MBK ENGINEERS

Water Resources • Flood Control • Water Rights

MEMORANDUM

December 15, 2021

TO: Reclamation District No. 756

FROM: Nathan Hershey

SUBJECT: **December 2021 Engineer's Report**

Described below are the engineering items to be discussed at your December 15, 2021 meeting.

Subventions 2020-21 – The District submitted an application for participation in the Program in the amount of $1,595,000. $12 million has been approved for Program funding for FY 2020-21. A final claim in the amount of $231,794.35 was submitted.

Subventions 2021-22 – The District submitted an application for participation in the Program in the amount of $631,000. $10 million has been approved for the Program for FY 2021-22.

Annual Maintenance – Attached are the current maintenance items we are tracking. We are also due to perform a survey of the levees to check elevation and width parameters, typically done every 5 years. We recommend performing the survey in 2022.

Flood Fight Supplies – The District submitted the reimbursement package to San Joaquin County for flood fight supplies prior to the deadline. We are waiting to receive reimbursement.

Regional Flood Fight Supply Depot – The District has signed a MOA with Sacramento County to move forward with development of a regional flood fight supply depot. We have developed a preliminary site layout and are working on the logistics of developing the depot. Sac County has provided a subsequent MOU to provide funding for the site improvements. Once funds are received, the improvements can be designed and constructed. In the meantime, a supply of muscle wall has been delivered to the island and will be temporarily stored in an adjacent area until the site improvements are complete.

Special Projects – The funding agreement for the levee setback and habitat enhancement project on the west levee (BO-17-1-SP) has been fully executed and work on the project may begin. We have requested an advance of funds to cover the initial design work.

The District received an advance of funds for design of the Directed Action project to rehabilitate the north levee (BO-19-1-SP). The 90% design is complete and the draft Scope of Work has been submitted to DWR for approval. The next step is to circulate the environmental documents for public review and comment. We are working to address internal comments to finalize the public draft. Once approved by the District, we will circulate the public draft and post the document to the State clearinghouse.

Five Year Plan – Work on the Five-Year Plan is currently in progress. A draft of the plan has been distributed via email and we have incorporated the comments received to date. We have also sent a draft to DWR staff for review and comment. DWR has extended the expiration date of the funding agreements to December 31, 2022.

SB 88 – Work under Phase 3 of the measurement experiment has been completed. Phase 3 efforts primarily involved installing 8 additional flange magnetic meters on the water side of the highest use siphons, with at least one flow meter on each island. The installation of telemetry equipment at each of these sites is also complete. MBK has visited the sites and certified that the installed flow meters have all been installed to manufacturer's specifications. During one of these site visits the meter at Bacon Island Siphon 24 was reprogrammed after it was discovered the readings were inaccurate. MBK also noticed that the meters on Bouldin Island Siphons 39 and 40 appeared to be experiencing electrical interference. To address this issue, grounding rods were installed for each meter.

Work under Phase 4 of the measurement experiment is expected to begin in the near future. MWD has authorized the purchase of 25 flow meters along with telemetry units to be installed on all four islands. MWD has also begun the process of selecting a contractor to perform the installations of this equipment. The installations are estimated to be completed before the end of 2022. MBK has conducted visits to the proposed sites to identify work that needs to be completed prior to installing the flow meters. MBK will work with MWD and the selected contractor to complete these preparations.

After reviewing the notes and photos from MBK's visits to the Phase 4 sites, four siphons were identified as potentially having asbestos or a tar coating on the pipe exterior. These hazardous materials could harm the contractor and the environment if not disposed of properly. MBK and MWD are planning to work with an environmental consultant to determine if any hazardous materials are present by testing samples from each of the four sites. MWD has already reached out to an environmental consultant (Bovee Environmental Management) that is competent in this type of testing. If the tests from the environmental consultant show hazardous materials are present, MWD will update the scope of work for Phase 4 and work with the environmental consultant to properly dispose of these materials.

MWD and the RDs are in compliance for calendar year 2021 under an approved extension of time. Current direction by MWD was to proceed with strict compliance. Therefore, MBK has provided cost estimates for flange magnetic meters with telemetry equipment installed on the water side of all active siphons. Since strict compliance will not be obtained by the end of the year, MBK is coordinating with the Delta Watermaster to develop a Plan for Compliance. The current direction from the Delta Watermaster is to submit Requests for Additional Time to cover the period needed to install all the flow meters with the Plan for Compliance attached. The Plan for Compliance provides details regarding the methods to estimate diversions on siphons without flow meters and provides a measurement equipment installation schedule. MWD currently anticipates that installing all the flow meters may take up to five years.

Development of the Delta-wide ACP by the Delta Measurement Experiment Consortium to utilize Open ET for measuring and reporting diversions continues. RD staff are currently in the process of creating place of use polygons for each of the islands. MBK and MWD continue to participate in the Consortium.

Reclamation District No. 756 Bouldin Island

Issue Tracking Summary

12/10/2021

IssueID	Priority	Report Date	Reporter	Location	Issue Type	Description	Action	Field Notes
23	Low	2/11/2017	JaimeBarajas	Station 859	Boil	Boil on lower levee slope/toe; running at high tide	Monitor	25 LF core trench along WS hinge to depth of 8'; no pipe or water encountered; backfilled with native material.
24	Low	2/11/2017	JaimeBarajas	Station 924+10	Boil	Boil on lower levee slope/toe; running at high tide	Monitor	40 LF core trench along WS hinge to depth of 8'; encountered water seeping from landside trench wall at 8' depth; backfilled with native and imported dry fill; Drainage ditch to be cut along Caltrans access roadway from Sta 926 to Sta 2 to relieve ponding. Work to be done by Sierra Cattle.
34	Low	2/20/2017	NateHershey	Station 813	Encroachment	Siphon may be low	Monitor	8/14/17 - Waterside top of pipe = 7.2; 100 yr. flood = 7.6; 12" siphon; pipe is low; Continue to Monitor
41	Medium	3/28/2017	RalphHeringer	Station 544-549	Crack	Cracking in LS Slope; seepage and cattails at toe	Monitor	Monitor and discuss repair; 10/23/17 Levee crown trenched; no encroachments located, Area to be graded and prepared for flood season; will proceed under Special Projects upon receipt of PFA. 12/4/17 - grading complete

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41.1		4/24/2020	NateHershey					Reviewed the site area. Area appears to be moving again - not as dramatic as in 2017, but it appears to be along the same fault lines. Seepage observed exiting the surface. Recommend performing an updated survey and developing an action plan.
53	Medium	8/11/2017	NateHershey	Station 324	Seepage	Seepage at toe of 3 to 1 slope	Monitor	Monitor
54	Medium	8/11/2017	NateHershey	Station 336	Seepage		Monitor	Monitor; The hole is shallow at about 1-2 inches deep.
63	Medium	3/23/2018	RussRyan	Station 72	Crack	Longitudinal crack on land side slope near toe of Levee. Crack runs several hundred feet parallel to Levee road. See photos.	Repair	Investigate and monitor; It's clear to me that there is differential settling after slope vegitation was cleared.
74	Low	1/5/2019	RussRyan	Land side within 150 foot Levee footprint. See attached phots. Low wet areas.	Other,Sinkhole	Bouldin Island - West stretch length adjacent to Mokelumne River. See attached photos for exact location.	Investigate	See notes above.
88	Low	6/7/2019	Dave Forkel	Sta 382+00	Seepage	Seepage on side of levee.	Investigate	
94	Low	9/27/2019	Brian Janowiak	Lower toe	Other, Settlement	Area along lower toe near seepage ditch by Floeida tip appears to have settled.	Monitor	
96	Medium	4/22/2020	RussRyan	Between 630 and 640	Seepage	Appears to be seepage	Investigate	
104	Medium	11/19/2020	DaveForkel	Sta 426+00	Sloughing	Waterside crack about 100 ft total, spread over 3-4 sites	Repair	
106	Medium	12/17/2020	RussRyan	Bouldin Island (see photo for location)	Crack	Levee crest road crack (towards water side). Crack length is about 7 step paces (Russ Ryan) and depth is unknown.	Monitor	
107	Medium	12/17/2020	RussRyan	See photos	Seepage	Just inside levee footprint on land side of toe drain there water ponding. Was there prior to any rain this season during dry period.	Monitor	See photos taken on site.

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108	Medium	7/8/2021	RussRyan	Station 90	Crack	Cracking observed on landside slope. Unclear if this is a result of the earthquake event.	Monitor	
109	Medium	7/8/2021	RussRyan	Station 226	Sloughing	Potential landside settlement on toe berm. Unclear if this is earthquake related.	Monitor	
110	Medium	7/8/2021	RussRyan	Station 503	Sloughing	Landside disturbance. Unclear if earthquake related or due to sheep activity.	Monitor	
111	Medium	8/30/2021	MichaelNishimura	Station 681+20	RodentActivity,Other	Beaver den located on lower 1/3 of waterside slope and is approximately 11’ (slope distance) from waterside hinge. Beaver den has a 2.5’ wide and 1.5’ high opening, the base of den is approximately 2.5’ in diameter for approximately 7 cubic foot den in levee. Den is covered with brush and is viewable from the waterside toe. The existing revetment in the area is crushed concrete and it appears that a gap in the revetment is where the den was created. The den does not appear to go deeper into levee more than what was described.	Monitor	