

MEMORANDUM

September 22, 2021

TO: Reclamation District No. 756

FROM: Nathan Hershey

SUBJECT: September 2021 Engineer's Report

Described below are the engineering items to be discussed at your September 22, 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. We are working on compiling the District's claim. Final claims must be submitted by November 1.

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.

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.

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 design is progressing and we are nearly ready to submit the Scope of Work to DWR for approval. We are working through various design related issues and are developing the plans and specifications.

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, 2021.

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. MBK is still in the process of conducting comparison tests with the portable flow meter at these new sites.

MBK has been conducting regular visits to the sites as well as monitoring the collected data online. During one of these site visits it was discovered that the flow meter at Bacon Island Siphon No. 24 was generating questionable flow meter readings. To complete the troubleshooting, the gate valve at the discharge of the siphon needs to be fixed to prevent leaking when fully shut to allow MBK to reprogram the flow meter. MBK also noticed that the meters on Bouldin Island Siphon 39 and 40 appeared to be experiencing electrical interference. To address this issue, grounding rods need to be installed for each meter.

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. This Plan will provide details regarding the methods to estimate diversions on siphons without flow meters and provide a measurement equipment installation schedule.

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. The next Consortium meeting has not yet been scheduled.

Reclamation District No. 756 Bouldin Island

Issue Tracking Summary

9/20/2021

| 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 vegetation was cleared. |
| 74 | Low | 1/5/2019 | RussRyan | Land side within 150 foot Levee footprint. See attached photos. 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 | |