maintained by Contractor in full force and effect at all times during prosecution of the work and, in regards to the insurance required by 3.10.4, for the period of time Owner may be held liable for Contractor's work; evidence of such will be provided to Owner for a period of time no less than four (4) years after the final completion and acceptance thereof by Owner. This requirement includes, but is not limited to, Contractor's obligation to maintain Products & Completed Operations coverage for itself and the Additional Insureds. The insurance required by 3.10.6 (Builder's Risk) shall be maintained by Contractor in full force and effect from the time of Notice to Proceed until acceptance of the Project by Owner.

3.09.3 Workers' Compensation and Employers' Liability Insurance.

In accordance with the provisions of Section 3700 of the Labor Code, Contractor, and each Subcontractor, shall secure the payment of compensation to its employees. Contractor and each Subcontractor shall provide Workers' Compensation insurance and occupational disease insurance, as required by law, and Employer's Liability insurance with minimum limits of \$1,000,000 covering all workplaces involved in the Construction Documents.

Contractor shall sign and file with Owner the following certificate:

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the

performance of the work of this Contract.

Contractor shall require each Subcontractor to file such statement prior to allowing that Subcontractor to commence Work.

Contractor shall furnish a certificate of insurance or a certificate of permission to self-insure under the Workers' Compensation and Employers' Liability Insurance statutes of the State of California. The certificate shall provide that at least thirty (30) days' prior written notice (ten [10] days for non-payment of premium) shall be served on Owner prior to the cancellation or change of such insurance or self-insurance. Said certificate shall also include an endorsement evidencing that the insurer shall waive all rights of subrogation against Owner, the Engineer, the Construction Manager, and any other Owner Consultants, and each of their officers, officials, directors, trustees, agents, employees and volunteers. Such insurance shall be delivered to the Owner Representative before Owner will execute the Contract.

With the exception of insurance provided by The State Compensation Insurance Fund of California, insurance is to be placed with insurers approved by the State of California Department of Insurance or otherwise authorized to transact insurance business in California and with a Bests' rating of no less than A- VII.

Any deductibles or self-insured retentions must be declared to and approved by Owner.

3.09.4 Liability Insurance.

Insurance is to be placed with insurers approved by the State of California Department of Insurance to transact insurance business in California and with a Bests' rating of no less than A- VII.

A. Contractor shall procure and maintain insurance on all of their operations with insurance companies and on forms acceptable to Owner for the following minimum insurance coverages:

1. **Commercial General Liability** Occurrence form insurance policy (ISO CG 00 01 or equivalent) covering all operations by or on behalf of Contractor, not excluding coverage for:
 - a. Premises and Operations
 - b. Products and Completed Operations
 - c. Contractual Liability insuring the obligations assumed by Contractor in this agreement or Blanket Contractual Liability Coverage
 - d. Broad Form Property Damage (including Completed Operations)
 - e. Explosion, Collapse, Subsidence, and Underground Hazards
 - f. Personal Injury Liability

Commercial General Liability Limits shall not be less than:

\$2,000,000 Each Occurrence (Combined Single Limit for Bodily Injury & Property Damage)

\$2,000,000 Personal Injury Liability Each Occurrence

\$4,000,000 Aggregate for Products and Completed Operations

\$4,000,000 General Aggregate

The required General Liability limits must be present on the primary General Liability policy and cannot be met with Excess Liability limits.

2. **Commercial Automobile Liability** insurance policy (ISO CA 00 01 or equivalent) covering Bodily Injury, Property Damage and Contractual Liability coverage for “Any Auto” (Symbol 1) which includes coverage for any owned, hired, borrowed and non-owned automobile, trailer, and equipment coverage, with combined single limit of not less than \$1,000,000. Owner and the “Additional Insured” entities shall be named as additional insureds on a primary and non-contributory basis, with subrogation rights waived against each.

3. **Excess Liability** Contractor shall have in place an Umbrella or Excess Liability Policy in the amount of \$ 20,000,000. The policy shall be “Following Form” in excess of the above captioned policies and Workers’ Compensation Employer’s Liability. Evidence of this coverage shall be provided on the certificate of insurance.

4. **Professional Liability** Should any work in Contractor’s contract contain any element of design or any professional element that would not otherwise be covered under Contractor’s General Liability policy, Contractor shall obtain at its own expense Professional Liability (Errors & Omissions) coverage to protect, defend, and hold harmless Owner and its officers, officials, directors, trustees, agents, employees and volunteers from all claims arising out of the professional services provided by Contractor under the Contract Documents. Contractor’s policy shall have limits of not less than \$5,000,000 and shall agree to waive all rights of subrogation against Owner and the “Additional Insured” entities designated in this contract. Contractor shall maintain coverage for this policy and retroactive dates that will continue coverage for a period of at least five years from the completion of the project. Owner may require higher limits by written request.

5. **Pollution Liability** Should any work include any elements that may give rise to a Pollution claim, Contractor shall be required to carry Pollution Liability coverage with limits no less than \$5,000,000 per pollution event. Owner may require higher limits by written request. The policy shall be endorsed to include by name the “Additional Insureds” as additional insureds and shall include a waiver of subrogation endorsement in favor of the Additional Insureds.

B. Additional coverages and/or limits may be required in the Contract Documents. If the Contract Documents require limits of General Liability and Automobile Liability insurance exceeding those stated above, Contractor shall carry Excess or Umbrella Liability insurance providing excess coverage at least as broad as the underlying coverage with a limit equal to the amount stated in the Contract Documents.

C. Should Contractor or any of its Subcontractors or Consultants maintain broader coverage and/or limits than those listed in this contract, those limits/coverages are hereby required and shall be made available to Owner.

D. The following terms shall be included in the General Liability and Auto Liability insurance, either within the policy or by endorsement:

1. General Liability policy shall be endorsed to include by name “Additional Insureds” as additional insureds (the General Liability endorsement shall be at least as broad as ISO form CG 20 10 11 85), and shall provide coverage for Ongoing Operations as well as Products & Completed Operations for the period of time the “Additional Insureds” may be held liable for Contractor’s work, and shall state that these policies are

primary and that any Insurance, Self Insurance or Memorandum of Liability Coverage (MDLC) maintained by Owner shall be in excess of Contractor's insurance and shall not be called upon to contribute to any loss. Evidence of such shall be provided to Owner for a period of time no less than four (4) years after completion of the project.

2. Except with respect to bodily injury and property damage included within the Products and Completed Operations hazards, the aggregate limit, where applicable, shall apply separately to the project under this subcontract.

3. All liability insurance shall be written on an "occurrence" basis and defense costs shall be outside the policy limits of liability. Modified Occurrence policies and sunset-type clauses shall not be accepted.

4. The Commercial Auto Policy shall include Owner and the "Additional Insured" entities as additional insureds on a primary and non-contributory basis, with subrogation rights waived against each.

5. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the "Additional Insureds."

6. General Liability Coverage shall state that Contractor's insurance shall apply separately to each Insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability, and shall contain a severability of interest/cross liability clause to the effect that each Insured and Additional Insured is covered as if separate policies had been issued to each.

7. The insurer(s) issuing the required General Liability and Auto Liability policies shall, by separate endorsement, agree to waive all rights of subrogation against the "Additional Insureds." The General Liability waiver of subrogation must apply to both ongoing operations and completed operations.

8. The policy must provide, by policy provisions or endorsement, that it shall not be canceled, suspended, voided, materially changed or any renewal or replacement policy be changed without thirty (30) days' prior written notice to Owner (ten [10] for non-payment of premium). Evidence of such must be provided to Owner.

9. The Contractual Liability coverage may be either on a blanket basis or a policy which specifically identifies this Agreement with a contractual liability endorsement.

10. Any deductibles or self-insured retentions must be declared to and approved by Owner which amounts shall be no greater than \$50,000. Any and all deductibles or self-insurance retentions in the above described liability insurance policies shall be assumed by and be for the account of, and at the sole risk of Contractor.

11. All policies and endorsements are subject to approval at the sole discretion of Owner. Endorsements with expiration dates will not be accepted.

3.09.5 Subcontractor's Insurance.

With the exception of policy limits as outlined in this Section, Contractor shall require each and every Subcontractor to maintain insurance coverages

commensurate to that which is required of Contractor per Sections 3.10.3 and 3.10.4 and shall incorporate these insurance requirements into each subcontract. This includes, but is not limited to, the Additional Insured and Waiver of Subrogation provisions.

Subcontractors must carry General Liability limits no less than as outlined below:

General Liability:

\$1,000,000 Each Occurrence (Combined Single Limit for Bodily Injury & Property Damage)

\$1,000,000 Personal Injury Liability Each Occurrence

\$2,000,000 Aggregate for Products and Completed Operations

\$2,000,000 General Aggregate

Commercial Automobile Liability: \$1,000,000 Combined Single Limit

Employers Liability: \$1,000,000

Excess Liability: \$1,000,000

Any Subcontractors with any design-element to their work must provide evidence of Professional Liability insurance in an amount no less than \$2,000,000 per claim; such policies shall contain a waiver of subrogation in favor of Owner and the "Additional Insured" entities.

Should Subcontractor's work include any elements that may give rise to a Pollution claim, Subcontractor shall be required to carry Pollution Liability coverage with limits of at least \$2,000,000 per pollution event. Owner may require higher limits by written request. The policy shall be endorsed to include by name the

“Additional Insureds” as additional insureds and shall include a waiver of subrogation endorsement in favor of the “Additional Insureds.”

Should any Subcontractor maintain broader coverage and/or limits than those listed in this contract, those limits/coverages are hereby required and shall be made available to Owner.

Contractor shall not allow any Subcontractor to commence work on its Subcontract until the Subcontractor has provided Entity with Certificates of Insurance and applicable endorsements as well as the signed statement acknowledging compliance with Section 3700 of the Labor Code, as required in Section III. It shall be the responsibility of Contractor to ensure that all Subcontractors comply with this provision, and to verify their compliance when requested by Owner.

If requested by Owner, Contractor shall deliver certificates of insurance or copies of the insurance policies and endorsements of all Subcontractors; provided, however, that this authority shall not relieve Contractor of its obligation to ascertain the existence of such insurance.

3.09.6 Builder’s Risk/Installation Floater Insurance. Contractor shall, at its sole expense, purchase, maintain and keep in force at all times during the Project, until the date of transfer of the insurable interest to and acceptance by Owner, a Builder’s Risk/Installation Floater policy (Property Insurance). Such insurance shall protect Owner, the Contractor, Subcontractors, Sub-Subcontractors and Material Suppliers at every tier, as their interests may appear, from loss or damage to work in the course of construction. Property insurance shall be on a "Special Form" or equivalent policy and shall not exclude the perils of fire (with extended coverage) and physical loss or damage not excluding theft, vandalism, malicious mischief, collapse, earthquake (including full coverage for all losses caused by “Acts of God,”

as defined by California Public Contract Code section 7105), flood, windstorm, falsework, mechanical breakdown or electrical damage including testing and startup, magnetic disturbance, changes in temperature or humidity, temporary buildings, loss that ensues from defective material or workmanship, explosion, and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Owner's Representative's, Engineer's, Construction Manager's, other Owner Consultants' and Contractor's services and expenses required as a result of such insured loss in the amount of one hundred percent (100%) of the replacement cost of the Project. In addition there shall be coverage in the amount of twenty percent (20%) of the replacement cost for Extra Expense and Loss of Use and thirty percent (30%) of the replacement cost for Soft Costs coverage.

A. The following terms shall apply to such coverage:

1. Coverage shall be written on a replacement cost, completed value, non-reporting form and shall cover the property against all risks of physical loss or damage required above.
2. The property covered shall include the work and improvements of the Project, including any materials, equipment or other items to be incorporated therein while the same are located at the construction Site, with reasonable sub-limits for materials stored offsite, or while in transit. The policy shall contain a provision that Contractor and Owner are Named Insureds under this policy and that the Subcontractors, Sub-Subcontractors, and Material Suppliers at every tier are Named Insureds or Additional Insureds as their interest may appear. A loss insured under the Builder's Risk/Installation Floater policy shall be adjusted by Contractor as fiduciary and made payable to Contractor as fiduciary for the insureds, as their interests may appear, subject to

requirements of any applicable mortgagee clause. Contractor shall pay Subcontractors their just shares of insurance proceeds received by Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their sub-subcontractors in similar manner.

3. When stated in the Contract Documents, Builder's Risk/Installation Floater insurance shall include Delay in Opening coverage with limits of liability, and for the period of time, as set forth in the Contract Documents. Coverage shall include interest and/or principal payments that become due and payable by Owner upon completion of construction or other date as set forth in the Contract Documents, debt service, expense, loss of earnings or rental income or other loss incurred by Owner, without deduction, due to the failure of the Project being completed on schedule.

4. The maximum deductible for earth movement, Acts of God, and flood allowable under this policy shall not be more than five percent (5%) of the values in place at the time loss per occurrence. The maximum deductible for all other perils allowable under this policy shall be fifty thousand dollars (\$50,000). All deductibles shall be borne solely by Contractor, and Owner shall not be responsible to pay any deductible in whole or in part.

B. The insurer shall by separate endorsement or policy provisions agree to waive all rights of subrogation against Owner, the other "Additional Insureds," Contractor, Subcontractors, Sub-Subcontractors, and Material Suppliers at every tier for losses covered by the policy. If the policies of insurance referred to in this Section require an endorsement or consent of the insurance company to provide for continued coverage where there is a waiver of subrogation, the owners of such policies will cause them to be so endorsed to obtain such consent.

C. Contractor shall provide a copy of the Builder's Risk/Installation Floater policy to Owner for approval. Such policy shall provide all the coverages required of this section as well as conform to the requirements of this contract.

D. If not covered by Builder's Risk/Installation Floater policy or any other property or equipment insurance required by the Contract Documents, Contractor shall, at its sole expense, purchase, maintain and keep in force at all times during the term of the Contract Documents property insurance for portions of Contractor's work and/or equipment to be incorporated therein stored offsite or in transit.

ARTICLE 4. PERMITS, LICENSES, ORDINANCES, AND REGULATIONS

Section 4.01. Basic Standard.

The Contractor shall conduct the Work so that all laws and ordinances for the protection of the public and the workers shall be obeyed fully both by the Contractor and by all subcontractors on the Site.

The Contractor shall comply with the requirements of the California State Licensing Board and have a valid contractor's license which is to be active as to the date of the receipt of bids and maintained in "Good Standing" from the receipt of bids throughout the Project. The class of license required is as indicated in Section 00 73 00, Special Provisions.

The Contractor, and any subcontractor listed in accordance with Public Contract Code section 4104, shall be registered pursuant to Labor Code section 1725.5 prior to engaging in the performance of any public work contract that is subject to the requirements of Division 2, Part 7, Chapter 1 of the California Labor Code, and shall maintain current registration throughout the term of this Contract.

Section 4.02. Permits.

The Owner will reimburse the Contractor for utility connection fees, encroachment permits, utility service charges other than temporary utility charges unless otherwise indicated, necessary for the completion of the Work. All other fees and permits shall be at the expense of the Contractor. Proper documentation of fee, permit, and utility service charges shall be submitted to the Owner through the Owner Representative. No mark-up shall be allowed the Contractor on these reimbursable charges.

The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations or orders of any public authority bearing on the performance of the Work.

Except as provided above, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for the construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

Section 4.03. Compliance with Laws and Regulations.

The Contractor shall keep itself fully informed of and shall observe and comply with, and shall cause any and all persons, firms, or corporations employed by it or under it to observe and comply with all federal and state laws, and county or municipal ordinances, regulations, orders, and decrees which in any manner affect those engaged or employed on the Work, or the materials used in the Work, or in any way affect the conduct of the Work.

All work shall be performed in accordance with the rules and regulations, Title 24, Parts 1-5 and 9, California Code of Regulations, and a copy shall be kept on the job at all times during construction.

ARTICLE 5. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

Section 5.01. Familiarity with Project Site Conditions and Contract Documents.

Submission of a bid by the Contractor is a representation that the Contractor has visited the Site, is satisfied as to the nature and location of the Work, is satisfied as to the character, quality and quantity of the Work, has become familiar with the local conditions under which the Work is to be performed, has made whatever contact and investigation with utility companies that it deems necessary, and has correlated its site observations with the requirements of the Contract Documents. Failure to visit the Site will not relieve the Contractor of responsibility for observing and considering those conditions which a qualified contractor would have observed.

Section 5.02. Subsurface Conditions.

Where investigations of subsurface conditions have been made by or on behalf of the Owner with respect to subsurface conditions, utilities, foundations, or other structural designs, and that information is shown on the Drawings or Plans, it represents only a statement by the Owner as to the character of the materials which have been encountered by the Owner's investigation. This information is only included for the convenience of bidders, including the Contractor.

Investigations of subsurface conditions are made for the purpose of design only. The Owner assumes no responsibility with respect to the sufficiency or accuracy of borings or of the log of test borings or other preliminary investigations or of the interpretation thereof. There is no guaranty, express or implied, that the conditions indicated are representative of those existing throughout the Project or the Work, or any part of the Project or the Work, or that unanticipated conditions may not occur. When a log of test borings, soils studies and/or any other report of subsurface conditions is included with the Drawings or Plans, it is expressly understood that such log, soils studies and/or report of subsurface conditions does not constitute a part of the Contract Documents,

represents only an opinion of the Owner as to the character of the materials to be encountered, and is included in the Drawings or Plans only for the convenience of bidders, including the Contractor. Making such information available to bidders, including Contractor, is not to be construed in any way as a waiver of the provisions of these General Conditions, and bidders, including Contractor, must satisfy themselves through their own investigations as to the conditions to be encountered.

Section 5.03. Sections of Drawings and Specifications.

For convenience, the specifications and drawings in the Contract Documents are arranged in several sections, but this separation shall not be considered as the limits of the work required of any separate trade. The scope of work is that indicated in Specification 00 73 00 Special Provisions, Article 1, Scope of Work. The terms and conditions of the work to be performed by any Subcontractor are strictly between the Contractor and the Subcontractor.

Section 5.04. Diagrammatic Drawings.

Drawings showing the locations of equipment, wiring, piping, etc., unless dimensioned, are diagrammatic, and conditions will not always permit their installation in the exact location shown. In such event, the Contractor shall submit an RFI and obtain a response before proceeding with the work in question. Unless there is a material increase in the Contractor's scope of work, installation as specified in the response to the RFI shall be without any additional compensation to the Contractor and without any increase in the Contract Time. Any work done after discovery of the issue, until authorization to proceed based on the response to the RFI, will be done at the Contractor's risk.

Section 5.05. Interpretation and Additional Instructions.

Should the Contractor discover any conflicts, omissions, or errors in the Contract Documents, or have any question concerning interpretation or clarification of the Contract Documents, or if it appears that the Work to be done or any matters relative thereto are

not sufficiently detailed or explained in the Contract Documents, then before proceeding with the work affected, the Contractor shall within 48 hours notify the Owner Representative in writing and request interpretation, clarification, or additional detailed instructions and/or drawings concerning the work. All such questions shall be resolved and instructions to the Contractor issued by the Engineer.

Should the Contractor proceed with the work affected before receipt of instructions from the Engineer, and, in the case of a change to the Work, before receipt of authorization to proceed, it shall remove and replace or adjust any work which is not in accordance therewith, and it shall be responsible for any resultant damage, defect, or added cost without an extension of the Contract Time.

Section 5.06. Engineer's Instruction Bulletins and Drawings.

In addition to the Drawings incorporated in the Contract Documents, the Engineer, through the Owner Representative, may furnish such supplemental drawings or instructions from time to time as may be necessary to make clear or to define in greater detail the intent of the Contract Drawings and Specifications. In furnishing additional drawings or instructions, the Engineer shall have the authority to make minor changes in the Work, not involving any extra cost, and not inconsistent with the overall design of the Project. If extra cost is known to be involved, these instructions will be accompanied by an RFP. These supplemental drawings and instructions shall become a part of the Contract Documents; the Contractor shall make its work conform to them.

Section 5.07. Notification of Disagreement Regarding Scope of Work.

If agreement cannot be reached as to cost, and the Contractor does not agree that work due to an interpretation or supplemental drawing or instruction is within the scope of the Contract Documents, the Contractor shall, within seven (7) days after receipt of the interpretation or instruction, submit a Proposed Change Order to the Owner Representative specifying in detail in what particulars the contract requirements were

exceeded and the change in cost resulting therefrom. **Failure of Contractor to provide timely written notice waives Contractor's right to claim that the Interpretation or Engineer's Instruction Bulletin constitutes a change to the Contract Documents.** The Owner Representative shall then determine whether a Change Order shall be issued in accordance with Article 15 of these General Conditions. The Contractor shall nevertheless perform such work without delay.

The time during which the protest is pending shall not affect the Contract Time.

Section 5.08. As-Built Drawings and Specifications.

The Contractor shall maintain a hard copy or PDF master set of red line Drawings and Specifications at the Site which shall be updated weekly to reflect current as-built conditions of the Work as the Work progresses. The information to be recorded by the Contractor will be determined by the Engineer, who will be responsible for preparing the final, reproducible as-built drawings based upon the information submitted by the Contractor. The Contractor's as-built information shall be clear and legible, and at a minimum, the following information shall be inserted and dimensioned on those Drawings and Specifications, in RED, by the Contractor: the exact horizontal and vertical location of all installations in their finished condition, including all electrical, plumbing and mechanical installations; all changes in construction, materials and installed equipment; posting of all issued addenda, Request for Information (RFI) signed by the Engineer and Engineer's Instruction Bulletins with back-up to the bid documents in all applicable locations along with adequate dimensional data, both horizontal and vertical, to allow location of covered installations; the identification of each change authorized by Directive, and the number of that Directive. The updated drawings and specifications shall be available for review by the Owner Representative and the Inspector. If as-builts are marked up in PDF format, the file shall be made available remotely in a manner acceptable to the Owner Representative and Inspector.

Written confirmation from the Owner Representative that the as-builts have been properly updated weekly shall be submitted with each pay application request, and the existence of such properly updated as-builts shall be a condition precedent to payment. Failure to comply with the preparation and submission of as-builts may result in the Owner withholding the current progress payment.

As a condition to certification of final completion, the Contractor shall provide signed and dated original as-built drawings and specifications in a PDF color format, with a resolution of 600 DPI and each plan sheet and specification section bookmarked by name, number or title, together with all additional information requested by the Engineer to enable the Engineer to prepare a set of final, reproducible as-built drawings and specifications. Timely submission of complete as-built documents shall be a condition precedent to certification of final completion and to final payment. Delays in the submission of complete as-built documents may subject the Contractor to liquidated damages.

ARTICLE 6. SUBCONTRACTOR LISTING AND SUBSTITUTION

Section 6.01. Subcontracting.

If the Contractor subcontracts any work to be performed or materials to be supplied pursuant to this agreement, the Contractor shall be as fully responsible to the Owner for the acts and/or omissions of such Subcontractor or supplier and of the persons either directly or indirectly employed or engaged as subcontractors by such Subcontractor or supplier as it is for its own acts and omissions.

The Contractor shall bind every Subcontractor or supplier, and every subcontractor of a Subcontractor, by the terms of the Contract Documents.

The Contractor shall cause each of its Subcontractors by contract, to have an active contractor's license pertaining to its classification of work maintained in "good standing" from commencement of the Subcontractor's work through final completion of the Project.

All Subcontractors listed in accordance with Public Contract Code section 4104 shall be registered pursuant to Labor Code section 1725.5 prior to engaging in the performance of any public work contract that is subject to the requirements of Division 2, Part 7, Chapter 1 of the California Labor Code, and shall maintain current registration throughout the term of this Contract.

The Contractor shall not perform work on the Project with a Subcontractor who is ineligible to perform work on public works project pursuant to Labor Code sections 1777.1 or 1777.7.

Section 6.02. Disputes Between Subcontractors and/or the Contractor.

If, through acts or neglect on the part of the Contractor, including failure to supervise and control its Subcontractors or suppliers, any other contractor, subcontractor or

supplier or supplier on the Project, or worker suffers loss or damage, the Contractor agrees to settle with such other contractor, subcontractor, supplier, or worker by agreement or arbitration, if such other contractor, subcontractor, or worker shall assert any claim against the Owner or any of its officers, agents, or employees, on account of any damage alleged to have been so sustained.

In the event of the receipt of any such claim, the Owner shall notify the Contractor, who shall defend, indemnify, and save harmless the Owner and all of its officers, agents, and employees against any such claim.

Section 6.03. Listing of Subcontractors.

The Contractor shall comply with the requirements in the Instructions to Bidders regarding the listing of Subcontractors and shall comply with the requirements of the Subletting and Subcontracting Fair Practices Act, Chapter 4 of Part 1 of Division 2 of the Public Contract Code, commencing with Section 4100, forbidding bid shopping and bid peddling, requiring accurate listing of all Subcontractors, and requiring Subcontractors to be licensed.

Should the Contractor violate any of the provisions of this Section, the violation shall be deemed a breach of this Contract and the Owner shall have all remedies provided by California law, including but not limited to those provided in Public Contract Code Section 4110, allowing termination of the Contract or a penalty assessment of ten percent (10%) of the subcontract amount.

Section 6.04. Dealings with Subcontractors.

The Owner and its representatives will deal only with the Contractor, and the Contractor shall be responsible for the proper execution of the Work. Any and all discussions between any subcontractor or supplier and the Owner or any of its representatives shall be initiated through the Contractor or its representative.

Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor or supplier and the Owner or any of its representatives, nor shall this Contract be construed to be for the benefit of any subcontractor or supplier.

Section 6.05. Subcontractor List for Labor Compliance.

The Contractor shall provide the Owner with a list of all subcontractors performing work on the Project, regardless of subcontract amount and regardless of whether the subcontractor is under contract with the Contractor or under contract with a Subcontractor, for the purpose of labor compliance monitoring. It shall be the Contractor's responsibility to notify the Owner of any additions or deletions to this subcontractor list from the commencement of the Work through final payment.

Section 6.06. Termination of Unsatisfactory Subcontractors.

When any portion of the Work that has been subcontracted by the Contractor is not being prosecuted in a satisfactory manner, or when materials supplied do not conform to the Contract Documents and these deficiencies form the basis of a default notice issued pursuant to Article 16, the Owner may direct the Contractor to discharge the subcontractor or supplier.

Any subcontractor or supplier which is discharged shall not again be employed on this Project.

Any termination of a Subcontractor pursuant to this Section shall be in strict conformity with the requirements of the Subletting and Subcontracting Fair Practices Act, Part 1 of Division 2 of the Public Contract Code, commencing with Section 4100.

Section 6.07. Payment of Subcontractors and Suppliers.

The Contractor shall make all payments to Subcontractors and suppliers as expeditiously

and timely as possible, consistent with any applicable law so as to prevent any stop notices, liens or claims from being filed against the Owner or the Site.

ARTICLE 7. STATE REQUIREMENTS REGARDING WAGES, HOURS, AND EQUAL
OPPORTUNITY

Section 7.01. Prevailing Wage Rate; Notice.

As provided under Labor Code Sections 1726-1861, the Director of the Department of Industrial Relations (DIR) of the State of California has determined the prevailing rate of wages in the locality in which the work on the project is to be performed for each craft, classification, or type of worker needed to execute this Contract. The prevailing rates so determined are on file with the Owner, and they are available for public inspection. They may also be obtained on the internet at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>. Those prevailing wage rates hereby are incorporated in this agreement and made a part hereof.

The Contractor shall obtain and post copies of these prevailing wage rates in a prominent place at the job site, in accordance with the regulations of the Department of Industrial Relations.

The Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The Contractor shall post on the jobsite a Notice containing the following language:

This public works project is subject to monitoring and investigative activities by the Department of Industrial Relations ("DIR"), State of California. This Notice is intended to provide information to all workers employed in the execution of the contract for public work and to all contractors and other persons having access to the job site to enable the DIR to ensure compliance with and enforcement of prevailing wage laws on public works projects.

The prevailing wage laws require that all workers be paid at least the minimum hourly wage as determined by the Director of Industrial Relations for the specific classification (or type of work) performed by workers on the project. These rates are listed on a separate job site posting of minimum prevailing rates required to be maintained by the public entity which awarded the public works contract. Complaints concerning nonpayment of the required minimum wage rates to workers on this project may be filed with the DIR at any office of the Division of Labor Standards Enforcement (“DLSE”).

Complaints should be filed in writing immediately upon discovery of any violations of the prevailing wage laws due to the short period of time following the completion of the Project that the DIR may take legal action against those responsible.

Complaints should contain details about the violations alleged (for example, wrong rate paid, not all hours paid, overtime rate not paid for hours worked in excess of 8 per day or 40 per week, etc) as well as the name of the employer, the public entity which awarded the public works contract, and the location and name of the project.

For general information concerning the prevailing wage laws and how to file a complaint concerning any violation of these prevailing wage laws, you may contact any DLSE office. Complaint forms are also available at the DIR website found at:

www.dir.ca.gov/dlse/PublicWorks.html.

Section 7.02. Payment of Prevailing Wage Rates.

Pursuant to Labor Code Section 1772, workers employed by contractors or subcontractors in the execution of any contract for public work are deemed to be employed upon public work as defined in Labor Code Sections 1720-1725. Therefore, the Contractor shall pay, and shall cause all subcontractors, whether under contract with the Contractor or under contract with any Subcontractor, to pay not less than the specified prevailing wage rates to all workers employed in the execution of this Contract.

Notwithstanding the foregoing, and as provided in the Special Provisions, this Project is Federally funded and Federal Davis-Bacon prevailing wage rates apply to the extent that they exceed prevailing wage rates established by DIR.

In accordance with Labor Code Section 1775, the Contractor shall monitor the payment of the specified general prevailing rate of per diem wages by subcontractors to employees by periodic review of the certified payrolls of the subcontractors.

Section 7.03. Wage Rate for Crafts Not Listed.

The responsibility to check prevailing wage rates is the Contractor's. Pursuant to Labor Code Section 1773, the Contractor may file with the Director of DIR or the Chief of the Division of Labor Standards Enforcement ("DLSE") a petition to review a determination of any rate or rates made by the Director of DIR. The Contractor may also petition the Director of DIR to make a determination for a particular craft, classification or type of work not covered by a general determination. Pending the review or determination, the wages may be assumed to be those in the applicable collective bargaining agreement, but no adjustment in the bid or Contract Price shall be made if such assumption is incorrect.

Section 7.04. Records of Hours Worked and Wages.

The Contractor shall keep, and shall cause all subcontractors on the Project to keep,

certified payroll records of the hours and wages of all employees employed on the Project, and those records shall be open at all times for inspection by the Owner and/or the Division of Labor Statistics and Enforcement, in accordance with Sections 1776 and 1812 of the Labor Code. The certified payroll records shall contain at least the following information: the name, address, social security number, work classification, dates of payroll period, straight time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Contractor and/or each subcontractor in connection with the Work.

In the event that the Contractor and/or any subcontractor fails to submit certified payroll records to the Owner within ten (10) calendar days of a request from the Owner for the records, the Contractor and/or the subcontractor shall, as a penalty, forfeit one hundred dollars (\$100) per calendar day, per worker, until strict compliance is effectuated. These penalties shall be withheld from progress payments then due and/or to become due. The Contractor is not subject to this penalty assessment due to the failure of a subcontractor to comply with these requirements if the Contractor can demonstrate that it has fully complied with the provisions of Labor Code Section 1776.

The Contractor shall not carry on its payrolls any person not actually employed by the Contractor, nor shall it carry on its payrolls employees of any subcontractor. The Contractor shall show on its payrolls all persons actually employed by the Contractor on the Project, in any capacity. The Contractor shall cause all subcontractors on the Project, whether under contract with the Contractor or under contract with any Subcontractor, to comply with this Section.

In accordance with Government Code Section 8546.7, or any amendments thereto, all books, records, and files of the Contractor, or any subcontractor connected with the performance of this Contract, shall be subject to examination and audit by the Auditor General for a period of three (3) years after final payment. Contractor shall preserve and

cause all subcontractors to preserve such books, records and files for the audit period.

Section 7.05. Additional Requirements for Labor Compliance.

The Contractor shall comply with the following additional requirements and shall cause all subcontractors on the Project, whether under contract with the Contractor or under contract with any Subcontractor, to comply. The records kept by the Contractor and all subcontractors of the hours and wages of all employees employed on Project also shall be open at all times for inspection by the DIR and DLSE, in accordance with Sections 1776 and 1812 of the Labor Code. Such records shall be furnished electronically to the Labor Commissioner of the DIR monthly, unless more frequent submission is required herein, and shall be furnished within 10 days of any separate request by the DIR or DLSE. Payroll records shall be furnished in a format prescribed by the DIR and uploaded into the electronic certified payroll reporting (eCPR) system.

On a random basis and at such other times as it deems appropriate, the DIR also may confirm the accuracy of payroll reports, including by corroboration of information in payroll reports through independent sources, including without limitation worker interviews, examination of any time and pay records found within the definition of "Payroll Records" in section 16000 of Title 8 of the California Code of Regulations, direct verification of "Employer Payments" (as defined at section 16000 of Title 8 of the California Code of Regulations) through third-party recipients of those payments, or any other legal and reasonable method of corroboration. As part of its confirmation process, the DIR may require Contractor and any of its subcontractors to furnish for inspection itemized statements prepared in accordance with Labor Code Section 226. The DIR may conduct random confirmation based on a recognized statistical sampling of the records submitted.

The DIR may conduct in-person inspection(s) at the site or sites at which the Work of the Project is being performed ("On-Site Visits"). On-Site Visits may include visual inspection

of required job site notices, including but not limited to (1) the determination(s) of the Director of DIR of the prevailing wage rate of per diem wages required to be posted at each job site in compliance with Labor Code Section 1773.2; (2) the Notice of pay days and time and place of payment required by Labor Code Section 207; and (3) any other notices prescribed by law. On-Site Visits may also include inspections of records, inspections of the work site and observation of work activities, interviews of workers and others involved with the Project, and any other activities deemed necessary by the DIR to ensure compliance with prevailing wage requirements. In accordance with Labor Code Section 90, the Labor Commissioner and his deputies and agents shall have free access to any construction site or other place of labor and may obtain any information or statistics pertaining to the lawful duties of the Labor Commissioner, including but not limited to evidence of compliance with Labor Code Section 226 (itemized wage statements for employees) and any other laws enforced by the Labor Commissioner.

In accordance with Section 16463 of Title 8 of the California Code of Regulations (“8 CCR Section 16463”), the Owner may, on its own or if required by the Labor Commissioner, withhold funds due to the Contractor when payroll records are delinquent or inadequate. The amount withheld shall be those payments due or estimated to be due to the Contractor or subcontractor whose payroll records are delinquent or inadequate, plus any additional amount that the Labor Commissioner has reasonable cause to believe may be needed to cover a back wage and penalty assessment against the Contractor or subcontractor whose payroll records are delinquent or inadequate. The Contractor shall cease all payments to a subcontractor whose payroll records are delinquent or inadequate until the Labor Commissioner provides notice that the subcontractor has cured the delinquency or deficiency. When payments are withheld under 8 CCR Section 16463, the Labor Commissioner will provide the Contractor and subcontractor, if applicable, with immediate written notice that includes all of the following: (1) a statement that payments are being withheld due to delinquent or inadequate payroll records, and that identifies what records are missing or states why records that have

been submitted are deemed inadequate; (2) specifies what amounts the Owner has been directed to withhold; and (3) informs the Contractor or subcontractor of the right to request an expedited hearing to review the withholding of payments under Labor Code Section 1742, limited to the issue of whether the records are delinquent or inadequate or the Labor Commissioner has exceeded his or her authority under 8 CCR Section 16463. Where the violation is by a subcontractor, the Contractor shall be notified of the nature of the violation and reference shall be made to Contractor's rights to withhold or recover payments from the subcontractor under Labor Code Section 1729. The withholdings under 8 CCR Section 16463 do not preclude assessment of penalties under Labor Code Section 1776(g) for failure to timely comply with a written request for certified payroll records, as set forth below.

Section 7.06. Underpayment of Wages.

The Contractor agrees that in the event of underpayment of wages to any employee on the Project, whether by the Contractor or any subcontractor on the Project, the Owner may retain from payments due to the Contractor, an amount sufficient to pay such worker the difference between the wages required to be paid by the DIR, and the wages actually paid such worker for the total number of hours worked, plus any penalties and forfeitures. The Owner may disburse such retention to such employees.

Section 7.07. Apprentices.

Attention is directed to the provisions of Sections 1777.5, 1777.6 and 1777.7 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor.

The Contractor and all subcontractors on the Project shall comply with the requirements of Sections 1777.5 and Section 1777.6 of the Labor Code in the employment of apprentices. Violation of these requirements shall subject the Contractor and/or subcontractor to the penalties set forth in Section 1777.7 of the Labor Code and/or otherwise provided by law or Contract.

Information relative to apprentice standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, from the Division of Apprenticeship Standards or its branch offices, and/or on the DLSR website at www.dir.ca.gov/DLSR/PWD. Apprentices employed on the Project must at all times work with or be under the direct supervision of a journeyman or journeymen.

Section 7.08. Penalties.

In accordance with Articles 2 and 3, Chapter 1, Part 7, Division 2 of the Labor Code, particularly Sections 1775, 1776, 1777.7 and 1813, the Contractor shall forfeit to Owner as a penalty the sum specified below, over and above any retention or withholds otherwise authorized by the agreement, as follows:

- A. Up to two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wages for any work done by him/her under this Contract or under any subcontract on the Project, with the amount to be determined by the Labor Commissioner in accordance with the considerations set forth in Labor Code section 1775. If a worker employed by a subcontractor on the Project is paid less than the prevailing wages by the subcontractor, the Contractor is not subject to this penalty assessment if the Contractor can demonstrate that it did not have knowledge of that failure of the subcontractor to pay the prevailing wages and that it strictly complied with the requirements of Labor Code Section 1775(b).

- B. Twenty-five dollars (\$25) for each worker employed in the execution of this agreement by the Contractor or by any subcontractor on the Project for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar

week in violation of the provisions of Article 3.

C. Failure to provide certified payroll records to the Owner or to the Labor Commissioner within ten (10) calendar days of a request, shall, in addition to resulting in a withholding of payments due or estimated to be due, result in a penalty in the amount of one hundred dollars (\$100) for each calendar day, or portion thereof, for each worker until strict compliance is effectuated. The Contractor is not subject to this penalty assessment due to the failure of a subcontractor to comply with these requirements if the Contractor can demonstrate that it has fully complied with the provisions of Labor Code Section 1776.

D. Knowing violation of Labor Code Section 1777.5 shall yield a penalty in an amount not exceeding one hundred dollars (\$100) for each full calendar day of non-compliance. A Contractor or subcontractor who knowingly commits a second or subsequent violation of Section 1777.5 within a three-year period, where noncompliance results in apprenticeship training not being provided as required, shall forfeit as a civil penalty the sum of no more than three hundred dollars (\$300) for each full calendar day of noncompliance.

Section 7.09. Hours of Work; Approval of Schedules.

Eight (8) hours of labor constitutes a legal day's work, and forty (40) hours constitutes a legal work week. No worker employed at any time by the Contractor, or by any subcontractor upon the Project, shall be required or permitted to work more than eight (8) hours in any one calendar day or forty (40) hours in any one week, except as provided in Labor Code Sections 1810 through 1815.

Overtime shall be paid at the rate of not less than one and one-half (1-1/2) times the basic rate of pay, or at such other rate as stated on the applicable Determination issued

by the DIR, or as may be required by applicable statutes or collective bargaining agreements.

The Owner reserves the right to approve or disapprove the days scheduled for work, and the hours during which work is in progress.

Section 7.10. Compliance with State Anti-Discrimination Laws.

The Contractor shall comply with Section 1735 of the Labor Code, which provides as follows:

“A contractor shall not discriminate in the employment of persons upon public works on any basis listed in subdivision (a) of Section 12940 of the Government Code, as those bases are defined in Sections 12926 and 12926.1 of the Government Code, except as otherwise provided in Section 12940 of the Government Code. Every contractor for public works who violates this section is subject to all the penalties imposed for a violation of this chapter.”

ARTICLE 8. SUPERVISION AND LABOR

Section 8.01. Supervision Procedures.

The Contractor shall supervise and direct the Work using its best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, and procedures and for coordinating all portions of the Work under the Contract.

The Contractor shall be responsible to the Owner for the acts and omissions of its employees, subcontractors and their agents and employees and other persons performing any of the Work.

It is prohibited to hire undocumented workers. The Contractor shall secure and cause its Subcontractors to secure proof of eligibility/citizenship to work from all workers.

The Contractor shall not be relieved from its obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Engineer or the Owner Representative in their administration of the Contract or by inspections, tests or approvals (or the lack thereof) required or performed under Article 9 by persons other than the Contractor.

Section 8.02. Skilled Labor.

All non-apprentice labor shall have the skills of a journeyman in the applicable trade. All workmanship shall be of the highest quality and finish in all respects.

Section 8.03. No Tenancy.

All workers, contractors, or contractors' representatives are admitted to the Site only for the proper execution of the Work, and have no tenancy.

Section 8.04. Dismissal of Unsatisfactory Employees.

All employees engaged in the Work will be considered employees of the Contractor.

The Contractor shall at all times enforce strict discipline and good order among all employees and shall not employ on the Work any unfit person or anyone not skilled in the assigned task as defined in Section 8.02. The Contractor shall remove, or cause a subcontractor to remove from the Project, any incompetent employee, or any employee not skilled for the type of work required as defined in Section 8.02. The Owner may require that the Contractor immediately remove from the Work any employee for cause.

Section 8.05. Personal Attention and Superintendence; Contractor's Agent.

The Contractor shall supervise the work to the end that it shall be faithfully prosecuted. The Contractor shall at all times while the Contractor's scope of work is in progress keep a full-time superintendent who is fully empowered to act as agent for the Contractor on the Site. The Contractor shall advise the Owner in writing of its agent prior to the start of any work. The Contractor shall provide résumés for all of the Contractor's supervisory employees to be assigned to the Project for Owner review, and the Owner may reject any supervisory employees not deemed to be qualified at the sole discretion of the Owner. The Contractor shall be responsible for the faithful observation of all instructions delivered to its authorized agent(s).

If the Contractor's superintendent performs labor on the Project, the Contractor shall cause the superintendent to be paid at the prevailing wage for the classification of work performed. However, no additional compensation will be paid by the Owner for any work performed by the full-time superintendent.

In the event that the Contractor fails to provide a qualified full-time superintendent on the Site on any given day when work is being performed, the Owner may assess a liquidated damage of \$500/day, which amount allows for the hiring of a replacement

superintendent.

Section 8.06. Inspection of the Work of Other Contractors.

It shall be the duty of the Contractor and all subcontractors, before beginning any work, to examine all construction and work of other contractors and/or subcontractors that may affect their work, and to satisfy themselves that everything is in proper condition to receive such work. The Contractor shall notify the Owner Representative in writing prior to starting work of any discrepancies or conditions which deviate from the Contract Documents or are otherwise unacceptable. Failure on the part of the Contractor to so notify the Owner Representative shall constitute an acceptance by the Contractor and all subcontractors of all construction in place as being suitable in all respects to receive further work by the Contractor or subcontractors.

Section 8.07. Contractor's Coordination of Work.

The Owner reserves the right to do other work in connection with the Project by separate contract or otherwise. The Contractor shall at all times conduct its work so as to impose no hardship on the Owner or others engaged in the Work. The Contractor shall adjust, correct and coordinate its work with the work of others so that no delays or discrepancies shall result in the whole Project.

Section 8.08. Daily Reports.

No less than on a weekly basis, the Contractor's superintendent shall submit to the Owner Representative daily reports, which daily reports shall include, without limitation, the identity of subcontractors on the Site; an accurate headcount of workers on the Site; materials and equipment delivered to the Site; visitors to the Site; work performed; and any problems encountered.

ARTICLE 9. INSPECTION AND TESTING

Section 9.01. Inspection.

Inspection shall be provided as required under CCR Title 24, current edition. All inspection costs will be paid for by the Owner, including special inspection required by Title 24, except as noted otherwise below. A list of required inspections for the Project is included in the Contract Documents. The Inspector shall be approved by the Owner and the Engineer. The Inspector will be employed by the Owner and will perform all inspections in accordance with Title 24, parts 1-5.

Section 9.02. Authority of Project Inspector; Stop Work Notices.

The designated Project Inspector shall be considered to be a representative of the Owner. It is the inspector's duty to inspect the Work.

The Project Inspector shall have the authority to order the work designated for inspection stopped if a determination is made that work is proceeding in violation of the Contract Documents or any orders issued by the Owner, its representatives, or the Engineer. The failure of the Project Inspector to order the work stopped does not excuse the Contractor from complying with the Contract Documents for that work.

Upon issuing a stop work notice, the Project Inspector shall notify the Engineer, who shall inspect the work in question and determine whether it does or does not comply with the Contract Documents. The decision of the Engineer shall be final, subject to the disputes procedures in Article 23. The Contractor shall thereafter comply with the instructions of the Engineer regarding corrections needed to cure the defect. The suspended work shall be resumed only when the Engineer's instructions are fulfilled. The Contractor shall not be entitled to an extension of time in the event of such suspension of work, provided the stop work notice is determined to be supported by the facts.

Section 9.03. Effect of Inspections.

Neither the final inspection and payment, nor any interim inspection or progress payment shall relieve the Contractor of its obligation to fulfill the Contract as required by the Contract Documents.

Any work, materials or equipment not meeting the requirements and intent of the Contract Documents may be rejected, and unsuitable work or materials shall be made good, notwithstanding the fact that such work or materials may previously have been inspected and/or payment therefore may have been made.

Section 9.04. Notice to Owner of Inspection.

Where the Contract Documents, instructions by the Project Inspector, Owner Representative or the Engineer, laws, ordinances, or any public authority having jurisdiction require work to be inspected, tested or approved before the work proceeds, such work shall not proceed, nor shall it be covered up without inspection. If any part of the Work is covered prior to inspection, the Owner may order the work to be uncovered so that inspection may be accomplished. The Contractor shall bear all expenses of such examination and satisfactory reconstruction.

The Contractor shall provide written notice to the Project Inspector at least twenty-four (24) hours in advance of the readiness for inspection.

All work shall be available for inspection and the Project Inspector shall have full access to review all work during all working times. The Contractor shall provide all necessary means of safe access (e.g. ladders) for the Project Inspector to perform his/her duties. The Contractor shall furnish the Project Inspector with any information necessary to fully inform him/her of conditions. Inspection does not relieve the Contractor from fulfilling the requirements of the Contract Documents.

Section 9.05. Inspection of Completed Work.

Should the Owner Representative or the Engineer determine that it is necessary or advisable to make an inspection of work already completed at any time before final inspection and acceptance of the Work, by removing or exposing any work, the Contractor shall, upon instruction of the Owner Representative, promptly furnish all necessary facilities, labor, and materials to do so. If the work is found to be defective in any respect due to the fault of the Contractor or any subcontractor, the Contractor shall bear all expenses of such examination and satisfactory reconstruction. If, however, the work is found to meet the requirements of the Contract Documents, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor and a change order shall be issued for such cost and any time extension justified by delays to the critical path.

Section 9.06. Not Used.

Section 9.07. Overtime work.

Whenever the Contractor arranges to work at night or any time when work is conducted other than the normal 40-hour week, or to vary the period during which work is carried on each day, it shall give the Owner Representative and the Project Inspector a minimum of 48-hours' notice so that inspection may be provided. Additional inspection costs incurred because of overtime or shift work shall be paid by the Owner. If this overtime work is necessitated by the Contractor's error or failure to perform, the cost of inspection will be borne by the Contractor.

Section 9.08. Materials Which May be Tested.

The Owner reserves the right to require the Contractor to provide samples, and to perform tests on any materials, articles, equipment, installations, or construction performed by the Contractor in addition to those specified in the Contract Documents.

The Owner shall assume the cost of sampling and testing materials only when the Contract Documents do not require the Contractor to do so.

Section 9.09. Testing.

All tests shall be performed under the supervision of the testing laboratory or consultant employed by the Owner and at such times as are convenient to the Owner. The Contractor shall provide written notice to the Owner Representative at least 24 hours prior to the need for off-site tests or inspections, and the Owner Representative will arrange such tests or inspections. The Contractor shall bear all expenses of tests performed where the Contractor failed to provide this minimum notice.

Section 9.10. Selection of Samples.

All samples and specimens for testing shall be selected by the Project Inspector or by the testing laboratory, but not by the Contractor.

Section 9.11. Delivery of Samples.

The Contractor shall, at the Contractor's sole cost and expense, furnish, package, mark, and deliver all samples to be tested at locations other than the Site. Samples shall be delivered either to the Project Inspector or to the testing laboratory or such other address specified in the Contract Documents.

Delivery of all samples to the testing laboratory shall be made in ample time to allow the test to be made without delaying construction. No extra time will be allowed for the completion of the Work by reason of delay in testing samples required by the Contract Documents or due to the Contractor's request for substitution.

The Contractor shall allow free access at all times to the representatives of the testing laboratory to the Work, and shall point out the sources from which samples are taken.

All test reports shall be sent to all parties specified in the Contract Documents.

Section 9.12. Approval of Samples.

No materials or work of which samples and/or tests are required shall be used or covered until the Owner Representative or the Project Inspector informs the Contractor that such samples and/or tests have been approved. If the Contractor installs, uses, or covers any such material, article, or work prior to testing and approval, such shall be at the Contractor's sole risk and expense, and it shall bear all costs of uncovering, repair, and replacement thereof.

The approval of any samples shall be for the characteristics thereof, or for the uses named in such approval, and no other. No approval of any samples shall be deemed a change or modification in any requirement of the Contract Documents. Upon testing of any sample of material or work, no additional sample shall be considered. All material or work installed after the sampling and testing is performed and approved shall be equal to or better than the approved sample in all respects and shall be accompanied by documentary proof that the material and work sampled is actually representative of that installed.

Section 9.13. Damage Due to Testing.

The Contractor shall, at its sole cost and expense, repair all damage resulting from testing specified in the Contract Documents. The Owner shall issue a Change Order for repair of damage due to sampling or testing other than specified in the Contract Documents.

The Contractor shall not make any tests upon portions of the Project already completed, except with the prior written consent and under the direction and supervision of the Owner Representative.

Section 9.14. Retesting.

If as a result of any test, whether originally specified or not, any material or work is found to be unacceptable, it shall be rejected, and all further sampling and testing required by the Owner or Owner Representative shall be at the Contractor's expense.

Section 9.15. Effect of Sampling and Testing.

The Owner assumes no obligation, and the Contractor shall be relieved of no obligation undertaken pursuant to the Contract Documents by virtue of sampling and testing specified in this article.

The responsibility for incorporating satisfactory materials and workmanship which meet the Contract Documents in the work rest entirely with the Contractor, notwithstanding any prior samples or tests.

ARTICLE 10. PROTECTION OF WORKERS, PUBLIC AND PROPERTY

Section 10.01. Safety Precautions and Programs.

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work, for maintaining all safety and health conditions on the Site and for ensuring against and/or correcting any hazardous conditions on the Site. Also, in no case shall the Owner, the Owner Representative, the Engineer, the Inspector, or their agents, employees or representatives, have either direct or indirect responsibility for the means, methods, techniques, sequences or procedures utilized by the Contractor, or for safety precautions and programs in connection with the Work, or for maintaining any safety or health conditions on the Site, or for ensuring against or correcting any hazardous conditions on the Site.

The Contractor shall designate a responsible member of its organization at the Site whose duty shall be the prevention of accidents and overall jobsite safety for contractors/subcontractors employees and visitors. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner Representative.

Section 10.02. Protection of Persons and Property.

The Contractor shall at all times, until final acceptance and payment hereunder, maintain adequate protection against injury to persons, including employees, or damage to property, on or near the Project, or adjacent to the Site. The Contractor shall be responsible for maintaining all safety and health conditions on the Site and for ensuring against and/or correcting any hazardous conditions on the Site. In no case shall the Owner, the Owner Representative, the Engineer, the Inspector or their agents, employees or representatives, have either direct or indirect responsibility for maintaining any safety or health conditions, or for ensuring against or correcting any hazardous conditions, on or near the Site, or adjacent to the Site.

The Contractor shall provide a safe environment for all functions to be performed by the Owner Representative, Engineer and Project Inspector, and a safe place for all employees to work. The use of alcohol, drugs, or tobacco will not be permitted on Owner property.

The Contractor shall comply with all Occupational Safety laws, rules and regulations applicable to the work.

Section 10.03. Protection and Repair of Work.

The Contractor shall protect the Owner's structures, facilities, equipment, tools, materials, and any other property on or adjacent to the Site against damage, loss, or theft by providing adequate security measures for its work. The Contractor shall, until final payment hereunder, maintain protection of all of its work and work performed by others under this Contract from damage, loss, defacement, or vandalism. The Contractor shall provide protection of completed work which may be subject to damage as a result of the Contractor's failure to perform as scheduled.

The Contractor shall repair or replace any damage and remove any damaged or defaced material and/or equipment from the Site at no cost to the Owner, and Article 17 shall apply to such material or equipment.

Section 10.04. Protection of Workers.

The Contractor shall take every precaution for the safety of all employees and others on the Work, and to comply with all applicable provisions of federal, state and local safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the Work is being performed.

The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of

workers and the public, and shall post danger signs warning against hazards created by construction including, but not limited to, protruding nails or reinforcing steel, hod hoists, elevator hatchways, scaffolding, window openings, stairways, and falling materials.

The Contractor shall immediately replace or repair any unsafe ladder, scaffolding, shoring, or bracing, or correct any other dangerous or hazardous situation that may exist. The responsibility for maintaining a safe working site shall be the Contractor's, and the Owner and Owner Representative undertake no obligation to suspend the work or notify the Contractor of any hazardous conditions or noncompliance with safety laws. See hazardous materials exhibit for further information.

In no case shall the Owner, the Owner Representative, the Engineer, the Inspector, or their agents, employees or representatives, have either direct or indirect responsibility for maintaining any safety or health conditions, or for ensuring against or correcting any hazardous conditions on the Site.

Section 10.05. Working Limits and Regulations.

The Contractor shall confine its apparatus, storage and materials, and construction operations within the limits established by the Owner Representative, and shall not unreasonably encumber the Site or adjacent areas with its materials and/or equipment.

The Contractor shall enforce any instructions from the Owner Representative or Owner regarding fires, placement of signs, danger signals, barricades, radios, noise and smoking.

Section 10.06. Protection of Existing Improvements.

The Contractor shall clean the portions of existing improvements and facilities which are used by, traversed or dirtied by the workers on the Work, normal maintenance due to use by Owner employees or the public excepted.

The Contractor shall take all necessary precautions to protect all existing improvements and facilities from any damage resulting from the operations, equipment or workers of the Contractor during the course of the construction, and Contractor shall be strictly liable for failure to adequately protect any existing improvements and/or facilities.

The Contractor shall take all necessary precautions to protect existing facilities against the effects of the elements and Contractor shall be strictly liable for failure to adequately protect any facility.

All damaged improvements and facilities shall be replaced, repaired, and restored to their original condition without additional cost to the Owner and without an extension of the Contract Time.

Section 10.07. Traffic Signals and Traffic Control.

Existing signs, lights, traffic signals, control boxes, hydrants, meters, and other similar items occurring within the street or sidewalk areas shall be kept free of obstructions and accessible at all times. All such items shall be protected from the Contractor's operations and shall not be obliterated or obscured by its equipment or materials.

Should it be necessary to cover up, move, or alter such items, this shall be done only with permission of the authorities having jurisdiction over the items involved.

Should it be necessary to block a street or sidewalk, the Contractor shall first notify the Owner Representative and the police and fire departments and other agencies with jurisdiction, and shall comply with their instructions, including scheduling limitations.

Section 10.08. Security of the Site.

The Contractor's attention is directed to Specifications Section 01500 regarding

requirements for fencing the Site, gates, and screening. The Contractor's attention is further directed to the security requirements in the Construction Administrative Procedures Manual.

Section 10.09. Removal of Barricades.

Upon completion of the work, the Contractor shall remove from the Site all materials used for barricades, temporary scaffolding, or any other temporary uses.

Section 10.10. Protection of Adjacent Property; Notices.

In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin, and protect as may be necessary all foundations and other parts of all existing structures on the Site or adjacent to the Site which are in any way affected by the excavations or other operations connected with the completion of the Work.

Prior to excavation, the Contractor shall notify all public utilities and governmental agencies of the work proposed, and shall ascertain from them the exact location of their utilities.

Prior to commencing any work which in any way affects adjoining or adjacent land or buildings thereon, or public utilities, the Contractor shall notify the Owner Representative, who will send the Owner and occupants thereof a notice, which specifies the type of work to be done, the schedule of the work, the impacts expected from the work and the protective measures being taken by the Contractor. The notice shall also specify that any person receiving notice who has questions regarding it may contact the Owner Representative.

Whenever any notice is required to be given to any adjoining or adjacent landowner, utility, governmental agency or other party before commencement of any work, the notice shall be given by the Contractor at least seven days in advance of the work, or

longer if required by law or regulation, with a copy delivered to the Owner Representative.

The Contractor shall, at the written instruction of the Owner Representative, meet with any recipient of such notice to explain and discuss the proposed work.

Section 10.11. Fire Protection.

The Contractor shall take all steps necessary to protect all structures from fires and sparks originating from the Work, shall comply with all laws and regulations regarding fire protection, and shall comply with all instructions of the fire department with jurisdiction.

The Contractor shall notify the Owner Representative and the fire department in writing at least 72 hours prior to disconnection of either water or electrical service to the Site, and shall comply with the fire department's instructions regarding fire safety.

The Contractor must keep the fire and intrusion detection systems operational throughout the duration and scope of its work.

Section 10.12. Repairs or Replacement.

Any damage to existing conditions, or to any other improvement or property above or below the surface of the ground, whether private or public, arising from performance of this Contract shall be repaired within 48 hours by the Contractor without expense to the Owner, unless disruption of facility operation or creation of a safety hazard has occurred, in which case damage will be corrected immediately.

If, in the opinion of the Engineer, the best interest of the Owner requires that repairs be made prior to the execution of any further work, the Owner Representative will so notify the Contractor who shall delay or discontinue that part of the Work until the necessary repair has been made. Such delay shall be considered non-compensable, and no

extension of the Contract Time will be granted therefore.

Upon the failure of the Contractor to comply with any such order, or upon the Contractor's failure to make immediate emergency repairs which are necessary to protect the Work, the Owner shall do that work itself as is necessary to protect life and property, in its sole discretion, and deduct the total cost of such work from the next progress payment. No prior notice to the Contractor shall be necessary for the Owner to take this action.

Section 10.13. Emergency Safety Actions.

In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without previous instructions or authorizations from the Owner, is authorized and shall act at its discretion and risk to prevent such threatened loss or injury, and the Contractor shall bear all costs of that action. The Contractor shall immediately notify the Owner Representative of such actions, and thereafter shall comply with any instructions issued by the Owner Representative.

ARTICLE 11. SUBMITTALS

Section 11.01. Submittals.

The Contractor, at its sole cost and expense, shall furnish to the Owner Representative all Submittals and other descriptive material as are required by the Specifications or requested by the Engineer.

Shop drawings shall be done with sufficient detail to adequately describe items proposed to be furnished or methods of installation to enable the Owner and Engineer to determine compliance with the Specifications and with the design and arrangement shown on the working drawings.

The Contractor shall check and coordinate all Submittals with the work of all trades involved before they are submitted. The Contractor shall review each Submittal for conformance with the requirements of the Contract Documents.

All Submittals for the Project shall be made within thirty-five (35) days of the Notice of Intent to Award; however, the Contractor shall have the additional responsibility to coordinate the schedule of its Submittals with the requirements of the Contract Schedule so as not to delay the Project. No delay claims related to Submittals will be entertained on the Project for any Submittal originally received after the thirty-five (35) day submittal period. The Owner shall not accept limitations in materials, colors, quality, or any other aspect of products or materials due to the Contractor's failure to provide Submittals as required. At the Owner's discretion, the Contractor may be directed to furnish and install temporary materials until the Owner selected material is available. Further, the Owner may require the Contractor to install the Owner selected materials during non-business hours/days without an increase in the Contract Sum and without an extension of the Contract Time.

Contractor shall submit a schedule of Submittals organized by Specification section required for the Project. It shall delineate whether product data, installation instructions, shop drawings, samples, extra stock or mock-ups are required. The schedule of Submittals shall indicate whether the Submittal will be in electronic format, as set forth below. In general, other than items requiring color selections, samples and shop drawings, Submittals will be in electronic format. This schedule of Submittals shall be submitted within ten (10) calendar days of the issuance of the Notice of Intent to Award. Any omissions or inaccuracies shall not relieve the Contractor of the obligation for conforming to the requirements in the Contract Documents. The Contractor's Submittal schedule shall provide sufficient time for delivering the Submittal to the Engineer, the Engineer's review of each Submittal, delivering the Submittal to the Contractor and re-submittal as necessary. In no case shall the Contractor allow fewer than fourteen (14) days, exclusive of delivery time, for the Owner Representative and the Engineer to review each Submittal.

Section 11.02. Submission of Submittals.

Most Submittals shall be submitted electronically. Electronic Submittals which are submitted together shall be compiled into a single, bookmarked PDF file, containing links to enable navigation to each item within the Submittal package. The Contractor shall name the electronic Submittal file with a consistent project identifier, composed of the project name, bid package number, and specification section number. Electronic Submittals shall be transmitted via the Owner Representative's Collaboration Site address,. Submittals shall be submitted The Owner Representative will not review the Submittals for technical compliance, but may reject any Submittal found, in the Owner Representative's judgment, to be incomplete. The Owner Representative will maintain a Submittal log, and weekly meeting minutes shall note if Submittals have been accepted.

For shop drawings, color selections and samples, the Contractor shall submit no less than three (3) originals. All Submittals of shop drawings, color selections and samples shall be

marked with the project name, the Contractor's name, and the specification section number, and shall be accompanied by a letter of transmittal to the Owner Representative. The letter of transmittal for shop drawings shall list the identifying number of the drawings submitted and cross-reference them to the page or sheet in the specifications and/or working drawings to which they are related.

By approving and submitting shop drawings, product data, manufacturers' instructions, and samples, the Contractor represents that it has determined and verified all materials, field measurements and field construction criteria related thereto and that it has checked and coordinated the information contained within those Submittals with the requirements of the Work and to the Contract Documents. The Contractor shall adhere to any supplementary processing and scheduling instructions pertaining to Submittals as may be issued by the Owner Representative.

The Owner Representative will not accept shop drawings, product data or manufacturers' instructions which are not sufficiently dimensioned and detailed to demonstrate compliance with the Contract Documents.

The Submittals shall be submitted promptly, so as to cause no delay in the work. The Submittals shall be submitted so as to allow the Owner Representative and the Engineer a review period of no less than fourteen (14) days, and in accordance with the schedule of Submittals provided by the Contractor.

Section 11.03. Review of Submittals.

Following submission, the Submittals will be reviewed and returned with one or more of five possible responses by the Owner Representative or Engineer. These possible responses are as follows:

- A. Unreviewed: If the Submittal is not required, or if it is not complete, or if it does
-

not meet the form, format, and number requirements specified, it may be returned unreviewed. If the Submittal is not required, work may commence; if the Submittal was returned due to form requirements, it shall be resubmitted and approval obtained prior to commencement of the work.

- B. Approved, Reviewed, or No exceptions taken: In the event the Submittal is acceptable as submitted, it will be returned with this status. Work may proceed upon receipt of approved Submittal.
- C. Make Corrections Noted: If the Submittal is acceptable except for certain items which have been noted by the Engineer, it will be so designated. Work may proceed with the corrections made, and no resubmittal is necessary.
- D. Revise and Resubmit: This status indicates that revisions are noted on the Submittal, and an additional Submittal is required to reflect those revisions and/or additional information. Work may not commence until the resubmittal is approved.
- E. Rejected: A Submittal may be rejected if it is not in compliance with the Contract Documents, or if it proposes an "or equal" or substitution which is not acceptable to the Engineer. A superseding Submittal shall be submitted and approved prior to commencement of the work.

Should the Contractor proceed with the work shown on a Submittal before approval is received, it shall remove and replace or adjust any work which is not in accordance with the Submittal as ultimately approved, and it shall be responsible for any resultant damage, defect, or added cost. The Owner shall be under no obligation to pay for work installed prior to approval of Submittals, until the Submittals are approved and the work in place is found to be in compliance with the Contract Documents.

The Contractor shall resubmit Submittals in categories “D” and “E” above after making any changes required so that Submittals will comply with the Contract Documents. When resubmitting, the Contractor shall direct specific attention to deficient areas. Resubmittals shall be made within ten (10) days of return of the previous Submittal, and in any event in sufficient time so as to avoid delay to the Work. No delay claims related to resubmittals will be entertained on the Project for any resubmittal originally received after the ten (10) days.

The Engineer shall determine the adequacy and completeness of all Submittals. Where the Engineer deems a Submittal to be inadequate, incomplete, or otherwise unsuitable for proper review, the Contractor shall submit all additional information requested by the Engineer. There shall be no change to the Contract Time or the Contract Sum when such additional information is required.

Section 11.04. Submittals Showing Variation from Contract.

It shall be the responsibility of the Contractor to specifically point out any variation or discrepancy between the Submittals submitted and the Contract Documents.

The Contractor shall make specific mention of all variations, along with an explanation of why they are requested, in its letter of transmittal.

Failure by the contractor to identify in its letter of transmittal any variation, discrepancy, or conflict with the contract documents shall render the approval null and void, and the contractor shall bear all risk of loss and reconstruction costs or delays.

If any architectural, plumbing, mechanical, electrical, or structural modifications are required as a result of the approval of Submittals which deviate from or do not comply with the Contract Documents, those modifications shall be made without extra cost to the Owner, and without extension of the Contract Time. Any other resultant costs, including

but not limited to design fees, construction management fees, costs incurred by other contractors, or inspection fees, shall be at the expense of the Contractor.

Section 11.05. Effect of Approval of Submittals.

The approval of Submittals shall not relieve the Contractor of the obligation for accuracy of dimensions and details; for conforming the work to the requirements of the Contract Documents; or from responsibility to fulfill the Contract at no extra cost to the Owner, within the Contract Time.

Section 11.06. Equal Materials.

Unless otherwise provided in the technical specifications, whenever in the Contract Documents any systems, processes, products, or materials are indicated or specified by the name brand of the manufacturer, or by patent or proprietary names, those specifications shall be deemed to be a measure of quality and utility or a standard, and shall be deemed to be followed by the words, "or equal." It is the intent of this article to comply with Public Contract Code Section 3400.

If the Contractor desires to use any other brand or manufacturer of equal quality and utility to that specified, it shall make application to the Owner Representative in writing, within ten (10) business days after Notice of Intent to Award, and shall submit samples and all other information necessary to substantiate its claim of "or equal". Such application constitutes a certification that the Contractor:

- A. Has investigated the proposed Equal and determined that it meets or exceeds, in all respects, the specified system, process, product, or material.
- B. Will provide the same warranty for the proposed Equal as for the specified system, process, product or material.

- C. Will coordinate installation and make other changes which may be required for work to be complete in all respects and at no additional cost to the Owner.
- D. Waives claims for additional costs and/or Contract Time which may subsequently become apparent.

The Engineer then will determine whether or not the proposed system, process, product or material is equal in quality and utility to that specified, and its decision shall be final. The Engineer will render its decision within twenty one (21) business days after submission of all required information for the application. If the request is not accepted, the Contractor shall provide the specified system, process, product or material without an increase in the Contract Sum and/or Contract Time.

Neither the submission of a request for an Equal, nor the Engineer's review of the application, will extend the time for submission of any required Submittals.

Requests for Equal systems, process, products or materials will be considered only when offered by the Contractor as required by this article.

Section 11.07. Substitutions.

Unless otherwise provided in the technical specifications, the Contractor may make proposals for Substitutions to systems, process, products or materials shown or specified only under one or more of the following conditions:

- A. Unavailability: If the specified system, process, product, or material, or an Equal, is no longer available in the marketplace.
- B. Delay: If obtaining the specified system, product, process or material, or an

Equal, will delay completion of the Work through no fault of the Contractor.

- C. Better system, process, product or material: If a better system, product, process or material is available at no additional cost.
- D. Savings: If a system, process, product or material which meets all of the performance requirements of that specified is available at a savings to the Owner.

A proposal for Substitution shall include all information required by the Engineer to evaluate the substitute system, process, product or material. All Substitutions shall be submitted with an approved "Substitution Request Form". Reference Exhibits in Construction Administrative Procedures Manual. Such proposal constitutes a certification that the Contractor:

- A. Has investigated the proposed Substitution and determined that it meets or exceeds the performance requirements of the specified system, process product or material.
- B. Will provide the same or better warranty for the proposed Substitution as for specified system, process, product or material.
- C. Will coordinate installation and make other changes which may be required for the work to be complete in all respects at no additional cost to the Owner.
- D. Waives claims for additional costs and/or Contract Time, which may subsequently become apparent.

The Owner Representative and the Engineer shall evaluate a timely Substitution request, and shall approve, deny, approve with conditions, or initiate the procedure for a change

order in response to the Contractor's request. This decision shall be final. This decision will be rendered within twenty one (21) business days after submission of all required information for the proposal. If the request is not accepted, the Contractor shall provide the specified system, process, product or material without an increase in the Contract Sum and/or Contract Time.

Failure by the Contractor to identify all deviations from the Contract Documents in its request for substitution shall render any Owner action taken thereon null and void. The Contractor shall bear all costs resulting from any error in the request for Substitution.

Neither the submission of a request for substituted systems, processes, products or materials, nor the Owner Representative's and/or Engineer's review of the application, will extend the time for submission of any required Submittals.

Section 11.08. Time for Proposing Substitution.

Substitution proposals will not be considered prior to bidding unless permitted by the solicitation document. All requests for Substitutions shall be made within the same time requirement for initial submittals. Failure to timely submit a Substitution request shall constitute a waiver by the Contractor and an acceptance of the specified systems, processes, products and materials. Late submittals may be considered only when the Owner Representative consents in writing, and the Owner's best interests so require.

Section 11.09. Samples and Testing of Proposed Substitutions; Costs of Adapting to Work.

When the Owner Representative or Engineer determines that samples and testing are required to evaluate a request for a Substitution, the Owner Representative shall so advise the Contractor, and specify the systems, processes, products, materials or work to be sampled. The Contractor shall, at no cost to the Owner, provide samples as required by these General Conditions dealing with samples and testing, or the Technical

Specifications.

The Contractor shall bear all costs of sampling and testing required to decide a request for Substitution, and if a Substitution is accepted, the Contractor shall bear all costs associated therewith, including the cost of the Owner Representative's, Engineer's and/or engineer's services required to adapt the Substitution to the design to the complete satisfaction of the Owner, and all costs of mechanical, electrical, structural, or other changes needed to adapt the Substitution to the Work.

Section 11.10. Effect of Approval of Equal Materials or Substitution Request.

If an application for an Equal or Substitution request is approved, the Contractor shall be solely and directly responsible for setting approved Equal or Substitution systems, processes, products, materials and/or equipment into the available space, and for the proper operation of the Equal or Substitution systems, process, products, materials and/or equipment with all other systems, processes, products, materials and/or equipment with which it may be associated, all in a manner acceptable to the Owner.

No time extensions nor any increases in the Contract Sum shall be granted on account of an Equal or Substitution. In the event of a savings, the Contract Sum shall be adjusted by the price difference between the approved Equal or Substitution and the originally specified item.

Section 11.11. Quality of Materials and Products.

The Contractor shall, if required by the Engineer, Project Inspector, or Owner Representative, furnish satisfactory evidence as to the kind and quality of materials provided.

The Owner Representative may require, and the Contractor shall submit if required, a list designating the source of supply of each item of materials incorporated into the Work,

and in such event, those materials or products shall not be delivered to the Work nor installed therein until after the Owner Representative has approved the list.

Contractor shall certify that the materials and equipment installed comply with the Contract Documents and to the best of the Contractor's knowledge, no installed materials or equipment contain asbestos.

Section 11.12. Better Material or Process.

In the event that the Contractor furnishes a material, product, process, or article better than that specified in the Contract Documents, the difference in cost of that material, product, process, or article shall be borne by the Contractor.

Section 11.13. Industry Standards.

- A. Any material specified by reference to the number, symbol, or title of a specified standard such as a Commercial Standard, a Federal Specification, a Trade Association Standard, or other similar standard, shall comply with the requirements in the latest revision thereof, including any amendments or supplements thereto, in effect on the date of the Bid, except as limited to type, class, or grade, or modified in that reference.
- B. The standard referred to, except as modified in the specifications, shall have full force and effect as though printed in these specifications. These standards are not furnished to the bidder for the reason that the manufacturers and trades involved are assumed to be familiar with their requirements.
 - 1. Where Federal Specifications are referred to as a measure of quality and standard, they refer to Federal Specifications established by the Procurement Division of the United States Government and are available from the

Superintendent of Documents, U.S. Government Printing Office.

2. Where Federal Specification numbers are used, they refer to the latest edition including amendments thereto.
3. Where Commercial Standards (CS) or Product Standards (PS) are referred to as a measure of quality, standard, and method of fabrication, they refer to Commercial Standards and Product Standards issued by the U.S. Department of Commerce.
4. Where ASTM serial numbers are used, they refer to the latest tentative specifications, standard specifications, standard method or standard methods of testing, issued by the American Society for Testing Materials, unless specifically noted.

Section 11.14. Materials and Products Storage.

The Contractor shall confine the storage of all materials, products, and equipment required in the performance of this contract to the areas specified by the Owner. The Contractor shall obtain prior approval from the Owner Representative regarding areas for storage and methods of protection. All material, products, and equipment shall be brought and used upon the premises in such manner as to leave driveways and parking areas clear for the regular use of the public and Owner employees.

Section 11.15. Original Packages or Containers; Labels.

All materials delivered to the Site shall be new, unless otherwise specified, of the type, capacity, and quality specified, and free from defects. All materials shall remain in their original packages or containers until ready for use. The labels of all packages or containers shall remain affixed, and kept legible. No product shall be stored in any container, the label of which does not accurately describe the contents of the container.

Section 11.16. Protection of Materials and Equipment.

The Contractor shall protect the work, materials, and equipment from damage due to the action of the elements, trespassers, or other causes. The Contractor shall properly store materials and equipment and, when necessary, erect temporary structures to protect them from damage. The Contractor shall replace any items damaged as a result of improper protection at no expense to the Owner.

Section 11.17. Providing and Paying for Materials.

Except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, products, articles, processes, labor, tools, equipment, and installation, and all associated superintendence of every nature whatsoever necessary to execute and complete the Work within the Contract Time.

Section 11.18. Warranty of Title.

No material, article, product, supplies, or equipment for the Work shall be subject to any chattel mortgage, or a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier.

The Contractor warrants good and sufficient title to all material, supplies, and equipment installed or incorporated in the Work, and agrees upon completion of the Work to deliver the premises, together with all improvements and appurtenances, constructed or placed thereon by the Contractor, to Owner, free from any claims, liens, or charges.

The Contractor agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work covered by this Contract shall have any right to a lien upon the premises or any improvement or appurtenances thereon; provided, however, that nothing contained in this Section shall defeat or impair the rights of persons furnishing materials or labor under the payment bond given by the Contractor, nor any

rights under any law permitting such persons to look to funds due to the Contractor but retained by Owner.

The Contractor shall cause the provisions of this Section to be inserted in all subcontracts and material contracts executed by the Contractor and notice of this provision shall be given to all persons furnishing materials for the Work.

This Section shall not disallow the Contractor's installing any devices or equipment of utility companies or of governmental agencies, the title to which is commonly retained by the utility company or the agency.

Section 11.19. Patents and Royalties.

All fees, claims, or royalties for any patented or copyrighted invention, article, arrangement, or plan that may be used upon or in any manner connected with the doing of the work or any part thereof shall be included in the price bid for doing the work. The Contractor and its sureties shall protect, defend, indemnify and hold harmless the Owner, Owner Representative, the Project Inspector, the Engineer and its consultants, and each of their respective officers, agents, and employees against any and all demands made for such fees or claims and against any and all suits, demands, claims or causes of action brought or made by the holder of any invention, patent, copyright, or trademark, or arising from any alleged infringement of any invention, patent, copyright, or trademark.

Before final payment is made on account of this Contract, the Contractor shall furnish acceptable proof to Owner of proper release from all such fees or claims.

Section 11.20. Payment of Federal or State Taxes.

Any federal, state or local tax, specifically including sales and use taxes, payable on materials furnished by the Contractor pursuant to the Contract, shall be included in the Contract Sum and paid by the Contractor.

ARTICLE 12. PROGRESS PAYMENTS

Section 12.01. Schedule of Values.

As part of required post bid submittals, and at least fourteen (14) days prior to the first payment application, the Contractor shall submit to the Owner Representative a schedule of values broken down by phase, and within each phase by building, in sufficient detail to evaluate progress at any point in the Work. In no event shall an individual line item on a schedule of values exceed five (5) percent of the Contract Sum unless so approved in advance by the Owner Representative. Costs shall be segregated by phase, and within each phase by building. Labor, material, and subcontract costs shall be shown separately. Cost of Contract closeout shall be shown as individual line items, including, but not limited to, closeout documents, punchlist, and as-built documentation. Each of these line items shall be no less than three (3) percent of the total Contract Sum.

All other General Conditions items should be prorated among the actual construction values. The schedule of values must be prepared in sufficient detail and supported by such data to substantiate its accuracy as the Owner Representative and the Owner may require. This schedule, when approved, shall be used as a basis for the Contractor's applications for payment, and the approved schedule of values is an express condition precedent to processing the Contractor's payment application(s).

Section 12.02. Application for Payment.

- A. Prior to the date for each progress payment review established in the Preconstruction Meeting, the Contractor shall submit to the Owner Representative a copy of the schedule of values, marked in pencil to show the percentage of completion proposed by the Contractor for each line item. No extension of dollar amounts is required.

- B. At a meeting held on or before the assigned billing date of each month, the Owner

Representative, Engineer, Project Inspector, and the Contractor will review the Contractor's proposed percentages of completion and agree on a final percentage to be paid for that month. The progress payment will be based on the estimated percentage complete. No progress payment will be made unless all general conditions items demonstrate satisfactory progress. Upon agreement of the amount due, the Contractor will prepare a hard copy of the Application of Payment Summary and transmit it to the Owner Representative for processing by the assigned day of each month.

- C. Release of Liens: For each monthly application for payment, following agreement on percentages of completion, the Contractor shall submit a conditional lien release in the form required by Civil Code section 8132 warranting that title to all work, labor, materials and equipment covered by the application is free and clear of all liens, claims, security interests or encumbrances. Additionally, the Contractor shall submit unconditional lien releases in the form required by Civil Code section 8134 for all work through the prior progress payment. For final payment, the Contractor and all of its Subcontractors and material suppliers shall submit final conditional and final unconditional lien releases in the form required by Civil Code sections 8136 and 8138.

Contractor shall submit a list of all Subcontractors and material suppliers including company name, address, business and emergency telephone numbers, and contact person. This Subcontractor and material supplier list shall be submitted prior to the issuance of the Notice to Proceed.

- D. The signing of a certificate of payment will constitute a representation by the Owner Representative, Project Inspector and the Engineer to the Owner that, based on their observations at the Site, and the data comprising the application for payment, the Work has progressed to the point indicated and that, to the best

of their knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to any specific qualifications stated in the certificate for payment); and that the contractors are entitled to payment in the amount certified. However, by signing a certificate for payment, the Owner Representative and the Engineer shall not thereby be deemed to represent that either has made exhaustive or continuous on-site inspections to check the quality or quantity of the work, that either has reviewed the construction means, methods, techniques, sequences or procedures, or that either has made an examination to ascertain how or for what purpose the contractors have used the monies previously paid on account of the Contract Sum.

- E. No progress payment will be released until Owner Representative has received all of the following items in acceptable form: as-built updates, schedule updates, certified payroll and other pay records if requested by the Owner, and lien releases.

Section 12.03. Payment for Stored Materials.

Payments may be made by the Owner, at its discretion, on account of materials or equipment not incorporated in the Work but delivered to the Site and suitably stored by the Contractor. Payments for materials or equipment stored shall only be considered upon submission by the Contractor of satisfactory evidence demonstrating that it has acquired title to such material, that the material will be used in the Work, that it is satisfactorily stored, protected and insured, and that the Contractor has undertaken such other procedures satisfactory to the Owner Representative, Project Inspector, and Engineer, to protect the Owner's interests. Materials stored off-site, to be considered for payment, shall, in addition to the above requirements, be stored in a bonded warehouse, fully insured, and available to the Engineer and Owner Representative for inspection. The Owner Representative shall have complete discretion as to the amount of material and equipment that may be stored on the Site at any given time.

Section 12.04. Payment; Retention.

There shall be reserved from the monies earned by the Contractor on estimates a sum equal to five percent (5%) of such estimates. It is understood that, if payment requests are made in accordance with established time schedule, payment requests received and approved by Owner will be processed within thirty (30) days following approval. Payment for Change Orders, if any, under this Contract shall be made in like manner.

Section 12.05. Posting Securities in Lieu of Withholds.

Pursuant to Public Contract Code Section 22300, at the request and expense of the Contractor, securities equivalent to the amount withheld pursuant to Section 12.04 shall be deposited with the Owner, State Treasurer or with a state or federally chartered bank in California as the escrow agent, who shall then pay the retainage to the Contractor. Upon satisfactory completion of the Contract, the securities shall be returned to the Contractor.

Alternatively the Contractor may request, pursuant to Public Contract Code Section 22300, and the Owner shall make payment of retentions under Section 12.04 directly to the escrow agent. The Contractor shall receive the interest earned on the investments upon the same terms provided for in Section 22300 for securities deposited by the Contractor. Upon satisfactory completion of the Contract, the Contractor shall receive from the escrow agent all securities, interest and payments received by the escrow agent from the Owner.

Either alternative under this Section may be exercised only if requested in writing by the Contractor within five (5) days after receipt of Notice of Intent to Award. The Contractor shall notify its Subcontractors in writing within fifteen (15) days of exercising this option.

Securities eligible for investment under this Section shall include those listed in Government Code Section 16430 or bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, stand-by letters of credit, or any other security mutually agreed to by the Contractor and the Owner.

The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

Section 12.06. Withholding Additional Amounts; Grounds.

In addition to the amounts which the Owner may retain as provided in Section 12.04, the Owner may withhold a sufficient amount from any payment or payments otherwise due to the Contractor as in the Owner's sole discretion may be necessary to protect the Owner in the event of the following:

- A. Third party claims filed or reasonable evidence indicating probable filing of such claims;
- B. Defective work not remedied;
- C. Failure of the Contractor to make proper payments to any of its Subcontractors or for labor, materials or equipment;
- D. The occurrence of reasonable doubt that the Contract can be completed for the balance of payments then unpaid to the Contractor, or in the time remaining until expiration of the Contract Time;
- E. Failure of the Contractor to comply with any lawful or proper direction concerning the Work given by any Owner representative authorized to have given such instruction;

- F. Claims and/or penalties which state law assesses against the Contractor for violation of such law;
- G. Any claim or penalty asserted against the Owner by virtue of the Contractor's failure to comply with the provisions of all governing laws, ordinances, regulations, rules, and orders;
- H. Any liquidated damages which may accrue as a result of the Contractor's progress failing to meet the schedule milestones or failing to achieve completion within the Contract Time.
- I. Any reason specified elsewhere in the Contract Documents as grounds for a retention or that would legally entitle the Owner to a set-off.

In order to adequately protect the Owner, the Contractor agrees that the basic standard to determine the amount to be withheld pursuant to this Section shall be one hundred fifty percent (150%) of the amounts claimed or the value of the work not done or defectively done; provided, however, that Owner reserves the authority to retain greater sums should such sums be necessary in the Owner's discretion to adequately protect it.

Section 12.07. Disbursement of Withheld Amounts.

The Owner, in its sole discretion, may apply any withheld amount or amounts to the payment of any claim resulting in a withhold. The Contractor agrees and hereby designates the Owner as its agent for such purposes, and any payment so made by the Owner shall be considered as a payment made under this Contract by the Owner to the Contractor. The Owner shall not be liable to the Contractor for any payments made in good faith. Such payments may be made without a prior judicial determination of the claim or claims. The Owner shall render to the Contractor a proper accounting of any

funds disbursed on behalf of the Contractor.

Prior to disbursing any amounts, Owner shall afford the Contractor an opportunity to present good cause, if any it has, why the claim or claims in issue are not valid or just claims against the Contractor. The Owner reserves the right then to take such further steps as are appropriate, in its sole discretion, including, but not limited to, seeking a judicial resolution of the controversy.

Section 12.08. Correction of Statement and Withholding of Payment.

No inaccuracy or error in any statement provided by the Contractor shall operate to release the Contractor or any surety from the error, or from damages arising from such work, or from any obligation imposed by the Contract Documents. The Owner shall retain the right subsequently to correct any error made in any previously issued claim for the progress or other payment, or payment of any kind issued, by adjustments to subsequent payments.

Section 12.09. Effect of Progress Payments.

Neither the payment, the withholding, nor the retention of all or any portion of any progress payment claimed to be due and owing to the Contractor shall operate in any way to relieve the Contractor from its obligations under this agreement. The Contractor shall continue diligently to prosecute the Work without reference to the payment, withhold, or retention of any progress payment. The payment, withhold, or retention of any progress payment shall not be grounds for an extension of the Contract Time.

ARTICLE 13. TIME OF WORK

Section 13.01. Not applicable.

Section 13.02. Contract Schedule Development.

Within ten (10) days after receiving the Notice to Proceed, the Contractor shall submit a detailed proposed Contract Schedule presenting an orderly and realistic plan for completion of the Work, in conformance with the requirements of this Article. The proposed Contract Schedule shall be in hard copy and on a CD in electronic format other than pdf.

The Contract Schedule shall furnish or comply with the following requirements:

- A. A time scaled CPM type schedule prepared in Microsoft Project software.
- B. No activity on the schedule shall have a duration longer than fourteen (14) days, with the exception of fabrication and procurement activities, unless otherwise approved by the Owner Representative. Activity durations shall be the total number of actual days required to perform that activity including consideration of weather impact on completion of that activity.
- C. Procurement of major equipment, through receipt and inspection at the job site, identified as a separate activity.
- D. Owner furnished materials and equipment if any, identified as separate activities.
- E. Dependencies (or relationships) between activities.

- F. Processing/approval of submittals and shop drawings for major equipment. Activities that are dependent on submittal acceptance and/or material delivery shall not be scheduled to start earlier than the expected acceptance or delivery dates.
- G. Separate buildings and other independent project elements shall be individually identified in the network.
- H. Fourteen (14) days for developing punch list(s), completion of punch list items, and final clean up for the work or any designated portion thereof. No other activities shall be scheduled during this period.
- I. Interface with the work of other Contractors (or entities).

The Owner Representative will review the proposed Contract Schedule for conformance with the requirements of the Contract. Within ten (10) days after receipt, the Owner Representative will accept the proposed Contract Schedule or will return it with comments. If the proposed Contract Schedule is not accepted, the Contractor shall revise the schedule to incorporate comments and resubmit the schedule for acceptance within seven (7) days after receiving it. The accepted schedule shall become the Contract Schedule.

The Contract Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. The responsibility for developing the Contract Schedule and monitoring actual progress as compared to the schedule rests with the Contractor.

Failure of the Contract Schedule to include any element of the work or any inaccuracy in the Contract Schedule will not relieve Contractor from responsibility for

accomplishing all the Work in accordance with the Contract.

Acceptance of the Contract Schedule will not relieve the Contractor of the responsibility for accomplishing the Work in accordance with the Contract.

Failure to obtain the accepted Contract Schedule within forty (40) calendar days of the Notice to Proceed may result in the Owner withholding ten percent (10%) of each progress payment, or \$1000, whichever is greater, until an accepted Contract Schedule is obtained.

Section 13.03. Monthly Updates.

Contractor shall submit to the Owner Representative each month an up-to-date status report of the Work. The status report shall be in hard copy and on a CD in electronic format other than pdf and shall include:

- A. Contractor's estimated percentage complete and remaining duration for each activity not yet complete.
- B. Actual start/finish dates for activities as appropriate.
- C. Identification of processing errors, if any on the previous update reports.
- D. Revisions, if any, to the assumed activity durations including revisions for weather impact for any activities due to the effect of the previous update on the schedule.
- E. Identification of activities that are affected by requested or proposed changes to the Work.

- F. Resolution of conflict between actual work progress and schedule logic. When out of sequence activities develop in the Contract Schedule because of actual construction progress, the Contractor shall submit revision to schedule logic to conform to current status and direction.

The Owner Representative will review the updated information and meet with Contractor each month at the Site to determine the status of the Work. If agreement cannot be reached on any issue, the Contractor will use the Owner Representative's determination in the processing of the update.

Progress payments pursuant to the Contract will be based on the update of the Contract Schedule. No progress payments will be made without the required monthly update of the Contract Schedule.

Section 13.04. Schedule Revisions.

If the sequence of construction differs significantly, as determined by the Owner Representative, from the Contract Schedule, Contractor shall submit within fifteen (15) days a revised schedule to the Owner Representative for approval.

When a requested or proposed change to the Work will have an impact on the critical path, the Contractor shall submit a schedule fragnet or Network Window showing this impact. If the requested or proposed change is accepted by the Owner, the schedule fragnet or Network Window shall be incorporated into the Contract Schedule. Time extensions will be considered only to the extent there is insufficient remaining float to accommodate these changes, and pursuant to Article 14 of these General Conditions. No additional cost beyond that provided in Article 15 will be allowed for the incorporation of approved changes into the Contract Schedule.

Should the Contractor, after acceptance of the Contract Schedule, intend to change its

plan of construction, it shall submit its requested revisions to the Owner Representative, along with a written statement of the revision, including a description of the logic for rescheduling the work, methods of maintaining adherence to Intermediate milestones and other specific dates and the reasons for the revisions. If the requested changes are acceptable to the Owner Representative, they will be incorporated into the Contract Schedule in the next reporting period.

Schedule revisions shall be submitted at least seven (7) days prior to the date of submission of update information. The Owner will have seven (7) days to review the revisions.

Section 13.05. Short Interval Schedules.

Contractor shall prepare a Short Interval Schedule (SIS) to be used throughout the duration of Work. The SIS shall include all current activities and projected activities for the succeeding two (2) weeks. The SIS shall include actual start/finish dates for the preceding one (1) week. The SIS shall be submitted in hard copy and electronic PDF format to the Owner Representative prior to the weekly construction meeting. The Contractor shall participate in short interval scheduling coordination during the weekly construction meetings.

Section 13.06. Owner's Right to Revise Schedule.

In the event of a delay affecting the occupancy date of the Project and not the fault of the Contractor, the Owner Representative may elect to resequence work or otherwise modify the schedule in an attempt to maintain the Date of Completion. It shall be the responsibility of the Contractor to cooperate in this effort. It is not the Owner's responsibility to ensure the Contractor the ability to use "optimal" crew size throughout the Project and no adjustment of the Contract Sum will be made for minor variations in crew size or claimed loss of efficiency or disruption that result from schedule adjustments. However, overtime work or weekend work required by the Owner

Representative to meet schedule objectives other than those of the individual contractor will be reimbursed per the provisions of Article 15, provided that Contractor has not contributed to the delay which the Owner Representative is seeking to overcome. If the Contractor contends that a schedule adjustment will cause a significant disruption of its work sequence or ability to perform work efficiently, it shall notify the Owner Representative within forty-eight (48) hours of receipt of the adjustment. Failure to provide timely notice constitutes a waiver by Contractor of any claim for compensation arising out of the schedule adjustment.

Section 13.07. Long Lead Time Items.

The Contractor shall commence procurement of long lead time materials and equipment as soon as practical after contract award and appropriate Submittals have been approved.

Section 13.08. Time of Essence.

Time is of the essence of this agreement. The Contractor shall, to the fullest extent possible, carry on the various classes or parts of the Work concurrently, and shall not defer construction of any portion of the Work in favor of any other portion of the Work, without the express approval of the Owner Representative.

Section 13.09. Date of Completion.

The Contractor shall fully and satisfactorily complete the Work within the Contract Time. The Date of Completion is defined in Article I.

Section 13.10. Responsibility for Completion.

The Contractor shall furnish sufficient manpower, materials, facilities and equipment and shall work sufficient hours, including night shifts, overtime operations, Sundays and holidays as may be necessary to insure the prosecution and completion of the Work in accordance with the Contract Time. If work on the critical path is seven (7) days or more

behind the currently updated Contract Schedule and it becomes apparent that the Work will not be completed within the Contract Time, the Contractor will implement whatever steps it deems necessary to make up all lost time. If the Contractor's solution is not successful, it will make further attempts using the following sequence of events:

A. Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.

B. If the above cannot be achieved then;

1. The Contractor shall increase manpower in such quantities and crafts as will substantially eliminate, in the judgment of the Owner Representative, the backlog of work; or increase the number of working hours, shifts per working day, working days per week or the amount of equipment or any combination of the foregoing sufficiently to substantially eliminate in the judgment of the Owner Representative the backlog of work.
2. In addition, the Owner Representative may require the Contractor to submit a recovery schedule demonstrating its program and proposed plan to make up a lag in scheduled progress and to ensure completion of the Work within the Contract Time. If the Owner Representative finds the proposed recovery schedule unacceptable, it may require the Contractor to submit a new plan. If the actions taken by the Contractor or the second plan proposed are unsatisfactory, the Owner Representative may require the Contractor to take any of the actions set forth in the previous paragraph without additional cost to the Owner to make up the lag in scheduled progress.

Failure of the Contractor to comply with the requirements of this Section 13.09 shall be considered grounds for a determination by the Owner, pursuant to Article 12, Section

12.06D, that the Contractor is failing to prosecute the Work with such diligence as will ensure its completion within the time specified.

Section 13.11. Payments Withheld.

Progress Payments may be withheld in whole or in part should the Contractor fail to comply with the requirements of this Article.

ARTICLE 14. DELAYS AND EXTENSIONS OF TIME

Section 14.01. Extensions of Time; Unavoidable Delays.

The Contractor shall not be granted an extension of time except on the issuance of a Change Order by the Owner, upon a finding of good cause for such extension.

A. As used herein, the following terms shall have the following meanings:

1. "Excusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time caused by conditions beyond the control and without the fault or negligence of the Contractor. These events may include strikes, embargoes, fire, unavoidable casualties, national emergency, and stormy and inclement weather conditions in which the Owner Representative and Project Inspector agree that work on the critical path cannot continue. The financial inability of the Contractor or any Subcontractor or supplier and any default of any Subcontractor, without limitation, shall not be deemed conditions beyond the Contractor's control. An Excusable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section of the general conditions, but shall not entitle the Contractor to any adjustment of the Contract Sum.

2. "Compensable Delay" means any delay in the completion of the Work beyond the expiration date of the Contract Time caused solely by the wrongful acts of the Owner and which delay is unreasonable under the circumstances and not within the contemplation of the parties. A Compensable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section of the General Conditions and/or an adjustment of the Contract Sum, in accordance with Article 15 but not to exceed the daily rate of **One thousand five hundred dollars (\$1,500.00)** for every day of delay.

Except as provided herein, Contractor shall have no claim for damage or compensation for any delay, interruption, hindrance, or disruption.

3. "Inexcusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time resulting from causes other than those listed in Subparagraphs A1 and A2, above. An Inexcusable Delay will not entitle the Contractor to an extension of the Contract Time or an adjustment of the Contract Sum.

B. The Contractor may make a claim for an extension of the Contract Time, for an Excusable Delay or a Compensable Delay, subject to the following:

1. If an Excusable Delay and a Compensable Delay occur concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cessation of the delay which ends last. Any adjustment of the Contract Sum shall be in accordance with Article 15 and shall be based only on the non-concurrent portion of any Compensable Delay.
2. If an Inexcusable Delay occurs concurrently with either an Excusable Delay and/or a Compensable Delay, the maximum extension of the Contract Time shall be the number of days, if any, by which the duration of the Excusable Delay and/or the Compensable Delay calculated in accordance with subparagraph B1, if applicable, exceeds the Inexcusable Delay. The duration of the concurrence is non-compensable.

Delays in the prosecution of parts or classes of the Work which do not prevent or delay the completion of the whole Work within the Contract Time are not to be considered Excusable or Compensable.

Section 14.02. Notice of Delays; Requests for Time Extensions.

Whenever the Contractor foresees any delay in the prosecution of the Work, and in any event immediately upon the occurrence of any delay which the Contractor regards as good cause for an extension, the Contractor shall notify the Owner Representative in writing of the delay. The notice shall specify with detail the cause asserted by the Contractor to constitute good cause for an extension together with a detailed schedule analysis showing the effect of the delay on the critical path of the Contract Schedule and a quantification of the length of the requested extension of time. Failure of the Contractor to submit such a notice within ten (10) days after the initial occurrence of the event giving rise to the delay shall constitute a waiver by the Contractor of any entitlement to a time extension, as well as to any associated additional compensation, and no extension shall be granted as a consequence of such delay.

The Owner shall have no obligation to consider any time extension request unless the requirements of the Contract Documents are complied with. The Owner shall not be responsible or liable to the Contractor for any constructive acceleration due to failure of the Owner to grant time extensions under the Contract Documents, should the Contractor fail to comply with the submission and justification requirements of the Contract Documents for time extension requests. The Contractor's failure to perform in accordance with the Contract Schedule shall not be excused because the Contractor has submitted time extension requests, unless and until such requests are approved by the Owner.

Section 14.03. Investigation; Procedure.

Upon receipt of a request for extension, the Owner Representative shall conduct an investigation of the facts asserted by the Contractor to constitute good cause for an extension. The Owner Representative shall report the results of this investigation, as well as the propriety of the time extension requested, to the Contractor in writing within ten (10) days of receipt of the request and shall indicate whether it will recommend for or against the extension.

Upon receiving the Owner Representative's recommendation, the Contractor may either concur in the recommendation, or reject the recommendation and proceed with a claim as provided for in Articles 21 and 23.

Section 14.04. Discretionary Time Extensions for Best Interest of Owner.

The Owner reserves the right to extend the time for completion of the Work if the Owner determines that such extension is in the best interest of the Owner. In the event that a discretionary extension is granted at the request of the Contractor, the Owner shall have the right to charge to the Contractor all or any part, as the Owner may deem proper, of the actual cost of construction management, engineering, inspection, supervision, incidental and other overhead expenses that accrue during the period of the extension, and to deduct all or any portion of that amount from the final payment for the Work.

In the event a discretionary time extension is ordered over the objection of the Contractor, and the decision rests solely with the Owner and is not legally compelled for any cause, the Contractor shall be entitled to a contract change pursuant to Article 15 adjusting the price paid to reflect the actual costs incurred by the Contractor as a direct result of the delay, upon its written application therefore, accompanied with such verification of costs as the Owner Representative requires. The decision of the Owner on any discretionary time extension and the costs thereof shall be final and binding on the Owner and the Contractor.

Section 14.05. Liquidated Damages.

If the Work is not completed by the Contractor in the time specified in the Special Provisions or within any period of extension authorized pursuant to this Article, the Contractor acknowledges and admits that the Owner will suffer damage, and that it is impracticable and infeasible to fix the amount of actual damages. Therefore, it is agreed by and between the Contractor and the Owner that the Contractor shall pay to the Owner

as fixed and liquidated damages, and not as a penalty, the sum specified in the Agreement for Construction for each calendar day of delay until the Date of Completion, and that both the Contractor and the Contractor's surety shall be liable for the total amount thereof, and that Owner may deduct Liquidated Damages from any monies due or that may become due to the Contractor. If it appears during the course of construction that the Contractor is behind schedule and the imposition of liquidated damages is likely, or if liquidated damages begin to accrue prior to the time for final payment, the amount accrued shall be withheld from any progress payment that would otherwise be due. This right to withhold funds is intended to complement the Owner's rights under Section 12.06.

This liquidated damages provision shall apply to all delays of any nature whatsoever, save and except only delays found to be excusable or compensable pursuant to Section 14.01, or time extensions granted by the Owner pursuant to Section 14.04. Pursuant to Government Code Section 4215, the Contractor shall not pay fixed and liquidated damages for delay in completing the project caused by the failure of the Owner or the owner of utility facilities located on the Project Site to provide for removal or relocation of such facilities.

Payment by the Owner of any progress payments after expiration of the Contract Time shall not constitute a waiver by the Owner of its right to claim liquidated damages in accordance with this Section.

If the Contract is terminated before or after the Contract Time, as adjusted by any extensions of time that the Owner may have granted, pursuant to Section 18.07, the Contractor shall remain liable to the Owner for liquidated damages for all periods of time from such termination date until the Date of Completion.

Section 14.06. Extension of Time Not a Waiver.

Any extension of time granted the Contractor pursuant to this Article shall not constitute a waiver by the Owner of, nor a release of the Contractor from the Contractor's obligation to perform this Contract in the time specified by the agreement, as modified by the particular extension in question.

The Owner's decision to grant a time extension due to one circumstance set forth in one request, shall not be construed as a grant of an extension for any other circumstance or the same circumstance occurring at some other time, and shall not be viewed by the Contractor as a precedent for any other request for extension.

Section 14.07. Suspensions Exceeding One Year.

Should the Work be suspended for a period exceeding one calendar year due to war conditions, labor conditions, legal actions, or for other conditions constituting the legal defense of impossibility of performance, the Contractor and Owner agree to enter into an agreement terminating the agreement upon the following terms and conditions.

Owner shall be responsible only to pay the Contractor the actual value of the work performed from the date of commencement or from the date of the last progress payment, whichever is later, plus the five percent (5%) retention from prior progress payments, less any deductions authorized by the Contract Documents.

As between the Contractor and Owner, it shall be conclusively presumed that the actual value for the Contractor's work to the date of the last progress payment is no more than the actual amount of prior progress payment plus the five percent (5%) retention from those progress payments; provided, however, that this Section shall not preclude Owner from deducting charges for work or materials which do not meet the requirements of the Contract Documents.

Section 14.08. Effect of Stop Work Notice.

If the Owner orders a stop work notice pursuant to Article 9, the days on which the suspension is in effect shall be included in determining the required completion date, and shall not otherwise modify or extend the time within which the Contractor is to perform. In such event, the Contractor shall not be entitled to any damages or compensation on account of such suspension or delay, unless the Contractor can establish that stop work notice was not warranted.

ARTICLE 15. CHANGES TO THE WORK

Section 15.01. No Changes Without Consent.

No extra work shall be performed, and no change shall be made, except pursuant to a written Change Order or Proposed Change Order signed by the Owner, or by a Directive signed by either the Owner or the Owner Representative, stating that the extra work or change is authorized, and no claim for any addition to the Contract Sum or Contract Time shall be valid unless so authorized; provided, however, that nothing in this Article shall excuse the Contractor from proceeding with the prosecution of the work so changed. The Contractor shall, when required by the Owner Representative, furnish an itemized breakdown of the quantities and prices used in computing the value of any change requested by the Contractor, or that may have been ordered by the Owner, including all items listed in Sections 15.06 and 15.07, below.

Change Orders shall specify the cost adjustments associated therewith, and in no case shall the Owner pay or become liable to pay any sums different than those specified or those established under Section 15.06 and 15.07.

Section 15.02. Change Orders.

Subject to legal requirements relating to competitive bidding, the Owner may require changes in, additions to, or deductions from the work to be performed or the materials to be furnished pursuant to the Contract Documents. Changes may be made pursuant to a written Change Order signed by the Owner, which shall state the agreement of the Owner, the Contractor, and the Engineer, upon all of the following:

- A. The scope of the change in the Work;

- B. The amount of the adjustment in the Contract Sum, if any; and

C. The extent of the adjustment in the Contract Time, if any.

The Owner may also issue unilateral change orders based upon previously issued Directives. Unilateral change orders shall be approved by the Owner, the Engineer, and the Owner Representative, but need not be signed by the Contractor.

If the Contractor believes that conditions have changed, or that it has been directed to do additional work requiring a change in time or cost, the Contractor may submit to the Owner Representative a Proposed Change Order (PCO).

Except for Minor Change Orders described below, all adjustments to the Contract Sum or the Contract Time must be approved by the Owner.

Signature by the Contractor on the Change Order constitutes its agreement with and acceptance of the adjustments in the Contract Sum and Contract Time, if any, set forth in the Change Order as full and complete satisfaction of any direct or indirect additional cost and/or time incurred by the Contractor in connection with performance of the change work.

Section 15.03. Not Used.

Section 15.04. Change Orders Regarding Time for Completion.

Any time extension authorized by the Owner pursuant to Article 14 hereof shall be set forth in a Change Order signed by the Owner.

Section 15.05. Construction Change Directive/Directive.

Changes also may be made pursuant to a Directive, which shall direct a change in the Work and state a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. A Directive shall be used in the absence of total agreement on the terms

of a Change Order, or when time does not permit processing of a Change Order prior to implementation of the change. Directives shall be approved by the Owner and the Engineer, but need not be signed by the Contractor. Upon receipt of a Directive, the Contractor shall promptly proceed with the change in the work involved. It is the intent of the Owner that all Directives will be converted to a Change Order.

When a Directive is used because time does not permit processing of a Change Order prior to implementation of the change, signature by the Contractor on the Directive constitutes its agreement with and acceptance of the adjustments in the Contract Sum and Contract Time, if any, set forth in the Directive as full and complete satisfaction of any direct or indirect additional cost and/or time incurred by the Contractor in connection with performance of the change work.

If the Contractor disagrees with the method for adjustment in the Contract Sum, the adjustment shall be determined by the Owner Representative on the basis of any of the methods described in Section 15.06A, paragraphs 2, 3, or 4.

Section 15.06. Pricing of Changes.

- A. If a Change Order or Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
1. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
 2. Unit prices stated in the Contract Documents or subsequently agreed upon;
 3. The Owner Representative's estimate of the value of the change; or
 4. Time and materials, as set forth in Section 15.07 and 15.08.

Section 15.07. Allowable Costs.

A. Allowable costs for any Change Order shall be limited to the following:

1. Costs of labor, including social security, medical and unemployment insurance, fringe benefits required pursuant to Article 7, and workers' compensation insurance;
2. Costs of first line supervision labor, including labor burden as described in Paragraph 1. "First Line Supervision" shall mean a working foreman or lead craft worker other than the project superintendent;
3. Actual cost of the project superintendent associated with any period of compensable delay caused by issuance of the change order. In the absence of a compensable delay, all of the project superintendent's time is considered to have been paid for as part of the Overhead;
4. Actual costs of materials, including sales tax and delivery;
5. Rental costs of machinery and equipment, exclusive of small tools, whether rented from the Contractor or others;
6. Overhead and Profit as specified below. "Overhead" shall include the following:

Preparation of all paperwork related to changes in the Work, including field review, estimating and cost breakdown; coordination and supervision, both office and field, including the project superintendent; vehicles including gas and maintenance; small tools, incidentals and consumables; engineering,

- detailing, and revisions to shop drawings and as-built drawings; general office and administrative expense; extended and unabsorbed home office overhead; warranty; costs of bonds, liability insurance, and all taxes; and all other expenses not specifically included in Paragraph A above.
- B. The Contractor's combined overhead and profit for work performed by its own forces shall be fifteen percent (15%) of the costs specified in Section 15.07(A)(1)-(5). If the changed work is performed by a Subcontractor, the Subcontractor shall be entitled to an allowance of fifteen percent (15%) of its actual labor, material and rental costs for overhead and profit. The Contractor shall be allowed to mark-up the Subcontractor's price five percent (5%) for its overhead and profit. Cumulative total markup for all tiers of contractors and subcontractors shall not exceed twenty percent (20%).
- C. If the net value of a change results in a credit from the Contractor or Subcontractor, the credit shall be the actual net cost, plus five percent (5%) for overhead and profit. When both additions and credits covering related work or substitutions are involved in any one change, the allowance for Overhead and Profit shall be figured on the basis of the net increase or decrease, if any, with respect to the change.

Section 15.08. Time and Materials Adjustment.

- A. Pricing and Record Keeping. In the event that the pricing method selected is the time and materials method described in Section 15.06A, paragraph 4, the pricing shall be calculated using the formula and costs set forth in Section 15.07 except that time and material (T & M) labor rates shall be pre-approved by the Owner Representative for T & M work. The Contractor shall keep and present daily, in such form as the Owner Representative may prescribe, an itemized accounting together with appropriate invoices and other supporting data of the labor,

materials, and equipment used during that day. All labor shall be recorded on separate time sheets clearly identified with the Directive number and scope of extra work involved. These time sheets shall be signed daily by the Project Inspector or the Owner Representative. No costs will be allowed for time not recorded and signed the same day the work takes place. The Contractor and the Owner Representative shall discuss and attempt to resolve any disputes concerning the Contractor's daily records at the time the report is submitted.

- B. Reconciliation. The Contractor shall, on a monthly basis accompanying the progress payment request, submit a reconciliation for all work performed under a time and materials Directive during the period of the progress payment. A final reconciliation shall be submitted within 30 days after the work of the Directive is completed. The reconciliation shall recap all costs and appropriate markups for the period. No costs will be allowed for work not included in a reconciliation within the time periods specified.

Section 15.09. Effect on Sureties.

All changes authorized by the Contract Documents may be made without notice to or consent of the sureties on the contract bonds, and shall not reduce the sureties' liability on the bonds.

The Owner reserves the right to require additional payment or performance bonds to secure a change order.

Section 15.10. Unforeseen Site Conditions.

If this Contract requires the digging of trenches or other excavations that extend deeper than four feet below the existing surface, the following provision shall apply to those trenches or excavations:

- A. In the event that any of the following described conditions is suspected to exist in the trench or excavation, the Contractor shall promptly, and before the condition is disturbed, notify the Owner Representative, in writing, of any:
1. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
 2. Subsurface or latent physical conditions at the Site differing materially from those indicated in the Contract Documents.
 3. Unknown physical conditions at the Site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.
- B. Upon receipt of notice from the Contractor, the Owner Representative, the Owner and the Engineer shall promptly investigate the conditions, and if it is determined that the conditions do materially so differ or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a Change Order or Directive under the procedures described in the Contract Documents.
- C. In the event that a dispute arises between the Owner and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract Documents, but shall proceed with all work to be performed under the Contract Documents. The Contractor shall

retain any and all rights provided either by the Contract Documents or by law which pertain to the resolution of disputes and protests between the contracting parties.

D. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice under paragraph A of this Section 15.10.

E. No contract adjustment will be allowed under the provisions specified in this section for any effects caused on unchanged work.

As between Contractor and Owner, Owner is responsible for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Site if such utilities are not identified in the Plans and Specifications. If Contractor, while performing its work, discovers utility facilities not identified in the Plans or Specifications, it shall immediately notify Owner and the associated utility in writing. Thereafter, and provided it has given such notice, Contractor shall be entitled to an adjustment of the Total Base Rent and an extension of the Contract Time, in accordance with Articles 14 and 15 of these General Construction Terms and Conditions, for the costs of locating, repairing damage not due to the failure of Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Plans and Specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work when such costs and time are caused by the failure of Owner or the owner of the utility to provide for removal or relocation of such utility facilities. Notwithstanding anything to the contrary herein, Owner is not required to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the Site. Nothing herein shall preclude Owner from pursuing any appropriate remedy against the utility for delays which are the responsibility

of the utility.

Section 15.11. Notice of Dispute

If the Contractor intends to make a claim for a change in the Contract Sum or Contract Time, the Contractor must give the Owner Representative written notice within ten (10) days of the occurrence of the event giving rise to the claim. Thereafter, the Contractor may proceed with a claim as provided for in Articles 21 and 23. Failure to provide the written notice within ten (10) days of the occurrence of the event giving rise to the claim shall constitute a waiver by the Contractor of any claim for a change in the Contract Sum or Contract Time.

ARTICLE 16. OWNER'S RIGHT TO CARRY OUT THE WORK

Section 16.01. Notice of Default; Deduction of Cost.

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within three (3) days after receipt of written notice from the Owner to commence and continue correction of the default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedy it may have, correct the deficiencies and may further elect to complete that portion of the Work through such means as the Owner may select, including the use of a new contractor. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting the deficiencies, and any other appropriate costs, including compensation for the Engineer's, the Project Inspector's and the Owner Representative's additional services made necessary by the default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover that amount, the Contractor shall pay the difference to the Owner.

Section 16.02. Disputed Work.

If a dispute arises as to who is responsible for cleaning up pursuant to Section 19 or for accomplishing coordination or doing required cutting, filling, excavating or patching, the Owner may carry out such work and charge the cost to the responsible contractors, as the Owner may determine.

Section 16.03. Assignment of Work.

The Owner reserves the right to perform any portion of the Project with its own forces or with other contractors as it sees fit. The Contractor will cooperate and coordinate with the Owner's efforts in this regard. The Contractor may be assigned work by other Owner contractors when required to properly coordinate project activities.

ARTICLE 17. REJECTION AND REPLACEMENT OF WORK AND MATERIALS

Section 17.01. Rejection of Materials and Workmanship.

The Owner shall have the right to reject materials and workmanship which are determined by the Owner Representative, the Engineer, or the Project Inspector to be defective or fail to comply with the Contract Documents. Rejected workmanship shall be corrected to the satisfaction of the Owner and/or Engineer, and rejected materials shall be removed from the premises and replaced, all without added cost to the Owner and/or an increase in the Contract Time.

If the Contractor does not correct such rejected work and/or materials within a reasonable time, fixed by the Owner Representative or the Engineer in a written notice to the Contractor, the Owner may correct the same and charge the expense to the Contractor, and deduct such expense from the next progress payment otherwise payable to the Contractor.

If the Owner determines that it is in its best interest not to correct defective workmanship and/or materials, or work not done in accordance with the Contract Documents, the Contractor agrees that an equitable deduction from the Contract Sum shall be made therefor, and deducted from the next progress payment otherwise payable to the Contractor.

Section 17.02. Correction of Work.

The Contractor shall promptly correct all work rejected by the Owner Representative, Project Inspector or the Engineer as defective or as failing to conform to the Contract Documents, whether observed before or after final completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected work including compensation for the Engineer's, Project Inspector's and the Owner Representative's additional services.

If within two (2) years after the Date of Completion and acceptance of the Work or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct any or all such work, together with any other work which may be displaced in so doing, without expense to the Owner, promptly after receipt of a written notice from the Owner unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall issue a correction notice promptly after discovering the condition. The Contractor shall notify the Owner upon completion of repairs. This obligation shall survive termination of the Contract with respect to work in place prior to termination.

The Contractor shall bear the cost of making good work destroyed or damaged by such correction or removal.

Nothing contained in this Section shall be construed to establish a period of limitation with respect to any other obligations which the Contractor might have under the Contract Documents or by operation of law. The establishment of the time period of two (2) years after the Date of Completion, or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents, relates only to the specific obligation of the Contractor to correct the Work and has no relationship to the time within which an action may be commenced to establish the Contractor's liability with respect to its obligations other than specifically to correct the work.

ARTICLE 18. OWNER'S RIGHT TO TERMINATE CONTRACT

Section 18.01. Termination by the Owner for Convenience.

The Owner may at any time and for any reason, terminate, in whole or in part, Contractor's Work at the Owner's convenience. Termination shall be by written notice to Contractor. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue Contractor's work and the placing of orders for materials, facilities and supplies in connection therewith, and shall, if requested, make every reasonable effort to procure cancellation of all existing orders or contracts upon terms satisfactory to the Owner, or at the option of the Owner, the Owner shall have the right to assume those obligations directly, including all benefits to be derived there from. Contractor hereby assigns to the Owner all of its interest in said orders and/or contracts, and the assignment of said orders and/or contracts shall be effective upon notice of acceptance by the Owner in writing, and only as to those orders and/or contracts which the Owner designates in writing. Following receipt of notice of termination, Contractor shall thereafter do only such work as may be necessary to preserve and protect portions of its work already in progress and to protect materials and equipment on or in transit to the Project.

Upon such termination, Contractor shall be entitled to payment only as follows: (1) Contractor's direct, actual cost of the Work allocable to the portion of the Work completed in conformity with the Contract, but in no event to exceed the amount of the Contract Sum allocable to the portion of the Work completed in conformity with the Contract; plus (2) previously unpaid costs of any items delivered to the Project Site which were fabricated for subsequent incorporation in the Work, but in no event to exceed the portion of the Contract Sum allocable to said items; plus (3) an allowance of ten percent (10%) of the foregoing costs for Contractor's overhead and profit; plus (4) any proven losses with respect to materials and equipment directly resulting from the termination; plus (5) reasonable demobilization costs. The costs referred to in this

Section shall be calculated and documented as required for a change order under Article 15 of the General Conditions, except that mark-up for overhead and profit shall be only as allowed by this Section. There shall be deducted from such sums the amount of any payments made to Contractor prior to the date of the termination of this Contract. Contractor shall not be entitled to any claim or claim of lien against the Owner for any additional compensation or damages in the event of such termination and payment beyond that provided for in this Section.

In connection with any termination for convenience, Contractor shall allow the Owner, Owner Representative or any authorized representative(s) to inspect, audit, or reproduce any records to the extent necessary for the Owner or Owner Representative to evaluate and verify the costs incurred by Contractor in performing the Work, including direct and indirect costs such as overhead allocations. Contractor will make this material available upon 48-hours' written notice from the Owner or Owner Representative. The Owner and Owner Representative may inspect and copy, from time to time and at reasonable times and places, any and all information, materials and data of every kind and character (hard copy, as well as computer readable data if it exists), including without limitation, books, papers, documents, subscriptions, recordings, estimates, price quotations, agreements, purchase orders, leases, contracts, commitments, arrangements, notes, daily diaries, superintendent reports, drawings, receipts, vouchers, monthly, quarterly, yearly or other financial statements, and any and all other information or documentation that may, in the judgment of the Owner or Owner Representative, have any bearing on or pertain to any matters, rights, duties, or obligations under or covered by the Contract Documents. Such records shall include but not be limited to, the following: accounting records, payroll records, job cost reports, job cost history, margin analysis, written policies and procedures, subcontract files (contracts, correspondence, change order files, including documentation covering negotiated settlements), back charge logs and supporting documentation, general ledger entries detailing cash and trade discounts earned, insurance rebates and

dividends, and any other documents customarily maintained by contractors performing work on public works projects or that the Owner or Owner Representative otherwise deem necessary to substantiate charges related to a Termination.

If this Contract is terminated for default under Section 18.02 and if it is later determined that the default was wrongful, such default termination automatically shall be converted to and treated as a termination for convenience under this Section. In such event, Contractor shall be entitled to receive only the amounts payable under this Section, and Contractor specifically waives any claim for any other amounts or damages, including any claim for consequential damages or lost profits.

Section 18.02. Termination by the Owner for Cause.

The Owner may terminate the Contract, pursuant to the provisions of this Article, for the following causes:

- A. The Contractor is insolvent or has made a general assignment for the benefit of creditors, or a receiver has been appointed on account of the insolvency of the Contractor.
- B. The Contractor or any of its Subcontractors violate any of the provisions of the Contract Documents or fail to perform the work within the time specified in the current Contract Schedule.
- C. The Contractor or any of its Subcontractors should fail to make prompt payment to Subcontractors or material suppliers for material or for labor as required by statute.
- D. The Contractor or a Subcontractor persistently disregards laws, ordinances, or the instructions of the Owner Representative, Engineer or the Owner.

- E. The Contractor fails to abide by a stop work notice issued pursuant to Article 9 or fails to correct rejected work or materials as required by Article 17.
- F. The Contractor fails to provide and keep in full force and effect all insurance required by Article 3, or fails to cause all Subcontractors to so comply.
- G. The Contractor fails to supply a sufficient number of properly skilled workers or proper materials.
- H. The Contractor commits any substantial violation of the terms and conditions of the Contract Documents which the Owner, in its sole discretion, finds to be a material breach of the Contract.

Section 18.03. Procedure for Termination for Cause.

The Owner may, without prejudice to any other right or remedy, give written notice to the Contractor and its surety or sureties of its intention to terminate the Contract.

Unless within seven (7) days of the delivery of such notice, the Contractor shall cease such violation and make satisfactory arrangements for a correction thereof, which arrangements are set forth in a written agreement signed by the Contractor and the Owner Representative, the Contractor's right to complete the Work shall cease and terminate.

In the event of any such termination, the Owner shall immediately give written notice thereof to the surety and to the Contractor and the surety shall have the rights and obligations set forth in the performance bond. If the Owner is forced to take over the Work, it may prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the

Contractor and its sureties shall be liable to the Owner for any excess costs, including management, supervision, and design support, occasioned thereby. In such event, the Owner may, without liability, take possession of and utilize in completing the Work, the Contractor's materials whether stored at the Site or elsewhere, that are necessary for completion. Contractor hereby assigns to the Owner all of its interest in orders and/or contracts existing at the time of termination. The assignment of said orders and/or contracts shall be effective upon notice of acceptance by the Owner in writing, and only as to those orders and/or contracts which the Owner designates in writing. Whenever the Contractor's right to proceed is terminated, the Contractor shall not be entitled to receive any further payment until the Work is finished and shall be liable to the Owner for liquidated damages for all periods of time from such termination date until the Date of Completion, as well as for all losses incurred by the Owner in completing the Work.

Section 18.04. Option in Event of a Loss.

In the event that any destruction or loss should exceed twenty percent (20%) of the value of the construction completed to date, as determined at the end of the preceding month, or is due to an "Act of God," the Owner shall have the option, at its sole discretion, to terminate this Contract.

Section 18.05. Provisions for Termination of Contract.

This Contract is subject to termination as provided by Sections 4410 and 4411 of the Government Code, being portions of the Emergency Termination of Public Contracts Act of 1949.

Section 18.06. Survival of Obligations.

No termination of this Contract or of Contractor's Work shall excuse or otherwise relieve the Contractor of its responsibilities under the Contract Documents with respect to any Work performed prior to the date of termination, including, without limitation, its obligation to perform the Work in a good and workmanlike manner, free of defects, and

in accordance with the Contract Documents, its warranty obligations with respect to the Work, and its obligation to make all payments due. All of Contractor's responsibilities under the Contract Documents with respect to the Work performed prior to the date of termination shall survive any termination.

Section 18.07. Termination After Contract Time.

In addition to any rights it may have, the Owner may terminate this Contract at any time after the Contract Time, as adjusted by any extensions of time that the Owner may have granted.

Upon such termination, in addition to the Contractor's obligations under Section 18.06 and the other provisions of the Contract Documents, the Contractor shall not be entitled to receive any compensation for services rendered before or after such termination until the Work is completed, and the Contractor shall be liable to the Owner for liquidated damages for all periods of time from the Contract Time, adjusted by any extensions of time that the Owner may have granted, until the Date of Completion, as well as for all losses incurred by the Owner in completing the Work.

ARTICLE 19. PRESERVATION AND CLEANING

Section 19.01. Periodic Cleaning of Project.

The Contractor shall properly clean its work and the Site, and maintain its work area in an orderly manner. The Contractor shall remove all dirt, debris, waste, rubbish, and implements of service from the Project, the adjacent sidewalks and streets, and the working area daily or as directed by the Owner Representative. Debris, waste, or unused construction materials shall not be left under, in, or about the Project, nor allowed to accumulate on the Site or in the working area.

The Contractor, at its sole cost, shall contract with a disposal company to remove all rubbish, and shall have the refuse containers emptied at frequent enough intervals so that waste does not overflow the containers.

If the Contractor fails to clean up during progress or upon completion of the Work, the Owner may, at the Contractor's expense, do so as provided in Article 16.

Section 19.02. Final Cleaning of Project.

At completion of the Work and prior to final acceptance/inspection and occupancy by the Owner, the Contractor shall thoroughly clean the interior and exterior of the buildings, and the Site and adjacent areas, of all material related to its performance of the Work. In the event the Contractor fails to do so, the Owner may cause this work to be done at the Contractor's expense, as provided in Article 16. The following list is not inclusive but to act as a guideline:

- A. Removal of all spots, stains, paint spots, rubbish, debris, tools, equipment, trade markings and labels, and accumulated dust and dirt from all areas and broom clean. Steam clean all carpets and mop floors.

- B. Cleaning interior and exterior of the buildings including all windows in any area affected by the Work.
- C. Brush off, broom sweep, dust and clean ledges, stairs, doors, hardware, chalk board trays and any adjoining rooms or areas that were affected by the Work.
- D. The Contractor shall clear grounds and exterior paved areas and walks of all construction debris, dirt and dust and shall repair any Site areas damaged during the course of construction.

Prior to final completion or Owner occupancy, the Contractor shall conduct an inspection of sight-exposed surfaces, and all work areas, to verify that the entire work is clean. In the event the Contractor fails to do so, the Owner may cause this work to be done at the Contractor's expense.

ARTICLE 20. COMPLETION, INSPECTION, AND OCCUPANCY BY OWNER

Section 20.01. Notice of Punch List Inspection.

When the Contractor believes that a phase of its Work is complete, it shall request in writing a punch list inspection in the form provided by the Owner. Within five (5) days of the receipt of such request, the Owner Representative, the Project Inspector and the Engineer shall make a punch list inspection or inform the Contractor that the work is not ready for punch list inspection; upon completion of the deficient work, the Contractor shall again request a punch list inspection. The Contractor or its representatives shall be present at the punch list inspection. The purpose of the punch list inspection is to determine whether the Work has been completed in accordance with the Contract Documents, including all Change Orders, all interpretations and instructions previously issued.

If the Contractor requests a punch list inspection when the Work is not ready for the inspection, the Contractor shall pay all costs associated with the inspection.

If Contractor fails to attend any punch list inspection, the Contractor shall be charged for the cost of the Owner Representative, Engineer, the Project Inspector, and other design professionals who attended the punch list inspection.

Completion of any phase of the Work does not result in final completion, or in any way alter the payment provisions after final completion.

Section 20.02. Punch List.

The Owner Representative, the Project Inspector and the Engineer shall notify the Contractor in writing of any deficiencies to be remedied prior to final acceptance, by preparing a written list, known in the industry as a punch list.

The Contractor shall remedy all items shown on the punch list prior to final acceptance by the Owner Representative, the Project Inspector and the Engineer.

No one is authorized to amend the Contract Documents by use of the punch list; it is provided solely for the benefit of the Contractor to enable it to determine what items must be corrected before final acceptance will be recommended by the Owner Representative, the Project Inspector and the Engineer. The Owner reserves the right to require compliance with the Contract Documents, notwithstanding the issuance of a punch list or the completion by the Contractor of all items on the punch list.

In the event that the Work still does not comply with the Contract Documents, the Owner reserves the right to issue such further punch lists as may be required, or to deduct from the final payment the cost of correcting any work not completed in accordance with the Contract Documents, but accepted by the Owner, without the issuance of further punch lists.

If punch list work needs to be performed after the Owner has taken occupancy of a phase, the work shall be conducted outside of normal business hours at the direction of the Owner Representative.

Section 20.03. Use of Work Prior to Acceptance.

Whenever, in the opinion of the Owner, the Work or any part thereof, is in a condition suitable for use, and the best interests of the Owner require such use, the Owner may take possession of, connect to, and open for public or Owner use that portion of the Work. Contractor acknowledges and agrees such occupancy and/or use does not constitute acceptance or completion as defined by California Civil Code section 9200.

Section 20.04. Repairs or Renewal in the Work.

Prior to the Date of Completion, the Contractor shall make all repairs or renewals in the

portion of the Work occupied pursuant to Section 20.03 made necessary due to defective material or workmanship, or the operations of the Contractor, ordinary wear and tear excepted.

Section 20.05. Effect of Occupancy.

The Owner's occupancy as contemplated in this Article shall not constitute acceptance by the Owner of the Work or any part thereof. Such use shall neither relieve the Contractor of any of its responsibilities under the Contract Documents, nor act as a waiver by the Owner of any of the terms or conditions of the Contract Documents. Any damage done by the Owner is the responsibility of the Owner. Contractor acknowledges and agrees that any occupancy and/or use of all or any portion of the work of improvement does not constitute acceptance or completion within the meaning of California Civil Code section 9200.

Section 20.06. Coordination with Other Activities.

The Contractor shall conduct its operations so as not to interfere unreasonably with the Owner's use of the occupied portions of the Site. The Contractor shall submit periodic schedules to the Owner Representative proposing the times, areas, and types of work to be done within such areas.

If the Work produces conditions rendering the occupied portions of building, the Site, or other areas uninhabitable, either because of noise, dust, vibration, smoke, fumes, or for any other cause whatsoever, the Owner Representative may suspend the Work or direct the Contractor to modify the Contract Schedule, and the Contractor shall comply.

Except as provided by Change Order, the Contractor shall not be entitled to a time extension or increase in the Contract Sum by virtue of conflicts between the Contractor's work and the Owner's occupancy.

ARTICLE 21. CONTRACT CLOSEOUT

Section 21.01. Contractor's Request for Final Payment.

When the Contractor determines that all of the Work on the Project is complete and all items on the punch list have been satisfied, or contends that such items are not required by the Contract Documents, the Contractor shall submit a certificate of completion and an application for final payment on the form provided.

Section 21.02. Additional Submissions.

Simultaneously with the Contractor's certificate of completion and request for final payment, the Contractor shall submit the following items to the Owner Representative:

- A. As-built drawing information pursuant to Section 5.08.
- B. Two (2) sets of documentation completely covering the operation and maintenance of the mechanical and electrical installation, elevators, kitchen equipment, and all other equipment required by the technical specifications to be furnished with such manuals. The documentation shall include charts, diagrams, performance curves, catalog information, lubrication manuals, and details pertaining to the functioning of various items of equipment. The documentation shall be divided logically into "systems" on the basis of operation, without respect to trades, subcontractors or arbitrary specifications sections. The relationship of the "systems" shall be clearly and concisely detailed.
- C. Hazardous material documentation as required.
- D. Any extra stock material and equipment and manufacturer warranties/guarantees as required by the Contract Documents.

- E. Other items as required in Section 00 73 00 or the Construction Administrative Procedures Manual.

No payment will be processed unless accompanied by the above listed submissions in acceptable form.

Section 21.03. Final Payment Process.

Upon approval of the submittals required by this Article and receipt of the Contractor's final payment application, and upon verification that all of the Work is complete, including all punch list items, the Owner Representative shall either (1) recommend to the Owner that the payment application be accepted, which recommendation shall be made within five (5) business days of receipt of the Contractor's final payment application, or (2) send a notice to the Contractor rejecting the payment application, stating the basis therefor, and submitting a written estimate of the sum due to the Contractor, which written estimate shall be provided to the Contractor within twenty (20) calendar days of the Owner Representative's receipt of the Contractor's final payment application. The Owner Representative's estimate shall take into account the Contract Sum, as adjusted by any Change Orders; amounts already paid; and sums to be retained for incomplete work, liquidated damages, and for any other cause under the Contract Documents. Any protest by the Contractor of the Owner Representative's estimate shall be as set forth in Section 21.04 and Article 23.

The Engineer shall prepare a statement of final inspection, stating that the Work has been given a final inspection, that the Contractor has submitted the required documents, setting forth with detail any deviations in the Work as completed from the Contract Documents, and estimating the cost of correction of such deviations.

The Engineer's statement shall be transmitted to the Owner along with the Contractor's application for final payment approved by the Owner Representative, Engineer and

Project Inspector. The Owner Representative shall provide a copy of the Engineer's statement of final inspection to the Contractor.

Section 21.04. Protest of the Owner Representative's Estimate; Claims.

If the Contractor contests the estimate of sums due prepared by the Owner Representative, the Contractor may file a claim in writing with the Owner Representative pursuant to the requirements of Article 23 and setting forth in detail all grounds alleged by the Contractor to justify an adjustment to the Owner Representative's estimate. The Contractor's claim shall be certified under penalty of perjury and in compliance with the California False Claims Act. Failure to include these required certifications will constitute grounds for immediate rejection of the claim.

Failure to file a timely claim shall constitute a waiver and acceptance by the Contractor of the Owner Representative's estimate, which shall then become final and be forwarded to the Owner for approval of payment.

Section 21.05. Completion; Acceptance of Contract; Notice of Completion.

The Contractor acknowledges and agrees that completion shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, Change Orders, Construction Change Directives and punch lists, and the Owner's formal acceptance of the Work, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy or otherwise.

Acceptance of the Work shall be made only by formal acceptance by the Owner. Recordation of a Notice of Completion shall be in the manner prescribed by law, provided that the Work shall then be fully and satisfactorily completed and the provisions of the Contract Documents fully and satisfactorily performed in all respects.

Section 21.06. Approval of Final Payment.

Following acceptance of the Work, the Owner shall authorize final payment to the Contractor of the undisputed sums found due, subject to retentions for stop notices as provided in Section 21.07 below. This final payment shall be made within sixty (60) days after completion, as defined in Section 21.05 above, and recordation of the Notice of Completion.

Section 21.07. Withholding for Stop Notices.

The Owner may, in its sole discretion, and at any time, withhold from the Contractor any unpaid claims alleged in Stop Notices filed pursuant to the California Civil Code. The Owner reserves all remedies it may have in the event of a stop notice dispute. The basic standard to determine a sufficient withholding in the event of a Stop Notice shall be one hundred fifty percent (150%) of the total of all stop notices filed; provided, however, the Owner reserves the right to withhold different or greater sums in its discretion.

Section 21.08. Non-Waiver.

Neither acceptance of, nor payment for, the Work or any part thereof, nor any extension of time, nor any possession taken by Owner shall operate as a waiver of any of the provisions of this Contract, nor shall a waiver of any breach of this Contract be held to be a waiver of any other or subsequent breach. In addition, recordation of a Notice of Completion shall not be deemed an acceptance of latent defects, nor shall it constitute a waiver of any of the provisions of this agreement.

ARTICLE 22. GUARANTEES

Section 22.01. Guarantee Required.

In addition to any guarantees required elsewhere by the Contract Documents, the Contractor shall guarantee the Work for a minimum of two (2) years from and after the recordation of the Notice of Completion and completion of all contract obligations by the Contractor, including formal acceptance of the entire Project by the Owner. The Contractor specifically waives any right to claim or rely on the statutory definition of completion set forth in Civil Code section 9200. Contractor specifically acknowledges and agrees that completion shall mean Contractor's complete performance of all Work required by the Contract Documents, amendments, Change Orders, Directives, CCDs and punch lists, and Owner's formal acceptance of the entire Project, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy, or otherwise. Such guarantee shall be made on the form provided. The foregoing warranty does not guarantee against damage to the Project sustained by lack of normal maintenance or as a result of changes or additions to the Project made or done by parties not directly responsible to Contractor, except where such changes or additions to the Project are made in accordance with Contractor's directions. No guarantee furnished by a party other than Contractor with respect to equipment manufactured or supplied by such party shall relieve Contractor from the foregoing warranty obligation of Contractor. The warranty period set forth hereinabove shall not apply to latent defects appearing in the Project, and with respect to such defects, the applicable statute of limitations shall apply.

In the event of failure of Contractor to comply with above mentioned conditions within one (1) week after being notified in writing, Owner is hereby authorized to proceed to have defects repaired and made good at expense of Contractor who hereby agrees to pay reasonable costs and charges therefore immediately on demand.

If, in the opinion of Owner, defective work creates a dangerous condition or requires

immediate correction or attention to prevent further loss to Owner, Owner will attempt to give the notice required by this Article. If Contractor cannot be contacted or does not comply with Owner's requirements for correction within a reasonable time as determined by Owner, Owner may, notwithstanding the provisions of this Article, proceed to make such correction and the reasonable cost shall be charged against Contractor. Such action by Owner will not relieve Contractor of the guarantee provided in this Article or elsewhere in the Construction Documents.

This Article does not in any way limit the guarantee on any items for which a longer guarantee is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish Owner all appropriate guarantee and warranty certificates upon completion of the Project.

The guarantee period for corrected defective work shall continue for a duration equivalent to the original guarantee period.

Such guarantee is in addition to, and not in lieu of, the Owner's rights to enforce this Contract in all respects.

ARTICLE 23. CLAIM REQUIREMENTS

Claims shall be subject to the requirements of Public Contract Code sections 20104 *et seq.* and 9204. A summary of those provisions is set forth below. A waiver of the rights granted by the referenced statutes is void and contrary to public policy, provided, however, that (1) upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the Owner may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the statutory requirements, so long as the contractual provisions do not conflict with or otherwise impair the statutory timeframes and procedures. To the extent that the summary below is inconsistent with any requirement of those statutes, the statutes shall control. The terms below are intended to be consistent with the governing statutes, and any modifications shall be understood as lawful modifications or additions to the statutory requirements if at all possible.

Section 23.01. Notice of Potential Claim.

The Contractor shall promptly provide a written Notice of Potential Claim to the Owner upon discovery of concealed or unknown conditions or discovery of facts regarding any disagreement, protest, direction, situation, event, or occurrence that may result in a claim, including but not limited to changes in work and delays. The written Notice of Potential Claim shall set forth the reasons for which the Contractor believes adjustment to the Contract Price or Contract Time will or may be due, the nature of the costs and/or time involved, and, insofar as possible, the amount of the potential claim. The Notice shall be submitted as soon as practical, but no more than five (5) working days after the discovery of any facts or event that does or may give rise to the claim, unless a different period for notice is specified in the Contract Documents. **Failure to timely submit the Notice of Potential Claim constitutes acknowledgement that the condition(s), fact(s), occurrence(s) or event(s) did not cause any increase in cost or time to**

perform and waives any Claim that the Contractor otherwise may have had the right to submit based on such condition(s), fact(s), occurrence(s) or event(s).

Section 23.02. Definitions.

“Claim” means a separate demand by Contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) a time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) payment by the public entity of money or damages arising from work done by, or on behalf of, Contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) payment of an amount that is disputed by the Owner.

“Mediation” means any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation.

“Public works contract” or “public works project” means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

“Subcontractor” means any type of contractor within the meaning of Chapter 9

(commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with the Contractor or is a lower tier subcontractor.

Section 23.03. Claims Procedure.

All Claims under this Contract shall be resolved using the following procedure.

23.03.01 The Claim shall be in writing and include the documents necessary to substantiate the Claim. The evaluation of the Claim will be based on the Owner's records and the Claim documentation submitted by the claimant, which shall include but not be limited to the following: an explanation of the background; a chronology (including dates of all key events and date(s) that the Notice of Potential Claim was given); an explanation of the Contractor's position; supporting documentation of merit; analysis of delay for any claimed additional time, including CPM schedules; and a calculation of damages or additional amounts claimed, if any. Supporting documentation of merit may include, but not be limited to, Construction Documents, correspondence, conference or meeting notes, shop drawing logs, survey books, inspection reports, delivery schedules, test reports, daily reports, subcontracts, CPM schedules, photos, RFIs, Directives, and other such records. Supporting documentation of damages may include, but not be limited to, certified payroll reports; purchase orders; invoices; project as-planned and as-built costs; Subcontractor payment releases; quantity reports; other related records; general ledger and any other accounting materials.

Claims must be filed on or before the date of final payment, except that the Claim must be submitted no later than thirty (30) days from

the date of the Owner Representative's estimate of sums due. Any Claim shall be certified under penalty of perjury and in compliance with the California False Claims Act, as set forth in Section 23.04 below. Failure to include these required certifications will constitute grounds for immediate rejection of the Claim and shall be deemed a waiver and absolute bar of the Claim, including any right to pursue the Claim further.

23.03.02 If a Subcontractor, including a lower tier Subcontractor, lacks legal standing to assert a Claim against the Owner because privity of contract does not exist, then the Contractor may present a Claim on behalf of such a Subcontractor. A first-tier Subcontractor may request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that the Contractor present a Claim on behalf of the Subcontractor for work that was performed by the Subcontractor. The Subcontractor requesting that the claim be presented shall furnish reasonable documentation to support the Claim. Within 45 days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the Claim and, if the Contractor did not present the Claim, provide the Subcontractor with a statement of the reasons for not having done so.

23.03.03 Upon receipt of a Claim, the Owner shall conduct a reasonable review of the Claim. Within 30 days of receipt of the Claim, the Owner may request, in writing, any additional documentation supporting the Claim or relating to defenses to the Claim that the Owner may have against the claimant. Where additional

information is requested by the Owner, the time in which the Owner must respond to a Claim shall be tolled until all requested information is provided. If additional information is thereafter required, then it shall be requested and provided upon mutual agreement of the Owner and the Contractor.

23.03.04 Within 45 days of receipt of the Claim, as that time may be tolled as provided in Section 23.03.03 above, the Owner shall provide the Contractor with a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the Owner and the Contractor may, by mutual agreement, extend the time period for a response. Failure by the Owner to respond to a Claim within the time periods described herein shall result in the Claim being deemed rejected in its entirety. A Claim that is denied by failure of the Owner to respond shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the claimant.

23.03.05 Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the Owner issues its written statement. The Owner shall not fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the Contract.

23.03.06 If the claimant disputes the Owner's written response, or the Owner fails to respond within the time prescribed, the Contractor may so notify the Owner, in writing, either within 15 days of receipt of the Owner's response or within 15 days of the Owner's failure to respond within the time prescribed, respectively, and demand an

informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand, sent by registered mail or certified mail, return receipt requested, the Owner shall schedule a meet and confer conference within 30 days for settlement of the dispute.

23.03.07 Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, then the Owner shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Failure by the Owner to provide the written statement within the time periods described herein shall result in the remaining Claim issues being deemed rejected in their entirety. Denial by failure of the Owner to respond shall not constitute an adverse finding with regard to the merits of the remaining Claim issues or the responsibility or qualifications of the claimant. Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the Owner issues its written statement.

23.03.08 Any remaining disputed portion of the Claim following the meet and confer conference shall be submitted to nonbinding mediation, with the Owner and the Contractor sharing the associated costs equally. The Owner and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees

and costs charged by its respective mediator in connection with the selection of the neutral mediator. Unless otherwise agreed to by the Owner and the Contractor in writing, the mediation conducted pursuant to this Section shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has been commenced. This Section does not preclude arbitration if mediation under this Section does not resolve the parties' dispute.

23.03.09 If mediation is unsuccessful, then the Contractor may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code with respect to the parts of the Claim remaining in dispute. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written Claim pursuant to Section 23.03.01 until the time that mediation of disputed portions of that Claim is completed. This Section does not apply to tort claims, and nothing in this Section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

23.03.10 Amounts not paid in a timely manner as required by this Section shall bear interest at seven percent (7%) per year.

23.03.11 Claims of \$375,000 or less are subject to the following procedures for civil actions filed to resolve the claims:

- (a) The case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any such proceeding, consistent with the rules pertaining to judicial arbitration.
- (b) The parties stipulate that the arbitrator shall be experienced in construction law and shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.
- (c) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who, after receiving an arbitration award, requests a trial *de novo* but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorneys' fees of the other party arising out of trial *de novo*.
- (d) The court may, upon request by any party, order any witnesses to participate in arbitration process.

In any suit filed under Public Contract Code Section 20104.4, the Owner shall pay

interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

Section 23.04. Claim Certification.

Contractor acknowledges that it has read and is familiar with the provisions of the False Claims Act (California Government Code sections 12650 *et seq.*). Submission by Contractor of any claim (as the term “claim” is defined in False Claims Act) to the Owner in connection with the Project, whether on its behalf or on behalf of a Subcontractor or material supplier, shall constitute a representation by Contractor to the Owner that submission of the claim does not in any respect, violate the False Claims Act. Any party with an interest in the claim, including Contractor and any Subcontractor or material supplier, shall certify under penalty of perjury the validity and accuracy of any claim submitted to the Owner, as provided below. Compliance with this claims certification requirement shall be a condition precedent to any obligation Owner might otherwise have to review the claim, and failure to provide such certification shall constitute a waiver of the claim.

The claim certification required by this section shall provide as follows:

CLAIM CERTIFICATION

Under penalty of perjury, and with specific reference to the California False Claims Act, Government Code sections 12650 *et seq.* I certify that submission of the attached claim is made in good faith; that the supporting data prepared by the undersigned company are accurate and complete to the best of my knowledge and belief; that submission of the claim to the Owner does not violate the False Claims Act; and that I am duly authorized to certify the claim on behalf of the claimant.

Dated: _____

Company_____

Signature _____

Title_____

Section 23.05. Continuance of Work.

In the event of a dispute between the parties as to performance of the Work or the interpretation of the Construction Documents, or payment or nonpayment for Work performed or not performed, the parties shall attempt to resolve the dispute. Pending resolution of this dispute, the Contractor agrees to continue the Work diligently to completion. If the dispute is not resolved, except as provided otherwise in the Contract, the Contractor agrees it will neither rescind the Contract, nor stop the progress of the Work on the Project.

ARTICLE 24. ADDITIONAL PROVISIONS

Section 24.01. Conflict of Interest.

No official of the Owner who is authorized on behalf of the Owner to negotiate, make, accept, or approve, any architectural, engineering, inspection, construction, or materials supply contract, or any subcontract in connection with the construction of the Project, or any land acquisition in connection with the Project, shall become directly or indirectly interested personally in this contract or in any part thereof.

No officer, employee, Engineer, attorney, engineer, or inspector of or for the Owner who is authorized on behalf of the Owner to exercise any executive, supervisory, or other similar function in connection with the construction of the Project shall become directly or indirectly interested personally in this contract or any part thereof.

Section 24.02. No Oral Agreements.

No oral agreement or conversation with any officer, agent, or employee of the Owner, either before, during, or after the execution of the Contract Documents shall affect or modify any term or condition contained in the Contract Documents, nor shall such verbal agreement or conversation entitle the Contractor to any additional payment or time to perform whatsoever under the terms of this agreement.

Section 24.03. Anti-Trust Assignment.

By execution of the Contract Documents, or any subcontract awarded by the Contractor, the Contractor or any Subcontractor offers and agrees to assign and hereby does assign to the Owner all rights, title, and interest in and to all causes of action the Contractor or Subcontractor may have under Section 4 of the Clayton Act (15 USC Section 15) or under the Cartwright Act (Chapter 2 of Part 2 of Division 7 of the Business and Professions Code, commencing with Section 16700), arising from purchases of goods, services, or materials pursuant to this public works contract or subcontract. This assignment shall be

made and shall become effective at the time the Owner tenders final payment to the Contractor, without further acknowledgment by the parties.

Section 24.04. Contractor Not Agent, Nor Employee.

Neither the Contractor nor any subcontractor, or any officer, agent, or employee of either, is, nor shall they represent themselves to be, an officer, agent, or employee of the Owner for any purpose whatsoever.

No person employed by the Contractor, or by any subcontractors, are, nor shall they be construed to be in any manner or for any purpose whatsoever, employees of the Owner.

Section 24.05. Access to Records.

The Owner or the Owner's authorized representative shall have access, upon reasonable notice, during normal business hours, to any books, documents, accounting records, papers, project correspondence, project files, scheduling information and other relevant records of the Contractor and all subcontractors directly or indirectly pertinent to the Work, original as well as change and claimed extra work, to verify and evaluate the accuracy of cost and pricing data submitted with any change order prospective or executed, or any claim for which additional compensation has been requested.

Such books, documents and other records mentioned above shall include, but are not limited to all those reasonably necessary in the opinion of the Owner to determine the accurate amount of direct and indirect costs, job site, area and home office overhead, delay and impact costs, however characterized, and shall include the original bid and all documents related to the bid and its preparation, as well as the as-planned Contract Schedule and all related documents.

Such access shall include the right to examine and audit such records, and make excerpts, transcriptions and photocopies at the Owner's cost.

END OF SECTION

SECTION 2

SPECIAL CONDITIONS

SECTION 2.01. GENERAL.

By entering into this Contract, Contractor hereby agrees to comply with all applicable state, Federal, and local laws and regulations as applicable to this Project. Failure of the Contractor to comply with any applicable law or regulation may be the basis for withholding payments and/or termination of this Contract.

SECTION 2.02. EQUAL EMPLOYMENT OPPORTUNITY/ANTI-DISCRIMINATION.

- A. Contractor shall comply with all anti-discrimination and equal opportunity statutes, regulations, and Executive Orders that apply to the expenditure of funds under Federal contracts, grants, and cooperative Agreements, loans, and other forms of Federal assistance. The Contractor shall comply with Title VI or the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and any program-specific statutes with anti-discrimination requirements. The Contractor shall comply with civil rights laws including, but not limited to, the Fair Housing Act, the Fair Credit Reporting Act, the Americans with Disabilities Act, Title VII of the Civil Rights Act of 1964, the Equal Educational Opportunities Act, the Age Discrimination in Employment Act, and the Uniform Relocation Act.
- B. Contractor shall comply with 41 CFR 60-1.4(b). During the performance of this Contract, Contractor agrees as follows:
- (1) Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that

employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) Contractor will, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with Contractor's legal duty to furnish information.

(4) Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) Contractor will include the above provisions in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each Subcontractor or vendor. Contractor will take such action with respect to any subcontract or purchase order as the Authority or the United States Bureau of Reclamation may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the administering agency, Contractor may request the Authority or United States to enter into such litigation to protect the interests of the United States.

Contractor further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work. Contractor agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

Contractor further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order.

SECTION 2.03. ANTI-KICKBACK.

Contractor shall comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR Part 3), and shall require all of its subcontractors to comply. Those requirements are set forth in greater detail below. Contractor and all subcontractors are prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

SECTION 2.04. DAVIS-BACON.

Contractor shall comply with the Davis-Bacon Act (40 U.S.C. 3141-3148) as supplemented by Department of Labor regulations (29 CFR Part 5), and shall require all its subcontractors to comply. To the extent that California law differs from the Davis-Bacon Act, Contractor and its subcontractors shall comply with the more stringent requirement.

Contractor must pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor.

In accordance with the Davis-Bacon Act, Contractor must pay the required wages not less than once per week.

By entering into the Contract, Contractor has accepted the wage determination(s) applicable to the Work, and agrees to comply with the wage determination(s).

SECTION 2.05. CONTRACT WORK HOURS AND SAFETY STANDARDS.

(a) Contractor shall comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708), as supplemented by Department of Labor regulations (29 CFR Part 5). In accordance with 29 C.F.R. section 5.5(b), Contractor agrees to comply with the following, and to require all of its subcontractors to comply with the following:

(1) *Minimum wages.*

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred

for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in section 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii) (A) Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits

where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) If Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If Contractor does not make payments to a trustee or other third person, Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The

Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) ***Withholding.*** The Owner shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from Contractor under this Contract or any other Federal contract with the same Contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by Contractor or any subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the Contract, the Owner may, after written notice to Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) ***Payrolls and basic records.***

(i) Payrolls and basic records relating thereto shall be maintained by Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the

plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) (A) Contractor shall submit weekly for each week in which any Contract work is performed a copy of all payrolls to the Owner for transmission to the appropriate Federal agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. **Contractor is responsible for the submission of copies of payrolls by all subcontractors.** Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Owner for transmission to the appropriate Federal agency, Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for Contractor to require a subcontractor to provide addresses and social security numbers to Contractor for its own records, without weekly submission to the Owner.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under section 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under section 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) Contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the appropriate Federal agency or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor,

applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) *Apprentices and trainees* -

- (i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a

percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification

of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) ***Compliance with Copeland Act requirements.*** Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) ***Subcontracts.*** Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the applicable Federal agency may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. **Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.**

(7) ***Contract termination:*** debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) ***Compliance with Davis-Bacon and Related Act requirements.*** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) ***Disputes concerning labor standards.*** Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) ***Certification of eligibility.***

(i) By entering into this Contract, Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) ***Contract Work Hours and Safety Standards Act.*** As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) ***Overtime requirements.*** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (b)(1) of this section, Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) *Withholding for unpaid wages and liquidated damages.* The Owner shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld, from any moneys payable on account of work performed by Contractor or subcontractor under any such Contract or any other Federal contract with the same Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) *Subcontracts.* Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in § 5.1, Contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of

the Contract for all laborers and mechanics, including guards and watchmen, working on the Contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the records to be maintained under this paragraph shall be made available by the Contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the Owner and the Department of Labor, and Contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

With respect to all requirements in this Section 1.05, to the extent that California law differs, Contractor and its subcontractors shall comply with the more stringent requirement.

SECTION 2.06. FEDERAL ACCESS TO RECORDS.

Contractor shall allow access by representative(s) from the Bureau of Reclamation and/or the Department of the Interior, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the Contractor which are directly pertinent to this Contract for the purpose of making audit, examination, excerpts, and transcriptions. Contractor shall maintain all books, documents, papers, and records directly pertinent to the Contract for three (3) years after the Owner makes the final payment to Contractor for the Work on the Project.

SECTION 2.07. CLEAN AIR AND CLEAN WATER ACTS.

Contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 U.S.C. sections 7401-7671q), the Clean Water Act (33 U.S.C. sections 1251-1387), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 35, subpart E, Appendix C-2), which prohibit the use under non-exempt federal contracts, grants, or loans of facilities included in the United States Environmental Protection Agency List of Violating Facilities. Contractor agrees to report any violation to the Owner, and understands and agrees that the Owner will report each violation as required to the appropriate Federal agencies, including, without limitation, the Environmental Protection Agency Regional Office.

SECTION 2.08. TRAFFICKING VICTIMS PROTECTION ACT (TVPA) OF 2000 (2 CFR §175.15).

- A. Contractor, its employees, and its subcontractors, may not—
- (1) Engage in severe forms of trafficking in persons during the period of time that the Contract is in effect;
 - (2) Procure a commercial sex act during the period of time that the Contract is in effect; or
 - (3) Use forced labor in the performance of this Contract.
- B. The Owner may unilaterally terminate this Contract, without penalty, if Contractor or its subcontractor(s) —
- (1) Is determined to have violated a prohibition in the above paragraph A or
 - (2) Has an employee who is determined by the Owner to have violated a prohibition in the above paragraph A through conduct that is either—
 - a. Associated with performance under this Contract; or
 - b. Imputed to Contractor or its Subcontractor using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, “OMB Guidelines to Agencies on Government-wide Debarment and Suspension (Nonprocurement),” as implemented by the Department of the Interior at 2 CFR part 1400.
 - (3) Contractor must inform the Owner immediately of any information received from any source alleging a violation of a prohibition in the above paragraph A during the term of the Contract.
 - (4) The Owner’s right to terminate unilaterally that is described in the above paragraph B of this section:
 - a. Implements section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)), and
 - b. Is in addition to all other remedies for noncompliance that are available to the Owner under this Contract.
 - (5) Definitions:
 - a. “Employee” means either:

- (i) An individual employed by Contractor or a subcontractor who is engaged in the performance of this Contract; or
 - (ii) Another person engaged in the performance of the Contract and not compensated by Contractor including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution.
- b. “Forced labor” means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.
 - c. “Severe forms of trafficking in persons,” “commercial sex act,” and “coercion” have the meanings given at section 103 of the TVPA, as amended (22 U.S.C. 7102).

SECTION 2.09. RESTRICTIONS ON LOBBYING (43 CFR §18).

Contractor agrees to comply with 43 CFR 18, New Restrictions on Lobbying. Contractor will provide the certification attached hereto as Attachment 1 certifying that:

- A. No Contract funds will be paid, by or on behalf of Contractor, to any person for influencing or attempting to influence an officer or employee of the Department of the Interior, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- B. If any funds other than the Contract funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee

of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the contractor shall complete and submit OMB Standard Form-LLL, "Disclosure Form to Report Lobbying" in accordance with its instructions.

- C. Contractor shall require that the language of this certification be included in the award documents for all subcontracts of \$150,000 or more and that all such subcontractors shall certify accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

SECTION 2.10. DRUG-FREE WORKPLACE.

Contractor is obligated to distribute to each employee who will be engaged in the performance of any work on the Contract the following statement:

The unlawful manufacture, distribution, dispensing, possession, or use of any controlled substance is prohibited in the workplace. As a condition of employment, you must agree to abide by this statement and must notify the Owner in writing within five calendar days of the conviction if you are convicted of a criminal drug statute violation occurring in your workplace.

In addition, Contractor must notify its employees of any drug counseling, rehabilitation, or assistance program that it offers and the actions that the Contractor will take against employees for violation of the drug-free workplace requirements.

SECTION 2.11. PROCUREMENT OF RECOVERED MATERIALS.

Contractor agrees that it and its subcontractors will comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, including procuring

only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where:

- (A) the purchase price of the item during the fiscal year exceeds \$10,000 or
- (B) Contractor procured over \$10,000 of the item during the preceding fiscal year on federally funded contracts.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item:

- (A) is not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- (B) fails to meet reasonable contract performance requirements; or
- (C) is only available at an unreasonable price.

SECTION 2.12. DOMESTIC PREFERENCES FOR PROCUREMENTS.

As required by 2 C.F.R. section 200.322, Contractor, as appropriate and consistent with the law, and the greatest extent practicable, shall prefer the purchase, acquisition, or use of goods, products or materials, produced in the United States, including, without limitation: iron, aluminum, steel, cement, and other manufactured products.

- A. "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- B. "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

Contractor shall bind its subcontractors to this clause.

SECTION 2.13. COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK.

The Contractor shall begin and complete all work within the time stated in the Instructions to Bidders. The capacity of the Contractor's construction plant, sequence of operations, method of operations, and the forces employed shall, at all times during the continuance of the Contract, be subject to the approval of the Engineer and shall be such as to insure the completion of the work within the dates specified.

SECTION 2.14. MATERIALS FURNISHED BY THE CONTRACTOR.

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the work. All materials shall be new and of a good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

SECTION 2.15. MATERIALS AND SERVICES FURNISHED BY THE DISTRICT.

The District will provide water for the compaction of backfill and dust control.

SECTION 2.16. TRENCH SAFETY PLAN.

In accordance with Section 6705 of the California Labor Code, the Contractor shall submit to the Agency specific plans to show details of provisions for worker protection from caving ground during excavations of trenches of five feet or more in depth. The excavation/trench safety plan shall be submitted to the Agency not less than five (5) days prior to starting excavation. The trench safety plan shall have details showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground. If such a plan varies from the shoring system standards established by the Construction Safety Orders of the California Department of Industrial Relations (Cal/OSHA), the plan shall be prepared by a California registered civil or structural engineer. As part of the plan, a note shall be included stating that the registered civil or structural engineer certifies that the plan complies with the Cal/OSHA Construction Safety Orders, or that the registered civil or structural engineer certifies that the plan is not less effective

than the shoring, bracing, sloping or other provisions of the Safety Orders. In no event shall the Contractor use a shoring, sloping, or protective system less effective than that required by said Construction Safety Orders. Submission of this plan in no way relieves the Contractor of the requirement to maintain safety in all areas.

If excavations or trench work requiring a Cal/OSHA permit are to be undertaken, the Contractor shall submit his/her permit with the excavation/trench work safety plan to the Agency before work begins.

SECTION 2.17. ACCESS TO WORK.

The Contractor shall access the project sites from Russell Avenue and by way of unimproved field roads.

SECTION 2.18. DRAWINGS.

The following Drawings are made a part of these Specifications:

<u>Sheet No.</u>	<u>Title</u>	<u>Drawing No.</u>
1	Project Location Map	L-1
2	Project Overview Site Plan	OP-1
3	Plan & Profile Station 0+00 to 20+16	F-PP-1
4	Plan & Profile Station 0+00 to 25+00	2-PP-1
5	Plan & Profile Station 25+00 to 52+22	2-PP-2
6	Plan & Profile Station 0+00 to 25+00	3-PP-1
7	Plan & Profile Station 25+00 to 50+00	3-PP-2
8	Plan & Profile Station 50+00 to 55+48	3-PP-3
9	Plan & Profile Station 0+00 to 25+00	10-PP-1
10	Plan & Profile Station 25+00 to 32+05	10-PP-2
11	Feed Pump Station Site Plan	SP-1

<u>Sheet No.</u>	<u>Title</u>	<u>Drawing No.</u>
12	Basin Feed Pump Station Site Details	SD-1
13	Basin Feed Pump Station Intake Structure Details	SD-2
14	Basin Feed Pump Station Pump Structure Details	SD-3
15	Control Box Site Plan	SP-2
16	Control Box Details	SD-4
17	Storage Basins Site Plan	SP-3
18	Plan & Profile Station 0+00 to 25+00	B-PP-1
19	Plan & Profile Station 25+00 to 40+00	B-PP-2
20	Levee Details	LD-1
21	Basin Spill Details	LD-2
22	Miscellaneous Details	MD-1
23	Chain Link Fencing Details	F-1
24	Electrical Symbols and Abbreviations	E-1.0
25	Electrical Single Line Diagram	E-2.0
26	Electrical Site Plan	E-3.0
27	Electrical Pump Station Site Plan	E-3.1
28	Electrical Control Box Basin Site Plans	E-3.2
29	Electrical Pump Station Variable Frequency Drive	E-4.0
30	Electrical Control Box Variable Frequency Drive	E-4.1
31	Electrical Switchboard Schematic Diagram	E-5.0
32	Electrical Switchboard Elevation and Base	E-6.0
33	Electrical Variable Frequency Drive Elevation + Base	E-7.0
34	Control Building Electrical Plan	E-8.0
35	Control Building Conduit + Grounding Plan	E-9.0
36	Electrical Conduit Schedules	E-9.1
37	Electrical Ufer Ground System and Details	E-10.0

<u>Sheet No.</u>	<u>Title</u>	<u>Drawing No.</u>
38	PLC Panel Elevation	E-11.0
39	PLC Power Schematics	E-11.1
40	PLC Panel Layout and Schematics	E-11.2
41	PLC Panel Layout and Schematics	E-11.3
42	Electrical Pump Station Control Console Panel	E-12.0
43	Electrical Control Box Control Console 1 of 2	E-12.1
44	Electrical Control Box Control Console 2 of 2	E-12.2
45	Electrical Misc. Details DWG 1 of 4	E-13.0
46	Electrical Misc. Details DWG 2 of 4	E-13.1
47	Electrical Misc. Details DWG 3 of 4	E-13.2
48	Electrical Misc. Details DWG 4 of 4	E-13.3

GUARANTEE FORM

{Print on Contractor/Subcontractor Letterhead And Submit at Close-Out}

_____ [Contractor's Name] hereby unconditionally guarantees that the Work performed at [Project name and address/location] has been done in accordance with the requirements of the Contract therefor and further guarantees the Work of the Contract to be and remain free of defects in workmanship and materials for a period of one (1) year from and after Owner acceptance of the Work unless a longer guarantee period is called for by the Contract Documents, in which case the terms of the longer guarantee shall govern. The Contractor hereby agrees to repair or replace any and all Work, together with any adjacent Work which may have been damaged or displaced in so doing, that may prove to be not in accordance with the requirements of the Contract or that may be defective in its workmanship or materials within the guarantee period specified, without any expense whatsoever to the Owner, ordinary wear and tear and unusual abuse and neglect only excepted. The Contractor has provided contract bonds, which will remain in full force and effect during the guarantee period.

The Contractor further agrees that within ten (10) calendar days after being notified in writing by the Owner of any Work not in accordance with the requirements of the Contract or any defects in the Work, it will commence and prosecute with due diligence all Work necessary to fulfill the terms of this guarantee, and to complete the Work within a period of time stipulated in writing. In the event it fails to so comply, Contractor does hereby authorize the Owner to proceed to have such Work done at the Contractor's expense and it will pay the cost thereof upon demand. The Owner shall be entitled to all costs, including reasonable attorneys' fees, necessarily incurred upon the Contractor's refusal to pay the above costs.

The guarantee period for corrected defective work shall continue for a duration equivalent to the original guarantee period.

Notwithstanding the foregoing paragraph, in the event of an emergency constituting an immediate hazard to the health or safety of the employees of the Owner, or its property or licensees, the Owner may undertake at the Contractor's expense without prior notice, all Work necessary to correct such hazardous condition when it was caused by the Work of the Contractor not being in accordance with the requirements of this contract, or being defective, and to charge the same to the Contractor as specified in the preceding paragraph.

The guarantee set forth herein is not intended by the parties, nor shall it be construed, as in any way limiting or reducing the Owner's rights to enforce all terms of the Contract referenced hereinabove or the time for enforcement thereof. This guarantee is provided in addition to, and not in lieu of, the Owner's rights on such Contract.

CONTRACTOR'S SIGNATURE _____

PRINT NAME _____

LABOR COMPLIANCE PROGRAM

Available Upon Request

SECTION 3

EARTHWORK

3 – 1 GENERAL. Earthwork is defined as all work consistent with excavating, as designated on the Drawings or ordered by the Engineer, and placing the excavated materials in embankments as shown on the drawings.

.1 SCOPE. All areas of earthwork shall be cleared of trees, brush, rubbish and other objectionable material. The soil surface shall be cleared of all stumps, roots and objectionable organic matter. All clearing and preparation for earthwork shall be accomplished by the Contractor prior to grade staking. All cleared and grubbed material shall be disposed of as indicated on the plans.

.2 LIABILITIES. Approval by the Engineer of any of the Contractor's operations or methods when clearing, grubbing and disposing of the materials, shall not relieve the Contractor of his responsibilities provided for in the General Conditions.

.3 PAYMENT. No separate payment will be made for clearing, grubbing, and all work incident thereto, but rather such costs shall be included in the applicable unit price bid in the schedule for compacted embankment.

3 – 2 EXCAVATION.

.1 SCOPE. Excavation, including borrow excavation, may be made by carryall, scraper, or equipment optional to the Contractor insofar as the neat uniform excavation lines shown on the Drawings are maintained. Excavation shall be performed to the lines and grades established by the Engineer. The grading and trimming operation shall be formed by motor grader equipment and performed simultaneously with the excavation. Finished elevations shall not be greater than the maximum elevation indicated on the drawings for the reservoir bottom.

.2 MEASUREMENT AND PAYMENT. No separate payment will be made for

excavation. The costs of all work incidental thereto, including excavating, foundation preparation, etc. will be included in the applicable unit price bid in the schedule for compacted embankment.

3 – 3 COMPACTED EMBANKMENTS.

.1 SCOPE. Levee embankments shall be constructed as herein specified to the full height and width shown on the Drawings or as directed by the Engineer. The entire surface of the foundation for reservoir levees shall be over-excavated a minimum of 24 inches and 5 feet beyond the perimeter of the levee. The bottom of the over-excavation (for reservoir levees) and the entire surface of canal banks to be raised shall be scarified to a depth of not less than 6 inches and recompacted. In order to secure an adequate foundation and bond, the foundation material shall have the optimum practicable moisture content. If necessary to obtain the required moisture content, the Contractor shall add water.

The embankments shall be built only of materials approved by the Engineer and shall be free of all roots, brush, objectionable organic matter and rocks larger than four inches (4") in diameter. It may be necessary to mix sandy native material with more clayey native material and/or strippings in order to minimize the permeability. The Contractor shall work closely with the Engineer to coordinate mixing operations and testing of the mixed material that is placed into compacted embankments. The grading, trimming, and leveling operation shall be performed by motor grader equipment, operating simultaneously with the placing of embankments. Finished elevations shall be within 0.1 feet of those staked.

Cohesive materials to be compacted shall be deposited in horizontal layers of not more than eight inches (8") thick. Prior to and during compaction, the materials shall have the optimum moisture content required for the purpose

of compaction and the moisture shall be uniform throughout each layer. Insofar as practicable, moistening of the material shall be performed at the site of excavation, but such moistening shall be supplemented by a sprinkling at the site of compaction if necessary. If the moisture content is less than optimum for compaction, the compaction operations shall not proceed, except with the specific approval of the Engineer, and if the moisture content is greater than optimum for compaction, the compaction operations shall be delayed until such time as the material has dried to the optimum practicable moisture content, and no adjustment in price will be made on account of any operation of the Contractor in drying the materials or on account of delays occasioned thereby. When the material has been conditioned as hereinbefore specified, it shall be compacted by sheepfoot rollers of sufficient weight for proper compaction, or other equipment approved by the Engineer. The density (dry) of the compacted material shall be not less than ninety percent (90%) of the laboratory standard maximum soil density (dry) as determined by the Engineer. The compaction test will be performed by the Engineer. The laboratory standard maximum soil density (dry) will be determined in accordance with ASTM Test Method D-1557.

.2 MEASUREMENT AND PAYMENT. Measurement for payment for compacted embankment will be made by the average end area method for the volume of embankment in place, including over-excavated and scarified layers of the foundation for the embankment. The quantity will include only such portions of the embankments and foundation as have been actually compacted as shown on the Drawings or as directed by the Engineer. Compacted embankment will be paid for at the unit price per cubic yard bid therefor in the schedule and shall include the cost of all labor and equipment, borrow excavation and overhaul, clearing and grubbing, foundation preparation, placing the material in embankments, compaction, adding water for compaction, and trimming

the banks as provided in this Section.

3 - 4 STRUCTURAL EXCAVATION.

.1 SCOPE. The bottom and side slopes of excavation upon or against which concrete is to be placed shall be finished accurately to the dimensions shown on the drawings or prescribed by the Engineer. If, at any point, material is excavated beyond the neat lines required to receive the structure or the natural foundation is disturbed or loosened during the excavation process, the foundation for the structure shall be brought back to grade and consolidated in a manner satisfactory to the Engineer. The Contractor's attention is called to the TRENCH SAFETY PLAN in Section 2. Excess material from excavation shall be used in compacted embankments.

.2 BACKFILL. The Contractor shall place backfill about structures to the lines shown on the drawings or prescribed by the Engineer. Unless noted otherwise, backfill materials shall be obtained from materials removed in excavation for structures, or sources approved by the Engineer. Backfill shall be compacted up to natural ground, unless otherwise shown on the drawings, or as directed by the Engineer, about all structures. Backfill may be placed against concrete structures after the concrete has reached the design compressive strength. In the event the Contractor desires to undertake the backfill of the structure before it has reached the recommended compressive strength, he may do so provided he provides temporary strutting and bracing within the structure as a protection against possible damage. These struts shall be left in place until the concrete has reached the design compressive strength. Compacting backfill is defined as the process of placing earth materials in six inch (6") layers about the structure, moistening the material uniformly, and compacting the successive layers with hand or mechanical tamping or vibrator equipment to the required density, as determined by laboratory test. The density (dry) of the compacted material shall be not less than ninety percent (90%) of the laboratory standard maximum soil density

(dry) as determined by ASTM D-1557.

The reservoir inlet and pump sump structures shall be backfilled with Class 2 aggregate base as specified on the drawings.

.3 PAYMENT. There shall be no separate payment for structural excavation and backfill with native material. The cost of all work incidental thereto will be included in the unit price bid in the schedule for reinforced concrete.

3 - 5 COMPACTED AGGREGATE BASE.

.1 SCOPE. The Contractor shall provide all labor, materials, and equipment required to furnish and install the aggregate base at the Basin Feed Pump Station as indicated on the drawings. The aggregate base shall be Class 2 and compacted by wheel rolling or with mechanical equipment.

.2 PAYMENT. Payment for furnishing and installing aggregate base shall be at the unit price bid in the schedule for aggregate base.

3 - 6 SITE GRADING.

.1 SCOPE. Grading may be made by equipment optional to the Contractor insofar as the neat uniform excavation lines shown on the Drawings are maintained. Finished elevations shall be within 0.1 feet of those staked.

.2 PAYMENT. No separate payment will be made for site grading. The cost of all work incidental thereto will be included in the unit price bid in the schedule for compacted embankment.

SECTION 4

REINFORCED CONCRETE

4 - 1 GENERAL. The Contractor shall furnish all work and materials, including cement, sand and coarse aggregate, water, admixtures, curing compound, waterstops, mastic, reinforcement, form work and other materials that may form an integral part of the concrete construction.

4 - 2 CONCRETE MATERIALS.

.1 CEMENT. All cement shall be Portland Cement, Type II, and shall conform to ASTM Designation C-150. The cement shall be free of lumps and properly aged.

.2 AGGREGATES. Fine and coarse aggregates shall conform to the requirements of ASTM C-33. The maximum nominal size of coarse aggregate shall be three quarters of an inch (3/4").

.3 WATER. Water shall be clean and free from oils, acids, salts, or other injurious substances.

.4 AIR ENTRAINING AGENT. The Contractor may use an air-entraining agent conforming to the requirements of ASTM Designation C-260 in all concrete. The amount of air entraining agent, if used, shall be such as will affect the entrainment of four to six percent (4%-6%) of air, by volume of the concrete at the time of discharge from the mixer.

4 - 3 PROPORTIONING. The Contractor shall furnish concrete which will develop a minimum compressive strength as indicated on the drawings and shall conform to the basic requirements set forth in these Specifications. The net water-cement ratio of the concrete (exclusive of water within or absorbed by the aggregates) shall not exceed 0.50 by weight. A minimum of five and one-half (5½) sacks of cement to each cubic yard of concrete shall be used. The slump shall not exceed three inches (3") for slabs that are horizontal or nearly horizontal and four inches (4") for all other work. The Engineer

reserves the right to alter the required slump whenever, in his judgment, the quality of the work will improve. Slump test, air entrainment test, and test cylinders will be made by the Engineer and such tests shall conform to the latest ASTM procedures.

4 - 4 MIXING. No mixing may be performed at the site of work but shall be performed by transit-mix methods. Transit-mixed concrete shall conform to the Standard Specifications for ready-mixed concrete, ASTM Designation C-94. The total volume of materials mixed per batch shall not exceed the rated capacity of the mixer as determined by the standard requirements of the Associated General Contractors of America. The concrete ingredients shall be mixed for not less than one and one-half (1-1/2) minutes after all the ingredients, except for the full amount of water, are in the mixer. The mixing shall be increased if the charging and mixing operations fail to produce a concrete in which the ingredients are consistent and uniform throughout. Water shall be added prior to, during, and following the mixer-charging operation. Excessive over-mixing, requiring additional water to preserve the concrete consistency, will not be permitted.

4 - 5 CONCRETE WASHOUT AREA. The Contractor shall establish at the project site a specific location or locations for all ready mix concrete trucks to washout after completing their delivery. All washwater and any remaining concrete debris shall only be disposed of at the specified locations. The Contractor will be responsible for removing all washwater debris from the washout areas at the conclusion of the project.

4 - 6 HANDLING AND PLACING.
.1 GENERAL. In preparation for the placing of concrete, all water, sawdust, chips, and other construction debris and extraneous matter shall be removed from the interior of the forms. Concrete shall not be deposited around any metal reinforcement until the Engineer has approved the reinforcement placed in the forms. The concrete in each integral part of the structure shall

be placed continuously, and the Contractor will not be allowed to commence work on any such part unless the inspected and approved materials on hand are sufficient to complete the part without interruption in the placing of the concrete. The concrete shall be placed as nearly as possible to its final position by means that avoid segregation of the materials and displacement of the reinforcement. Concrete shall not be permitted to fall from a height greater than six feet (6') without the use of adjustable length pipes or "elephant trunks".

.2 COMPACTION. Concrete, during and immediately after placing, shall be thoroughly compacted. The compaction shall be done with mechanical vibrators capable of transmitting vibration to the concrete at frequencies of not less than four thousand (4,000) cycles per minute. The location, manner and duration of the application of the vibrators shall be such as to secure maximum consolidation of the concrete. The vibrators shall not be attached to or held against the forms or the reinforcing steel.

.3 JOINTS. Construction joints placed in concrete structures to facilitate construction must be approved by the Engineer. Bond is required at all construction joints. The surface of all joints shall be clean and damp when covered with fresh concrete or mortar. Cleaning shall consist of removal of all laitance, loose or defective concrete, coatings, sand, and other foreign material from the surface of the joint and exposed reinforcing steel. Mortar for bonding of joints shall be the same as that in the concrete with the coarse aggregate omitted. The mortar bond shall be approximately one-half inch ($\frac{1}{2}$ ") thick and worked into the joint surface. Contraction joints are joints placed in structures or slabs to provide for movement between units and shall have no bond across the joint. Units shall be separated by joint filler where indicated on the Drawings.

.4 TEMPERATURE LIMITS. The temperature of concrete as mixed and placed shall not be less than 55 ° F, or greater than 90 ° F. If, during day or night, the ambient temperature falls below or is predicted to fall below 40° F,

concrete shall be protected from freezing during placement and curing by means of heating of materials and other approved methods, as directed by the Engineer. The concrete mix for cold weather placement shall be maintained at a minimum temperature of 55° F during placement and this minimum temperature shall be maintained for the first 72 hours of curing. At all times, the maximum temperature of concrete as placed shall be less than 90° F. When the temperature of concrete as placed may be 90° F or higher, as may be reasonably predicted from current temperatures of materials and the likelihood of rises in weather temperatures, the Contractor shall employ effective means, such as pre-cooling aggregates and mixing water, use of ice as a part of the mixing water, shading aggregates, or placing at night, as necessary, to maintain the temperature of concrete, as placed, below 90° F.

4 - 7 FINISHING. All horizontal surfaces on structures will have a steel trowel finish, except that walkways shall have a light broom finish.

4 - 8 FORMS. Forms shall conform to the shape, line, grade and dimensions of structures as shown on the Drawings. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete and shall be maintained rigidly in position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Molding strips shall be placed in the corners and at the top of the wall line of the forms so as to produce beveled edges on permanently exposed concrete surfaces. Interior angles on such surfaces and edges of formed joints will not require beveling, except where shown on the Drawings. The form sheathing or lining shall be so placed that the joint marks on the concrete surfaces will be in general alignment, both horizontally and vertically. Embedded wire ties for holding forms will not be permitted. Bolts and rods used for form ties shall be so arranged that when the forms are removed, no metal shall be within one inch (1") of any surface. Forms shall be removed as soon as practical after the concrete is placed, but not until the concrete has attained the necessary strength to support all live and dead loads during the

construction period. Forms shall be removed in such a manner as to prevent injury to the concrete. Immediately after the forms are removed, all defects in the concrete, including the rod holes, rock pockets, and other unconsolidated areas shall be repaired by the dry pack method, and the total exposed area coated with clear sealing compound. Wood forms shall be of sound lumber, free from loose knots or other defects, and of such quality that when treated or coated, there will be no chemical deterioration or discoloration of the formed concrete surface. All form lumber shall be surfaced lumber in narrow and uniform widths closely matched, except that plywood of adequate stiffness shall be used on all surfaces exposed to air or water.

Lumber reused in forms shall be cleaned, repaired and plugged. All nails shall be withdrawn from lumber prior to reuse. Before the concrete is placed, the forms shall be coated with a nonstaining commercial form oil.

4 - 9 CURING. Reinforced concrete shall be cured by membrane curing. Membrane curing shall be by application of a clear sealing compound conforming to ASTM C-309. Sealing compound shall be applied to the concrete surfaces by spraying in one coat to provide a continuous, uniform membrane over all areas.

4 - 10 TOLERANCES. Variations from level, grade, alignment, or plumb for any portion of a structure shall not exceed one-half inch ($\frac{1}{2}$ "), unless a more restrictive tolerance is shown on the Drawings.

4 - 11 REINFORCEMENT

.1 MATERIALS. Reinforcing steel shall conform to ASTM Designation A-706 Grade 60 for deformed and plain billet steel bars for concrete reinforcement.

.2 PLACING REINFORCEMENT. Before the reinforcing bars are placed, the surfaces of the bars and the surfaces of any metal supports for reinforcing bars shall be cleaned of heavy flaky rust, loose mill scale, dirt, grease, or other foreign substances. Heavy, flaky rust that can be removed by rubbing with burlap or equivalent treatment is considered objectionable. After being

placed, the reinforcing bars shall be maintained in a clean condition until they are completely embedded in the concrete. Reinforcing bars shall be accurately placed and secured in position so that they will not be displaced during the placing of the concrete, and special care shall be exercised to prevent any disturbance of the reinforcing bars in concrete that has already been placed.

4 - 12 PAYMENT FOR REINFORCED CONCRETE. The quantity of concrete in structures will be measured to the neat lines shown on the drawings. In measuring for payment, the volume of openings, which are individually larger than one hundred square inches (100 sq. in.) in cross section will be deducted. Payment will be made at the unit price bid per cubic yard in the schedule for reinforced concrete. The unit price shall include concrete removal, furnishing and placing all concrete materials, rock, reinforcing steel, waterstops, water, dewatering, gravel, excavation and backfill, furnishing a concrete washout area, and preparation and implementation of the required Contractor Safety Program.

SECTION 5

PRECAST CONCRETE STRUCTURES

- 5 - 1 GENERAL. The Contractor shall furnish and install precast concrete structures as shown on the Drawings or otherwise directed.
- 5 - 2 MATERIALS. Precast concrete boxes shall be custom fabricated as necessary by Christy, Utility Vault, Teichert Precast Products or other approved fabricator. In all cases, the boxes shall have the minimum inside dimensions, internal walls, and other appurtenances as specified in the drawings. Alternate layouts may be submitted to the engineer for approval. The structures shall be designed to withstand the maximum loading conditions anticipated in accordance with the "Building Code Requirements for Reinforced Concrete" of the American Concrete Institute (ACI 318-95). The precast structures shall also include appropriate lifting lugs for the final placement of the structures. Prior to construction, shop or fabrication drawings will be submitted to the Engineer for approval. All lids and covers shall be designed for H2O vehicle loads.
- 5 - 3 INSTALLATION. All precast concrete boxes shall be installed as shown on the drawings. Prior to installation, the contractor shall construct an appropriate bedding so that the vault or box will be firmly supported and that none of the vault's weight will be sustained by the pipe or other appurtenance within or adjacent to the vault.
- 5 - 4 PAYMENT. There is no separate cost for furnishing and installing precast concrete boxes; the cost shall be included in the unit cost or lump sum costs for the work to which they are appurtenant.

SECTION 6

CANAL GATES, FABRICATED METAL SLUICE GATES, AND MOTOR OPERATORS

6 - 1 GENERAL. The Contractor shall furnish and install canal gates and fabricated metal sluice gates complete with frame, stem, stem guides, gate slide, wall anchors, and motor operator, as indicated on the drawings.

6 - 2 CANAL GATES AND PRESSURE GATES. The canal gates shall be Model C-10 by Waterman Industries, Model 101C by Fresno Valves & Castings, or approved equal. Pressure gates shall be Model C-20 by Waterman Industries, Model 20-10C by Fresno Valves & Castings, or approved equal. Canal gate frames, stem, and fasteners shall be stainless and the stem threads shall be rolled and shall be fully compatible with motor operator operation. The canal gate frame height shall be set to terminate 3" below the top of structure and an operator extension shall be installed to set the gate operator 30" above the top of structure.

6 - 3 FABRICATED SLUICE GATE. The sluice gates frames shall be suitable for side channel mounting along the sides and floor of the structure. The dimensions of the gates shall be as indicated on the drawings. The fabricated sluice gate frames and gate slides shall be fabricated with 304 stainless steel. Frames shall include a self contained, 3-sided J-seal. Stems shall be 304 stainless steel with left hand threads with thread pitch appropriate for motorized operation as specified below. The design seating and unseating head for all gates shall be 6 feet.

The fabricated sluice gate system (motor operators and canal gates excepted) shall be supplied by one manufacturer who shall be responsible for the design, fabrication and supply of the gates. A manufacturer's representative shall also be available to provide technical assistance to the installation

contractor for installation of the gate. Technical assistance shall be available as requested by the installation contractor. A minimum of one site visits, up to six hours, shall be provided at no additional cost to the District or the installation contractor.

Gate Leaf dimensions shall be 36" by 36". The minimum vertical gate opening shall be 36". The fabricated sluice gate shall be designed for a seating head of at least 11 feet and an unseating head of at least 18 feet.

6 - 4 MOTOR OPERATORS. Motor operators shall be manufactured by Limatorque or Rotork. Motor operators shall be equipped with 480 volt, 3 phase 60Hz AC electric motors of sufficient horsepower to raise and lower the gates slides at design seating and unseating heads. Motor operators shall be equipped such that all movement is immediately stopped upon deactivation of the motor, in both the upward and downward directions. Motor operators shall be capable of providing as little as 0.01 feet (or less) of vertical movement of the gate stem in either direction at a rate of no more than 6 inches per minute. Motor operators shall have a minimum 30 minute duty cycle and shall be capable of cycling on and off several times per minute without damage. Hand/off/automatic control switches shall be provided on the gate operators such that the gates can be raised and lowered manually using the motor operators or can be controlled automatically via remote controls as shown. Motor operators shall be equipped with discrete raise and lower controls and a 4-20 mA analog position feedback signal. Actuators interface will be capable of Remote and Local Control of the following:

- Full open condition indication
- Full closed condition indication
- Remote indication

- Fault indication
- Open Command
- Close Command
- Analog signal for valve position

The gates shall be capable of being raised or lowered manually with a hand operator in the event of a power failure.

6 - 5 INSTALLATION. The gate frames shall be anchored to the canal structure walls and floor. The gate frames shall be accurately positioned and leveled within the channel. The gates shall be secured to the structure with stainless steel anchors (provided by the gate supplier) installed through the gate and into the concrete at pre-drilled holes in the gate frame. After the gate is completely installed, the gate will be tested, and any required changes or adjustments will be made.

The installer shall connect the power supply and signal wires to the gate operators. The gate supplier shall provide at no additional cost to the District technical start up assistance for the gate operators, including coordination with the District's SCADA integrator.

6 - 6 PAYMENT. There shall be no separate payment for canal gates, pressure gates, sluice gates or motor operators. The cost for such items shall be included in the Lump Sum or Unit Cost bid item of which it is a part and shall include all materials, wiring and labor necessary for water-tight installation in accordance with the drawings.

SECTION 7

PVC PIPELINES

7 - 1 GENERAL. The Contractor shall provide all materials, labor and equipment and install all pipe, specials, fittings and all other appurtenant apparatus required to complete the pipelines in an operating, watertight condition. The pipe material must be polyvinyl chloride (PVC) as specified herein.

7 - 2 POLYVINYL CHLORIDE PIPE. 18 inch and 24 inch polyvinyl chloride pressure pipe (PVCP) shall be manufactured in accordance with ASTM D1784. All 30" and 36" PVCP shall be manufactured in accordance with AWWA C-905. The PVCP shall be manufactured using twin seals with a pressure rating and dimension ratio (DR) as indicated on the Drawings. The pipe joint shall be bell and spigot with rubber gaskets. The standard laying length of all pipe shall be 20 feet with the exception of specials.

.1 BELL AND SPIGOT JOINTS WITH RUBBER GASKETS. The bell and spigot joint shall be self-centering and shall have an "O" ring rubber gasket. The gasket material shall conform to ASTM F477 and D3139. For rubber gasketed joints, the gasket shall be stretched and placed on the pipe in a manner so that the rubber is distributed uniformly around the entire pipe circumference. Care shall be taken in fitting the pipe together to avoid twisting or otherwise displacing or damaging the gasket. The joints shall be lubricated and assembled in accordance with the recommendations of the pipe manufacturer. After the joint has been assembled, the position of the rubber gasket shall be verified by passing a feeler gauge around the complete circumference of the pipe. If the gasket is fish-mouthed or otherwise displaced, the joint shall be disassembled, a new gasket installed, the pipe relaid and the position of the gasket re-checked. The Contractor shall furnish certified copies of tests on the rubber compound used in all rubber gasket joints. All gaskets shall be stored in a cool, well ventilated place and shall not be exposed to the direct rays of the sun until immediately

before joint assembly.

.2 FITTINGS. All pipeline fittings shall be PVC. The fittings shall be supported independently of the pipe. Temporary supports under fittings or under pipe adjoining fittings will not be permitted. Permanent supports under fittings may be pressure treated wood blocks, pre-cast concrete blocks or concrete foundations. PVC ells, reducers, cross, and tees shall be of the same diameter and pressure rating as the pipeline. All PVC fittings shall be manufactured in accordance with ASTM 1784.

7 - 3

TRENCHING FOR PIPE.

.1 GENERAL. The sides of the pipe trench shall be excavated vertically to the top of the pipe where the stability of the soil will permit. The Contractor shall follow the Trench Safety Plan outlined in Section 2. The width of the trench shall be sufficiently wide to perform the necessary laying and joining operation. Trench excavation which, in the judgement of the Engineer, is excessively wide or non-uniform will not be permitted.

.2 GRADE AND ALIGNMENT. The alignment and grade for the bottom of the trench shall be properly established before the trench is excavated. Trenches shall be dug true to line and grade, and the bottom shall be smooth and free from all objectionable material. The width of trench shall be sufficient to permit laying of the pipe correctly and to permit proper handling and joining of the pipe. In areas requiring compacted backfill the trench width shall be sufficient to accommodate hand held backfill tampers or vibrating equipment on both sides of the pipe, but shall not be more than twenty-four inches (24") greater than the external diameter of the pipe except at bell holes. In areas requiring uncompacted backfill the trench width shall be sufficient to facilitate laying and joining the pipe.

.3 PIPELINES MUST BE SUPPORTED ON A FIRM FOUNDATION.

Where the bottom of the trench is soft and unstable, it shall be excavated a minimum of one foot (1') below grade for the full width of the trench. When

the bottom of the trench is excavated below grade, the excavation below grade shall be refilled with select material approved by the Engineer and compacted to the in-place (in situ) density. Water encountered in the trench shall be removed by draining or pumping.

.4 TRENCH IN ROCK OR BOULDERS. If the trench is excavated in rock, boulders, or other hard material that cannot be excavated by the normal trenching methods, the bottom of the trench shall be excavated six inches (6") below the required grade for the full width of the trench and refilled with select material approved by the Engineer and compacted in accordance with the applicable provisions of these Specifications.

7 - 4 HANDLING OF PIPE.

.1 GENERAL. During handling, loading, transportation and unloading, every precaution shall be taken to prevent injury to the pipe and fittings. The manufacturer's recommendations for the handling of pipe shall be followed in all details. No pipe shall be dropped or allowed to roll down skids without proper restraining ropes. During the transportation, storing, and stringing, each pipe shall rest upon suitable pads, strips or blocks as recommended by the manufacturer and shall be securely wedged into place. Any pipe damaged beyond repair, in the opinion of the Engineer, shall be replaced by, and at the expense of, the Contractor. When handling the pipe, the Contractor shall take precautions to prevent dirt, debris or animals from entering the pipe. If dirt, debris or animals enter the pipe, it/they shall be removed by the Contractor. At the close of work each day and when pipe installation is not in progress, exposed ends of the pipeline shall be protected with approved temporary bulkheads furnished and installed by the Contractor. Before work is stopped for the day, all joints shall be completed with the exception of joints adjoining structures.

.2 PLACING. Before the pipe is laid, the alignment and grade of the trench shall be properly established and shall be approved by the Engineer. All

surfaces against which pipe is to be placed shall be free from standing water, loose earth, mud and debris. Should water get into the trench before the pipe is laid, the laying of the pipe shall be postponed until the trench has been drained or pumped, and dried sufficiently to provide a firm foundation for the pipe, or the mud or soft material shall be removed and the grade re-established by refilling as previously specified. Immediately before placing each section of the pipe, the bottom of the trench or the pipe bedding, or both, shall be prepared to provide uniform bearing along the full length of the pipe except at bell holes. A bell hole shall be excavated under and immediately in front of the last section of pipe which has been laid. The bell hole shall provide a minimum clearance between the pipe barrel or coupling and bottom of the bell hole of three inches (3") but in no case shall the bell holes be smaller than required to facilitate joining or laying the pipe. The pipe shall be placed firmly in the center of the trench and true to line and grade. Pulling of the PVC pipe joint shall be allowed as recommended by the manufacturer. On slopes greater than ten percent (10%) the pipe bells shall be pointed upgrade and the laying shall proceed upgrade. The pipe joints shall be assembled according to the manufacturer's recommendations, these Specifications and as directed by the Engineer, but regardless of the method used the joints shall be watertight. If it is necessary that a pipe be moved or that the alignment be adjusted after it has been installed, it shall be moved and re-jointed as was accomplished in the original installation. Except as required for backfilling, the Contractor shall prohibit walking or working upon the pipe until backfilling of the trench has been completed. The Contractor shall provide temporary bridging over pipe trenches where it is necessary to provide crossings for workmen and equipment or access roads. Where the side walls of the trench are unstable or where the depth of the trench will present a safety hazard to workmen, and the Contractor has elected to use sheeting, it shall be withdrawn as the backfill is placed about the pipe. Any

voids which result from the withdrawn sheeting shall be backfilled and compacted to the same density as the remainder of the trench. The Contractor shall take all necessary precautions to prevent the pipe from floating due to water entering the trench from any source, shall assume full responsibility for any damage and shall, at his own expense, restore and replace the pipe to its specified condition and grade if it is displaced due to flotation.

7 - 5 BACKFILL AND COMPACTION OUTSIDE OF STANISLAUS COUNTY.

.1 GENERAL. Backfill shall consist of select material and excavated material as shown on the Drawings. Backfill shall not be dropped directly on the pipe. Unless otherwise directed by the Engineer, backfill placed within one foot (1') of the ground surface, and within six inches (6") of the pipe shall be free from heavy gravel or stones greater than one inch (1") in maximum dimension, or both. All pipe, specials and fittings shall be bedded in sand or consolidated pea gravel. This bedding shall be to the dimensions as shown on the Drawing. The Contractor shall use extreme care in placing the sand under the haunches to assure that all spaces are filled under and about the pipe. The sand bedding shall be compacted to not less than 70% relative density as determined by ASTM D-4253. The compaction of the backfill material shall be as shown on the Drawings. Jetting of the material will not be permitted. The Contractor shall backfill the trench prior to field testing. Regardless of the method and materials used in backfilling the pipe, the Contractor shall be responsible for avoiding damage to the pipe. The pipe shall not be displaced from alignment during the backfilling operation. Backfill shall be placed at approximately the same elevation on both sides of the pipe. Material excavated from the trench over and above the quantity required to fill the trench shall be heaped over the pipe and graded as directed. Unless otherwise directed, pipe trenches shall be backfilled within 48 hours after the time the pipe has been installed.

.2 COMPACTION. The Contractor shall use extreme care in compacting the backfill in the vicinity of the pipe to avoid damage to the pipeline. The degree of compaction required is dependent upon the particular location as shown on the Drawings. The required density of the cohesive backfill will be a percentage of the maximum dry density as determined by ASTM D-1557 and as shown on the Drawings.

7 - 6 THRUST BLOCKS AND ANCHOR SUPPORTS. Concrete thrust blocks will be required at all angle points, tees, and terminal points of the line. The thrust blocks shall be of the configuration indicated on the drawings. No rubber gasket joint shall be encased in concrete. If necessary the Contractor shall use long or special fittings to comply with this requirement. All cement shall be Portland Cement and shall conform to ASTM Designation C-150, Type II.

7 - 7 HYDROSTATIC FIELD TESTING.

.1 GENERAL. In addition to any tests required by AWWA, ASTM and other standard specifications referred to in these Specifications and in addition to any specified hydrostatic shop or plant tests for pipe, a hydrostatic field test shall be required for the pipeline. The pipe shall be filled, and kept filled, with water for at least twenty-four (24) hours prior to the start of field testing. Prior to starting any testing, the Contractor shall submit his proposed testing procedure, in writing, to the Engineer for review. The line may be tested in one (1) length, between valves, or between Contractor furnished and installed bulkheads, as approved. By necessity, installation of all butterfly valves, air release and air and vacuum valves, thrust blocks and backfill shall be completed so that testing may be undertaken. After completion of the test, the Contractor shall remove said bulkheads. The District will not be responsible for any damage, including damage to the pipeline, due to testing. The Contractor shall provide all labor, equipment, materials, bulkheads, and recently calibrated measuring apparatus required to make the test. The test shall be made as soon as possible after

completion of the pipeline, but in no event sooner than three (3) days after the placing of any mortar or concrete that will be subject to hydrostatic pressure during a test.

.2 TEST PRESSURE. The pressure for testing shall be 50 pounds per square inch for all pipelines at the low point in the tested reach.

.3 TEST REQUIREMENTS. Under the specified test conditions, the maximum leakage shall not exceed 10 gallons per day per diameter inch per mile of pipe. The Contractor shall continue testing and repair until the actual leakage is reduced to or below the allowable leakage for twenty-four (24) hours. Regardless of the actual leakage from the pipe, the Contractor shall repair all visible leaks. Leaks shall be repaired by and at the expense of the Contractor. If leakage persists after said repair, the joint, joints or the entire pipeline shall be removed and replaced with new pipe and retested.

7 - 8 GUARANTY AND MAINTENANCE. The Contractor guarantees the pipeline against defective workmanship, materials, and against leakage for a period of one (1) year after the pipeline is accepted. The Contractor agrees to repair all leaks and to maintain the pipeline in a satisfactory operating condition during the above specified period. Upon notice to the Contractor by the District of needed repairs, the Contractor shall undertake such repairs, including necessary dewatering, within forty-eight (48) hours. Neither the guaranty nor the maintenance requirements shall apply to damage to the pipelines caused by an Act of God, negligence in the operation of the system, or acts of third parties.

7 - 9 PAYMENT. Payment for pipelines will be at the unit price bid therefore in the schedule. Payment shall include the pipe, casing, supports and end seals, trenching, placing, dewatering, shoring, bracing, bedding, backfill, compaction, fittings, specials, thrust blocks, clean-up, testing, guaranty, maintenance and all other labor and materials required to construct the pipeline. All labor and materials for which there is no item in the Bid

Schedule shall be included in the unit price bid therefore for the applicable size pipe to which it is appurtenant.

SECTION 8

REINFORCED CONCRETE PIPELINE

8 - 1 GENERAL. Reinforced concrete pipe, as herein specified, consists of installing pipe by open-trench at the location indicated on the Plans. The Contractor shall provide all labor, material, and equipment necessary to install the pipe, specials and appurtenant apparatus required to complete the pipe installation in an operating, watertight condition. The Contractor shall furnish all supports, bracing, and other materials and all work required for hauling, unloading, trenching, protecting, dewatering, placing, backfilling, and cleanup of the reinforced concrete pipe installation.

8 - 2 REINFORCED CONCRETE PIPE.

.1 GENERAL. Reinforced concrete pipe shall be manufactured in conformance with ASTM C-361, Class B-25, rated for 25' of head. Pipe shall be manufactured by the centrifugally spun or wet cast or dry cast methods. In addition, all pipe shall contain sufficient reinforcement to sustain external loads in the category of Class III under ASTM C-76. Cement shall be Portland Cement Type II. The pipe shall be provided in lengths of not less than eight feet (8') except for specials and makeup joints. Specials shall be of the same material as the pipeline of which they are a part of, provided the steel reinforcement is equal to or greater in area. Except where otherwise noted on the Drawings, the dimensions of specials and fittings shall be in conformance with AWWA C-208.

.2 PIPE ASSEMBLY. The bell and spigot joint shall be self-centering and shall have double "O" ring rubber gaskets with two joint test tubes per spigot. The gasket material shall conform to ASTM C-443. The gasket shall be stretched and placed on the pipe in a manner so that the rubber is distributed uniformly around the entire pipe circumference. Care shall be taken in fitting the pipe together to avoid twisting or otherwise

displacing or damaging the gasket. The joints shall be lubricated and assembled in accordance with the recommendations of the pipe manufacturer. After the joint has been assembled, the position of the outermost rubber gasket shall be verified by passing a feeler gauge around the complete circumference of the pipe. If the gasket is fish-mouthed or otherwise displaced, the joint shall be disassembled, a new gasket installed, the pipe relayed and the position of the gasket rechecked. The Contractor shall furnish certified copies of tests on the rubber compound used in all rubber gasket joints. All gaskets shall be stored in a cool, well-ventilated place and shall not be exposed to the direct rays of the sun until immediately before joint assembly.

8 - 3

TRENCHING FOR PIPE.

.1 GENERAL. The sides of the pipe trench shall be excavated vertically to the top of the pipe where the stability of the soil will permit. The Contractor shall follow the TRENCH SAFETY PLAN outlined in Section 2. The width of the trench shall be sufficiently wide to perform the necessary laying and joining operation. Trench excavation which, in the judgment of the District, is excessively wide or non-uniform, will not be permitted.

.2 GRADE AND ALINEMENT. The alinement and grade for the bottom of the trench shall be properly established before the trench is excavated. Trenches shall be dug true to line and grade, and the bottom shall be smooth and free from all objectionable material. The width of the trench shall be sufficient to permit laying of the pipe correctly and to permit proper handling and joining of the pipe. The trench width shall be sufficient to accommodate hand held backfill tampers or vibrating equipment on both sides of the pipe, but shall not be more than twenty-four inches (24") greater than the external diameter of the pipe except at bell holes.

.3 PIPELINES MUST BE SUPPORTED ON A FIRM FOUNDATION.

Where the bottom of the trench is soft and unstable, it shall be excavated a minimum of one foot (1') below grade for the full width of the trench. When the bottom of the trench is excavated below grade, the excavation below grade shall be refilled and compacted to the density specified.

8 - 4 HANDLING OF PIPE.

.1 GENERAL. During handling, loading, transportation and unloading, every precaution shall be taken to prevent injury to the pipe. The manufacturer's recommendations for the handling of pipe shall be followed in all details. No pipe shall be dropped or allowed to roll down skids without proper restraining ropes.

.2 PLACING. Before the pipe is laid, the alinement and grade of the trench shall be properly established and shall be approved by the District. All surfaces against which the pipe is to be placed shall be free from standing water, loose earth, mud and debris. Should water get into the trench before the pipe is laid, the laying of the pipe shall be postponed until the trench has been drained or pumped, and dried sufficiently to provide a firm foundation for the pipe, or the mud or soft material shall be removed and the grade reestablished by refilling as previously specified. Immediately before placing each section of the pipe, the bottom of the trench or the pipe bedding, or both, shall be prepared to provide uniform bearing along the full length of the pipe except at bell holes. A bell hole shall be excavated under and immediately in front of the last section of pipe laid. The bell hole shall provide a minimum clearance between the pipe barrel or coupling and bottom of the bell hole of three inches (3") but in no case shall the bell holes be smaller than required to facilitate joining or laying the pipe. The pipe shall be placed firmly in the center of the trench and true to line and grade. The maximum deflection angle at a

pulled joint shall not exceed one degree (1°). Beveled joints with a maximum deflection up to five degrees (5°) will be permitted provided all components of the joint meet the pipe manufacturer's recommendations. On slopes greater than ten percent (10%), the pipe bells shall be pointed upgrade and the laying shall proceed upgrade. The pipe joints shall be assembled according to the manufacturer's recommendations, these Specifications and as directed by the District, but regardless of the method used the joints shall be watertight. If it is necessary that a pipe be moved or that the alignment is adjusted after it has been installed, it shall be removed and rejoined as was accomplished in the original installation. Where the side walls of the trench are unstable or where the depth of the trench will present a safety hazard to workers, and the Contractor has elected to use sheeting, it shall be withdrawn as the backfill is placed about the pipe. Any voids that result from the withdrawn sheeting shall be backfilled and compacted to the same density as the remainder of the trench. The Contractor shall take all necessary precautions to prevent the pipe from floating due to water entering the trench from any source, shall assume full responsibility for any damage and shall, at his own expense, restore and replace the pipe to its specified condition and grade if it is displaced due to floatation.

8 - 5

BACKFILL.

.1 GENERAL. Backfill shall be as shown on the drawing. Backfill shall not be dropped directly on the pipe. Regardless of the method and materials used in backfilling the pipe, the Contractor shall be responsible for avoiding damage to the pipe. The pipe shall not be displaced from alignment during the backfilling operation. Backfill shall be placed at approximately the same elevation on both sides of the pipe. Excess material not used for backfill shall be deposited along the embankment.

.2 COMPACTION. The Contractor shall use extreme care in compacting the backfill in the vicinity of the pipe to avoid damage to the pipeline. The degree of compaction required shall be as shown on the Drawings. The required density of the cohesive backfill will be a percentage of the maximum dry density as determined by ASTM D-1557 and for non-cohesive materials the required density will be a percentage of the relative density as determined by ASTM D-4253 and as shown on the Drawings.

8 - 6 GUARANTY AND MAINTENANCE. The Contractor guarantees the reinforced concrete pipeline against defective workmanship, materials, and against leakage for a period of one (1) year after the pipeline is accepted. The Contractor agrees to repair all leaks and to maintain the pipeline in a satisfactory operating condition during the above specified period. Upon notice to the Contractor by the District of needed repairs, the Contractor shall undertake such repairs, including necessary dewatering, within forty-eight (48) hours. Neither the guaranty nor the maintenance requirements shall apply to damage to the pipelines caused by an Act of God, negligence in the operation of the system, or acts of third parties.

8 - 7 PAYMENT. The cost to furnish and install reinforced concrete shall be at the unit price bid per linear foot therefore in the schedule. Payment shall include pipe, trenching, placing, dewatering, shoring, bracing, bedding, backfill, compaction, fittings, cleanup, testing, guarantee, and all other labor and materials required to construct the pipeline.

SECTION 9

MISCELLANEOUS PIPING AND VALVES

9 - 1 GENERAL. The Contractor shall provide all labor, materials, fittings and appurtenant apparatus and equipment and perform all operations required to complete the various piping configurations manifold and valve installations in a manner that will provide an operable watertight condition.

9 - 2 PIPE MATERIALS. Pipe shall be of the material shown on the Drawings. Steel pipe shall be manufactured in conformance with AWWA C-200. All pipe shall be electrically welded pipe fabricated from steel plate in conformance with ASTM A-283, Grade C or D or ASTM A-570, Grade 30 or 33. The pipe shall be fabricated to the configuration as shown on the Drawings. The wall thickness of the various components of piping shall be ¼ inch.

9 - 3 MISCELLANEOUS REQUIREMENTS.

.1 WELDED JOINTS. Field welding of pipe joints and attachments shall conform to AWWA C-206.

.2 MECHANICAL COUPLINGS. Where shown on the Drawings, the mechanical couplings shall be Dresser Style 38 or 39 Rockwell Series 411 or 416 or approved equal with joint harness assemblies. The pipe stop shall be removed. The thickness of the middle ring (sleeve) shall not be less than the thickness of the adjoining pipe. The middle ring (sleeve) and followers shall be coated with fusion bonded epoxy. The bolts and nuts shall be 304 stainless steel. The contractor shall apply "never seize" to the threads during installation. The contractor shall not over-tighten the bolts with an air wrench. The contractor shall use two (2) stainless steel washers to prevent damage to the coating.

.3 FLANGE CONNECTIONS. Flanges shall conform to AWWA C-207. All flanges shall be Class D unless otherwise noted on the Drawings. Bolts and nuts shall conform to AWWA Standard C-207. All bolts and nuts shall

be 304 stainless steel. The contractor shall apply "never seize" to the threads during installation. The contractor shall not over-tighten the bolts with an air wrench. The contractor shall use two (2) stainless steel washers to prevent damage to the coating. Flange gaskets shall be as specified in AWWA Standard C-207. All flanges shall be marked in accordance with Section 1.4 of AWWA C-207. The bolting shall be drawn up evenly around the periphery of the flange so as to insure even pressures on the gasket.

9 - 4 MANIFOLDS. Manifolds shall include all piping, meters, check valves, air release valves, combination air valves, flanges, mechanical couplings, joint harnesses, gauges, taps, bolts, pipe supports, flanged coupling adapters, concrete thrust blocks and encasement, and all other fittings and materials required to complete the manifolds in a watertight, operating condition. Reinforcement of openings shall conform to Section VIII of the ASME Boiler and Pressure Vessel Code. The Contractor shall furnish and install companion flanges, gaskets, and bolting. The Contractor shall furnish and install flanges, mechanical couplings and joint harness lugs required to join the pump discharges to the manifolds.

.2 LINING AND COATINGS. All buried and exposed piping, flanges, and mechanical couplings shall be lined and coated with Fusion-Bonded Epoxy to a minimum thickness of 12 mils, in conformance with AWWA C-213. All exposed piping and valves shall be painted after the field installation and testing has been completed. All piping shall be free of mill-scale and shall be blast cleaned. All exposed exterior surfaces shall be painted with two or more coats of high solids epoxy in accordance with AWWA C-210 (16 mils min). Paint color is to be desert sand or otherwise approved by the District. Total exterior thickness is to be 8 mils, minimum. The lining, coating and exterior painting shall be applied per the manufacturer's recommendations and checked for holidays and pinholes by an approved method.

.3 TRENCHING, LAYING AND BACKFILL Backfill shall consist of excavated material, free of debris as shown on the Drawings. Backfill shall not be dropped directly on the pipe. Unless otherwise directed by the Engineer, backfill placed within one foot (1') of the ground surface, and within six inches (6") of the pipe shall be free from heavy gravel or stones greater than one inch (1") in maximum dimension, or both. The Contractor shall use extreme care in placing the backfill under the haunches to assure that all spaces are filled under and about the pipe. The backfill shall be compacted to not less than 95% maximum dry density as determined by ASTM D-1557. The compaction of the backfill material shall be as shown on the Drawings. Jetting of the material will not be permitted. Regardless of the method and materials used in backfilling the pipe, the Contractor shall be responsible for avoiding damage to the pipe and coating. The pipe shall not be displaced from alignment during the backfilling operation. Backfill shall be placed at approximately the same elevation on both sides of the pipe. Material excavated from the trench over and above the quantity required to fill the trench shall be heaped over the pipe except that in yards, roadways or crossings the excess material shall be disposed of as directed. Unless otherwise directed, pipe trenches shall be backfilled within 48 hours after the time the pipe has been installed.

.4 PAYMENT. Manifolds will be paid for at the applicable lump sum price bid therefor in the schedule. This price shall include all cost of fittings, meter, check valves, air and vacuum valves, pipe supports, materials, labor, fabricating, furnishing, placing, backfilling, concrete thrust blocks and encasements, testing, disinfecting, lining, coating, guaranty, and maintenance and all other work required to complete the manifolds to the paylines as indicated on the Drawings.

9 - 5

VALVES.

.1 CHECK VALVES. Check valves shall conform to the applicable provisions of AWWA C-508. Check valves shall be iron body, globe type,

flanged, and bronze fitted. The pressure rating for check valves shall be equivalent to the pressure rating of the pipeline of which they are to become a part. The valve body and disc shall be so proportioned that a passage fully equal in area of the nominal pipe size will be provided when the valve is in the wide open position. The seating ring of the valve and disc shall be bronze. The valves shall be shop tested to a hydrostatic pressure of 150 psi. Under this test pressure there shall be no leakage in any part of the valve assembly nor shall any part be permanently deformed. All ferrous interior surfaces of the valves shall be coated with Keysite Epoxy No. 740, Scotchkote Epoxy No. 306 or approved equal. The valves shall be furnished with external lever and weight and shall be manufactured by Mueller, or approved equal. The external lever and weight shall be placed to the outside of the manifold.

.2 INSTALLATION. The valve installation shall be complete with all flanges, gaskets, bolts, and all else required to complete the valve in a watertight condition. The valves shall be furnished with companion flanges.

.3 PAYMENT. All valves shall be included in the item of work of which they are a part. The installation shall include all materials and labor, including valve access wells where required, fabricating, furnishing, trenching, placing, backfilling, companion flanges, nuts, washers, bolts, testing, guaranty and maintenance, and all other work required to complete the valve installation.

9 - 6

AIR RELEASE VALVES, AIR RELEASE AND VACUUM VALVES, AND COMBINATION AIR VALVES.

.1 GENERAL. Air release valves, air release and vacuum valves and combination air valves shall include the connection of the installation to the manifold including reinforcement if required, bronze ball valves, air release valves and combination air and vacuum valves, piping, and all else required to complete the installation in an operating, watertight condition. Air release, air release and vacuum, and combination air valves must have the same pressure rating as the pipe at the point of installation. All ferrous interior surfaces of the valves and piping shall be coated with Keysite Epoxy

No. 740, Scotchkote Epoxy No. 306 or approved equal. Ball valves on these installations shall have the same pressure rating as the pipe at the location of the installation. Ball valves shall have a removable handle. The piping above ground shall be standard schedule 80 galvanized steel pipe and shall conform to ASTM 120. Piping shall be field painted to match the manifold.

.2 MANIFOLD AIR RELEASE VALVES. Air release valves installed on pump discharge manifolds shall be well service air release valves or air release valves as indicated on the drawings. All air release valves installed on pump discharge manifolds shall include an isolation ball valve and galvanized steel vent piping to discharge any moisture from the valve back into the pump sump or canal. Well service air release valves shall be 3" Valmatic Model 103ST. Air release valves shall be Valmatic model 48A.5 (3"). All air release valves shall be properly adjusted according to the manufacturer's requirements prior to testing the system.

.3 PIPELINE AIR RELEASE VALVES. Air release valves installed on the pipeline shall be Model CR-101 by Waterman Industries or approved equal. The Contractor shall coordinate with the District for the location of the air release valve and vault.

.4 PAYMENT. No separate payment will be made for air release, combination air and vacuum valves. They shall be included in the item of work of which they are a part. The installation shall include all materials and labor, valves, PVC and steel piping, ball valves, fabricating, furnishing, installing, guaranty and maintenance, and all other labor and materials required to complete the installation.

9 – 7 MAG METER INSTALLATION. The 30" Mag meter and associated appurtenances shall be provided and installed by the Contractor as indicated on the Drawings and in accordance with the Manufacturers instructions.

.1 PAYMENT. Payment for the Mag meter shall be included in the Lump Sum price for the manifold bid item of which it is a part and shall include

installation of the Mag meter, converter, its accessories and appurtenances, and furnishing and installing the precast concrete meter box (where required), pipe supports, and any other items necessary for the proper installation as shown on the drawings.

9 - 8 THRUST BLOCKS AND ANCHOR SUPPORTS. Concrete thrust blocks will be required at all angle points and tees. The thrust blocks shall be of the configuration indicated on the drawings. No flanges or flange coupling adaptors shall be encased in concrete. If necessary the Contractor shall use long or special fittings to comply with this requirement. All cement shall be Portland Cement and shall conform to ASTM Designation C-150, Type II. Payment for thrust blocks shall be included in the lump sum bid amount listed for the manifold of which they are apart.

9 - 9 ALFALFA VALVE TURNOUTS. Alfalfa valve turnouts shall be installed on the segments of the irrigation pipelines as indicated on the drawings. The alfalfa valve shall be model 2400 by Fresno Valves and Castings or approved equal and rated for up to 50 feet of head (22 psi). The alfalfa valve shall be glue-on type for PVC pipe.

.1 PAYMENT. Payment for the alfalfa valve turnouts shall be included in the Unit Cost price for the pipeline bid item of which it is a part and shall include the service saddle, PVC extension pipe, alfalfa valve, and notched concrete pipe stub and any other items necessary for the proper installation as shown on the drawings.

SECTION 10

MISCELLANEOUS METALWORK

10 - 1 GENERAL. The Contractor shall furnish and install the following items of metalwork as miscellaneous metalwork as shown on the Drawings or otherwise directed:

- (a) Structural ferrous steel shapes
- (b) Fabricated trashracks
- (c) Fabricated Steel Grating

10 - 2 MATERIALS. Structural ferrous steel shapes, plates, bars, rods, and straps shall conform to ASTM Designation A-7. All other materials for miscellaneous metalwork not specifically covered by the ASTM specification shall be good commercial quality approved by the Engineer. All ferrous metalwork shall be galvanized in accordance with ASTM Designation A-123 or A-153. Fabricated steel grating shall be welded and sized as indicated on the drawings. All grating panels shall have banded ends.

10 - 3 INSTALLATION. Anchor bolts and metalwork to be embedded in concrete shall be installed before the concrete is placed and shall be supported firmly and accurately in position while the concrete is being placed. Regardless of the dimensions shown on the drawings, dimensions for grating panels, trashracks, and support beams shall be field verified prior to fabrication. Grating panels, trashracks, and support beam shall be sized such that no more than ½" gap exists between both edges of the steel member and the face of concrete.

10 - 4 GRATING ANCHORAGE. Each grating panel shall be anchored to the associated structure by a minimum of 2 anchor clips provided by and installed in accordance with the grating manufacturer's recommendations. Anchor clip pairs shall be installed on opposite sides of the associated grating

panel.

10 - 5

PAYMENT. Payment for miscellaneous metal shall be at the unit price bid therefore in the schedule. Payment shall include all metal parts, fabrication, and galvanizing as indicated on the drawings.

SECTION 11

STORM WATER POLLUTION PREVENTION PLAN

- 11 – 1 GENERAL. The Contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) and a Notice of Intent (NOI) for the District to file with the State Water Resources Control Board (SWRCB). These documents shall be prepared by a certified Storm Water Practitioner and the plan shall be implemented, inspected, and reported in accordance with SWRCB requirements and at no additional cost to the District.
- 11 – 2 PAYMENT. Preparation and implementation of the SWPPP, NOI, and all related reports shall be paid for at the applicable lump sum price bid therefor in the schedule. This price shall include the cost of installing and removing at the conclusion of construction all temporary diversion berms, straw wattles and/or other sediment traps, and all other work and materials required to prevent the discharge of all erosion and construction pollution products into the existing storm drainage system.

SECTION 26 01 00

ELECTRICAL WORK

PART 1 GENERAL

1.1 DESCRIPTION

- A. Division 26 00 00's specifications cover electrical equipment, electrical systems, instrumentation, control and related work which consist of furnishing all necessary labor, equipment and materials required for a complete operating installation as shown and as specified herein. These specifications are complimentary to the contract drawings. The electric utility serving the project is the Pacific Gas and Electric Co. (PG&E).
- B. Discussions prior to the issuance of these documents concerning substitutions and alternative methods by any party which are not included in these specifications either by reference or by revision are not a part of the work and will not be a basis for consideration and or modification of that herein stated. All substitutions of equipment, materials and process for that specified or shown shall be required to have written approval of the Engineer through the specified submittal process.
- C. The electrical site drawings are schematic in form and the electrical schematic drawings are representative of the equipment and materials to be furnished and installed. Drawings illustrate approximate locations, dimensions and layout of equipment. The Contractor shall obtain information from the District, Civil documents, actual specified equipment and materials and equipment manufacturer's submittals to determine final dimensions and location of the equipment, raceway and materials. Equipment, raceway and materials shall not be installed without review by the Engineer.
- D. Dimensions of equipment shown on the drawings are representative and may not be accurate for the approved equipment. Contractor shall furnish and install modifications required to equipment locations and mounting including concrete pads. Location of equipment is subject to final project layout. The District will provide manufacturer's information and documents on EQUIPMENT SUPPLIED by the District. The Electrical Sub-Contractor shall coordinate all work with General Contractor. All modifications of equipment and its location shall be submitted for Engineer's review.
- E. Some Civil and Structural features have been deleted from the electrical drawings for clarity purposes. Use Civil and Structural drawings for physical dimensions, definition and quantities of materials and labor. Where physical discrepancies exist between Civil and Electrical drawings, Civil drawings shall take precedence.
- F. Conduit routing is shown diagrammatically. Contractor shall furnish and install all materials and labor consistent with field conditions to provide a complete

and operating electrical system. Materials and conduit installation from utility service to the station connection shall be in accordance with the serving utility standards. All other materials shall be as specified in the contract documents.

1. This installation includes equipment, devices and materials that may require assistance of the manufacturer in its installation and operation.
 2. Employing either directly or through its sub-contractor, manufacturer's assistance during installation and start-up as may be necessary for the project's successful operation as determined by the Owner at the completion of the services.
- G. Substitutions of equipment and materials for that specified shall not be made without expressed approval of the Engineer. Such submission and review must occur prior to the purchase.
- H. Concrete, excavation, backfill, and steel reinforcement required for support, installation, or construction of the WORK of the various sections of Division 26 is included as a part of the WORK including underground conduit, pull boxes, vaults, and equipment.
- I. Equipment, apparatus, bus and devices installed within enclosures shall be securely anchored in place and be capable of withstanding seismic forces per the 2016 California Building Code.
- J. The electrical work is comprised of furnishing and installing (1) equipment building, (2) electric service, (3) switchboard, (4) motor control equipment comprised of variable frequency drives, (5) control consoles, (6) instrumentation, (7) grounding, (8) associated conduit, cables and miscellaneous hardware (9) testing, training personnel and placing the equipment into operation (10) a certified startup of the motor controllers and (11) integration of the station into the District's future SCADA system and (12) an Operations and Maintenance Manual for the station. In addition to the Power equipment, the equipment building shall contain supporting equipment such as a panelboard, air conditioners, lighting, outlets, smoke detectors, intrusion devices and other devices as shown.

1.2 RTU

- A. The Contractor shall provide, install and program the RTU as specified herein and as shown and shall be responsible for the completion of the work and the successful operation of the project as described in these specifications. In general, the equipment and devices to be furnished are as follows:
- B. Materials & Equipment
1. All materials, equipment and devices within the RTU cabinet including future radio implementation.
 2. RTU Cabinet
 3. Installation of the required devices.

4. Termination of the leads to the devices.
5. All software, hardware, including the operator interface terminal, and that needed for future SCADA communications.
6. Integration of the graphic screen.
7. Programming and configuration of the interface terminal.
8. There shall be three modes of operation which shall be operator selected. The three modes are:
 - a. Pumping from the main pump station to the control box for filling the basins,
 - b. Pumping from the basins by the control box pumps for irrigation
 - c. Pumping from the main pump station through the control box for irrigation.

1.3 *WORK INCLUDED*

- A. Equipment and materials to be furnished and installed by the Contractor are shown in the following specification sections:
 1. Electrical Work – Section 26 01 00
 2. Seismic Restraint for Electrical Equipment – Section 26 01 20
 3. Raceway – Section 26 11 00
 4. Low Voltage Wire and Cable – Section 26 12 10
 5. Miscellaneous Electrical Work – Section 26 13 00
 6. Grounding Systems – Section 26 15 00
 7. Power Distribution and Motor Control Equipment – Section 26 48 00
 8. Electric Services – 26 49 00
 9. Field Testing and Operation – Section 26 95 00

1.4 *ELECTRIC SERVICE – PACIFIC GAS AND ELECTRIC (PG&E)*

- A. The Contractor is responsible for all coordination with Utility Company, responsible for the timely completion of the work and responsible for meeting Utility Company administrative and technical requirements pertaining to the service at the site identified herein and on the drawings. All scheduling of work shall have the prior approval of the District. The Contractor shall coordinate all outages with the Utility Company during the connection of the project facilities to the Utility Company's facilities. The District will pay the Utility Company all application and connection charges.

1.5 *SEISMIC REQUIREMENTS*

- A. The Seismic requirements specified will impact the manufacture and installation and operation of the equipment, see Section 26 01 20.

1.6 *PROSECUTION AND PROGRESS OF THE WORK*

- A. The Contractor shall be responsible for planning, scheduling, and reporting the progress of the work so as to ensure timely completion of the work called for in the contract. The Contractor shall prepare and submit a detailed schedule.
- B. The Contractor shall notify Underground Service Alert (USA) and the District Inspector five (5) working days in advance of performing excavation work.

1.7 DISPOSAL OF MATERIALS AND EQUIPMENT

- A. Disposal of all materials shall be as directed by the District. Deliver all salvaged equipment and materials to District's Operations and Maintenance Center.

1.8 REPAIR OF EXISTING FACILITIES

- A. The Contractor will be working on and around facilities constructed and installed by others. Existing facilities shall be repaired and incorporated in the final project feature as shown on the drawings and as specified in the technical specifications.
- B. The Contractor shall take care not to damage or deface any of the existing work. The District will hold the contractor responsible both in repair and costs associated with such damage. The Contractor shall bear the total costs related such repairs. Repairs will include the restoration of existing surfaces to original appearance.

1.9 SUBMITTALS

- A. Descriptive literature for all equipment and materials furnished as specified in the sections of these specifications shall be submitted in accordance with the following. The submittals for Sections listed under Paragraph 1.3, A. shall be submitted in a maximum of four binders.

1. List of Materials
2. Work Schedule
3. Manufacturer's Catalog Cuts

The Contractor shall submit catalog cuts in pdf format on all equipment, materials and devices. The catalog cuts shall include the identification of the Manufacturer and the specific Catalog Number of that which is intended to be used in the installation. Submittals not designating specific catalog numbers, ratings and features will be rejected without review.

4. Shop Drawings

The Contractor shall submit complete shop drawings in electronic .pdf form of fabricated equipment at time of completion of factory engineering. In addition to a display of the equipment fabrication, the shop drawings

shall include the electrical characteristics of all equipment and devices, weight, guaranteed dimensions, drawing numbers and job number. One set of AutoCAD files of all physical and schematic drawings shall be sent at time of shipment.

5. Time Current Curves

The Contractor shall include in the submittal time-current curves of all protective devices such as circuit breakers, fuses, cutouts, overloads, protective relays and motor protective devices. Include with the submittals shown in paragraphs C. and D. above.

6. Interconnection Diagrams

Interconnection Diagrams will be prepared by the District for all physically separate devices and equipment that require field wiring. The contract Interconnection Diagrams will be prepared using the information contained in the Contractor's submittals. Interconnection Diagrams will show the termination of both ends of each known wire to be installed along with the wire designation.

The Contractor shall correct or add any connections, designations and information needed to produce as-built diagrams. The marked-up Interconnection Diagrams shall be submitted for Engineer's review after completion of the testing.

7. Operation and Maintenance Manuals

The Contractor shall prepare and submit Operation and Maintenance Manuals for the site in .pdf form on a Thumb Drive. Each volume shall contain the Manufacturer's Catalog Cut Sheet indicating the exact model number installed, the Manufacturer's User Manual, Installation Manual and Maintenance Manual including Safety documents if published and programming manuals if applicable. Scanned copies are not acceptable. All documents except for software and firmware shall be in Word, Excel or pdf format. Picture format is not acceptable. In addition, the manuals shall include the specific catalog numbers of the devices and equipment installed either listed separately or highlighted in the text of the documents.

- a. Electric Service:
Meter Enclosures, Main Circuit Breaker with Time-Current Curve in log log form, Surge Protective Device, Power Failure Relay, Power Monitor, Test Switch and cable.
- b. Fuses & fuse holders
- c. Current Transformers
- d. Surge Protective Devices
- e. Control Power Transformers
- f. Test Switch

- g. Motor Control:
Variable Frequency Drives, Circuit Breakers with Time-Current Curves on log log paper, Timers, Relays, Control Switches, Indicating Lights, HIM's, Potentiometers, Ethernet Adapters, Control Consoles
- h. Miscellaneous Materials:
Switches, Brackets, Light Fixtures, Outlets, Conduit, wire, cable
- i. As built diagrams and drawings
- j. CD, DVD or thumb drive of Firmware, Software, and Device Programs shall include settings, parameters and configuration. Include print out of all programs, settings and parameters.

1.10 TEMPORARY ELECTRICAL POWER

- A. The Contractor shall make arrangements for and pay for any electrical facilities and energy needed to accomplished his work at all construction sites.
- B. The Contractor shall remove his construction electrical equipment consistent with the installation of the permanent power supply in a timely manner to allow for testing and startup of the facilities.

1.11 DRAWINGS

- A. Prior to bidding, the Contractor shall inspect all conditions at the sites to his satisfaction.
- B. Prior to performing the work, the Contractor shall verify all measurements to insure adequate space for installation of new equipment.
- C. Conduit routing, as shown on the drawings, is diagrammatic. Routing, with prior approval of the District, may be adjusted to meet the electrical, structural and site conditions. Pullboxes shall be installed where required by Code whether shown or not.
- D. All conduit and equipment shall be installed in a manner and in locations to preserve clearances and keeping all openings clear.
- E. The contract drawings are essentially diagrammatic to the extent that offsets, bends, pullboxes, conduits, special fittings and the exact locations may not be completely indicated. The Contractor shall carefully study the drawings and premises in order to determine the best methods, exact locations, routes, noting obstructions, etc., and furnish and install all conduit and equipment in available locations and as required by conditions found at the site and the equipment being furnished. Pullboxes or vaults shall not be instated in traffic areas without the approval of the District.
- F. The contract drawings show equipment locations, dimensions and anchorage that may not be accurate for the final manufactured product. In this regard, it is the responsibility of the Contractor to coordinate dimensions between his site

work and the equipment supply, keeping records of the changes for preparation of the as-built drawings.

- G. The dimensions shown for equipment are approximate and will be determined by the manufacturer. The Contractor shall locate equipment as close to the position shown without encroaching upon clearances for (1) access into the equipment, (2) working space and (3) accessibility all according to the California Electrical Code and the National Electric Code.

In addition, the Contractor shall confirm equipment dimensions with the manufacturer prior to placement of underground and/or buried conduits so that the conduits entering the base of the equipment are (1) located in the position shown on the equipment drawings and (2) the blockouts in the building floor. Contractor shall coordinate this location with the equipment supplier and the building contractor. This requires a coordinated effort between the equipment supplier and the control building supplier (contractor).

1.10 CONSTRUCTION PROGRESS NOTIFICATION

- A. The Contractor shall provide written notification to District one week prior to the start of the following construction events.
1. Installation of underground work. Obtain District's approval prior to backfill. The District may direct uncovering of any Work not so approved.
 2. Placement of equipment foundations, slabs and pullboxes.
 3. Installation of the grounding mat.
 4. Start of wire pulling.
 5. Scheduled start date for both electrical acceptance tests and startup testing.

1.11 ELECTRICAL WORK CLOSEOUT

- A. Prepare the following items and submit to the District before final acceptance.
1. One original copy of the marked-up Interconnection Diagrams.
 2. Place all operating devices in the position and state of operation as directed by the District.
 3. Four (4) copies of all test results as required under this section. Test results to include a copy of the final settings of all motor controllers.
 4. Four (4) copies of as-built record drawings.

5. Four (4) copies of all receipts transferring portable or detachable parts to the Owner when requested.
6. Six (6) copies of the Operation and Maintenance Manuals.
7. Notify the District in writing when installation is complete and that a final inspection of this work can be performed. In the event defects or deficiencies are found during this final inspection they shall be corrected to the satisfaction of the District before final acceptance can be issued.

1.12 *SCRAPPED, SALVAGED, DEMOLISHED MATERIALS AND EQUIPMENT*

- A. Contractor shall coordinate with the District all materials and equipment which are demolished or scrapped prior to disposal. All removed materials and equipment which in opinion of District are salvageable, shall remain the property of Owner. Deliver such salvaged materials and equipment on the premises. Salvaged materials shall be packed in sealed heavy cardboard storage boxes. All other items shall be removed from the facility and disposed of by the Contractor
- B. Do not reuse salvaged materials and equipment, unless specifically indicated on plans or specified.
- C. All costs associated with the work to remove and dispose shall be included in the Contractor's bid price.

PART - 2 PRODUCTS

2.1 *REFERENCES*

- A. Work installed or material used must comply with latest rules of the following codes:
 1. (CEC) California Code of Regulations (CCR) TITLE 24, PART 3, California Electrical Code.
 2. (GO95) Public Utilities Commission, State of California: Rules for Overhead Electric Line Construction, General Order #95.
 3. (GO128) Public Utilities Commission, State of California; Construction of Underground Electric Supply and Communication Systems, General Order #128.
 4. (ESO) California Code of Regulations (CCR) TITLE 8, CHAPTER 4, SUBCHAPTER 5 Electrical Safety Orders.
 5. (NEC) NFPA, National Electrical Code.
 6. (CBC) California Building Code, 2010 Edition

7. (OSHA) Safety and Health Standards – 29 CFR 1910 and 29 CFR 1926
- B. Work installed or material used must be in conformance with the recommendations of the applicable portions of the following standards:
1. IEEE, Institute of Electrical and Electronic Engineers
 2. NEMA, National Electrical Manufacturers Association
 3. ICEA, Insulated Cable Engineers Association
 4. UL, Underwriters' Laboratories, Inc. All electrical panels and equipment enclosures shall have a UL label.
 5. ANSI, American National Standards Institute
 6. NETA, International Electrical Testing Association
 7. ASTM, American Society for Testing and Materials
- C. Where the requirements of the specifications conflict with IEEE, UL, NEMA, NFPA, ICEA, ANSI, NETA, ASTM or other applicable standards, the more stringent requirements shall govern.

2.2 *SPECIFIC EQUIPMENT MODELS*

- A. Where manufacturer's specific model numbers are specified or shown with "or equal", these indicate acceptable types. Where a manufacturer's specific model number is specified or shown, only that item will be acceptable. Modify model to comply with all requirements, as specified or shown. All similar equipment shall be of the same manufacturer.

2.3 *GENERAL EQUIPMENT MODELS*

- A. Painting and Finishes shall be as follows except where specific instructions are provided.
1. Factory Finish: Boxes, cabinets, etc., factory finished as follows:
 - a. Surface Mounted Boxes: one prime coat over galvanizing, one coat of light gray synthetic enamel or lacquer.
 - b. Flush Mounted Boxes: Galvanized only.
 - c. Surface Mounted Fronts: One prime coat, one coat of light gray synthetic enamel or lacquer to match box.

- d. In addition to above, any special requirements as shown on the plans.
2. Equipment Enclosures: Equipment enclosures, etc., to be manufacturer's standard, unless otherwise specified.
3. Electrical equipment shall be listed by and shall bear the label of Underwriters' Laboratories, Inc. (UL) or an independent testing laboratory acceptable to the local code enforcement agency having jurisdiction.
4. Where the requirements of the specifications conflict with IEEE, UL, NEMA, NFPA, ICEA, ANSI, NETA, ASTM or other applicable standards, the more stringent requirements shall govern.

B. Spare Parts

Spare parts as specified in each Division 26 00 00 specification section shall be furnished by the Contractor. The cost of the spare parts shall be included in the Contractor's bid price. Spare parts shall be packaged for storage, shall be clearly labeled on the outside of the package, and shall be grouped for their respective equipment. Any spare parts used by the Contractor during the start-up or warranty period shall be replaced by the Contractor at no additional cost to the Owner.

C. Seismic Requirements

Equipment, apparatus, bus and devices installed within enclosures shall be securely anchored in place and be capable of withstanding seismic forces per the 2016 California Building Code. For Contractor supplied equipment, the Contractor shall submit actual tests of similar equipment showing compliance. A California Seismic Certificate shall be prepared and signed by authorized company representative. Where the product is not standard equipment, submit calculations showing compliance and stamped by a registered structural engineer with current registration California.

2.4 INTERIOR WIRING FOR CABINETS, PANELS AND BOXES

- A. Interior wiring of all manufactured products and all field wiring shall conform to the following:
 1. Hinge wiring shall be arranged to bend around the longitudinal axis of the wire.
 2. Rubber grommets shall be used where wiring passes through holes in sheet metal
 3. All electrical devices shall be identified with a designation and that designation shall be used for wire identification purposes.

4. Wiring and components shall be arranged so that devices can be removed and/or serviced without disturbing the wiring bundles.
5. Wiring shall not be tapped or spliced except at device terminals or on terminal blocks.
6. No more than two terminations shall be made on any one terminal. On terminal blocks where field wiring will be connected, one side shall be reserved for field wiring.
7. Each terminal connection shall have a preinsulated ring-tongue, crimp-type connector conforming to UL 486A, and applied to the wire end with a ratchet type or pneumatic operated power tool.
8. Each terminal of devices and terminal blocks shall be assigned the designation shown on the interconnection drawings. If not shown, a designation shall be assigned and that designation shall appear on the terminal and on the manufacturer's drawings.
9. Each wire shall have a unique designation.
10. Wire other than hinge wiring shall have an ASTM Designation: B8, Class B minimum stranding and the wire shall have copper conductors and shall be minimum #14 for control and minimum #12 for power circuits. Hinge wiring shall be Class D minimum stranding.
11. All wiring shall be insulated with highly flame-retardant insulation. Specifically designated flame retardant Type SIS or XHHW, or Tefzel are considered suitable.
12. All wiring shall be in plastic wireways or bundled and laced.
13. Low level wiring, 4-20 ma or 30 volts or less, shall be jacketed, insulated, twisted and shielded pairs not less than #18-gauge wire.

2.5 *FACTORY TESTS*

- A. Factory tests of equipment and materials shall be performed where specified in the applicable Section. When requested by the District the equipment and material factory tests may be witnessed by the District, or their designated representative, at the place of the manufacturer.

PART - 3 EXECUTION

3.1 *INSTALLATION*

- A. The electrical installation shall be in accordance with the applicable standards specified hereinbefore unless otherwise specified herein. The Contractor shall

place the equipment accurately in position, level the equipment, assemble all equipment which requires assembling, including bus and internal wire connections where required, connect all incoming wires properly, and adjust and make ready for service the electrical equipment and material required by these Specifications or as shown on the Drawings. After all work is complete, the Contractor shall clean each piece of equipment and leave the project work area in a clean condition to the satisfaction of the District. All work shall be done in an orderly and skillful manner and shall present a neat appearance when completed.

- B. All equipment installed by the Contractor shall be in accordance with the Drawings and the manufacturer's recommendations and shall operate to the District's satisfaction. The Contractor shall be responsible for, and shall correct by repair or replacement, at his own expense, equipment that, in the opinion of the District has been caused by faulty mechanical or electrical assembly. Necessary tests to demonstrate that the electrical and mechanical operation of the equipment is satisfactory and meets the requirements of these Specifications shall be made by the Contractor at no additional cost to the Owner.
- C. The District reserves the right to require changes in equipment location without incurring additional costs. The equipment dimensions and locations shown on the Drawings are approximate and subject to change when the actual equipment dimensions are known.
- D. Shipping and Storage: Equipment, regardless of whether it is to be installed immediately or stored for some time before installation, shall be kept in a clean dry place. Heaters installed in equipment to prevent formation of moisture shall be energized. Blocks and wires used to hold moving parts in position during shipping and handling shall remain in place until the equipment has been completely removed. The equipment shall be moved by means of lifting eyes, jacking pads, or other means provided by the manufacturer for that purpose.
- E. Equipment shall not be set in place until all construction work which might damage the equipment has been completed, and it shall be protected by means of tarpaulins as long as work is being done in the area where the equipment is located.
- F. Marking
 - 1. Mark conduit at intervals not exceeding 10 feet with Fasttags by Tech Products or approved equal. Free-hand lettering is not acceptable.
 - 2. Fasten nameplates securely to equipment with stainless steel #4 Phillips round head, self-tapping screws, or nickel-plated brass bolts.
- G. Prevention of Corrosion
 - 1. Outdoor hardware shall be #316 stainless steel.

3.2 *TESTING AND PREPARATION FOR OPERATION*

- A. Testing and preparation for operation shall be performed in accordance with Section 26 95 00, titled **FIELD TESTING AND OPERATION**.

3.3 *WARRANTY*

- A. Equipment, materials and installation shall be guaranteed for a period of one year after the date of acceptance of the work by the District unless otherwise specified. Repair or remove and replace any and all work that is found to be defective in workmanship and/or materials within said one year period, without expense whatsoever to the Owner. The Contractor shall respond to repairs within 48 hours after notice from the Owner.
- B. Warranties, Guarantees, Certificates, etc., furnished or available to equipment and material under this Division, shall be promptly filled out as of date of acceptance and delivered to the Owner.

END OF SECTION

SECTION 26 01 20

SEISMIC RESTRAINT FOR ELECTRICAL EQUIPMENT

PART 1 GENERAL

1.1 SEISMIC REQUIREMENTS

- A. Equipment and major internal components shall be suitable for and certified by actual seismic testing to meet all applicable seismic requirements of the 2018 International Building Code (IBC) per specific project Site Classification.
- B. Where equipment is of specialized manufacture and not of a standard product line, submit calculations showing compliance and stamped by a registered structural engineer with current registration in California. Calculations shall show conformance with the seismic requirements obtained in Paragraphs A. and B. Such analysis shall be in written form showing criteria, calculations and submitted as outline in Paragraph 1.2.

1.2 SUBMITTALS

- A. Submit evidence that the equipment to be supplied is capable of withstanding seismic activity by comparison of the manufacturer's test results and or analyses are in conformance with that criterion obtained from the Site Classification. Comparison results shall be signed by a registered Structural or Civil Engineer registered in California or state with reciprocity.
- B. Submit equipment anchoring methods in accordance with the findings of the testing and analysis. Include anchoring locations, anchor sizes and types and minimum anchor embedment depths. Drawings and specifications shall be signed by a registered Structural or Civil Engineer registered in California.
- C. Place a label on the equipment certifying conformance with the requirements of this Section. Such label shall include the signature of the person of knowledge and District, officer of the manufacturer, to sign such certificate of conformance. Such label shall be evidence that the requirements of this section have been met.

PART - 2 PRODUCTS

2.1 EQUIPMENT, APPARATUS, BUS AND DEVICES

- A. Concrete foundations on which equipment is to be mounted shall be constructed as shown with one continuous placement. Raised pads placed separately are not acceptable. Equipment foundations shall not be placed until the information in Paragraph 1.02, B., above is known.

- B. Equipment, apparatus, bus and devices installed within enclosures shall be securely anchored in place and be capable of withstanding the above stated seismic forces. Contractor shall submit actual tests of similar equipment showing compliance.

2.2 *EXPOSED CONDUIT*

- A. Exposed conduit shall be securely fastened to surfaces using strut and anchors in the configuration shown by the manufacturer for compliance with the site-specific seismic forces.
- B. Submittals for the hardware to be installed shall clearly show compliance.
- C. Conduit entering the bottom of the equipment shall not be placed adjacent to or connected to the equipment base.
- D. Conduit entering the top of the equipment shall be by seismic fittings or flexible conduit.

PART - 3 EXECUTION

3.1 *EQUIPMENT AND RACEWAYS*

- A. Install equipment anchors in accordance with the final shop drawings and manufacturer's recommendations. Properly torque all bolts to the required values.

END OF SECTION

SECTION 26 11 00

RACEWAY

PART 1 GENERAL

1.1 DESCRIPTION

- A. This Specification Section covers the furnishing, installing and testing of all conduit, fittings, pull boxes, boxes and supports as specified herein, as shown on the Drawings, as required by the Electrical Code and as required for a complete electrical installation.
- B. The provisions of Sections 26 01 00 and 26 01 20 of these Specifications shall apply, unless otherwise specified in this Section.
- C. The raceway system shall consist of the types and sizes shown, as required and shall include rigid steel conduit, PVC coated rigid steel conduit, liquid-tite flexible conduit, rigid schedule 40 and 80 PVC conduit, pull boxes and accessories required for raceway installation. Electrical Metallic (Steel) Tubing (EMT) is only permissible in the interior of buildings and is restricted to surface mounting for light fixtures, convenience outlets, light switches, smoke detectors and motion detectors.
- D. All raceway except as stated in Paragraph C. above shall be buried or enclosed in walls and slabs unless specifically shown to be exposed on the drawings.
- E. Conduit accessories shall include Condulet type fittings, expansion and deflection couplings, chase nipples, hubs, locknuts, bushings, flexible conduit fittings, supports, materials for sealing openings, and all other devices and materials required to complete the electrical raceway system.

1.2 SUBMITTALS

- A. Descriptive literature for all materials furnished under this section shall be submitted in accordance with Section 26 01 00, of these specifications.
- B. Submittals for the Raceway Systems materials and equipment shall include, but shall not be limited to, the following:
 - 1. Catalog cuts showing manufacturer, specific catalog numbers, dimensions, weights and material for all raceway and accessories.
 - 2. Dimensioned "as-built" drawings.

3. Certified test reports prepared by manufacturer.

1.3 QUALITY ASSURANCE

- A. Manufacturer shall provide certification that the manufacturer has been fabricating and assembling specified equipment in his current facility for a minimum of five (5) years.
- B. All materials selected for the manufacture of the hardware shall be the best available for the purpose for which they are used, considering strength, ductility, durability and the best engineering practice.
- C. All like parts shall be interchangeable.

PART 2 PRODUCTS

2.1 REFERENCE STANDARDS

- A. Raceway systems supplied under this contract shall be designed, manufactured, and tested in accordance with the latest version of the following standards.
- B. American National Standards Institute (ANSI) Publications:
 - C33.92 Flexible Liquidtight Metal Conduit
 - C80.1 Rigid Steel Conduit
 - C80.4 Rigid Steel Conduit Fittings
- C. National Electrical Manufacturers Association (NEMA)
 - FB 1 Fittings and Supports for Conduit Cable Assemblies
 - TC-2 & TC-3 Non-metallic Conduit and Fittings
 - RN 1 Rigid Steel Conduit PVC jacketed
- D. Underwriters Laboratories Inc.
 - UL 514A Metallic Outlet Boxes, Electrical
 - UL-870 Wireways, Auxiliary Gutters and Associated Fittings
 - UL-6 Rigid Metal Electrical Conduit
 - UL-651 Schedule 40 and 80 Rigid PVC Conduit

2.2 CONDUIT AND CONDUIT FITTINGS

A. Material for the conduit systems shall conform to the following:

1. Rigid Steel Conduit: Steel conduit, couplings, bends and nipples shall be in accordance with ANSI C80.1 and UL-6, hot-dipped galvanized inside and outside after fabrication and then coated with a bichromate finish. All fittings shall be listed per UL 514.
2. Flexible Liquidtight Metal Conduit: Flexible Liquid-tight metal conduit shall be in accordance with ANSI C33.92 and shall be galvanized steel core with a copper bonding conductor between the spiral segments and an extruded synthetic jacket overall to insure a liquid-tight conduit. The conduit shall be American Brass Sealtight Flexible conduit, or equal. Flexible conduit fittings shall be the grounding type and a design approved by the manufacturer for this type of flexible conduit.
3. Rigid Galvanized Steel Conduit PVC Bonded (RGS/PVC): Conduit shall conform to the requirements of NEMA RN1, type A40. Plastic coated conduit shall be rigid galvanized steel conduit to which an epoxy acrylic primer and a 40mil thick polyvinyl chloride coating has been bonded. Bond strength shall exceed the tensile strength of the plastic coat. All elbows shall be factory made and PVC coated. All fittings used with plastic coated conduit shall be similarly coated with not less than 40 mils of polyvinyl chloride and shall be provided with type #316 stainless steel hardware. Robroy Industries - type PLASTIBOND, or approved equal. For factory coated conduit, use overlapping PVC sleeves. Sleeves shall extend beyond end of fitting minimum distance equal to nominal diameter of conduit, and shall fit tightly over conduit coating to form a watertight joint. Joints and fittings shall be made tight with strap wrenches. All damage to PVC jacket shall be repaired with four separate applications of PVC paint. Finished patch shall be 0.040inch minimum thickness. PVC coated conduit and fittings shall be UL listed with the PVC as the primary corrosion protection.
4. Rigid Polyvinyl Chloride (PVC) conduit: PVC conduit shall be manufactured in accordance with UL 651. PVC conduit shall be Schedule 40 or Schedule 80 high impact polyvinyl chloride, UL listed for direct burial. Fittings used with PVC conduit shall be PVC solvent weld type.
5. Fittings: Fittings for rigid steel conduit shall be threaded type and shall conform to the requirements of ANSI C80.4. Locknuts shall be extra heavy galvanized steel. Bushings shall be galvanized malleable iron with insulating collars. Grounding bushings shall be locking type and shall be provided with feed-through compression lugs.

2.3 SUPPORTS

A. General Requirements:

1. Inserts, hangers, brackets and miscellaneous supports for electrical equipment and conduits must be designed with minimum safety factor of 4, based on ultimate strength of material used.
2. Secure hangers, brackets, conduit straps, supports and electrical equipment by expansion shield, standard preset inserts on concrete or solid masonry; machine screws or bolts on metal surfaces and shall withstand the seismic forces in accordance with Section 26 01 20. Wood or fiber plugs or concrete nails are not acceptable.
3. Power driven or velocity driven inserts may be used where their use does not affect finished appearance of work, but may not be used in tension. They may not be used in pre-stressed slabs, beams or purlins, or in pre-cast members.
4. For indoor applications, all channels, fittings, clamps and accessories shall be hot dipped galvanized after fabrication. For outdoor applications all channels, fittings, clamps and accessories shall be stainless steel.

B. Support channels shall conform to the requirements of ASTM A570.

2.4 STEEL BOXES FOR ELECTRICAL WIRING

- A. NEMA 3R boxes shall be cast ferrous steel screw hub type with gasketed weatherproof covers and #316 stainless steel hardware. Each box shall be large enough to accommodate the required number and sizes of conduits, conductors, splices and devices per the NEC.

2.5 PULLBOXES AND ELECTRIC VAULTS

- A. Pullboxes and Electric Vaults shall be sized for the number and size of conduits, the necessary clearance, the depth of burial and locations shown and shall consist of reinforced concrete sides and bottom. The bottom shall have a sump as shown. The cover shall be reinforced concrete with "Electrical" permanently marked on a cover. There shall be sufficient number of covers so that one person can handle each cover. The covers shall be held down by stainless steel bolts, washer and nuts. Each cover shall contain a lifting device. In approved traffic areas, the covers shall be rated for H-20 traffic. If in the opinion of the District, that certain pull boxes require burial for security purposes, they shall be surveyed to establish its exact location as referenced to an established monument and the District shall be provided the survey results.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. All electrical service conduit, trenching, marking and backfill shall be constructed in accordance with the requirements of this specification and of the Utility Company's electric system requirements. The Contractor shall secure the requirements of the

Utility Company prior to installation. All other labor and materials shall be in accordance with the following.

1. Install a raceway system for connection of all boxes, enclosures, cabinets, and equipment.
2. All raceway shall be the type and size specified and as shown.
3. Whenever possible, make bends for exposed conduit stub-ups completely below the surface. Make stub ups vertical and arrange neatly. Stub-ups within equipment enclosures shall extend at least 3" above finished floor.
4. Where conduits turn up in accessible areas, install coupling above finished surface. Provide flush threaded plug in this coupling.
5. Running Threads: Do not use running threads. Where such device is needed, use rain-tight unions or concrete tight couplings.
6. All bends and offsets, where required, shall either be made with factory made bends or shall be field bends made with a conduit bender designed specifically for use with the type of conduit to be bent.
7. Minimum size of conduit shall be 3/4 inch.
8. All conduits that are installed shall be capped during construction to prevent the entrance of foreign material.
9. Conduit above grade and embedded in concrete shall be rigid galvanized steel. Vertical sweeps and risers from underground runs to 6" above finished grade shall be PVC coated rigid steel conduit.
10. Except for conduits embedded in concrete, horizontal runs of conduit below grade shall be Schedule 40 PVC conduit.
11. All underground conduit including fittings and risers shall be made water tight.

B. Exposed Conduit:

1. All exposed conduits shall be run in straight lines parallel to column lines, walls or beams. Where conduits are grouped, the bends and fittings shall be installed so as to present an orderly appearance. Unnecessary bending or offsets shall be avoided.
2. Supports and hardware for outdoor conduit and inside sump areas shall be stainless steel.
3. Supports for exposed conduit shall be in accordance with Title 24, CEC.
4. Support conduits as close to 2 feet intervals as possible and within 1 foot of boxes or changes in direction. Use riser supports with clamps for vertical conduit risers.
5. For multiple conduit runs, group conduits together and support by means of Unistrut. Clamp each conduit to Unistrut using a conduit clamp.
6. Exposed conduit shall be tightened securely and shall be supported rigidly in place, and all connections to outdoor boxes shall be watertight. The Contractor shall drill all holes in concrete for installation of expansion anchors for exposed conduit runs.

C. Conduits in Concrete Slabs:

1. Conduits in Concrete slabs shall be rigid steel and may be installed in structural slabs, or in slabs on fill, having the following minimum thickness: 2-1/2" thick for 1/2" conduit, 4-1/2" thick for 3/4" conduit, and 5" thick for 1" conduit.
2. Conduits will not be permitted to interfere with proper placement of principal reinforcement steel and must be located as directed. In structural slabs, place conduits carefully between upper and lower layers of steel. In pre-stressed concrete slab construction, place conduits in center of slab and do not support from pre-stressed steel.
3. Conduits may be installed in slabs only if so shown on plans.
4. Where concrete slab is in direct contact with earth or fill, rigid steel conduit may be embedded in concrete blister below bottom of slab with 2 inch minimum of concrete cover, top and bottom.
5. Conduits under slabs but not in concrete shall be installed per Paragraph D below.

D. Underground Conduits:

1. Buried in Earth Conduit:
 - a. Non-metallic conduit shall be used for earth buried applications. Buried conduit shall be run as directly as practical at least 24 inches below grade (36" in traffic areas) and be located to avoid interference with other underground piping, foundations, etc. Separation (spacing) of conduits shall be as shown.
 - b. All conduits entering or leaving the ground shall be sealed to prevent condensation of moisture inside the conduit.
 - c. Construct underground conduit lines of individual conduits encased with sand. Use conduit separators, to hold conduit in place during sand fill.
 - d. Conduit runs shall have a continuous slope downward toward pullboxes and away from electrical equipment with a pitch not less than 4 inches in 100 feet. Install end bells at conduit terminations in pull boxes. Except at conduit risers, changes in direction of more than 5 degrees, either vertical or horizontal, shall be accomplished by long sweep bends having a minimum radius of curvature of 10 feet, sweep bends may be made up of one or more manufacturer's 30-degree curved sections and straight sections. Manufactured 90-degree elbows for risers shall have a minimum radius of 18 inches. The joints of the conduits shall be staggered by rows and layers so as to provide a conduit run having the maximum strength. All conduit runs shall be placed on sand over an undisturbed excavated soil base wherever possible. Where conduit runs pass through backfilled areas, the soil base shall be compacted to 95%.

- e. Conduit joints shall be made by brushing a plastic solvent cement on insides of plastic coupling fittings and the outside of conduit ends. Each conduit and fitting shall then be slipped together with a quick one-quarter turn twist and held in to set the joint tightly.
 - f. Plastic spacers shall be used and shall be located five feet on centers. These spacers shall provide for conduit separation as shown. Wire ties shall be made at each spacer location and shall be securely anchored to prevent conduit flotation during pouring. Conduit runs shall be watertight.
 - g. All conduit runs shall be inspected by the District prior to backfilling for backfill compaction, drainage slope, spacers, flotation ties and conduit condition, joints, and end bells.
 - h. Conduits shall be thoroughly swabbed immediately upon completion of embedment.
 - i. A mandrel having a diameter the nominal conduit inside diameter, minus 1/4 inch, and not less than 8 inches long, shall be pulled through each conduit. The mandrel shall be lead covered or painted white to give indication of any protrusion on the inside of the conduit, which might injure the cable sheath. The ends of all conduits shall be suitably plugged, capped and protected from damage during construction. Ends of conduits that are not to be used for long periods shall be protected from damage during construction caused by dirt, rodents, etc., by being plugged at the ends with wooden or manufactured plugs.
 - j. Conduit shall be stored to avoid warping and deterioration with ends sufficiently plugged to prevent entry of any water or solid substances. Conduits shall be thoroughly cleaned before being laid. Plastic conduit shall be stored on a flat surface and protected from the direct rays of the sun.
 - k. All underground conduit shall have a red metallic plastic strip buried above the conduit and 12" below the surface its entire length. Strip shall be Seaton Cat # 85517.
 - l. Conduit installed under obstructions which create a sump **like situation in the conduit shall be welded after** fabrication. Conduit ends shall terminate 6" above finished surfaces to prevent water intrusion during construction. Conduit ends shall be closed with caps until ready for completion.
2. Conduit in Structural Concrete: Galvanized rigid steel conduit shall be used where embedded in structural concrete. Runs of conduit to be embedded in structural concrete shall be rigidly supported in their proper positions while concrete is being placed. Ends of conduits shall be suitably plugged or capped during construction to prevent the entrance of concrete or other foreign matter. Connections shall be checked for tightness before being embedded.

3. Conduit in Grouted Masonry: Rigid galvanized conduit shall be used in grouted masonry.
4. Vertical Penetration of Grade:
 - a. All risers penetrating ground level, including the vertical sweep, shall be PVC coated rigid steel conduit and shall extend to 6 inches above grade minimum. All joints shall be made water tight.
 - b. Conduit entrance into the bottom of electrical equipment shall project into the enclosure a minimum of three inches to prevent water from entering conduits.
 - c. Terminate underground conduit stubs with coupling and threaded plugs.

5. Conduits Crossing Expansion and/or Contraction Joints:

Expansion couplings used in conduit runs crossing expansion or contraction joints in concrete and shall be watertight.

6. Conduit Runs Between Concrete Structures/Slabs

Expansion and/or deflection fittings shall be used where conduit runs are made between concrete structures and/or slabs to prevent conduit damage due to differential settlement.

7. Conduit Identification:

Conduit terminating at floors or in cabinets or cubicles shall be identified by metal tags bearing the conduit number. The tags shall be securely attached to the conduit directly under the terminating bushing/coupling.

E. Workmanship and Installation Requirements:

1. Where field changes are required, every precaution shall be taken to ensure that the change is coordinated with other conduit, structural, and other piping work. Information shall be obtained regarding the completed raceway runs to ensure that there will be no interference when the raceway run is extended or revised. A complete record of such changes shall be made on the Drawings.
2. Conduits shall be cut square, threaded and reamed to remove sharp or rough edges and burrs. No running threads will be allowed. Conduit joints and connections shall be made waterproof and rustproof by application of a non-insulating thread compound, such as white lead or graphite, and zinc sealing material. Each threaded joint shall be thoroughly cleaned to remove cutting oil before the compound is applied.

3. In general, elbows and bends for conduits four inches in diameter and smaller shall be formed in the field and shall be reasonably free from flattened surfaces, indentations, or kinks. Metallic conduits shall be bent cold to prevent damage to the protective coating. All bending shall be gradual and be done smoothly to permit the pulling on insulated electrical wires and cables without incurring damage to the insulation or sheath. Radius of curvature shall be not be less than that permitted by NEC. The number of bends shall not exceed four 90 degree bends or the accumulation thereof between pull points.
4. Conduit shall be rigidly secured to panels and other electrical equipment terminal boxes with locknuts and bushings in such a manner that each system shall be electrically continuous throughout unless otherwise shown on the Drawings.
5. Flexible Liquid-tight metal conduit shall be used to provide flexible connections between the rigid system and motor conduit boxes or other equipment subject to vibration.
6. The raceway system shall be installed complete before conductors are installed. Concrete shall be removed from the inside of pull boxes after the forms are removed, and the threads for attaching devices and covers shall be cleaned. As soon as practicable after conduits are installed, conduits shall be swabbed with clean dry rags to show they are clean and dry.
7. To reduce damage to the zinc coating, only strap type wrenches shall be used. All wrench marks, field cut threads, and all other places where the zinc coating is damaged shall be repaired with zinc-rich galvanizing repair compound.
8. It is the Contractor's responsibility to install pull boxes, sized in accordance with NEC, where necessary to avoid overly long straight runs or excessive number of bends whether or not shown.
9. Raceway shall be installed with necessary fittings and supports.
10. Pull Line: 1/8" diameter braided line of yellow polypropylene, or Jet-Line #232, or equal, line of continuous fiber polyolefin; minimum breaking, 200 lbs. Furnish and install pull line in all empty (unused) raceways.
11. Install PVC coated rigid steel conduit in strict accordance with manufacturer's instructions. Use installers certified by the manufacturer.

3.2 *PULLBOXES, JUNCTION BOXES AND VAULTS*

- A. Back-to-back boxes mounted in stud walls shall have at least 24-inch separation or be separated by a wall stud and shall comply with local codes.
- B. Except where otherwise shown, boxes shall be installed as follows:
 - 1. Surface Mounted Boxes: NEMA FB 1, Type FD, cast ferroalloy. Provide gasketed cover by box manufacturer. Provide threaded hubs. Type FD boxes shall be used for all light switches and convenience outlets whether inside or outside.
 - 2. In-Ground Boxes:
 - a. Material: Reinforced concrete with extensions, base and cover as shown and as required.
 - b. Exposed Covers: Exposed covers shall be galvanized steel or reinforced concrete if shown.
 - c. Non-exposed covers shall be reinforced concrete. Non-exposed covers shall have metal lifting and metal detecting means as shown.
 - d. Traffic rated covers shall be rated for H20 loading.
 - e. Covers shall include legends with permanent markings engraved “High Voltage”, “Electrical”, or “Communication” as applicable.
 - f. All hardware shall be stainless steel.
 - g. All covers shall have gaskets and all openings shall have rubber inserts or plugs.
- C. Set boxes in a rigid manner and support independently of conduit with expansion shields on concrete. Do not use powder-actuated fasteners. All junction boxes shall be installed with covers accessible after installation.
- D. Pull boxes shall be located as shown. In ground pull boxes shall be placed on at least 12” of ½” compacted crushed rock.
- E. A surveyed location shall be entered on the as-built drawings as coordinates for all pull boxes shown on the drawings to be covered.

END OF SECTION

SECTION 26 12 10

LOW VOLTAGE WIRE AND CABLE

PART - 1 GENERAL

1.1 DESCRIPTION

- A. This Specification Section covers the furnishing, installing and testing of all Low Voltage Wire and Cable required to complete the installation of equipment as specified herein and as shown.
- B. The provisions of Section 26 01 00 Titled **ELECTRICAL WORK** of these Specifications shall apply, unless otherwise specified in this Section.
- C. The Contractor shall provide 20 feet of additional wire at both ends of wiring at the RTU and at instrumentation. At these locations, the wire shall be coiled the ends taped to prevent moisture from entering the cable. Each conductor shall be identified with a shrink fit label and such identification shall be as shown on the Contract Interconnection Diagrams specified in Section 26 01 00.

1.2 SUBMITTALS

- A. Descriptive literature for all materials furnished under this section shall be submitted in accordance with Section 26 01 00, of these specifications.
- B. Submittals shall include product data sheets for all wires, and cables of each type, size and voltage rating, on which work is to be performed under this contract.

1.3 QUALITY ASSURANCE

- A. All cable has been manufactured within one year of installation.

1.4 Delivery, Storage and Handling

- A. Wire and Cable shall be delivered complete, in manufacturer's original, unopened protective packaging. Packing materials shall be such as to prevent damage to the materials during transportation and handling.
- B. Wire and Cable shall be handled in a manner to prevent damage to the coverings and conductor. Maintain protective coverings until ready for installation.

PART - 2 PRODUCTS

2.1 REFERENCE STANDARDS

- A. Wire and Cable supplied under this contract shall be designed, manufactured, and tested in accordance with the latest version of the following standards.

1. American Society Testing Materials (ASTM)
 - B-8 - Concentric-Lay-Stranded Copper Conductors
2. Underwriters Laboratory (UL)
 - UL - Wire Connectors and Soldering Lugs
 - UL 83 - Thermoplastic Insulated Wires
 - UL - Insulating Tape
3. Institute of Electrical and Electronic Engineers (IEEE)
4. National Electrical Manufacturers Association (NEMA)
 - WD-1 - General Purpose Wiring Devices

2.2 *LOW VOLTAGE WIRING*

A. Low voltage wiring shall be of the size and number shown and shall have the following characteristics. Sizes are indicated by American Wire Gage (AWG) and minimum size shall be # 12 AWG for power wiring, #14 for control wiring and #14, #16 and #18 for instrumentation wiring.

1. Insulation Rating
 - 600 volts except as otherwise listed below
2. Conductors
 - Annealed copper 98% conductivity. Aluminum conductors are not acceptable.
3. Conductor Stranding
 - All Conductors shall be stranded except for lighting and convenience outlets.
4. Insulation for Power and Control Wiring
 - Thermoplastic insulated wires and cables shall be listed in UL 83. They shall be delivered to the job site in the manufacturer's unopened boxes or reels. Insulation for conductors and cables shall be rated 600 volts and shall be as follows. All conductors in underground conduit shall have insulation suitable for wet locations.

Item	Sizes	Insulation
Control Branch	No.14 & No. 12 No.12 to No. 10	THWN THHN/THWN

Grounding	All	TW or bare
Feeders	No. 6 and above	THHN/THWN
VFD Motor Feeders (min.)	All	XLPE (2000Volt,

5. Insulation Colors

Insulation shall be continuously colored for the entire conductor length. All insulated grounding conductors shall be green and neutral conductors shall be white. Separately derived system neutral wire insulation shall have distinctive markings.

6. Instrumentation/Telemetry Cable

Instrumentation and telemetry cable shall be rated 600 V and shall be individually shielded multiple-pair or shielded single-pair cable rated for wet conditions. Cable shall be shielded whether shown or not shown. Shield shall be for conductor insulation rated 600 volts. Shield shall be 100% and include a stranded, tinned copper drain wire. The conductors shall be polyethylene insulated and the cable shall have a PVC jacket. Cables shall be Belden 9341, 9342, 9343 or equal.

7. Portable Equipment Leads

Portable equipment leads shall be multi-conductor cable, Type SO. Portable equipment is defined as that equipment which is factory configured to be plugged into a standard 120 volt, 15 or 20 ampere convenience outlet.

8. Variable Frequency Drive and Phase Converter Cables

Conductors between (1) switchboards and variable frequency drives or phase converters and (2) between drives or converters and corresponding motors and/or valve or gate actuators shall be UL Listed, cable, rated minimum 2000 Volts, manufactured for VFD duty. VFD cables shall have three copper phase conductors, three copper symmetrical grounds per cable, XLPE insulation, PVC jacket and copper tape shielded and shall be Belden, AmerCable, General Cable or equal. Observe NEC fill and derating for multiple cables in a single conduit.

2.3 COLOR CODE FOR THREE PHASE CIRCUITS

- A. Color code for three phase circuits shall be ph-A, ph-B, ph-C front to back, left to right and top to bottom. Color code for three phase circuits is listed in phase order. Color code shall be as follows:

<u>120/240V – 3 Phase</u>	
Phase	Black, Red, Blue
Neutral	White (1)
Ground	Green
<u>277/480V – 3 Phase</u>	

Phase	Brown, Orange, Yellow
Neutral	White (1)
Ground	Green
<u>120/240V – 1 Phase</u>	
Phase	Black, Red
Neutral	White (1)
Ground	Green
<u>Signal Wiring</u>	
Positive (+)	Black
Negative (-)	White
<u>Control</u>	Unique colors except neutral which shall be white.

(1) Separately derived system neutrals shall have distinctive markings.

2.4 WIRING MATERIALS

A. Compression Connectors for Low Voltage Wire and Cable

Wiring, where screw terminals are not available, shall be terminated with compression type nylon insulated connectors designed for use with copper conductors and conforming to the requirements of UL 486A. Power and grounding lugs and connectors for conductors No. 6 and larger shall be compression types of one-piece tubular construction. These power compression connectors shall be copper long barrel terminals with corrosion resistant tin plating. Connectors shall be marked externally with wire size and type. Power connectors shall have NEMA configuration bolt holes on the pad. Connectors shall have the proper mating compression die index and color code marked on the barrel. Power feeders shall be terminated with bolts with nuts and washers and torqued per Section 26 48 00.

B. Electrical Tapes

Tapes shall conform to the requirements of UL 510 and be rated: 105 degrees C, 600 V, flame retardant, hot and cold weather resistant. Vinyl plastic electrical tape shall be 7 mil black. Phase tape shall be 7-mil vinyl plastic, color code as specified. Electrical insulation putty shall be rubber based, elastic putty in tape form.

C. Wire and Cable Markers

Every end of every field installed conductor shall be tagged with either plastic clip-on markers that are covered and protected by clear heat shrink tubing or permanently machine imprinted heat shrink plastic tubing. Interior cabinet wiring shall be in accordance with Section 26 12 10. Every field installed cable shall be tagged in accordance with the above and shall be marked as shown on the Interconnection Diagrams and the Conduit and Wire Schedules.

PART - 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. The installation of wire and cable shall be in accordance with the conduit and cable plan Drawings and the Interconnection Diagrams. Terminal, device and cable designations that appear on the manufacturer's drawings shall be used in the marking thereof. Wire designations shall be labeled as shown.
- B. Wire and cable shall not be installed in conduit until the raceway system has been completed and cleaned. The equipment and methods for the installation of wire and cable shall insure that no cuts or abrasions in the insulation or protective covering or kinks in the conductors occur. Cables shall be pulled down grade with the feed in point at point of the highest elevation.
- C. The Contractor shall pull wire and cable into the conduit with sufficient length remaining at the ends to conveniently make connections to all equipment or devices and with sufficient slack to provide movement of equipment, raceway or supporting structures without straining the wire.
- D. Where practicable, the minimum radius to which an insulated conductor shall be bent, whether permanently or temporarily during installation, shall be ten times the diameter over the outer covering of the cable.
- E. Where a lubricant is needed as an aid in pulling wire or cable, a non-conducting lubricant or cable-pulling compound approved by the wire and cable manufacturer and that is not injurious to the sheath or insulation shall be used. 600 V cable lubricants shall be soapstone, graphite or talc which shall be UL listed for thermoplastic insulation. Oil or grease will not be allowed for lubrication. Excessive pulling stresses will not be permitted. Pulling Tension shall not exceed 0.008 times the number of conductors times the cross-section area of a conductor in circular mils.
- F. Wire and cable shall be continuous from source to load. VFD cables shall not be spliced. VFD cables shall be purchased in one continuous length for the entire physical length from VFD to motor. Other wire and cable shall not be spliced except where permitted in enclosed steel boxes provided for that purpose and with the approval of the District. Shipping length of power cable shall be equal to or greater than circuit length.
- G. Where multiple conductors per phase are shown to be installed in more than one conduit, a complete set of phase conductors (Phases A, B&C) shall be installed in each conduit.
- H. Wire and cable sizes for remote loads shown on the drawings may be oversized to compensate for voltage drop. If conductor size is too large for connection to equipment terminals, install NEMA 4 junction box at equipment entry to reduce conductor size needed to accommodate equipment terminals. Reduced wire size shall be not less than required by code.

3.2 *INSTALLATION*

A. General Requirements:

1. Do not use blocks, tackle, or other mechanical means to pull in wires #8 AWG, or smaller. Cable pulling tensions shall not exceed the maximum pulling tension for stranded copper.
2. Use only nylon, polypropylene or hemp rope, or pressure propellants in aluminum conduits; do not use metal fish or pull lines.
3. Unless otherwise specified or shown, leave at least 16" of free conductors at each unconnected outlet. Coil the free ends of conductors neatly in outlet box.

B. Splicing and Termination of Conductors

Splicing and terminating conductors shall be done in a manner suitable for the voltage and environment of the wire or cable. Splicing materials shall be as specified herein and shall be made in strict accordance with the manufacturer's recommendations.

1. Conductors #10 AWG and smaller.
 - a. Twist conductors together to be electrically and mechanically secure, and solder. Other means for splicing and terminating may be used with specific approval of the Engineer.
 - b. Insulate splices, joints and free ends of conductors with insulation equivalent to that of conductors by taping with rubber and friction tapes, or with high dielectric strength plastic tape.
2. Conductors #8 AWG and larger
 - a. Splice and terminate conductors by connectors and terminal lugs. Termination of conductors #1/0 and larger shall be with bolts, nuts and washers and torqued per Section 26 48 00.
 - b. Do not use split bolt type connectors.
 - c. After initial set has been taken, re-tighten all pressure type connectors and lugs.
 - d. Insulate all splices, joints, and free ends of conductors as specified above.
 - e. Where aluminum lug is bolted with steel or copper bolt, use Belleville spring washer and flat washer. Belleville washer, either hardened and tempered steel, tin plated, or stainless steel. Flat washer, mild steel, tin plated, and slightly larger than Belleville washer.

3. Low Voltage Control Wiring: Splice by twisting conductors together so as to be electrically and mechanically secure and solder them. Other methods may be used if specifically approved by Engineer.
4. Underground Splices: Underground splices shall not be done unless specifically authorized by the District prior to installation. Conductor and cable splices installed underground in manholes, pullholes and similar locations, shall be made watertight. As a minimum, molds shall be fitted uniformly webbed around the spliced conductors. Insulating and waterproofing material shall then be poured or injected into the mold. Do not allow cables to move until after material has cured one hour at 70 degrees F or eight hours below 70 degrees F.
5. Terminations at motor terminal boxes of feeders and motor leads shall be made with appropriately sized, insulated, Polaris connectors. Connectors are subject to District approval.
6. Conduits which terminate in the bottom of electrical panels shall be sealed after installation of the wire and cable and after testing is complete. The sealing materials shall be an expandable compound manufactured for that purpose.

C. Marking

Where 2 or more branch circuits or control wires of same color pass through or terminate in same accessible location (panelboard, junction box, outlet box, gutter, pullbox, etc.), mark each appropriately to distinguish it from others of same color. If wires are branch circuit conductors, mark with the correct panel and circuit number. If more than one white (neutral) conductor is present, mark each with all related circuit numbers. For control wires, use Engineer approved schedules or wiring diagrams.

3.3 TESTING AND PREPARATION FOR OPERATION

- A. Testing and preparation for operation shall be performed in accordance with Section 16950 titled **FIELD TESTING AND OPERATION**.

END OF SECTION

SECTION 26 13 00

MISCELLANEOUS ELECTRICAL WORK

PART 1 GENERAL

1.1 DESCRIPTION

A. This Specification Section covers the furnishing, installing and testing of miscellaneous electrical devices, equipment and materials and furnishing miscellaneous work as specified herein, as shown on the Drawings, and as required for a complete electrical installation.

1. Electrical Service
2. Control Building
3. Level Sensing Devices
4. Flow Switches
5. Flow Meters
6. Area Lighting
7. Nameplates
8. Warning Signs
9. Fuses

B. The provisions of Section 26 01 00, titled **ELECTRICAL WORK**, of these Specifications shall apply, unless otherwise specified in this Section.

1.2 SUBMITTALS

A. Descriptive literature for all materials furnished under this section shall be submitted in accordance with Section 26 01 00 of these specifications.

1. Submittals for Miscellaneous Electrical Work
2. Catalog cuts showing manufacturer, specific catalog numbers, dimensions, weights and material.
3. Dimensioned "as-built" drawings.
4. Certified test reports prepared by manufacturer.
5. Schematic Drawings

6. Submit nameplate inscription schedule to the Engineer for approval for all nameplates.

1.03 QUALITY ASSURANCE

- A. Manufacturer shall provide certification that the manufacturer has been fabricating and assembling specified equipment in his current facility for a minimum of three (3) years.
- B. All materials selected for the manufacture of the hardware shall be the best available for the purpose for which they are used, considering strength, ductility, durability and the best engineering practice.
- C. All like parts shall be interchangeable.

PART 2 PRODUCTS

2.01 REFERENCE STANDARDS

- A. Miscellaneous Electrical Work supplied under this contract shall be designed, manufactured, and tested in accordance with the latest version of the following standards.
 1. California Electrical Code (CEC)
 2. National Electrical Code (NEC)
 3. Underwriters Laboratories Inc. (UL)

2.02 ELECTRIC SERVICES INSTALLATION AND COORDINATION

See Section 26 49 00 of these specifications.

2.03 CONTROL BUILDING

- A. The Control Building shall house the electrical panels, control console, switchgear, motor controllers and RTU. The control building will have two rooms with one for the power equipment and one for the balance of the equipment. Each room shall have its own air conditioning, heating and controls. The air conditioning and heating equipment shall provide a temperature and humidity consistent with the requirements of the electrical equipment. The number and type of units is shown on the drawings.
- B. The electrical panels and controllers shall be installed in the concrete building as specified elsewhere in these specifications and as shown. Included in the control building is lighting, convenience outlets, HVAC and controllers, panelboard, intrusion detection, smoke detectors, exterior lighting, RTU and alarm terminal box, all as shown.

- C. The “ufer” ground shall be installed in the footing of the building as specified in Section 26 15 00. The “ufer” ground copper cable mat and risers shall not touch rebar or other metals before terminating on the equipment ground bus. Risers from the ground mat connecting the mat with the ground busses of the equipment shall be insulated copper cable.
- D. Building doors to be used for equipment entrance such as motor controllers and switchboard panels shall be large enough, both width and height, for movement of the equipment into the building in the upright position. Equipment and devices within the equipment shall be braced to with stand the forces in the movement without physical or operation damage. Any damage shall be repaired by the Contractor without cost to the District.
- E. The control building has a solid concrete floor. Incoming conduits shall be stubbed up 3” above finished floor in that area as shown on the manufacturer’s drawings. The electrical equipment shall be positioned and installed over the conduits. No deviation is allowed. Electrical equipment shall be manufactured to allow for the conduit and ground cable to enter as shown on the contract drawings. Conduit entrance shall be shown on the manufacturer’s submittal drawings.
- F. All devices in or on the control building shall be wired in accordance with Section 26 12 10. All other devices such as light fixtures, convenience outlets, smoke detectors, door switches shall be wired as follows:
 1. Lighting - #12 to 120V Panelboard
 2. Convenience Outlets - #12 to 120V Panelboard
 3. Door Switches - #18TSP to RTU
 4. Smoke Detectors - #18TSP to RTU
 5. Sensor Leads – As shown.

2.04 LEVEL SENSORS AND ASSOCIATED DEVICES

- A. The Pump Bay, Control Box and Basin Level Sensors shall be Magnetrol Echotel Model 335.
- B. 4-20ma Signal Splitters, Relays, Isolaters and Amplifiers shall be Acromag or equal.
- C. Wiring and conduit shall be as shown.

2.05 FLOW METERS AND FLOW SWITCHES

- A. Pump Discharge Flow Meters shall be as shown on the Civil drawings. The flow meter sensor cables shall be furnished by the Flow Meter manufacturer and shall extend from the flow meter to the RTU enclosure without splicing.
- B. The Pump Discharge Flow switches shown on the electrical drawings shall extend from the flow switch to the motor terminal box.

- C. The Contractor shall install the sensor cables in the conduit as shown and shall seal the end of the conduit to prevent moisture from entering the conduit at the sensor location.
- D. Flow Switches shall be Ameritrol FX.

2.06 AREA LIGHTING

- A. Area lighting shall be as shown.

2.07 NAMEPLATES

- A. Indoor: Laminated phenolic plastic, black front and back, white core, with lettering etched through outer covering. Use 1/4" high lettering at push button stations, thermal overload switches, receptacles, switches, and similar devices, where nameplate is attached to device plate. Use 1/4" high lettering at all other locations, unless otherwise specified or detailed.
- B. Outdoor: Engraved or embossed stainless steel.

2.08 WARNING SIGNS

- A. Unless otherwise shown on the plans, use signs of standard manufacture, #18-gauge minimum steel, baked enamel finish, red letters on white background.
 - 1. Provide warning signs per Title 24, CCR.
 - 2. Install nameplates or signs after all painting has been completed.

2.09 FUSES

- A. Furnish and install fuses of proper type and rating suitable for equipment controlled. Furnish one complete set of spare fuses.

2.10 CAMERA MONITORING SYSTEM

- A. The Control Box area shall be able to be monitored on an IP panel viewer mounted on the Control Console in the control room as shown. The panel viewer and the camera shall be connected by fiber optic cable.
- B. The IP camera shall be mounted on the light pole at the control box along with a NEMA 3R/12 enclosure housing the power supply and the fiber optic converter.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Install equipment and devices where shown on the drawings. Changes to locations shall be recorded on the as-built drawings.

3.02 *FIELD TESTING AND OPERATION*

- A. Field Testing and Operation shall be performed in accordance with Section 26 95 00, titled **FIELD TESTING AND OPERATION**.

END OF SECTION

SECTION 26 15 00

GROUNDING SYSTEMS

PART 1 GENERAL

1.1 DESCRIPTION

- A. Furnish, install and test cable, welds, connectors, ground rods and materials required to complete the ground system as specified herein and as shown.

1.2 SUBMITTALS

- A. Descriptive literature for all materials furnished under this section shall be submitted in accordance with Section 26 01 00 of these specifications.
- B. Submittals for the ground system shall include, but shall not be limited to, the following:
 - 1. Product data sheets for all materials showing the catalog number, type and rating.
 - 2. Certified test reports prepared by manufacturer.
- C. Submit product data sheets for welds and connectors. For bolted connectors include manufacturer's recommendations for applied torque.

1.3 QUALITY ASSURANCE

- A. Grounding Materials of the type shown on the contract drawings shall be of a design that has been in satisfactory use for not less than three years in a minimum of 20 installations for purposes similar to those intended herein.
- B. All materials selected for the manufacture of the product shall be the best available for the purpose for which they are used, considering strength, ductility, durability and the best engineering practice.
- C. All products have been manufactured within one year of delivery.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Materials shall be delivered complete, in supplier's original, unopened protective packaging.
- B. Maintain protective coverings until ready for installation.

PART 2 PRODUCTS

2.1 REFERENCE STANDARDS

- A. Materials supplied under this contract shall be designed, manufactured, and tested in accordance with the latest version of the following standards.
 - 1. Underwriters Laboratory (UL)
 - 2. Institute of Electrical and Electronic Engineers (IEEE)
 - 3. National Electrical Manufacturers Association (NEMA)
 - 4. American Society of Testing Materials (ASTM)

2.2 GROUND CABLE

- A. A #4/0 bare copper cable mat shall be embedded below the floor of the control building and below the equipment pad at the Control Box as shown to act as a “ufer” ground. A separate #4/0 cable shall be connected to the ufer ground and stubbed up into each equipment enclosure as shown and connected to the ground bus within the enclosure. The bare copper cable shall not touch rebar or other steel items prior to the connection to the ground bus in the power equipment.
- B. All underground cable and risers from the buried conductors shall be as shown.
- C. Bare ground cable shall be annealed, concentric stranded, bare copper cable in accordance with ASTM B8. Insulated ground cable risers shall be the same except with Neoprene insulation.0

2.3 CONNECTORS

- A. Below ground cable connections in earth and in concrete shall be of the exothermic weld type made for the purpose and connection configuration.
- B. Ground cable connections in air shall be of the bolted type and shall match the equipment or structure pad. Grounding plates shall be used for later extension to metallic items such as railing, grates and equipment frames.
- C. Ground cable connections to railings, grates and other metallic items that can be removed for maintenance purposes shall be by bolted compression connectors.

2.4 GROUND RODS

- A. Ground rods shall be copper-clad steel, 3/4 inch in diameter and 10 feet long or 5/8” in diameter and 8 feet long as shown.

PART 3 EXECUTION**3.01 INSTALLATION**

- A. The ground bus of all electrical equipment bus shall be to a stub-up as specified and as shown. All exposed non-electrical metallic parts of the installation, including structures, exposed metal conduit, metal handrails, exposed metal frames and water piping shall be grounded by connection to the nearest ground cable whether shown or not per 2.3 (C).
- B. Paint, scale, corrosion and other foreign material shall be removed from the metal surface contact points prior to making the ground connection.
- C. Bare ground cables shall not be in contact with any reinforcing and/or structural steel unless shown to be connected.
- D. Buried grounding conductors that extend beyond the ground mat shall terminate in a grounding plate.
- E. Ground cables projecting above the finished grade shall be protected from mechanical damage by installation in rigid steel conduit.
- F. “ufer” ground shall be as shown.

3.02 TESTING AND PREPARATION FOR OPERATION

- A. Testing and preparation for operation shall be performed in accordance with Section 26 95 00, titled **FIELD TESTING AND OPERATION**.

END OF SECTION

SECTION 26 48 00

POWER DISTRIBUTION AND MOTOR CONTROL EQUIPMENT

PART 1 GENERAL

1.1 SCOPE

- A. This Specification Section covers the supply, loading, transport, unloading, installing and testing of the Power Distribution, Motor Control Equipment and Control Consoles as specified herein, as shown and comprised of the Utility Company Metering and Power Distribution and Motor Control all as shown and specified herein. See Specification Section 26 13 00 for field instrumentation devices and connections.
- B. The provisions of Sections 26 01 00 and 26 01 20 of these Specifications shall apply, unless otherwise specified in this Section. See Section 26 01 20 for seismic requirements. In general, the equipment is comprised of the following:
- Outdoor, Utility Metering Panel
 - Switchboard with Main Circuit Breaker and Feeder Circuit Breakers w/ Metering, Surge Protection and Power Failure Detection
 - Variable Frequency Drive Controllers
 - Control Consoles
 - Three Phase Transformer and Panelboard
 - Single Phase Transformers and panelboards with main and branch breakers as shown.

1.2 DELIVERY, STORAGE AND HANDLING

- A. The Contractor shall unload, take possession and store the equipment at his facilities until the site is ready for the installation. The Contractor shall transport the equipment to the appropriate site.
- B. The Contractor shall be responsible for the equipment until final acceptance by the District.

1.3 SUBMITTALS

- A. Submittals shall be submitted in accordance with Section 26 01 00 of these specifications.
- B. One electronic version of complete detailed physical and schematic drawings shall be submitted not later than one month after receipt of order.

- C. Submittals shall include the identification and arrangement of the devices mounted in or on the doors of each vertical section. See drawings for arrangements. Manufacture shall not proceed until this submittal has been reviewed and approved by the District.
- D. Cut Sheets of the devices to be installed in or on the equipment shall be submitted either in hard copy or pdf format with the specific catalog number shown or highlighted.
- E. Three hard copies and one electronic copy of Operation, Installation & Maintenance Manuals shall be submitted not later than 30 days prior to shipment.

1.4 ENVIRONMENT REQUIREMENTS

- A. The equipment supplied shall be suitable for operating within its ratings in the following environment:
 - 1. 100 feet elevation
 - 2. 40 degrees C Ambient Temperature

PART 2 PRODUCTS

2.1 REFERENCE STANDARDS

- A. The Motor Controllers shall be installed and tested in accordance with the latest version of the following standards.
 - 1. American National Standards Institute (ANSI)
 - 2. National Electrical Manufacturers Association (NEMA) – AB1
 - 3. National Fire Protection Association (NFPA) - National Electrical Code 70
 - 4. Underwriters Laboratory – UL 489

2.2 GENERAL METAL CLAD EQUIPMENT REQUIREMENTS

- A. Vertical Sections shall be free-standing, dead front type low voltage type with variations as shown.
- B. Power Equipment Enclosures shall be NEMA 12 and 3R, NEMA 12 indoor and NEMA 3R outdoors as shown, with UL label. The exterior door hinge shall be full length and shall be stainless steel. Outdoor metering enclosure shall be NEMA 3R.
- C. Power Equipment shall have an integrated equipment short circuit rating of 42ka rms symmetrical at 480Volts.

- D. All bus bars shall be tin-plated copper. Bus sizing shall be based on NEMA standard temperature rise criteria of 65 degrees C over a 40 degrees C ambient.
- E. Metering switchboard shall have means for bolting the neutral conductor to ground. Power Equipment sections shall have a copper ground bus (minimum 1/4 x 1 inch) and shall be furnished firmly secured to the vertical section structure and shall be connected to the ground stub-up from the ufer ground and shall be in accordance with the serving utility.
- F. All hardware used on power conductors shall be high-tensile strength and zinc-plated. All bus joints shall be provided with conical spring-type washers.
- G. Ambient Temperatures will range from 20 deg to 120 deg Fahrenheit. Humidity will range from 4% to 95%. Elevation will be 100 feet.
- H. Switchboard and Motor Controllers will be mounted in an air-conditioned concrete building sized to maintain interior temperature within its equipment rating operating at full output during ambient conditions stated in D. above.
- I. Equipment, apparatus, bus and devices installed within the enclosures shall be securely anchored in place and be capable of withstanding seismic forces per the 2010 California Building Code. Contractor shall submit actual tests of similar equipment showing compliance. A California Seismic Certificate shall be prepared and signed by authorized company representative. Where the product is not standard equipment, submit calculations showing compliance and stamped by a registered structural engineer with current registration California.
- J. Load leads, supply leads and ground cable shall enter the bottom of the enclosure. Sufficient number and size of cable lugs to terminate the conductors as shown shall be furnished with the controllers. **Do not furnish and install equipment and or devices which block entry of conduit and cables.**
- K. Control and low voltage wiring where circuitry extends outside of each enclosure section shall have Customer Terminal Blocks (CTB) dedicated for customer installed wiring. Corresponding terminals of internal terminal blocks shall have identical designations. Customer Terminal Blocks (CTB) shall be provided for field connection of external wiring. One side of terminal blocks shall be used for internal connections and the opposite side shall be used only for field connections.
- L. Door Mounted Nameplates shall be mounted with stainless steel screws.
- M. Heat imprinted plastic wire marker sleeves shall be used on all low voltage wiring.

- N. ANSI 49 Medium Light Gray exterior paint.
- O. All three phase power connections shall be bolted with nuts and appropriate washers.
- P. NEMA Class II, Type B wiring and diagrams.
- Q. All power disconnecting devices shall be provided with a means for locking in the open position.
- R. Master Nameplates to be inscribed with manufacturer's name, order number, catalog type and number, enclosure type, full load and short circuit ratings, phase, voltage and frequency. Nameplates shall be engraved phenolic white letters on black background.
- S. English Programming and Installation Manual.
- T. Current transformer leads shall be terminated on short circuiting type terminal blocks.
- U. Auxiliary Transformers
 - 1. Auxiliary transformers shall have the size and ratings as shown and shall be of the dry type.
 - 2. Auxiliary transformers shall be rated in accordance with DOE efficiency standard CFR Title 10 Chapter II Part 431.
- V. Power Failure Relays shall be Diversified Electronics Type SLM
- W. Surge Protective Devices shall be Eaton Type SPD 160 480D 2 B.

2.3 SWITCHBOARD GENERAL REQUIREMENTS

- A. The station switchboard shall provide a circuit breaker for the main, one for each pump unit controller and one for the three-phase station service transformer.
- B. The Circuit Breakers shall be Eaton NRX with remote operation and shall be located in the Switchboard. The ratings shall be 480V, 3 Phase, 42kA Short Circuit at 480V, 100% rated insulated case circuit breakers with ampere rating as shown and shall have adjustable electronic trip units.
- C. The 480V Power Circuit Breakers installed in the station Switchboard feeding the pump unit controllers shall be lockable in the open position. The Circuit Breakers shall be interlocked with the motor controller cabinet doors to prevent opening of the motor controller door without tripping and locking out the feeder breaker.

- D. The control for each main and secondary 480V Circuit Breaker shall be powered by an independent power supply unit as shown. Control shall be by resident and control console switches as shown.
- E. Trip position of circuit breakers shall be clearly indicated.
- F. Copper Ground Bus in each vertical section and means for connecting such ground bus to the UFER ground.
- G. NEMA Type 1A/12 enclosure indoors and NEMA Type 3R/4 enclosure outdoors.
- H. Main and Unit Circuit Breakers shall have Energy-Reducing Maintenance Switching per NEC Article 240.87.
 - 1. 100% rated insulated case.
 - 2. Conform to the requirements of NEMA ABI and UL 489.
 - 3. Trip-free, thermal magnetic bolt-on type.
 - 4. Common trip units.
 - 5. Toggle, quick make, and quick break operating mechanisms.
 - 6. Trip position of the breakers shall be clearly indicated by movement of the operating handles to the center position.
 - 7. Main circuit breaker shall have LSG functions and adjustment.
 - 8. Feeder circuit breakers shall have LSIG functions and adjustment.
 - 9. Remote opening and closing from the Control Console.
- I. Auxiliary Station Transformers
 - 1. Single Phase Station Service Transformer shall be 25kVA, 480V-120/240V, 1 ϕ , dry type with copper windings and shall be furnished with and installed in the Control Building.
 - 2. Three Phase Transformer shall be 45kVA, 480V-277V, 3 ϕ , dry type with copper windings.
- J. Surge Protective Device
 - 1. Main Bus: Allen Bradley 4983 DH, or equal.
- K. Power Monitor:

1. One (1) Allen-Bradley PM5000 with two (2) EtherNet IP communication ports.
2. One (1) separately mounted Display Unit for installation on the Control Console.
3. Three (3) identical Current Transformers for current readings, Current Transformers shall have the same part number, amp rating, frame size and same style.
4. The 3-Current Transformer set shall have a test switch which automatically short circuits the transformers when opened.
5. Control power shall be 120VAC.
6. Test Switch FMS-10E one for each set of three current transformers.
7. Power Failure Relay - Diversified Elect - SLM440-ASE.

2.8 VARIABLE FREQUENCY DRIVES (VFD)

- A. The Variable Frequency Drives shall not have any control and indicating devices mounted on the front panel of the controller enclosure. Local (site) control shall be located on the Control Console in the control room. There shall be two HMI modules, one to be mounted on the Control Console and one mounted inside on the VFD equipment.
- B. The Variable Frequency Drives shall be Allen-Bradley PowerFlex 755TL, with pump control option, rated as follows and “Remote Mounting” shall mean that it shall be located on the Control Console:
 1. Voltage Rating: 480 volts
 2. Maximum Continuous Output: As shown
 3. Number of Phases: 3
 4. Frequency: 60 Hertz
 5. 42KA Short Circuit Rating
 6. Each variable frequency drives shall include those devices shown on the drawings and as follows:
 - a. EtherNet/IP communication adapters
 - b. HMI including all HMI cables and converters as needed for remote mounting. See drawings for cable length. LCD Full Numeric Keypad. Identify type, size and full catalog number

- including inter-connecting cable, length as needed to connect to remote devices,
- c. A Potentiometer, for control console mounting, for manual setting of speed. Identify type, size, length and full catalog number and inter-connecting cable.
- d. Provisions for 4-20ma input signals for setting speed from remote mounted devices.
- e. Provisions for two independent 4-20ma output signals for indicating current speed on remote mounted devices.
- f. EMI Filter
- g. Provision for remote mounted Elapsed Time Meter, Kessler-Ellis Type H37.
- l. 480-120V, VA sized at two times the continuous load but not less than 500VA, Control Transformer with primary protection.
- m. Input line fuses standard in the drive enclosure
- n. Two (2) programmable 4-20ma analog outputs proportional to Output Frequency, Motor Speed, Output Voltage, Output Current, Motor Torque, Motor Power (kW), DC Bus voltage, or Active Reference.
- o. Four (4) programmable digital relay outputs. Outputs must be true form C type contacts.
- p. Two independently adjustable accel and decel ramps. These ramp times shall be adjustable from 1 to 180 seconds.
- q. The VFD shall Ramp or Coast to a stop, as selected by the user.
- r. The VFD shall provide volts per Hertz and “Sensorless Vector”, operation.
- s. Customer Terminal blocks, AB Type 1492
- t. Relays and Timers, AB Type 700H

7. Protection Circuits

The VFD shall have the following protection circuits. In the case of a protective trip, the drive shall stop, and announce the fault condition in complete words (alphanumeric codes are not acceptable).

- a. Overcurrent trip.
- b. Overvoltage trip
- c. Undervoltage trip
- d. Overtemperature
- e. Ground Fault either running or at start
- f. Electronic Motor Overload (I^2t).

8. Speed Command Input

The speed command input shall be made by either of the following:

- a. Remote Keypad
- b. Remote Manual Potentiometer
- c. Speed setpoint via network connection.
- d. 4-20ma input signal

9. Communications

- a. The VFD shall have an Ethernet module
- b. Network connection shall include full control and monitoring capabilities of the VFD including diagnostic fault information.

2.09 CONTROL CONSOLES

- A. The two Control Consoles shall be located in the Control Room of the Equipment Building and shall be the means for “hand” operation of each pump station. “Hand” operation shall be through the use of the push buttons and switches. The arrangement and the devices shall be as shown. The Control Console shall be a NEMA Type 1A floor mounted enclosure as follows and as shown.
- B. Sized as shown
- C. Fabricated from 12 gauge cold rolled steel
- D. Hinged doors w/three-point latch
- E. Power Coated finish
- F. Lifting eyes
- G. Four (4) terminal block areas for each console for incoming/outgoing wiring with each area separated by polyester dividers as follows: One terminal block area for each motor controller, one terminal block area for the switchboard and one terminal block area for the RTU.
- H. Mimic Bus and nameplates shall be as shown
- I. Operating and Indicating Devices

a. Elapsed Time Meter (Run Time)	Redington	722-0002
b. HOA Selector Switch	Allen-Bradley	800T-J2A
c. HOA Selector Switch Legend Plate	Allen-Bradley	800T-X511
d. Push Buttons - Stop	Allen-Bradley	800T-A6DA
e. Legend Plate - Stop	Allen-Bradley	800T-X550
f. Push Buttons - Start	Allen-Bradley	800T-A1D1
g. Legend Plate - Start	Allen-Bradley	800T-X547

h. Potentiometer – Speed 0-100%	Allen-Bradley	800H
i. Pot Legend Plate - Speed	Allen-Bradley	800T-X608
j. Red Indicating Light - On	Allen-Bradley	800T-QH2R
k. Red Indicating Light Legend Plate - On	Allen-Bradley	800T-X530
l. Green Indicating Light - Off	Allen-Bradley	800T-QH2G
m. Green Indicating Light Legend Plate - Off	Allen-Bradley	800T-X527
n. Yellow Indicating Light – Mtr Htr On	Allen-Bradley	800T-QH2Y
o. Yellow Indicating Light Legend Plate - On	Allen-Bradley	800T-X530
p. Red Indicating Light – VFD Fault	Allen-Bradley	800T-QH2R
q. Red Indicating Light – Legend Plate	Allen-Bradley	800T- “VFD Fault”
r. Red Indicating Light – Brg Oil Fail	Allen-Bradley	800T-QH2R
s. Red Indicating Light – Legend Plate	Allen Bradley	800T-“BRG OIL Fail”
t. Red Indicating Light - VFD Disable	Allen-Bradley	800T-QH2R
u. Red Indication Light – Legend Plate	Allen-Bradley	800T-“VFD Disable”
v. Push Button - Emergency Stop	Allen-Bradley	800TC-FX6A5S Engraved – “E-STOP”
w. Push Button – Engraved “Open”	Allen-Bradley	800FD-F3X10
x. Push Button – Engraved ”Close”	Allen-Bradley	800FD-F4X10
y. Red Indicating Light (Breaker Closed)	Allen-Bradley	800FD-P4N5
zz. Power Monitor Panel	See Switchgear specifications	
aa. HMI Modules	See Motor Controller specifications	
bb. Digital Panel Meters	Red Lion EW-68484	
cc. Camera Monitor	See Drawings	

J. UL Label

2.10 SPARE PARTS AND TOOLS

A. List of Manufacturer’s recommended spare parts shall be provided. Spare parts will be purchased separately.

PART 3 EXECUTION

3.1 INSTALLATION

- A. The installation is the complete responsibility of the Contractor. The Contractor shall furnish all labor and miscellaneous materials for the installation and testing.
- B. The Contractor shall follow all manufacturer's instructions for handling, receiving, installation, and pre-check requirements prior to energization. Conform to NEMA ICS
- C. The external panel surfaces shall not be drilled or welded for attachment of wiring, resistors or other devices where such holes or fasteners will be visible from the exterior.

3.2 GENERAL REQUIREMENTS

- A. Contractor shall furnish all material and labor including but not limited to, transportation, unloading, loading, rigging, lifting, jacking, etc., to completely install the new equipment as shown on the plans.
- B. Prior to unloading/loading the equipment from the manufacturer, the Contractor will perform a visual inspection of the condition of the equipment and shall report in writing to the District of the condition of the equipment whether or not damage is found. If damage is found, the Contractor is to immediately inform the District prior to the unloading/loading. The Contractor's report on the condition of the equipment shall be separate from any Manufacturer's report.
- C. The Contractor shall unload the equipment and assume responsibility for it. The equipment shall be handled in a manner to prevent damage to the finished surfaces and the assemblies.
- D. The Contractor shall maintain the protective coverings until installation is complete and remove coverings as a part of the final clean up.
- E. Provide new mounting hardware in accordance with manufacturer's installation requirements.
- F. Follow all manufacturer's instructions for handling, receiving, installation, and pre-check requirements prior to energization.
- G. Notify the District two weeks prior to completion of the installation of the equipment so that the District can witness the certified startup comprised of inspection, testing, and parameter setting by the manufacturer.

3.2 INSTALLATION DETAILS

- A. After moving the equipment into its final position, the installation shall include the following:
 - 1. Assemble, level and fasten to floor at locations provided by manufacturer per Seismic instructions.
 - 2. Terminate all power, control, ground and instrumentation wire and cable.
 - 3. Tighten accessible bus connections and mechanical fasteners.
 - 4. Provide a List of all fuses with Manufacturer, Catalog No. and rating.
 - 5. Provide a List of recommended spare parts.

3.3 *GUARANTEE*

- A. Equipment is to be guaranteed free of defects for one year starting with date installation is complete. Guarantee to include all labor, materials and per diem expense. Contractor shall be able to respond to the District's request within 24 hours. The guarantee shall be extended to two years from date of the completion of the Certified Startup as specified below.

3.4 *CERTIFIED STARTUP*

- A. The Contractor shall supply a manufacturer's technician to inspect the completed installation the switchboard circuit breakers, set the parameters of the motor controllers and the operation of the control console prior to start-up. The Contractor shall notify the manufacturer two weeks in advance of the scheduled start-up.
- B. A written hard copy report of the manufacturer's technician's findings and settings shall be provided to the District prior to start-up. The written report shall contain the settings of each controller and whether all devices as shown have been furnished and installed and are ready for operation either locally or by SCADA.
- C. Furnish the latest version of Drive Executive or VFD programming software licensed to the District and at no cost to the District.

3.5 *TESTING AND PREPARATION FOR OPERATION*

- A. Testing and preparation for operation shall be performed in accordance with Section 26 95 00 titled **FIELD TESTING AND OPERATION**.

END OF SECTION

SECTION 26 49 00

ELECTRIC SERVICE

PART 1 GENERAL

1.1 DESCRIPTION

- A. This specification section covers the furnishing and installing of equipment and materials for the electric service. The utility metering panel shall be furnished and installed under Section 26 48 00. The service equipment shall be furnished and installed in conformance with Pacific Gas & Electric Co. (PG&E) electrical distribution system requirements. Items to be furnished and installed are (1) transformer pad (2) meter panel, (3) wire and conduit, (4) and materials as shown and as required. The Contractor shall submit equipment and materials information to the PG&E for their approval prior to the supply and installation of equipment and materials.
- B. The provisions of the Section 26 01 00 of these specifications shall apply unless otherwise specified in this Section.

1.2 SUBMITTALS

- A. Descriptive literature for all equipment furnished under this section shall be submitted in accordance with the Section 26 01 00 of these specifications.
- B. Submittals for the equipment shall include, but not limited to the following:
 - 1. Provide catalog sheets showing manufacturer, specific catalog numbers, voltage, ratings and size of devices.
 - 2. Drawings of the equipment.
 - 3. Schematic Diagrams.
 - 4. Dimensioned "as-built" drawings.
 - 5. Certified test reports prepared by manufacturer.

- C. Shop Drawings

Include front and side views of equipment with overall dimensions shown; weights; conduit and ground entrance locations and requirements; nameplate legends and data; ground; electrical characteristics including voltage, current and withstand ratings of all equipment and components.

1.3 QUALITY ASSURANCE

- A. Manufacturer shall provide certification that the manufacturer has been fabricating and assembling specified equipment in his current facility for a minimum of five (5) years.

- B. All materials selected for the manufacture of the equipment shall be the best available for the purpose for which they are used, considering strength, ductility, durability and the best engineering practice.
- C. All like parts shall be interchangeable.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Equipment, hardware and conductors shall be delivered complete, in manufacturer's original, unopened protective packaging. All accessories shall be in-place. Packing materials shall be such as to prevent damage to components due to vibration, jarring, or the like, during transportation and handling.
- B. The equipment shall be handled in a manner to prevent damage to finished surfaces and assemblies.
- C. Maintain protective coverings until ready for installation.

PART 2 PRODUCTS

2.1 REFERENCE STANDARDS

- A. The following listed codes and standards are part of these specifications and shall be considered minimum acceptable standards for construction, unless the provisions of these plans and specifications are more stringent, in which case the more stringent provisions shall take precedence.
 - 1. NFPA 70, 99, 101 and 110
 - 2. NEC 517, 700, 701 & 702
 - 3. PG&E Electrical Service Standards
 - 4. Latest Edition, published by the International Conference of Building Officials.
 - 5. CEC and all Local Standards and Ordinances
 - 6. UL 1008, 508 and 50
 - 7. NEMA ICS10 and 250
 - 8. IEEE 241, 446 and 472

2.2 RATINGS

- A. Primary Voltage Rating: Per Utility
- B. Secondary Voltage Rating: 277/480V, Wye grounded

- C. Number of Phases/Wires: 3 Phase, 4 Wire
- D. Frequency: 60 Hertz

PART 3 EXECUTION

3.1 INSTALLATION

- A. The electric service meter panel shall be located as shown. The location of the service poles and transformer pads shall be as determined by the utility. The service equipment shall be interconnected to all equipment, and made ready for service all in accordance with the drawings.
- B. The Contractor shall supply and install all materials and equipment required for the electric services as required and as shown on the drawings.

END OF SECTION

SECTION 26 95 00

FIELD TESTING AND OPERATION

PART 1 GENERAL

1.1 SCOPE

- A. This section describes the adjustments, testing, the preparation for operation and operational demonstrations that are the responsibility of the Contractor to be performed at the site of the installation. The Contractor is responsible for the requirements specified unless specifically stated otherwise. All tests required to ensure the satisfactory installation, adjustment, operation and performance of all equipment and materials erected and installed under this specification, shall be performed by the Contractor. These tests shall be performed in the presence of the District's representative.
- B. This section is complimentary to other sections of Division 26 01 00 and the requirements of this section are in addition to the requirements of the other sections.
- C. The Contractor shall engage the services of an independent testing firm to perform designated testing of equipment. The independent testing firm shall be a member of NETA or otherwise demonstrate their experience and qualifications to perform the tests. The persons who perform the work shall have been in business of testing and calibrating electrical devices, as described, for a minimum of three years.

1.2 SUBMITTALS

- A. Descriptive literature furnished under this section shall be submitted in accordance with the Section 26 01 00 of these specifications.
- B. Testing and Operation Plan
 - 1. A plan describing how the Contractor plans to carry out the work including a schedule.
 - 2. A list of equipment the Contractor will use in the work.
 - 3. A list of the equipment/devices to be tested.
 - 4. A list of the tests to be performed on each equipment/device.
- B. Required Test Forms including forms attached to this Section.
- C. Test Reports

Test Reports shall be submitted as a submittal and in accordance with the process described in these specifications. The test reports shall be a part of the Operation and Maintenance Manual. Test Reports shall be the "originals" bound and certified with five copies. Test Reports shall be reported on the forms attached to this section and prefaced with the following information:

1. Summary of each project, District Contract Number.
2. Description of equipment tested.
3. Test personnel.
4. List of test equipment used and calibration date.
5. Test results, date and weather conditions.
6. A schedule showing the "as-built" settings and the accuracy of each indicating meter.
7. Conclusions and recommendations.
8. Appendix, including all test forms.

PART 2 PRODUCTS

2.1 REFERENCE PUBLICATIONS

- A. The publications referred to hereinafter form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only. The latest edition of referenced publications in effect at the time of the bid shall govern.
- B. International Electrical Testing Association (NETA) Publications
 1. Maintenance Testing Specifications for Electric Power Distribution Equipment and Systems
 2. Acceptance Testing Specifications for Electric Power Distribution Equipment and Systems
- C. National Fire Protection Association
- D. NFPA 70B - Electrical Equipment Maintenance
- E. American National Standards Institute (ANSI)
- F. Biddle Instruments - 25Ta - Manual on Earth-Resistance Testing
- G. American Society of Mechanical Engineers (ASME)
- H. Instrument Society of America (ISA)

2.2 TESTING COMPANY

- A. The testing company shall meet federal OSHA criteria for accreditation of testing laboratories, Title 29, Part 1907. Membership in the International Electrical Testing Association constitutes proof of meeting such criteria. The testing shall be performed by HART High-Voltage, Electro Test, Apparatus Unlimited, Power Systems Testing, or approved equal.

2.3 TESTING

- A. Testing shall conform to the respective manufacturer's recommendations and to the specifications herein.
- B. Occupational Safety and Health Act (OSHA): The Contractor is cautioned that testing and equipment shall comply with OSHA as to safety, clearances, padlocks and barriers around electrical equipment energized during testing.
- C. The company furnishing the test instruments shall have a calibration program which maintains all applicable test instrumentation within rated accuracy. The accuracy shall be traceable to the National Bureau of Standards in an unbroken chain. Instruments shall be calibrated every six months and shall bear dated calibration labels near the meter face.
- D. All test instruments selected for use in the work shall be for the purpose for which they are used and shall be recognized as such.

PART 3 EXECUTION

3.1 VISUAL AND MECHANICAL INSPECTION

- A. Prior to visual inspection by the District, the Contractor shall thoroughly clean all equipment of dirt, grease, grit, cable and conductor strippings, metal filings, and any other foreign matter. Scratches shall be touched up utilizing manufacture's standard paint. The Contractor shall notify the District two working days prior to making the inspections.
- B. The Contractor shall check the torque of all power bolted connections according to manufacturer's torque requirements. Every power connection made by the manufacturer and the Contractor shall be checked by use of an appropriate torque wrench. The torque of the connection shall be recorded and submitted to the District as proof of the check.
- C. If lacking manufacturer's instructions for bolted connections, use the following table:

NOMINAL TORQUE REQUIREMENTS FOR BOLTED BONDS

BOLT SIZE	THREADS/ INCH	TORQUE IN/LBS	TORQUE FT/LBS
#8	32	18	
	34	20	

#10	24	23	
	32	32	
1/4"	20	80	6
	28	100	8
5/16"	18	140	11
	20	150	12
3/8"	16	250	20
	24	275	22
7/16"	14	400	33
	20	425	35
1/2"	13	550	45
	20	575	47
5/8"	11	920	76
3/4"	10	1,400	116
7/8"	9	1,950	162
1"	8	2,580	215

- D. The visual and mechanical inspection shall be comprised of the items listed on Form 3.01 and shall be recorded on Form 3.01.

3.2 PRE-OPERATIONAL TESTING

- A. Prior to energizing, the Contractor shall have the following tests completed and the results recorded on the Form stated. It is the intent of these tests to assure that all equipment is installed within industry and manufacturer's tolerances and in accordance with design plans and specifications and is operational. These tests and inspections shall determine the suitability for energization.
- B. All tests required to ensure the satisfactory installation, adjustment, operation and performance of all design and materials erected and installed and to prove installation is in accordance with this Specification, shall be performed as outlined herein, hereinafter in other specification sections in the presence of the District.
- C. The Contractor shall provide all material, labor, testing equipment, tools and technical supervision required.
- D. Work shall be performed in a careful and safe manner so as not to endanger personnel or equipment.
- E. All testing shall conform to International Electrical Testing Association (NETA) Maintenance and Acceptance specifications and shall utilize manufacturer's instruction manuals applicable to each particular apparatus.
- F. Upon completion of the test and inspections noted in these specifications, a label shall be attached to all serviced devices. These labels will indicate date serviced and the company responsible.

- G. The following tests shall be done by the Independent Testing Firm prior to connection of cables. The Contractor shall notify the District two working days prior to making the tests. The Contractor shall complete the subject forms prior to submission to the District.

1. Conductor Insulation Resistance

The Testing Firm shall complete the required tests listed on Form 3.02A attached to this Section.

2. Circuit Breaker Testing

The Testing Firm shall complete the required tests listed on Form 3.02C attached to this Section.

3. Insulated Equipment

The Testing Firm shall complete the required tests listed on Form 3.02D attached to this Section.

- H. The following tests shall be completed by the Contractor prior to connection of cables. The Contractor shall notify the District two working days prior to making the tests. The Contractor shall complete the subject forms prior to submission to the District.

1. Phase Rotation

The Contractor shall complete the required tests listed on Form 3.02B attached to this Section.

3.3 OPERATIONAL TESTS

A. General Requirements

It is the intent of these tests to assure that all equipment is operational and installed in accordance with the design plans and specifications. Operational tests will determine the suitability for District acceptance of the Contractor's work and will be made after pre-operational testing and trial operations are complete.

B. Operation Demonstration

The entire electrical installation shall be operated to verify contract compliance. Contractor shall conduct operational demonstrations in the presence of the District and Operations and Maintenance personnel. The District and Operations and Maintenance personnel will assist the Contractor during Operational Demonstration. The Contractor shall give the District 5 days notice of the dates and times for inspections and operational testing.

The Contractor shall operate each site for normal operation to the satisfaction of the District. The District may waive this test at their discretion and convenience. The Contractor shall provide all material and labor and perform the tests in the presence of the District's representative.

Demonstration of the operability of segments of systems shall not be construed as acceptability of the complete system. Acceptance will only be made on satisfactory demonstration of the operability of the system as a whole.

3.4 *FAILURE TO MEET INSPECTION AND TESTS*

- A. If, in the opinion of the District, the operational demonstration results show improper adjustment, operation, or performance of any equipment, and these deficiencies are due to (1) factory manufacturing issues, and or (2) negligence or unsatisfactory installation by the Contractor, the Contractor shall remedy the situation at no additional cost to the District.
- B. Any system material or workmanship that is found defective by the Contractor shall be reported to the District. Contractor shall replace the defective material or equipment and have inspection and tests repeated until test proves satisfactory to the District. All work in connection with the failure, replacement and tests shall be done without additional cost to the District.

3.5 *FINAL ADJUSTMENT, CLEANING AND TRAINING*

- A. Clean all equipment.
- B. Replace filters of operating equipment.
- C. Make final adjustments under the supervision of the District.
- D. Provide not less than four hours of instruction to the District personnel.

3.6 *INFRARED TESTING*

- A. An infrared test shall be made on all Power Connections after the site has been placed into operation. The testing shall be made at as much full load as is possible as determined by the District. The testing instrument shall be a multi-component color thermal-camera system. A thermogram shall be taken and recorded for future reference. If the thermogram shows conditions that need immediate attention, the repairs shall be made before proceeding with the balance of the test and follow up testing shall be made to confirm correction.
- B. When the scanning is complete, the disk, which holds the thermograms shall be provided to the District for future reference. Software shall be provided to the District without cost which will allow hardcopy printouts.
- C. A report of the testing shall be provided to the District. The report shall contain the following:

1. Overview and explanation of the report, overall assessment of the testing and any other information deemed pertinent to the testing results.
 2. Summary of the testing results.
 3. List of all equipment tested
 4. List of specific problems if any and necessary repairs made if any.
 5. Appendix containing each thermogram and or photos.
- D. Power Connections as referenced above are any and all connections from service entrance to and including the motors whether factory or field made connections.

3.7 *MOTOR CONTROLLER REQUIREMENTS*

- A. See Section 26 48 00 for adjusting, placing into service and commissioning of the variable frequency drives.

3.8 *GUARANTEE*

- A. Except as otherwise stated, the Contractor shall guarantee all equipment and material furnished under these specifications from any defective material or workmanship. Contractor shall repair or replace, as may be necessary, any defective work or material which may show itself within one (1) year of the date of the final payment, if in the opinion of the District said defect is due to imperfections or workmanship or material. See Section 26 48 00 for additional warranty requirements for motor control equipment.

END OF SECTION

**FORM 3.01
VISUAL AND MECHANICAL INSPECTION
PUMP STATION**

Test/Inspection	Equipment	Remarks	Initials
A. Inspect for physical damage	Switchboard		
	Motor Controllers		
	Electric Service Equipment		
	Control Consoles		

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

**FORM 3.01
VISUAL AND MECHANICAL INSPECTION
PUMP STATION**

Test/Inspection	Equipment	Remarks	Initials
B. Inspect for proper anchorage	Switchboard		
	Motor Controllers		
	Electric Service Equipment		
	Control Consoles		

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

**FORM 3.01
VISUAL AND MECHANICAL INSPECTION
PUMP STATION**

Test/Inspection	Equipment	Remarks	Initials
C. Inspect for Ground Connections	Switchboard		
	Motor Controllers		
	Electric Service Equipment		
	Control Consoles		

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

**FORM 3.01
VISUAL AND MECHANICAL INSPECTION
PUMP STATION**

Test/Inspection	Equipment	Remarks	Initials
D. Check Equipment Nameplates	Switchboard		
	Motor Controllers		
	Electric Service Equipment		
	Control Consoles		

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

**FORM 3.01
VISUAL AND MECHANICAL INSPECTION
PUMP STATION**

Test/Inspection	Equipment	Remarks	Initials
E. Check Wire Markers	Switchboard		
	Motor Controllers		
	Electric Service Equipment		
	Control Consoles		

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

**FORM 3.01
VISUAL AND MECHANICAL INSPECTION
PUMP STATION**

Test/Inspection	Equipment	Remarks	Initials
F. Check Conductor Sizes & Type	Switchboard		
	Motor Controllers		
	Electric Service Equipment		
	Control Consoles		

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

**FORM 3.01
VISUAL AND MECHANICAL INSPECTION
PUMP STATION**

Test/Inspection	Equipment	Remarks	Initials
G. Check Torque of Bolted Connections	Switchboard		
	Motor Controllers		
	Electric Service Equipment		

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

**FORM 3.02A
INSULATION RESISTANCE TEST
PUMP STATION**

Test	Feeder	Phase to Ground			Phase to Phase			Initials
		A	B	C	A-B	B-C	C-A	
Insulation								
	Switchboard							
	Motor Controllers							
	Electric Service Equipment							
	Pump Motor P#1							
	Pump Motor P#2							
	Control Box Mtr CB#1							
	Control Box Mtr CB#2							

Megger and record insulation resistances of insulated conductors. Make tests with circuits installed in conduit and isolated from source and load. Each conductor shall be meggered conductor to conductor and conductor to ground. These tests shall be made on cable after installation but not connected to the equipment.

**FORM 3.02A
INSULATION RESISTANCE TEST
PUMP STATION**

These tests shall be made after installation with all splices made up and terminators installed but not connected to the equipment. Tests shall be performed in the presence of the Engineer.

Test voltage and minimum acceptable values shall conform to NETA "Test Values".

Insulation resistance readings, after 60 seconds, of less than recommended by the standards shall be cause for rejection of that device or portion of the system. The suspect item or system element shall be replaced and retested at no additional cost to the District.

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

**FORM 3.02B
PHASE ROTATION TEST
PUMP STATION**

Test	Feeder	Physical Orientation	Color Coding	Tested Rotation	Initials
Phase Rotation	Motor P#1				
	Motor P#2				
	Motor CB#1				
	Motor CB#2				

Check connections to all equipment for proper phase relationship. Record electric service phase rotation first then after installation record final phase rotations. Note phase rotation in accordance with NEMA. NEMA phase sequence is "ABC" front to back (FB), left to right (LR) and top to bottom (TB) while standing in front of the equipment. During this test, disconnect all devices which could be damaged by the application of voltage or reversed phase sequence.

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

**FORM 3.02C
CIRCUIT BREAKER TESTS
PUMP STATION**

Circuit Breaker Characteristics	Manuf.	Type	Current Rating	Type Trip	LTP Range	LTD Range		STP Range	STD Range	GFP Range	GFD Range	Instant. Range
Main Circuit Breaker												
Feeder to P#1 Controller												
Feeder to P#2 Controller												
Feeder to CB#1 Controller												
Feeder to CB#2 Controller												
Feeder to 3ø Panel												

**FORM 3.02C
CIRCUIT BREAKER TESTS
PUMP STATION**

Circuit Breaker Settings	LTP	LTD	STP	STD	GFP	GFD						
Main Circuit Breaker												
Feeder to P#1 Controller												
Feeder to P#2 Controller												
Feeder to CB#1 Controller												
Feeder to CB#2 Controller												

**FORM 3.02C
CIRCUIT BREAKER TESTS
PUMP STATION**

Circuit Breaker Tests	LTP Amps	LTD@ 3X-Sec	STP Amps	STD@ 3X-Sec	GFP Amps	GFD@ 1.5X-Sec					
Main Circuit Breaker											
P#1 Controller											
P#2 Controller											
Feeder to CB#1 Controller											
Feeder to CB#2 Controller											

Notes:

All circuit breakers 100 amp and above shall be tested. Time current characteristic tests shall be performed bypassing three hundred percent (300%) rated current through each pole separately. Trip time shall be determined. Instantaneous pickup current shall be determined by run up or pulse method. Clearing times should be within 4 cycles or less. Breakers not testing within trip band shown on characteristic curve shall be replaced at no cost to District. Breakers with solid state trip devices may be tested utilizing test equipment specifically manufactured for the component being tested.

**FORM 3.02C
CIRCUIT BREAKER TESTS
PUMP STATION**

Circuit Breaker Tests	Breaker Open									Breaker Closed		
	Contact Resistance A-Phase millivolts	Contact Resistance B-Phase millivolts	Contact Resistance C-Phase millivolts	Insulation Resistance A-Ground megohms	Insulation Resistance B-Ground megohms	Insulation Resistance C-Ground megohms	Insulation Resistance A-B megohms	Insulation Resistance B-C megohms	Insulation Resistance C-A megohms	Insulation Resistance A-A megohms	Insulation Resistance B-B megohms	Insulation Resistance C-C megohms
Main Circuit Breaker												
Feeder to P#1 Controller												
Feeder to P#2 Controller												
Feeder to 3ø Pnbd												
Feeder to Motor #1												
Feeder to Motor #2												
Feeder to Mtr CB#1												
Feeder to Mtr CB#2												

**FORM 3.02C
CIRCUIT BREAKER TESTS
PUMP STATION**

Contact and Insulation Resistance: Contact resistance shall be measured and be compared to adjacent poles and similar breaker. Deviations of more than 50% shall be reported to District. Insulation resistance shall be measured and shall not be less than 100 megohms. All trip times shall fall within NETA table values. Instantaneous pickup current levels should be within 20% of manufacturer's published values.

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

Type of Instruments Used in Tests _____

All ground fault equipment shall be tested by primary current injection method.

**FORM 3.02D
EQUIPMENT INSULATION TESTS
PUMP STATION**

Test	Equipment	Phase A-G	Phase B-G	Phase C-G	Phase A-B	Phase B-C	Phase C-A
Equipment Insulation Test	Motor P#1						
	Motor P#2						
	Motor CB#1						
	Motor CB#2						

Megger and record insulation resistances of insulated equipment. Measure and record insulation resistance at ambient temperature after installation but prior to making external wiring connections. Test voltage and minimum acceptable values shall conform to NETA Section 3 "Test Values". Insulation resistance readings, after 60 seconds, of less than recommended by the standards shall be noted.

Company Name: _____

Testing Supervisor: _____

District Inspector: _____

Test Date: _____

Instrument Type: _____

SECTION 40 95 13

PROCESS CONTROL PANELS, HARDWARE, AND PROGRAMMING

PART 1 GENERAL

1.1 THE REQUIREMENT

- A. The CONTRACTOR, through the System Integrator (SI), shall provide (design, manufacture, install, program and test) the Process Control System (PCS) complete and operable, in accordance with the Contract Documents. CONTRACTOR to provide the RTU/PLC Control Panels and internal components of same. PLC and OIT programming shall be provided by a qualified System Integrator.
- B. The System Integrator shall be responsible for panel design and layout, control schematics, equipment selection and supply, hardware submittal preparation, supervision of installation, testing, training, start-up and implementation activities for the entire PCS being furnished under this Contract.
- C. The terminology of “Control Panels” or “Panels” is used synonymously for PLC or RTU Control Panels within these specifications.
- D. The requirements of this Section apply to every component of the PCS unless indicated otherwise. Contract Drawings do not provide complete schematics of control panels, it is the responsibility of the System Integrator to submit for approval control panel schematics and required hardware.
- E. WORK performed by the System Integrator shall strictly follow the Sequence of Testing outlined below. Acceptance of WORK shall only be approved if Sequence of Testing is followed. Documentation of each sequenced item must be approved by the ENGINEER prior to start of next item. Sequence of Testing shall be applied to each Area of project WORK as defined by the Contract Drawings. Sequence of Testing shall be:
 1. Delivery Acceptance Form: completed and approved upon equipment delivered to jobsite. Delivery Acceptance form is attached.
 2. Instrument Installation Form: completed and approved upon satisfactory installation means by System Integrator. Sample Form shall be submitted by SI and approved by the ENGINEER.
 3. Loop Testing Forms: completed and approved upon satisfactory loop test of instrument by System Integrator verifying wiring and instrument operation. Loop Testing Forms include Analog Loop Test form, and Discrete Loop Test form. Analog Loop Test form and Discrete Loop Test form are attached.
 4. Control and Logic System Testing Form: completed and approved upon satisfactory testing of instrument and equipment logic by System Integrator

verifying parameters, ranges, setpoints, trip elevations, etc. have been established and set. This WORK includes verifying all equipment with use of control schematics as part of Contract Documents, MCC submittals and Vendor supplied packaged panels. Note “C&L Diagrams” are approved control schematic diagrams. Control and Logic System Testing form is attached.

5. Start Up and Operational Testing Form: completed and approved upon satisfactory testing of system operation and functionality by System Integrator. These test documents shall be divided by facilities. Start Up and Testing documentation shall be written and supplied by System Integrator to prove completeness and operational functionality of systems. District will provide input of SCADA portion to Start Up and Testing Forms. Sample Form shall be submitted by System Integrator and approved by the ENGINEER.

F. Responsibilities

1. The CONTRACTOR, through the use of a System Integrator and qualified electrical and mechanical installers, shall be responsible to the District for the implementation of the PCS and the integration of the PCS with other required instrumentation and control devices.
2. Due to the complexities associated with the interfacing of numerous control system devices, it is the intent of these specifications that the System Integrator be responsible to the CONTRACTOR for the integration of the PCS with devices provided under other sections with the objective of providing a completely integrated control system free of signal incompatibilities.
3. As a minimum, the System Integrator shall perform the following WORK:
 - (a) Implementation of the PCS:
 - (1) Prepare instrumentation hardware submittals.
 - (2) Prepare test forms for submittal.
 - (3) Design, develop, and electronically draft all Interconnect Drawings; showing conduit number and conduit size, assign unique cable number, wire labels, wire color, wire size, and device instrument tags. Interconnect Drawings are for the PCS system – all equipment covered by the Contract Documents. This includes but is not limited to: all vendor supplied equipment, Division's 26 and 40 equipment, and all other equipment that has wiring or communication cables connected to it. Interconnect Drawings are complete from field device to field terminal strip at equipment enclosure(s).
 - (4) Design, develop, and electronically draft all Loop Drawings; showing conduit number, assign unique cable number, wire labels, wire color, device instrument tags, instrument ranges, power source and manufacturer and model number, PLC input or output terminal. Some information on the Loop Drawings is replicated on the Interconnect Drawings. Provide Loop Drawings for all instruments and all PLC I/O field wiring.

- (5) Design, develop, and fabricate the PLC Control Panel (including PLC, OIP, UPS, etc.), as listed herein and as shown on the Contract Drawings.
 - (6) Coordinate all interconnect wiring and communication network from vendor supplied panels and supply WORK and materials for complete and operable system. Include in Interconnect Drawings.
 - (7) Procure hardware.
 - (8) All outdoor Control Panels shall include sun shields as shown on Contract Drawings.
 - (9) Perform Factory Acceptance Tests on PLC Control Panel (including PLC, OIP, radio, UPS).
 - (10) Govern Sequence of Testing and complete all acceptance and test forms required by Specification and schedule the ENGINEER to witness.
 - (11) Oversee, document and certify Delivery Acceptance of equipment specified in Division 40.
 - (12) Oversee, document, and certify installation, along with instrument manufacturer.
 - (13) Verify calibration on all instruments, even those not provided by SI but provided by vendors, Contractors, or District after installation has taken place. Provide calibration sticker as proof of calibration in the field with initials of tester.
 - (14) Perform, coordinate, document, and certify Loop Testing.
 - (15) Perform, coordinate, document and certify Control and Logic Testing.
 - (16) Perform, coordinate, document, and certify Start Up and Operational Testing.
 - (17) Prepare and schedule testing and training. Schedules for all testing and training shall be included on CONTRACTOR's project schedule.
 - (18) Assist with DISTRICT's field Demonstration Test.
 - (19) Conduct the Performance Test.
 - (20) Prepare O&M Manuals.
 - (21) Conduct training classes in conjunction with instrument manufacturer.
 - (22) Prepare record drawings and submit as required.
- (b) Integration and functionality with instrumentation, equipment and control devices provided under other sections or from DISTRICT:

- (1) Develop Interconnect and Loop Diagrams associated with equipment provided under other Divisions of these Specifications.
 - (2) Resolve signal, power, or functional incompatibilities between interfacing devices and provide fix at no extra cost.
 - (3) Resolve communication incompatibilities between interfacing devices and provide fix at no extra cost.
 - (4) Verify and correct if needed type, size, and number of power and or signal wires with their associated raceways.
 - (5) Verify and correct size, type, and number of instrument related pipes, valves, fittings, and tubes.
 - (6) Verify and correct size, type, materials, and connections of process mechanical piping for in-line primary elements.
 - (7) Provide miscellaneous cables, power strips, connectors, patch cables, etc., as needed for a complete and operational process control system.
4. Any System Integrator responsibilities in addition to the list above are at the discretion of the CONTRACTOR and the System Integrator. Additional requirements in this Section and throughout Division 40 that are stated to be the CONTRACTORS' responsibility may be performed by the prequalified System Integrator if the CONTRACTOR and System Integrator so agree.
 5. Provide all tools, equipment, materials, and supplies and be responsible for all labor required to complete the installation, programming, calibration, startup and operational testing of a complete and operable Process Control and Instrumentation System as indicated on the Drawings and as specified herein.
 6. Provide all the necessary equipment components and interconnections along with the services of manufacturers' factory representatives necessary to ensure that the DISTRICT receives a completely integrated and operational PCS as herein specified. Instrumentation and control system drawings are diagrammatic only. Obtain technical data, determine performance requirement, develop installation details and integrate I&C subcontractor supplied equipment with CONTRACTOR or vendor supplied equipment.
 7. Provide all terminations for wiring at field mounted instruments, equipment enclosures, alarms and status contacts.
 8. Site and Instrument Inspection: Inspect site for conformance to Drawings, paying special attention to space allocation and dimensions shown or required on Drawings. Inspect completed WORK and verify that it is ready for installation of instruments and equipment. Inspect each instrument and piece of equipment for damage, defects, completeness, and correct operation before installing.

1.2 CONTRACTOR SUBMITTALS

- A. The CONTRACTOR shall submit equipment and shop drawings in accordance with the 26 01 00, Electrical Work.
- B. The submittal shall completely define and document the construction, finish, layouts (internal and external), power circuits, signals, grounding, fuses, circuit breakers, and mounting hardware. Panel drawings shall, as a minimum, be 11" x 17" size with data sheets and manufacturer specification sheets being 8 ½" x 11" size. The submittal shall have the following contents:
 1. A complete index shall appear in the front of each bound volume. Drawings and manufacturer data sheets associated with a panel shall be grouped together with the panels being indexed by systems and facility. Panel tagging and nameplate nomenclature shall be consistent with the requirements of the Contract Documents.
 2. Scale construction drawings which define and quantify the type and gauge of steel to be used for panel fabrication, the ASTM grade to be used for structural shapes and straps, panel door locks and hinge mechanisms, type of bolts and bolt locations for section joining and anchoring, details and proposed locations for "UNISTRUT" members, stiffener materials and locations, electrical terminal box and outlet locations, electrical access locations, print pocket locations, writing board locations, and lifting lug material and locations. Provide for each project site.
 3. Scaled physical arrangement drawings drawn to scale which define and quantify the physical groupings comprising control panel sections, auxiliary panels, subpanels, and racks. Cutout locations with nameplate identifications shall be shown.
 4. Front of panel layouts. Provide for each project site.
 5. Interior of panel layouts. Provide for each project site.
 6. Layout of panels showing allowable conduit entrance windows and location of anchoring.
 7. UPS and battery load calculations for the units specified to show that the backup capacity and time meet the specified requirements. Show UPS mounting within PLC Control Panel. Provide for each project site. Battery autonomy is 12 hours.
 8. Submit for approval forms for Factory Acceptance Test procedure and sign off forms of PLC Panel hardware – testing from field terminal blocks to PLC I/O register. Typical for each project site.
 9. Exchange of Technical Information: During the period of preparation of these submittals, the CONTRACTOR shall authorize a direct, informal liaison with the ENGINEER for exchange of technical information. As a result of this liaison, certain minor refinements and revisions in the systems as indicated may be authorized informally by the ENGINEER, but will not alter the scope of WORK or cause increase or decrease in the contract price. During this informal exchange, no oral

statement by the ENGINEER shall be construed to give approval of any component or method, nor shall any statement be construed to grant exception to or variation from these Contract Documents.

10. Symbology and Nomenclature: In these Contract Documents, systems, meters, instruments, and other elements are represented schematically, and are designated by symbology as derived from Instrument Society of America Standard ISA S5.1 - Instrumentation Symbols and Identification. The nomenclature and numbers designated herein and on the Drawings shall be employed exclusively throughout Shop Drawings, and similar materials. No other symbols, designations, or nomenclature unique to the manufacturer's standard methods shall replace those prescribed above, used herein, or on the Drawings.

C. Shop Drawings

1. General

- (a) Shop Drawings shall include the letter head or title block of the System Integrator. The title block shall include, as a minimum, the System Integrator's registered business name and address, project name, drawing name, revision level, and personnel responsible for the content of the drawing.
- (b) Organization of the Shop Drawing submittals shall be compatible with eventual submittals for later inclusion in the O&M Manual. Submittals not so organized and incomplete submittals for a given loop will not be accepted.
- (c) Interfaces between the PCS and the Control Consoles including other equipment related to the PCS shall be included in the submittal.

2. Hardware Equipment Submittal: The CONTRACTOR shall submit a complete bound package including:

- (a) A complete index which lists each device by tag number, type, and manufacturer. A separate technical brochure or bulletin shall be included with each instrument data sheet. The data sheets shall be indexed in the submittal by systems or loops, as a separate group for each system or loop. If, within a single system or loop, a single instrument is employed more than once, one data sheet with one brochure or bulletin may cover multiple identical uses of that instrument in that system. Each brochure or bulletin shall include a list of tag numbers for which it applies. System groups shall be separated by labeled tags.
- (b) Fully executed data sheets according to ISA S20 - Specification Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves, for each component, together with a technical product brochure or bulletin. The technical product brochures shall verify conformance to Contract Document requirements. The data sheets, as a minimum, shall show:
 - (1) Component functional description used in the Contract Documents.
 - (2) Manufacturer's model number or other product designation.

- (3) Project tag number used in the Contract Documents.
- (4) Project system or loop of which the component is a part.
- (5) Project location or assembly at which the component is to be installed.
- (6) Input and output characteristics.
- (7) Scale, range, units, and multiplier (if any).
- (8) Requirements for electric supply (if any).
- (9) Requirements for air supply (if any).
- (10) Materials of component parts to be in contact with or otherwise exposed to process media and corrosive ambient air.
- (11) Special requirements or features.

(c) Priced list of spare parts for every device.

D. Startup Submittals

1. The CONTRACTOR shall submit the proposed procedures to be followed during startup of the PCS and its components.
2. Preliminary Submittal: Outlines of the specific procedures and examples of proposed forms and checklists.
3. Detailed Submittal: After approval of the Preliminary Submittal, the CONTRACTOR shall submit the proposed detailed procedures, forms, and checklists. This submittal shall include a statement of objectives with the test procedures.

E. Training Submittals: The CONTRACTOR shall submit a training plan which includes:

1. Schedule of training courses including dates, durations, and locations of each class.
2. Resumes of the instructors who will actually implement the plan.

1.3 *EXTENDED PERIOD FOR CORRECTION OF DEFECTS*

- A. The CONTRACTOR shall correct defects in the PCS upon notification from the DISTRICT within 2 years from the date of Substantial Completion. Corrections shall be completed within 5 days after notification.

1.4 *STORAGE AND HANDLING*

- A. All equipment and materials delivered to the jobsite shall be stored in a clean, temperature-controlled environment. Panels shall be dust free prior to any testing. Storage and handling shall be performed in manners which shall afford maximum

protection to the equipment and materials. It is the CONTRACTOR's responsibility to assure proper handling and on-site storage.

1.5 *PRE-TESTING CONFERENCE*

- A. CONTRACTOR shall arrange and conduct a Pre-Testing Conference prior to start of field testing. The purpose of the Pre-Testing Conference is to review and approve the manner in which the CONTRACTOR intends to carry out its responsibilities for testing the WORK to be provided under this Section. The CONTRACTOR, the System Integrator, the ENGINEER (Inspector and or Construction Manager), and DISTRICT'S REPRESENTATIVE shall attend. Both the CONTRACTOR and DISTRICT'S REPRESENTATIVE may invite additional parties at their discretion.

1.6 *QUALITY ASSURANCE*

- A. Standard of Quality: The CONTRACTOR shall provide equipment of the types and sizes specified which has been demonstrated to operate successfully. Provide equipment which is new and of recent proven design.

1.7 *INSPECTION AT FACTORY*

- A. The ENGINEER may inspect the fabricated equipment at the factory before shipment to job sites. Provide the ENGINEER with sufficient prior notice so that an inspection can be arranged at the factory.
- B. Inspection of the equipment at the factory by the ENGINEER will be made after the manufacturer has performed satisfactory checks, adjustments, tests and operations.
- C. Favorable review of the equipment at the factory only allows the manufacturer to ship the equipment to the project sites. The CONTRACTOR shall be responsible for the proper installation and satisfactory startup operation of the equipment to the satisfaction of the manufacturer and the ENGINEER.

1.8 *PROGRAMMING METHODS*

- A. Design and code programs per the following:
 - 1. Clearly comment each rung of ladder logic code. Include module headers detailing the purpose of the module, programmer name, date of last revision, revision history, and description of sequence of events.
 - 2. Comment for each block of code explaining purpose of program block.
 - 3. Code shall use the device names as the prefix to the names or tagnames throughout the ladder logic. Reference tag formation below. If PLC does not use tagnames as data reference, then provide tagname in symbol name or in comment areas at minimum.
 - 4. Provide ladder file for each type of program logic. The following are types that should be used, as applicable and at minimum.

- (a) Analog input scaling
 - (b) Analog output scaling
 - (c) Analog alarms
 - (d) Digital alarms
 - (e) PLC clock, midnight and today/yesterday control
 - (f) Flow totalizations
 - (g) Equipment runtimes
 - (h) Equipment starts
 - (i) Communications
 - (j) Each individual piece of controlled equipment (digital control)
 - (k) Each individual piece of controlled equipment (analog control)
 - (l) Each individual process system (digital control)
 - (m) Each individual process system (analog control)
 - (n) Miscellaneous systems
- B. All custom software, including diagnostic, configuration and applications programming software shall become the sole property of the Owner for their use on this and future Owner projects.
- C. No software or documentation shall be labeled proprietary.
- D. Provide complete hardware and original manufacturer software manuals describing how to use the configuration software.
- E. Provide two (2) disks copies and two (2) hard copies of all as-installed programs at the end of the project.
- F. Furnish and maintain 256MB (min) USB RAM stick on site and within control panel so that latest program files are always available and up-to-date. Upon conclusion of each downloaded program change, the USB RAM stick shall be updated.

1.9 APPLICATIONS PROGRAM CODE

- A. The descriptions provided herein are not final and may have modifications made to them during construction that may change the nature of operation. The descriptions are provided to give the Contractor an insight as to the level of operation and/or testing effort that will be required for this project. Minor modifications should be expected and will not constitute a change in project scope unless those modifications cause significant additional testing time or materials by Contractor.

- B. Provide applications programs in the PLC to execute the control strategies as described herein, as shown on the Contract drawings, and as can be reasonably determined from the overall project scope. The Contractor shall provide application program code that performs to the intent of the descriptions and any additional supporting program code for a fully operational processor and system.
- C. The Contractor shall provide the PLC & OIT completely configured and programmed for the monitoring and control of the facility. Work shall be completed in a timely manner such that all other parts of the contract may proceed un-inhibited. There shall be no expectation that any program logic or configuration will be performed by others.
- D. These control strategies are intended to be general in nature and do not contain all details to program a fully functional and robust PLC logic program. Many details concerning programming methods and procedures are the responsibility of the Contractor to design and implement. The descriptions are written for best transference of intent may not be the best way to code the program. Errors and omissions in details shall be the Contractor's responsibility to infill and correct. The Contractor shall meet the intent of the strategies specified, making modifications as necessary to provide an operational system.
- E. The program code shall be written without any "hard-coded" constants that would effectively require a program change to modify the value. All function blocks shall contain variable registers only.

1.10 CONTROL STRATEGIES

A. General Requirements:

1. The following requirements (General and Specific) are intended to be used as a guideline for application programming of the PLC. They are the major functions and are not intended to be completely comprehensive of all requirements of the operation and do not attempt to cover all necessary program routines for an operational system. Additional features, functions and registers will be required for an operational system.
2. The following general program functions shall be provided:
 - (a) Enable/disable toggle bits and variable time delays for all alarms.
 - (b) Software noise filtering for all analog inputs.
 - (c) All control buttons shall also be accessible via the OIT.
 - (d) The PLC code shall act on I/O connections.
 - (e) PLC shall have registers defined for system clock write (available for future). The PLC shall have code written to recognize that the register(s) have been written to, stop the real time clock, set the clock, and restart it, with the value in the register(s). Date and time of day shall be set.
 - (f) Scaling to engineering values of all variables. Minimum of 3 significant digits required.

(1) Level in 1/10th Feet

(g) Data register types:

- (1) Any register that requires precision past the decimal shall be floating point type.
- (2) Integer registers may be used where decimal precision is not required.
- (3) Boolean registers shall be used for all statuses and on/off controls.

(h) All set point registers, enable/disable toggle bits and settable variable time-delays shall be adjustable from the OIT direct to program data table.

(i) A power fail shall reset all routines.

(j) Programming code shall have automatic error checking and proper initialization to prevent illegal operations such as negative values being placed in timer presets or mathematical out of range functions which could cause a processor fault.

(k) PLC shall be programmed so that, in the event of a power interruption, the equipment controlled shall resume normal operation upon power restoration without requiring a manual reset unless otherwise shown.

3. Analog Scaling:

- (a) All analog values shall be adjusted (if necessary) prior to scaling for required offsets due to hardware / firmware conditions.
- (b) All analog input values shall be scaled into real world engineering units and presented in REAL (floating point) format for use by the OIT.
- (c) All analog output values shall be scaled from real world engineering units into INT (decimal) format to control current or voltage output from an analog output device.

4. Alarms General:

- (a) Common alarms: Provide all applicable alarms per device based on available P&ID inputs and outputs.
 - (1) If a device is called to start or move and the associated run or position status does not confirm start or move after a time delay then post a device "Fail" alarm.
 - (2) Not in Auto alarm: All devices (valves, gates, pumps) with auto switch monitoring shall have associated "Not in auto" alarms.
 - (3) Flow, level, pressure, analytical and other analog alarms: All analog values will have at a minimum an associated alarm structure as defined in other sections.

- (4) All digital alarm values will have at a minimum an associated alarm structure as defined in other sections.

(b) Analog Alarms:

- (1) If an analog value is above/below the associated set point, and the associated time delay has exceeded the time delay set point, then the alarm shall be generated / annunciated.
- (2) Transducer out of range alarms. If the scaled value of the analog input exceeds 21mA or falls below 3.5mA, an out of range alarm shall be triggered for that input.
- (3) The alarm shall automatically reset unless it is designated as “latch”. A latching alarm requires either a reset set point for hysteresis or a manual reset.

(c) Digital Alarms:

- (1) If the digital alarm state is TRUE and the associated time delay timer has exceeded the time delay set point, then the alarm shall be generated / annunciated.
- (2) The alarm shall automatically reset unless it is designated as “latch”. A latching alarm requires a manual reset.
- (3) Example digital alarm Structure. ENABLE / DISABLE to be a toggle switch. DELAY to be editable timer base value for associated alarm delay timer. LATCH to be a manual reset toggle (blank if alarm is not latching).

1.11 SPECIFIC REQUIREMENTS:

A. Three PCS Modes of Operation

1. Pumping irrigation water from the Basins:

- (a) Pumping irrigation water from the basins will require maintaining the control box level at an operator adjustable (setpoint) level by the control box pumps. The Control Box pumps shall maintain this (setpoint) level by varying the speed of one or both of the VFD controlled pumps.
- (b) Irrigation water will flow from the control box to a designated area through the selected irrigation gate(s) in the control box.
- (c) The basin(s) from which the water will be pumped will be selectable by operator or automatically by basin water level (i.e. whichever has the highest level of water).
- (d) Each basin water level is measured by a level transducer.
- (e) The amount of water flow from the basin(s) to the Control Box pumps shall be adjusted by percentage of gate position. Therefore, more than one basin shall

be able to supply water manually adjusted by an operator, or in automatic PLC Control mode.

2. Pumping irrigation water from the Canal:
 - (a) Pumping irrigation water from the canal will require maintaining the control box level at a constant level by the pump station pumps. The Pump Station pumps shall maintain this (setpoint) level by varying the speed of one or both of the VFD controlled pumps.
 - (b) Irrigation water will flow from the canal to the designated area through the selected irrigation gate(s) in the control box.
 - (c) Canal water level is measured by a level transducer.
3. Pumping water to the Basins
 - (a) Pumping water from the canal to the basins will require maintaining the control box level at a constant level by the canal pumps. The Pump Station pumps shall maintain this (setpoint) level by varying the speed of one or both of the VFD controlled pumps.
 - (b) Irrigation water will flow from the control box to the selected basin(s).
 - (c) Once the basin(s) are full, the pumps will be shutoff. An operator shall be able to select which Basin(s) will receive water or select automatic mode based on Basin(s) water level. In addition, all Basins shall be capable to be filled at one time, or operator selected in order, one Basin at a time.
 - (d) Basin(s) will be filled based on canal water level. Pump(s) will shutoff once Canal water reaches (setpoint) low level.
4. General Control
 - (a) Control Box and Pump Station pumps speed will be controlled based on an adjustable water level set point. Pump speed will be PID loop generated from input reference Control Box or Canal Level input and (adjustable) Water Level setpoint.
 - (b) Basin gates will open or close to a set position based on operator level setpoint and maintain the upstream water level.
 - (c) PID loop shall be tuned for optimum performance, minimizing overshoot and oscillation.
 - (d) System Enable (Interlocks)
 - (1) AC Power Failure
 - (e) Equipment Enable per device with output
 - (1) Gate HOA (Hand-Off-Auto) switch in Auto

(2) Pump HOA (Hand-Off-Auto) switch in Auto

(f) Non-Operational

(1) No PLC gate or pump control logic operations shall take place when it's device "HOA" switch is NOT in the Auto position.

5. General Alarms

(a) Pump Fail-to-Start

(b) Pump VFD Failure

(c) Pump Not in Auto

(d) Gate High Torque Alarm

(e) Gate Actuator Fault Alarm

(f) Gate Not in Auto

(g) Level Transducer Fail (High/Low)

(h) Level High Alarm

(i) Level Low Alarm

(j) AC Power Failure

1.12 *MEDIUM*

A. Provide PLC & OIT applications programs on USB Flash Drive media.

1.13 *PLC IO LIST*

A. The PLC IO list shall be managed by the SI and all revisions shall be approved by the District. Refer to the end of this Section for the PLC IO list.

PART 2 PRODUCTS

2.1 *GENERAL*

A. Environmental Suitability: Control Panels shall be suitable for operation in the ambient conditions associated with the locations designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided in order to maintain instrumentation devices 20 percent within the minimums and maximums of their rated environmental operating ranges. The CONTRACTOR shall provide power wiring for these devices. Enclosures suitable for the environment shall be furnished. Outdoor control panels that contain electronics (PLC hardware, UPS) shall be provided with sunshields on top and all four sides. Outdoor panels shall be painted ANSI-61 gray, or color as selected by DISTRICT during submittal review.

- B. **Materials:** Steel panel section faces shall be 12-gauge minimum thickness for free standing panels. Materials shall be selected for levelness and smoothness. Structural shapes and strap steel shall comply with ASTM A 283 - Low and Intermediate Tensile Strength Carbon Steel Plates, Grade C. Dimensions shall be in accordance with vendor's requirements. Elevations and horizontal spacing shall be subject to the ENGINEER's approval.
- C. **Fabrication:** End closure or rear closure doors shall be provided where required. Such doors shall be flush fitting, gasketed, and be of the hinged lift-off type with lockable door handles. A common key shall be provided for the doors on each panel assembly.
- D. **Instrument Finishing:** The final coats applied to painted surface of instrument cases, doors, or bezels which are visible from the front of panels shall be manufacturer's standard unless otherwise indicated. Provide gray color, unless indicated otherwise.
- E. **Nameplates:** All panel mounted devices shall be identified with phenolic tag, inscribed with identifier as noted on panel drawings. A nameplate shall be mounted on the outside of the door of the enclosure and be engraved as shown on the Drawings. Exterior of PLC Panels shall include nameplates inscribed with Panel Name, i.e. "Deep Creek Check Structure".
- F. **Field Wiring:** All control and power wiring from the field shall be terminated on terminal blocks in the Field Wiring Section of the enclosure.
- G. **Physical Arrangement:** Panel internal components shall resemble layout on Contract Drawings, if shown. Layouts provided are conceptual only and System Integrator is responsible for actual layout, panel dimension, panel footprint, conduit entrance window coordination, panel height, panel hardware, and seismic anchoring.
- H. **Standards:** Panel construction and interior wiring shall be done in accordance with the National Electrical Code, state and local codes, and applicable sections of NEMA, ANSI, and UL. All panels shall include listing sticker that states "Panel was built in a UL Listed Panel Shop". All panels shall be built at SI facility and include SI sticker.
- I. **Electrical Requirements**
 - 1. All terminal numbers and panel interior wires shall be machine labeled. Refer to Section 26 05 19 for terminal block label and wire label specification requirements. Number all electrically common wires the same, and number each electrically different wire uniquely.
 - 2. Panels to have two incoming 120 VAC circuits. One circuit shall be "utility" and dedicated for lights, receptacles fans and heaters. One circuit shall be "control" and connected to line side of UPS, whose load side shall feed control devices. Provide transient surge suppressors on both incoming 120 VAC circuits within all PLC Panels. Provide UPS fail alarm status to PLC.
 - 3. PLC Control Panels shall provide 24 VDC electrical power to local instruments (pressure transmitters, level transmitters) and for motorized actuators (refer to Contract Drawings). Panels to include fused terminal blocks for each DC powered

instrument, fed from 24 VDC power supply. Provide DC fail relay with status to PLC.

4. All analog wiring in field and into panel shall be 4-20mA DC signal type. Ground shield of analog wiring at PLC Panel side only. Analog signals to PLC shall be 4-20mA DC signal type.
 5. PLC Control Panels shall be provided with switched, LED, top-of-panel lights. One light shall be provided and mounted inside and on the top of the panel for every 30" of panel width.
 6. PLC Control Panels shall be provided with a 20 amp, 120 volt receptacle.
 7. Wiring to door-mounted devices shall be extra flexible and anchored to doors using wire anchors cemented in place. Exposed terminals of door-mounted devices shall be guarded to prevent accidental personnel contact with energized terminals. Secure all station wiring to the panel surfaces with plastic cable ties.
 8. Power, Control and Signal Wiring shall be:
 - (a) Wire type and sizes: Conductor shall be flexible stranded copper machine tool wire, UL listed Type MTW, and shall be rated 600 volts. 120 VAC power and control wiring shall be 14 AWG. 24 VDC power and control wiring shall be 14 AWG. Analog wiring shall be 18 AWG twisted shielded pairs.
 9. Panels shall be provided with a 1/4-inch by 1-inch by 12-inch minimum copper ground bus complete with screw type compression connectors.
 10. Each Panel shall be provided with identified terminal strips for the connection of field conductors. The CONTRACTOR shall provide sufficient terminal blocks to connect 20 percent additional conductors for future use. Termination points shall be identified uniquely with machine imprinted labels.
 11. Provide stainless steel screened weep holes for draining condensation on all outdoor enclosures where required by the ENGINEER.
- J. Labor and workmanship: Panels shall be fabricated and wired by fully qualified workmen who are properly trained, experienced, and supervised.

2.2 ENCLOSURES

- A. Enclosures shall be NEMA type as shown on Contract Drawings. If Contract Drawings do not specify a NEMA type than enclosure shall be as required in required in Specification Section 26 05 00 – Basic Electrical Materials and Methods. If enclosure is not within listed Classification Area, enclosure shall be NEMA 4X stainless steel.
- B. Enclosures shall be freestanding, pedestal-mounted, wall mounted, or equipment skid-mounted, as indicated on Contract Drawings. Internal control components shall be mounted on a removable mounting pan. The removable mounting pan shall be finished white.

- C. The enclosures shall have vertically hinged front doors. Provide hinge on side of panel, which ensures compliance with the 30-inch rule in NEC Paragraph 110-16(a).
- D. Mount the front panel mounted devices through the door or on recessed plates. Each component within the panel shall be securely mounted and arranged for easy servicing, such that all adjustments and component removal can be accomplished without disturbing other components. No fastening devices shall project through the outer surfaces of the cabinet and all components and terminals shall be mounted on mounting pans within the panels. Devices shall not be mounted on the side panels.

2.3 RELAYS

- A. Control relays shall be 3PDT with 10 amp contacts with indicating light and check button. Relays shall be plug-in type, utilizing 11 round tubular pins, and provided with sockets for screw-type termination and hold-down clips. Where more than 3 contacts are shown or required for a relay coil, use machine tool relays with convertible contacts, paralleling of relays is prohibited. Relays shall be manufactured by IDEC Series RR, Square D Class 8501 Type KP, Allen-Bradley Bulletin 700 Type HA, or equal. Machine tool relays shall be manufactured by Allen-Bradley 700-P200, Eaton AR series, or equal.
- B. Time delay relays shall be electronic, adjustable plug-in type utilizing 8 or 11 round tubular pins and provided with sockets for screw-type termination and hold-down clips. Time delay relays shall be manufactured by IDEC Series GT3A/RTE, Square D Class 9050 Type JCK, Allen-Bradley Bulletin 700 Type HA, or equal.
- C. PLC digital output relays and sockets shall be solid state and assembled with interface modules for high density interposing or isolation type applications. Relays shall be terminal block style relays, built-in retainer clips, LED indication, 2-pole, 10 amp, 24 VDC with screw terminals. PLC digital output relays shall be manufactured by Allen-Bradley 700-HLT12 or equal.

2.4 CONTROL DEVICES

- A. Selector switches, pushbuttons and indicating lights shall be 30.5mm heavy duty, oil tight, and NEMA rated for the installation location. Each shall have a factory engraved legend plate. Miniature type assemblies are not acceptable.
- B. Position switches shall be maintained contact type, rated 20 A minimum at 120 VAC. Control knob shall be black, NEMA 4X, and shall show clearly the control switch position.
- C. Pushbuttons shall be heavy duty, NEMA 4X, bootless, flush head pushbutton, with momentary contact.
- D. Pilot light lens colors shall be GREEN for "run," "open," or "on"; RED for "stopped," "closed," or "off;" AMBER for "alarm", WHITE for "power on".
- E. Pilot lights shall have LED lamps, transformer type, and push to test.

- F. Emergency Stop pushbuttons shall be push to operate, locking, and twist to release type.
- G. Devices shall be manufactured by Allen-Bradley Bulletin 800 Type H, Square D Class 9001 Type K, Cutler-Hammer Type 10250T, or equal.

2.5 BATTERY CHARGER

- A. Provide 120 VAC to 12 VDC battery charger, including dry contacts for battery charger fail and battery voltage low. Amperage as required for connected load and charging batteries, minimum 15 amps.
- B. Battery charger shall be manufactured by IOTA DLS series, or equal
- C. Provide 12 VDC battery system. 12 VDC battery system shall be made up of one 12 VDC battery. Battery to be rechargeable sealed lead acid, 100 AH (20 hour) minimum, VRLA technology, 50 degree C charge temperature range, low internal resistance (4.9 milliohms), maintenance free, with up to 10 years of service life in standby mode.
- D. Battery shall be PowerSonic PG-12V100FR, or approved equal.

2.6 12 VDC TO 24 VDC CONVERTERS

- A. DC to DC converters to be sized for 125% connected loads, 100 watts minimum. Converters shall be EMI/RFI shielded and provided with input filtering and reverse voltage protection. The converter shall be housed in an enclosure with terminal connections for input, output and ground. Accuracy shall be +/- 1%, regulation +/- 0.5%, operating temperature to 45° C.
- B. DC to DC converters shall be manufactured by PowerStream PVTC120i-12-24, or equal.

2.7 SURGE SUPPRESSORS

- A. Surge suppressors shall be UL listed and consist of a removable plug and a hardwired base element that accepts wire sizes from No. 20 AWG to No. 2 AWG. Units shall be DIN-rail mounted.
- B. Units shall be rated for 120 VAC nominal, 150 VAC maximum and 15 kA nominal, 40 kA maximum surge current (8/20 us).
- C. Surge Suppressors shall be as manufactured by Phoenix Contact Valvetrab, or equal.

2.8 CONTROL POWER TRANSFORMERS

- A. Control transformers shall be provided with primary and secondary circuit breakers, 120 V maximum control voltage. VA rating of transformer shall be based on devices on the control schematic plus 20%. Control power transformers shall be Allen-Bradley Class 9070 Type KF, or equal.

2.9 TERMINAL BLOCKS

- A. Terminal blocks shall be rated 600V at a minimum of 20 amperes and sized for the conductors served. Provide terminal blocks with "follower" plates that compress the wires and have wire guide tangs for ease of maintenance. Terminal blocks, which compress the wires with direct screw compression, are unacceptable. Provide 20% spare terminal blocks.
- B. Provide end clamps, separators, din rails, and jumpers to complete terminal block system. See example PLC I/O drawing for additional information. Engineer can provide on request if not available in plans.
- C. Terminal blocks shall be physically separated into groups by the level of signal and voltage served by a PLC I/O card. Power and control wiring above 100 volts shall have a separate group of terminal blocks from terminal blocks for wiring below 100 volts, intermixing of these two types of wiring on the same group of terminal blocks is not allowed.
- D. Provide fused disconnecting style terminal blocks where indicated and required when circuit providing power to device or equipment.
 - 1. PLC Digital Inputs: Provide fused field terminals with a 500 milliamp fuse.
 - 2. PLC Digital Outputs: Provide fused field terminals with a 2 amp fuse and isolation relays for each digital output including spares.
 - 3. PLC Analog Inputs: Provide fused field terminals with a 50 milliamp fuse. Include surge protection at the terminals, Phoenix Contact 2838186, or equal.
 - 4. PLC Analog Outputs: Provide fused field terminals with a 50 milliamp fuse. Include surge protection at the terminals, Phoenix Contact 2838186, or equal.
- E. Provide green and yellow colored grounded terminal blocks.
- F. Terminal blocks shall be snap-in type for mounting on DIN EN mounting rails. End clamps and end cover plates shall be provided to hold terminal blocks securely in place. Provide single level terminal blocks only, stacked terminal blocks will not be allowed.
- G. Terminal blocks shall be manufactured by Allen-Bradley 1942 Series, Phoenix Type UK, or Entrelec, or equal.

2.10 CIRCUIT BREAKERS

- A. Circuit breakers shall be din rail mounted, thermal magnetic, tease-free, trip-free, snap action mechanism with two button operation. Circuit breakers shall be din rail mounted. Breakers shall be manufactured by Phoenix Contact Model No. TMC 42-01, or equal.

2.11 PLC CONTROL PANELS

- A. PLC Control Panels shall consist of lockable, free standing enclosure with back panel for equipment mounting. No side panel device mounting. Panel shall be sized to fit equipment, dimensions provided on Contract Drawings are minimum. Provide filtered louvers, exhaust fans and thermostat controlled heaters.
- B. Back panels shall include din rail mounted equipment, terminal blocks, fused terminal blocks, grounding bars, circuit breakers, lights, receptacles, DC to DC converters, UPS battery system, heaters, fans, relays, pilot devices and PLC hardware.
- C. Provide Operator Interface Panel mounted on deadfront door.

2.12 PLC HARDWARE

- A. Part numbers shall be approved by DISTRICT during submittal review.
- B. PLC Processor (CPU): The programmable logic controller CPU shall be Allen-Bradley 1769-L24ER-QB1B.
- C. PLC Power Supply (PS): Size power supply based on 24 VDC load requirements (external to PLC) and based on PLC manufacturer recommended requirements. Power supply shall be Allen-Bradley 1606-XL.
- D. PLC Digital Input Module (DI): Digital Input module shall be Allen-Bradley 1769-IQ16.
- E. PLC Digital Output Module (DO): Digital Output module shall be Allen-Bradley 1769-OB16.
- F. PLC Analog Input Module (AI): Analog Input module shall be Allen-Bradley 1769-IF8.
- G. PLC Analog Output Module (AO): Analog Output module shall be Allen-Bradley 1769-OF4CI.
- H. Operator Interface Panel (OIP): Operator Interface to be 10” touch screen color TFT LCD display, 800 x 600 pixel, LED backlight, serial, Ethernet, and (2) USB ports, (1) memory card slots. Operator panel shall be C-More, EA9-T10CL.
- I. The following number of modules and racks shall be installed at the listed Area PLC:

PLC Panel	CPU	PS	DI	DO	AI	AO	OIP
Pump Station	1	1	AN	AN	AN	AN	1
Spares	0	1	1	1	1	1	0

(AN – As needed based on number of I/O plus spares)

2.13 ETHERNET SWITCHES

- A. Ethernet Switch shall be industrial switches offering fast Ethernet connectivity. Switches shall have number of ports as shown below, combining multilayer Fast Ethernet switching with high performance IP routing.
- B. Ethernet Switch shall be N-Tron 108TX, or equal. Provide with din rail mounting, and all required patch cables.

2.14 UNINTERRUPTIBLE POWER SUPPLY (UPS)

- A. Provide and install rack mounted, line interactive uninterruptible power supplies within each Radio Rack. Each UPS shall have, a battery pack, a battery charger, an inverter, and a microprocessor-based controller to provide continuous, on-line, computer grade uninterruptible power. Lightning and surge protection shall meet ANSI/IEEE C62.41 categories A and B. The UPS shall be UL Listed. Spike attenuation shall be 2000 to 1. The output neutral shall be bonded to ground. Noise isolation shall be 45 dB common-mode, 90 dB normal mode. Output voltage regulation shall be ± 3 percent with less than 5 percent total harmonic distortion. UPS efficiency shall be at least 85 percent. The UPS shall be rated for ambient temperatures from 32 degrees F to 104 degrees F and relative humidity from 0 to 95 percent.
- B. Each UPS shall maintain power to all of its loads, including non-constant loads, for a minimum of 30 minutes. The equipment submittal shall include sizing calculations which support the unit selected. The UPS shall be supplied with a low output voltage cutoff to prevent damage to loads when the battery power is exhausted. Input power shall be 120VAC for Control Panels. UPS shall be 500 VA for Control Panel mounted units.
- C. Each UPS shall have the following contact outputs that shall input to the respective PLC: Inverter On, Battery Low.
- D. Each UPS shall be provided with Ethernet communication card. Connect to Ethernet Switch.
- E. The rack mounted UPS shall be manufactured by APC Smart UPS RT with netWORK management card, Powerware 9125 with SNMP/Web adapter, Liebert GXT2 with Intellislot SN MP/Web card, Best Ferrups, or equal. Provide manufacturer's diagnostic and monitoring, Windows compatible, software.
- F. Provide and install a rack mounted external UPS Maintenance Bypass switch for each UPS. The bypass switches shall be selectable to Normal or Bypass Mode. In bypass mode, the UPS shall be bypassed allowing WORK on the UPS without interrupting power. Bypass switches shall be hard wired type, sized to match the UPS. The UPS bypass switches shall be Liebert MicroPod 2, or equal.

2.15 MISCELLANEOUS PLC PANEL COMPONENTS

- A. CONTRACTOR is responsible to provide and install all miscellaneous items as required for a complete and operational system, as well as provide items shown on the Contract Drawings. CONTRACTOR to provide at each PLC Control Panel:

1. Category 6 or better Ethernet patch cords. Provide 2 spare patch cords per PLC Control Panel.
2. All power supplies to equipment and instruments, both 120 VAC, 24 VDC, and 12 VDC, shall be equipped with circuit breakers.
3. Door activated light switches at PLC Control Panel to operate interior LED panel lights.
4. Environmental equipment: heaters, fans, thermostats, filtered louvers.
5. Drawing pockets sized for 11" x 17" drawings.
6. Grounding bus bars are each section with jumper cables attached. Grounding shall be per NEC. Provide isolated grounds for analog wiring shield and negative side of 24 VDC power circuits.

2.16 DEVICE IDENTIFICATION

Nameplates shall be installed above/below each device and PLC components, with inscription matching CONTRACTOR's detailed elevation drawings. Identify all devices with machine imprinted phenolic tags. Identify all I/O modules and corresponding interface field wiring modules.

2.17 SPARE PARTS

- A. Provide the following spare parts in one complete delivery to the DISTRICT prior to pre-commissioning. Provide in rubber tub with latching lid.

Description	Quantity
Control Relays, each type, including base	1
Time Delay Relays, each type, including base	1
Control Device – LED bulbs	4
12 VDC to 24 VDC Converters	1
Terminal Blocks, typical for each type or style	10
Fuses, typical for each size	5
Circuit Breakers, typical for each size	1
PLC Components (See above)	

PART 3 EXECUTION

3.1 CONTROL PANEL WIRING

- A. All field wiring shall connect to fused field terminals, no field wires shall be terminated directly to the PLC Input/Output Modules. Install wiring from the PLC Input/Output Modules to fused field terminals for all spare module inputs and outputs. Provide fused field terminals with surge protection for PLC analog input and output wiring.
- B. Wiring Installation: Wires shall be run in plastic wireways except (1) field wiring, (2) wiring between mating blocks in adjacent sections, (3) wiring from components on a

- swing out panel to components on a part of the fixed structure, and (4) wiring to panel-mounted components. Wiring run from components on a swing out panel to other components on a fixed panel shall be made up in tied bundles. These bundles shall be tied with nylon wire ties and shall be secured to panels at both sides of the hinge loop so that conductors are not strained at the terminals.
- C. Wiring run to control devices on the front panels shall be tied together at short intervals with nylon wire ties and be secured to the inside face of the panel using adhesive mounts.
 - D. Wiring to rear terminals on panel-mount instruments shall be in plastic wireways secured to horizontal brackets above or below the instruments in about the same plane as the rear of the instruments.
 - E. Wire Marking: Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on Shop Drawings. These numbers shall be marked on conductors at every terminal.
 - F. Terminals
 1. All power, control and instrument wires entering and leaving a compartment shall terminate on terminal blocks with wire numbers on terminals and on both ends of the wires.
 2. Plastic marking tabs shall be provided to label each terminal block. These marking tabs shall have a unique number/letter for each terminal which is identical to the "elementary" and "loop" diagram wire designation. Numbers on these marking strip shall be machine printed and 1/8" high letters minimum.
 3. Numbers shall be assigned to all blocks except grounding blocks. Fuse blocks shall be assigned unique designations such as FU1, FU2. No two fuses shall be assigned the same designation. Fuse blocks shall be provided with nameplates showing the designation and identifying the current rating of the fuse.
 4. Each terminal block shall have a unique identifying alphanumeric designation at one end (i.e.: TB1, TB2, etc.). On each terminal strip, terminal numbers shall be assigned starting with #1 at one end, incrementing in numerical sequence (i.e.: 1,2,3,4,...). Plastic marking strip segments shall be provided to label terminal blocks. Each marking strip segment length shall provide labeling for no more than four terminals at one time. These marking strips shall have a unique number/letter for each terminal, which is identical to the "elementary" and "loop" diagram wire designation. Numbers on this marking strip shall be machine printed and 1/8-inch high minimum.
 5. Terminal blocks shall be physically separated into groups by the level of signal and voltage served. Power and control wiring above 100 volts shall have a separate group of terminal blocks from terminal blocks for wiring below 100 volts, intermixing of these two types of wiring on the same group of terminal blocks is not allowed.

3.2 *PRE-FACTORY TEST INSPECTION*

- A. Panel fabricator shall conduct the following tests prior to arrival of the ENGINEER to witness factory testing.
 - 1. Alarm circuits rung out to determine their operability.
 - 2. Electrical circuits checked for continuity and where applicable, operability.
 - 3. Any other test required to place the panel in an operating condition, including all tests that will be performed for the witnessed Factory Acceptance Test.

3.3 *FACTORY ACCEPTANCE TEST*

- A. Factory Acceptance Test shall be in accordance with Section 40 90 00 – Process Control and Instrumentation Systems. Test all panels provided under this Specification.
- B. Provide two weeks notice to DISTRICT and the ENGINEER for Factory Acceptance Test. Provide testing schedule and anticipated duration of each day.
- C. It shall be the responsibility of the CONTRACTOR to furnish necessary testing devices and sufficient manpower to perform the tests required by the ENGINEER. Provide a copy of approved submittals, shop drawings and test procedures for the ENGINEER.
- D. Factory Acceptance Test shall verify proper operation of all equipment and instruments contained within PLC Control Panels. Testing shall include verification of operation by going over each submitted panel schematic on a rung by rung basis. Test shall include verification of all PLC inputs and outputs – from field terminal block to PLC terminal screw. SI shall provide PLC software (including a test PLC logic program, as needed) and computer to prove PLC processor data fields for all discrete and analog inputs and outputs. Test PLC battery and compact flash card. Test to include verification of communication networks. Test to include proper operation and battery capacity of UPS. Test all fused terminal blocks for both 120 VAC field powered circuits and 24 VDC field powered circuits.
- E. Testing facility shall incorporate space for up to 4 representatives from the ENGINEER and DISTRICT to witness test.
- F. Factory Acceptance Testing shall be performed prior to shipping.

3.4 *SHIPMENT AND INSTALLATION*

- A. Preparation for Shipment and Shipping
 - 1. Panels shall be crated for shipment using a heavy framework and skids. Panel sections shall be cushioned to protect the finish of the instruments and panel during shipment. Instruments that are shipped with the panel shall have suitable shipping stops and cushioning material installed to protect parts that could be damaged due to mechanical shock. Each separate panel unit shall be provided with removable lifting lugs to facilitate handling.

- B. Carefully repair any damage to the structure, components or finish to the satisfaction of the ENGINEER. Clean all nameplates.
- C. Exercise care at all times after installation of control panels to keep out foreign matter, dust, dirt, debris, or moisture. Use protective sheet metal covers, canvas, heat lamps, etc., as needed to ensure equipment protection.
- D. All installation of the panels shall be the responsibility of the CONTRACTOR including all cables, connectors, and any required electrical grounds. After installation is completed, the installation shall be inspected jointly by the DISTRICT and the Instrument Supplier. Any problems shall be corrected, and when both are satisfied with the installation, a written certification of the installation shall be delivered to the ENGINEER. The certification shall state that all components of the Control System have been inspected and are installed in accordance with the manufacturer's guidelines.

3.5 FUNCTIONAL LOOP AND SPECIFIC SCADA TESTING

- A. General: The CONTRACTOR shall provide the services of factory-trained and experienced field personnel to perform verification and functional loop testing as described below. The purpose of functional loop testing is to (1) verify field cabling and wiring; (2) to verify circuits are performing their intended function by testing individual instrument loops; and (3) to verify site specific I/O from the device in the field to the OIT. These functional loops consist of the following types; analog, discrete, and control and logic system. The CONTRACTOR shall notify the DISTRICT's REPRESENTATIVE in writing a minimum of two (2) weeks prior to the proposed dates for commencing functional loop testing. Testing for each project site will not overlap with other site testing. The ENGINEER will witness all functional loop testing. Each functional loop must be complete, including wiring labels, and be pre-tested by IS, before any witness testing presumes. If more than three loops fail in a calendar day, the CONTRACTOR shall reschedule the ENGINEER for another day and testing for that day will be suspended. Partial loops will not be tested.
 - 1. The CONTRACTOR shall submit a functional loop test plan. The plan shall include the list loops to be tested and the type of test for each loop listed. A loop may have multiple type tests. List all tests individually.
 - 2. Analog Functional Loop Testing: Verify that each analog loop is operating by simulating the primary element's output at the instrument using a loop calibrator. Simulate signals at 0%, 25%, 50%, 75%, and 100% of span. Record the readings of the loop receiver device(s) (i.e. PLC point, etc.) on the analog loop test form. For analog output loops the PLC will be used to force output signals to verify proper function of final control elements. The test documentation for each analog loop shall consist of (1) Analog Test Form, (2) CONTRACTOR's submitted Loop Drawing, (3) individual Instrument Calibration sheets, and (4) Contract P&ID drawings.
 - 3. Discrete Loop Testing: Verify that each discrete instrument loop is operating by simulating discrete outputs from the primary element of each loop to mimic device operational function. Verify correct operation of loop receiver instruments or indicators. The test documentation for each discreet loop shall consist of (1)

Discrete Loop Test Form, (2) CONTRACTOR's submitted Loop Drawing, (3) individual Instrument Calibration sheets, and (4) Contract P&ID drawings.

4. Control and Logic System Testing: Verify that each control and logic system is operating correctly by verifying the operation of each device within that system. An example would be a pump control circuit as shown on a Contract control wiring diagram. The system being tested must be operational, e.g. a pump must be ready to run and pump water. Verification of each component in the system will be documented by circling the component on the CONTRACTOR's submitted control and wiring diagram. The test documentation for each control and logic system test shall consist of (1) Control and Logic System Test Form, (2) CONTRACTOR's submitted Control Wiring Diagram (schematics), (3) Contract Control Wiring Diagram (Schematics), (4) individual Instrument Calibration Sheets, and (5) Contract P&ID Drawings.
5. Start Up and Operational Test: Start up and demonstrate operation of equipment and instruments on a per Area basis. Include interlocks or information from other Areas as required for operation. CONTRACTOR shall coordinate with the ENGINEER for scheduling of Start Up and Operational Test.
6. All defects and malfunctions disclosed by tests must be corrected and loop retested before final signoff.
7. Documentation completed during testing will include:
 - (a) Factory Testing Documentation of PLC Control Panel.
 - (b) Factory Certifications for instruments which cannot be field calibrated.
 - (c) Instrument Field Calibration Sheet.
 - (d) Loop Verification Form.
8. Test Forms that are included in Contract Documents:
 - (a) Analog Loop Test Form.
 - (b) Discrete Loop Test Form.
 - (c) Control and Logic System Test Form as part of Control and Logic System Testing.

3.6 SYSTEM PRE-COMMISSIONING

- A. General: System Pre-commissioning shall commence after acceptance of wire test, calibration tests and loop tests, and inspections have demonstrated that the instrumentation and control system complies with Contract Milestone requirements. System Pre-commissioning shall demonstrate proper operation of every system with process equipment operating over full operating ranges under conditions as closely resembling actual operating conditions as possible.

- B. System Pre-commissioning Procedures and Documentation: System Pre-commissioning and test activities shall follow detailed test procedures and check lists accepted by the ENGINEER. Test data shall be acquired using equipment as required and shall be recorded on test forms accepted by the ENGINEER, which include calculated tolerance limits for each step. Completion of system pre-commissioning and test activities shall be documented by a certified report, including test forms with test data entered, delivered to the ENGINEER with a clear and unequivocal statement that system pre-commissioning and test requirements have been satisfied.
- C. Operational Validation: Where feasible, system pre-commissioning activities shall include the use of water to establish service conditions that simulate, to the greatest extent possible, normal final control element operating conditions in terms of applied process loads, operating ranges, and environmental conditions. Final control elements, control panels, and ancillary equipment shall be tested under startup and steady state operating conditions to verify that proper and stable control is achieved using motor control center and local field mounted control circuits. Hardwired and software control circuit interlocks and alarms shall be operational. The control of final control elements and ancillary equipment shall be tested using both manual, automatic (where provided) and remote (PLC) control circuits. The stable steady state operation of final control elements running under the control of field mounted automatic analog controllers or software based controllers shall be assured by adjusting the controllers as required to eliminate oscillatory final control element operation.
- D. System Pre-commissioning Validation Sheets: System Pre-commissioning shall be documented on one of 2 types of test forms as follows:
1. For functions which can be demonstrated on a loop-by-loop basis, the form shall include:
 - (a) Project name.
 - (b) Loop number.
 - (c) Loop description.
 - (d) Tag number, description, manufacturer, and data sheet number for each component.
 - (e) Space for sign-off and date by both the System Integrator and the ENGINEER.
 2. For functions that cannot be demonstrated on a loop-by-loop basis, the test form shall be a listing of the specific tests to be conducted. With each test description the following information shall be included:
 - (a) Specification page and paragraph of function demonstrated.
 - (b) Description of function.
 - (c) Space for sign-off and date by both the System Integrator and the ENGINEER.
- E. Field Inspection Certification: The CONTRACTOR shall submit Field Inspection completion report which shall state that Contract requirements have been met and
-

shall include a listing of instrumentation and control system maintenance and repair activities conducted during the System Pre-commissioning testing. Acceptance of the Field Inspection completion report must be provided in writing by the ENGINEER before final acceptance. Final acceptance of the control system shall be based upon completion of certification. Upon completion of certification, DISTRICT shall take over maintenance of instrumentation equipment.

3.7 ON-SITE SUPERVISION

- A. The CONTRACTOR shall furnish the services of an on-site resident engineer to supervise and coordinate installation, adjustment, testing, and start-up of the PCIS. The resident engineer shall be present during the total period required to confirm a complete operating system.

3.8 TRAINING

- A. General: The CONTRACTOR shall train the DISTRICT's personnel on the maintenance, calibration, and repair of designated instruments.
- B. Instructions: The training shall be performed by qualified representatives of the equipment manufacturers and shall be specific to each piece of equipment.
- C. Duration: Each training class shall be maximum 6 hours per day (9:00 am to 3:00 pm), using multiple days if required, and shall cover operational theory, maintenance, troubleshooting, repair, calibration and configuration and programming of the instrument.
- D. Schedule: Training shall be performed after field testing but prior to commissioning. The training sessions shall be scheduled a minimum of 2 weeks in advance of when the courses are to be initiated. DISTRICT and the ENGINEER will review the course outline for suitability and provide comments that shall be incorporated.
- E. Agenda: The training shall include operation and maintenance procedures, troubleshooting with necessary test equipment, and changing set points, and calibration for that specific piece of equipment.
- F. Documentation: Within 2 Days after the completion of each session the CONTRACTOR shall submit the following:
 - 1. A list of DISTRICT personnel who attended the session.
 - 2. A copy of the training materials utilized during the lesson with notes, diagrams, and comments.

3.9 CLEANING

- A. Prior to completion of Commissioning, CONTRACTOR shall thoroughly clean all Panels, interior and exterior. Vacuum interiors and wipe down all components. Clean exterior of panel removing all foreign matter.

PANOCHÉ PUMP STATION PROJECT

DELIVERY ACCEPTANCE INSPECTION

EQUIPMENT DESCRIPTION:
EQUIPMENT TAG#
PROJECT SITE:
DATE RECEIVED:

SPECIFICATION SECTION:
SUBMITTAL NUMBER:
SUBMITTAL ITEM NUMBER:
DATE RECEIVED:

FACTORY MARKINGS / NAMEPLATE INFORMATION
MANUFACTURER:
MODEL NUMBER:
SERIAL NUMBER:
OTHER FACTORY MARKINGS:
NOTATION OF VISIBLE DAMAGE / DEFICIENCIES:
COMMENTS:

Conformance with Submittal Checked: (circle one) YES NO	
WITNESS BLOCK	
ENGINEER's Representative	Date_____
CONTRACTOR's Representative	Date_____

PANOCHÉ PUMP STATION PROJECT

ANALOG LOOP TEST (One Page Form)

LOOP NO. P&ID NO. _____ SITE: _____

DESCRIPTION:

TESTS CONDUCTED
Loop installation is complete.
Instruments have been calibrated per specification. (Attach CONTRACTORs calibration verification test forms)
Loop Diagram & P&ID Attached

Loop Test Procedure:

1. Disconnect the loop transmitter output signal leads and connect an electronic signal generator.
2. Simulate the process signal at 0, 25, 50, 75 & 100% of span.
3. Observe and confirm the signal at all receiving devices, noting discrepancies and corrective action taken. Enter data on test form.
4. Verify the correct operation of trip devices on applicable increasing and /or decreasing signal. Enter data on form.

In Addition for Output Loops

1. Manually set the controller output to 0, 25, 50, 75, 100% of span.
2. Observe and confirm the response of the final control element. Note the discrepancies and corrective action taken, and enter on test form.

<p>CIRCLE Loop Test: Pass / Fail</p>							
<p>LOOP RECEIVING COMPONENTS:</p>							
Ramp Up/Down		Eq #:			Pt ID:		
% of Range	Input (mA)	Expected Reading	Actual Reading	Pass Fail	Expected Reading	Actual Reading	Pass Fail
0	4.0						
25	8.0						
50	12.0						
75	16.0						
100	20.0						
<p>SCADA Data Register Test</p>							
Description		Tag Name		Circle	Comments		
				Pass/Fail			
<p>WITNESS BLOCK</p> <p>ENGINEER's Representative Date _____</p> <p>CONTRACTOR's Representative Date _____</p>							

PANOCHÉ PUMP STATION PROJECT

TEST: Analog Loop Test (Two Page Form)

Page 1 of 2

LOOP NO.	P&ID NO. _____	SITE: _____
DESCRIPTION:		

TESTS CONDUCTED
Loop installation is complete.
Instruments have been calibrated per specification. (Attach CONTRACTORs calibration verification test forms)
Loop Diagram & P&ID Attached

Loop Test Procedure:

1. Disconnect the loop transmitter output signal leads and connect an electronic signal generator.
2. Simulate the process signal at 0, 25, 50, 75 & 100% of span.
3. Observe and confirm the signal at all receiving devices, noting discrepancies and corrective action taken. Enter data on test form.
4. Verify the correct operation of trip devices on applicable increasing and /or decreasing signal. Enter data on form.

In addition for Output Loops:

1. Manually set the controller output to 0, 25, 50, 75, 100% of span.
2. Observe and confirm the response of the final control element. Note the discrepancies and corrective action taken, and enter on test form.

PANOCHÉ PUMP STATION PROJECT

TEST: Analog Loop Test (Two Page Form)

Page 2 of 2

LOOP NO. P&ID NO. _____		SITE: _____					
DESCRIPTION: _____							
CIRCLE Loop Test: Pass / Fail							
LOOP RECEIVING COMPONENTS:							
Ramp Up/Down		Eq #:		Eq #:			
% of Range	Input (mA)	Expected Reading	Actual Reading	Pass Fail	Expected Reading	Actual Reading	Pass Fail
0	4.0						
25	8.0						
50	12.0						
75	16.0						
100	20.0						
LOOP RECEIVING COMPONENTS:							
Ramp Up/Down		Pt ID:		Eq # or Pt ID:			
% of Range	Input (mA)	Expected Reading	Actual Reading	Pass Fail	Expected Reading	Actual Reading	Pass Fail
0	4.0						
25	8.0						
50	12.0						
75	16.0						
100	20.0						

SCADA Data Register Test			
Description	Tag Name	Circle	Comments
		Pass/Fail	

WITNESS BLOCK	
ENGINEER's Representative	Date _____
CONTRACTOR's Representative	Date _____

**PANOCHÉ PUMP STATION PROJECT
DISCRETE LOOP TEST**

SITE: _____

LOOP NO. _____ Description: _____

P&ID NO. _____

ATTACHMENTS
Attach approved CONTRACTOR documentation defining the circuits to be tested and P&ID.
Mark supplied documentation to show control and indication devices.

TESTING PROCEDURE
Verify instruments have been calibrated per specification. (Attach CONTRACTORS calibration verification test forms)
Operate all control switches, interlocking devices, and protective devices and observe that all indications and control actions occur. (Note on documentation any device which required simulation)
Indicate that the proper operation of all devices was observed by circling the devices on the documentation provided.

SCADA Data Register Test			
Description	Tag Name	Circle	Comments
		Pass/Fail	

WITNESS BLOCK	
Engr Representative	Date _____
CONTRACTOR Representative	Date _____

NOTES:

**PANOCHÉ PUMP STATION PROJECT
CONTROL AND LOGIC SYSTEM TEST**

LOOP NO. _____

SITE: _____

C&LD NO. _____ Description: _____

P&ID NO. _____

ATTACHMENTS
Attach approved C&L diagram and P&ID.
Mark C&L diagram to show control and indication devices.

TESTING PROCEDURE
Verify instruments have been calibrated per specification. (Attach CONTRACTORS calibration verification test forms)
Operate all control switches, interlocking devices, and protective devices and observe that all indications and control actions occur. (Note on C&L diagram any device which required simulation)
Indicate that the proper operation of all devices was observed by circling the devices on the C&L diagram.

SCADA Data Register Test			
Description	Tag Name	Circle	Comments
		Pass/Fail	

WITNESS BLOCK	
Engr Representative _____	Date _____
CONTRACTOR Representative _____	Date _____

NOTES:

END OF SECTION

PANOCHE DRAINAGE DISTRICT				
ACCOUNTS PAYABLE LIST				
PAYMENTS RUN FROM 7/13/2022 TO 8/9/2022				
DATE	CHECK NUMBER	VENDOR	AMOUNT	MEMO
7/13/2022	7028	WELTY WEAVER & CURRIE	\$ 11,206.25	MAY & JUNE 2022 LEGAL SERVICES
7/25/2022	7029	ACWA JPIA	\$ 7,513.65	PROPERTY INSURANCE 7/1/2022 THRU 6/30/2023
7/25/2022	7030	ELECTRIC DRIVES	\$ 187.65	CHECK ELECTRICAL PANEL SABATTI PUMP
7/25/2022	7031	EMPLOYERS CHOICE	\$ 1,052.70	CLEAN DRAINS
7/18/2022	7032	PACIFIC GAS & ELECTRICAL	\$ 788.50	JUNE 2022 ELECTRICAL POWER
7/25/2022	7033	WATER RECLAMATION EQUIPMENT	\$ 387.03	REPAIR WELL # 43
8/3/2022	7034	KENNETH BETHEL 2015 TRUST	\$ 137.81	GROWER REFUND FOR CREDIT ON ACCOUNT
8/3/2022	7035	LAT FARMING TRUST	\$ 849.55	GROWER REFUND FOR CREDIT ON ACCOUNT
8/3/2022	7036	MAVERICK PISTACHIOS, LLC	\$ 10.00	ANNUAL LEASE
8/3/2022	7037	WATER RECLAMATION EQUIPMENT	\$ 412.87	MATERIALS FOR WELL # 43 - TO BE REBILLED TO MAVERICK
7/13/2022	JE-29	PANOCHE WATER DISTRICT	\$ 12,810.00	JULY 2022 LOAN INSTALLMENT PAYMENT
7/13/2022	W00573	SLDM WATER AUTHORITY	\$ 106,181.25	FY23 MEMBERSHIP DUES # 3A
7/13/2022	W00574	PANOCHE WATER DISTRICT	\$ 44,978.25	MAY 2022 SLD O & M BYPASS \$ 10,317.19 & MAY 2022 LABOR \$ 16,857.77, EQUIPMENT USE \$ 13,378.17, LUNCH \$ 90.47, M LINNEMAN INSURANCE \$ 2,350.66, CHEMICALS \$ 657.94 & ADMIN \$ 1,326.05
TOTAL			\$ 186,515.51	
PANOCHE DRAINAGE DISTRICT/PROP 84				
ACCOUNTS PAYABLE LIST				
PAYMENTS RUN FROM 7/13/2022 TO 8/9/2022				
DATE	CHECK NUMBER	VENDOR	AMOUNT	MEMO
7/13/2022	10133	LABOR CONSULTANTS	\$ 1,700.00	TILE SUMP SCADA PROJECT COMPLIANCE
7/13/2022	10134	SUMMERS ENGINEERING	\$ 15,910.90	TASK 3 DEVELOPMENT/RESERVOIR/CONVEYANCE
8/3/2022	10135	MCCLATCHY COMPANY LLC	\$ 525.64	ADVERTISEMENT FOR BID (2) - SHORT TERM STORAGE BASIN
TOTAL			\$ 18,136.54	

PANOCHÉ DRAINAGE DISTRICT				
FYE 2023 BUDGET (March 1, 2022 - February 28, 2023) - Adopted April 12, 2022				
March thru July - 42%	Budget	Actual	Remaining	
OPERATING REVENUES				
Drainage Service Fee	\$ 2,773,567	\$ 1,490,542	\$ 1,283,025	54%
Fresno County Property Tax	\$ 240,000	\$ 132,239	\$ 107,761	55%
SLDMWA Reimbursement	\$ 223,000	\$ 40,331	\$ 182,669	18%
Other Revenues	\$ 74,500	\$ 3,374	\$ 71,126	5%
TOTAL REVENUES	\$ 3,311,067	\$ 1,666,486	\$ 1,644,581	50%
OPERATING EXPENSES				
San Joaquin River Improvement Proj	\$ 1,176,930	\$ 588,465	\$ 588,465	50%
Grassland Bypass Project	\$ 1,274,175	\$ 637,088	\$ 637,087	50%
San Luis Drain Maintenance	\$ 223,000	\$ 30,189	\$ 192,811	14%
Irrigated Lands Program	\$ 203,462	\$ 101,731	\$ 101,731	50%
Professional Fees	\$ 145,000	\$ 41,787	\$ 103,213	29%
Labor - Field	\$ 105,000	\$ 28,535	\$ 76,465	27%
Mercy Springs WD/SGMA	\$ 28,000	\$ -	\$ 28,000	0%
Labor - Admin	\$ 75,000	\$ 20,543	\$ 54,457	27%
General Overhead	\$ 32,000	\$ 47,650	\$ (15,650)	149%
Interest	\$ 15,000	\$ 5,064	\$ 9,936	34%
Energy	\$ 13,000	\$ 4,906	\$ 8,094	38%
Herbicides	\$ 12,000	\$ 2,593	\$ 9,407	22%
Water Quality Monitoring	\$ 3,500	\$ -	\$ 3,500	0%
Repairs & Maintenance	\$ 5,000	\$ 38,313	\$ (33,313)	766%
TOTAL EXPENSES	\$ 3,311,067	\$ 1,546,864	\$ 1,764,203	47%
INCOME/(LOSS)		\$ 119,622		

BACK

