

**RECLAMATION DISTRICT NO. 1601
TWITCHELL ISLAND
BOARD OF TRUSTEES MEETING
TUESDAY, SEPTEMBER 21, 2021
9:00 AM
ENGINEER'S REPORT**

**I. PLAN REVIEW – UNITED STATES GEOLOGICAL SURVEY (USGS)
SEISMOGRAPH INSTALLATION**

- A. Review **FINAL** Site for an Encroachment Permit from USGS for the installation of seismic monitoring equipment.

EXHIBIT A: USGS's application for encroachment permit dated 6/8/21 for Seismograph installation.

EXHIBIT B: RD 1601's Encroachment Permit No 2021-9-21.

II. DISTRICTS DRAINAGE PUMP STATIONS

- A. Review status of pump station operations

III. DWR DMP GRANT

- A. Review response from DWR on use of DMP grants for the District's 3 siphons for videoing and construction of inspection ports.

EXHIBIT C: Email correspondence from KSN Inc with Mark List, Ran Singh, and Ara Sayada of DWR.

EXHIBIT A

**RECLAMATION DISTRICT NO. 1601
TWITCHELL ISLAND
2360 West Twitchell Island Road
Rio Vista, CA 94571
(916) 777-6992**

APPLICATION FOR ENCROACHMENT PERMIT

Application No.

- | 1. | Name of Applicant | Address - Zip Code | Telephone No. |
|----|-----------------------|---|---------------|
| | Jon B. Fletcher, USGS | 345 Middlefield Rd., Menlo Park, CA 94025 | 650-329-5628 |
| | Jemile Erdem, USGS | 345 Middlefield Rd., Menlo Park, CA 94025 | 650-329-4714 |

2. Description of encroachment

We request permission to install one two-inch pore pressure transducer and one three-inch borehole accelerometer just below the peat layer in the SW corner of Twitchell Island. The well for the transducer may need to be drilled to a depth of up to 50 feet to get below the peat layer (see Exhibit D). The borehole for the accelerometer will need to be drilled to a depth just below the pore pressure sensor. Both instruments should be installed as close as possible to the Threemile Slough levee toe with a distance of approximately 10-20 feet between them. A surface accelerometer, datalogger, batteries and other electronics will be housed inside a box that is set into a ~3'x5' concrete pad directly above the borehole accelerometer. Two or three 100W solar panels will be needed to power the station. If necessary, we will surround the station with security/cattle fencing. ■

3. Location - Assessor's Parcel No.

4. Required Exhibits - Please check items submitted.

- a. Location or vicinity map, to scale, showing location of proposed work in relation to known topographic features, to allow visitation to site and inspection of work.
- b. A complete plan of the proposed work to scale, showing dimensions, and relationship of the proposed work to adjacent levee or waterway.
- c. One or more cross sections of the levee, berm and waterway area with dimensions and elevations of the levee crown, levee toes, flood plane, low water, etc., reference to a District identified bench mark should be indicated. Reference may be made to the District levee survey, where applicable.
- d. Profile of existing or proposed levees, fills, or other obstructions on the levee or in the waterway or overflow area with reference to a known datum.
- e. Additional plans, sections, details which might be pertinent or useful in regard to the review of this application.
- f. Proposed construction schedule.

Applicant is advised to contact the District Engineer regarding encroachment limitations prior to preparation of this application.

JEMILE ERDEM Digitally signed by JEMILE ERDEM
Date: 2021 08 08 11:08:46 -0700

Applicant Signature

Date: 6/8/2021

EXHIBIT A

air map.



Legend

0.168646

Final proposed drilling location

ND-0003

Noverd

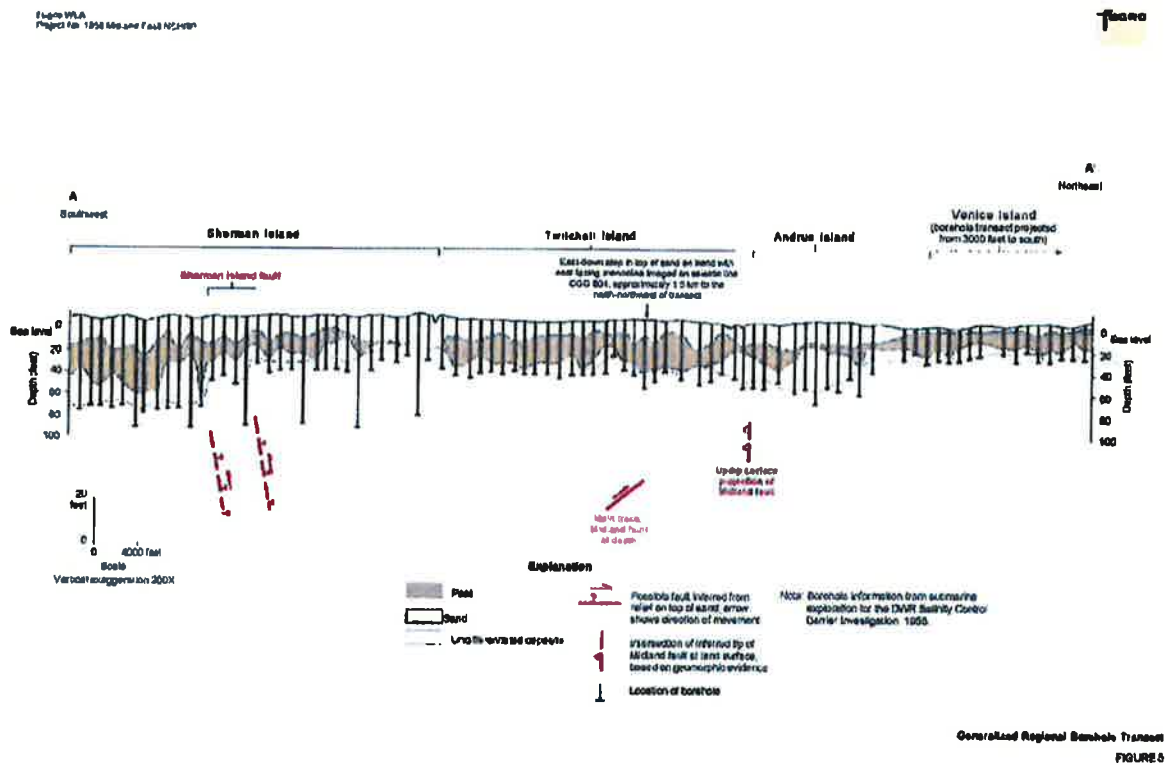
Google Earth



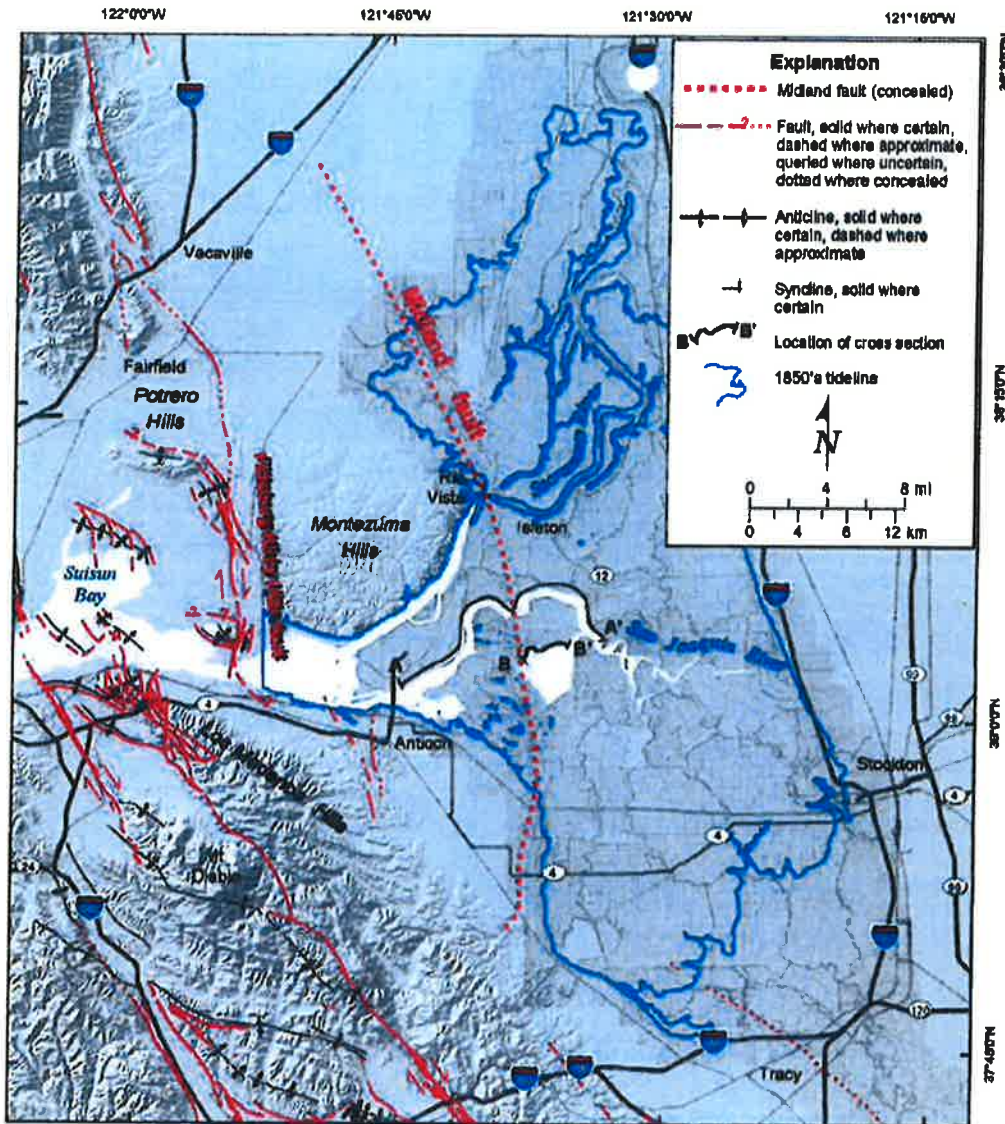
1 mi

Exhibit D:

Source of figures: Unruh, Jeffrey & Hitchcock, C.S. & Hector, S. & Blake, Karen. (2009). *Characterization of Potential Seismic Sources in the Sacramento-San Joaquin Delta, California, Final Technical Report. U.S. Geological Survey, National Earthquake Hazards Reduction Program. 1-45.*



See Fig 1 below for location of A-A' profile.



Location Map

FIGURE 1

Exhibit F:

We will begin the drilling and installation of the two borehole sensors as soon as possible after a permit is issued. We already have a drilling team lined up, but the exact timing of the work depends on their schedule. They estimate the drilling and sensor installation to take one week. Installation of the recording station (datalogger, telemetry and solar power system) should be complete within a couple of months after the placement of the sensors. We hope to have the station installation completed by the end of September 2021.

EXHIBIT B

NO FEE PER GOV'T CODE 6203

RECORDING REQUESTED BY
AND
WHEN RECORDED MAIL TO:

RECLAMATION DISTRICT NO. 1601
c/o GALLERY & BARTON
1112 I Street, Suite 240
Sacramento, CA 95814

SPACE ABOVE THIS LINE FOR RECORDER'S USE

**RECLAMATION DISTRICT NO. 1601
ENCROACHMENT PERMIT NO. 2021-9-21
Development Agreement Government Code
§ 65868.5**

To: **THE UNITED STATES GEOLOGICAL SERVICE (USGS)**, a federal agency:

c/o

Jon B. Fletcher Unites States Geological Survey 345 Middlefield Road Menlo Park, CA 94025 Phone: 650-329-5628 Email: jfletcher@usgs.gov	Jemile Erdem Unites States Geological Survey 345 Middlefield Road Menlo Park, CA 94025 Phone: 650-329-4714 Email: jerdem@usgs.gov
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Permission is hereby granted to encroach upon Reclamation District No. 1601's (hereafter, "District") property and right-of-way in the following manner:

A nonexclusive right to enter the District's property for the limited purpose of installing, operating and maintaining one two-inch pore pressure transducer, one three-inch borehole accelerometer, surface accelerometer, datalogger, batteries, 3x5 concrete pad, two or three solar panels, antenna, and related electronics ("Equipment") upon that portion of District property, described as the SW corner of Twitchell Island, with coordinates of 38.095383, -121.677333, which shall be at least 50 feet from the levee toe ditch, consisting of approximately 300 square feet, as shown in Exhibit A attached hereto ("License Area"). Permittee may gain access to the License Area via the existing paved/dirt/gravel roads ("Access Route") as described in the Special Conditions below. The installed sensors shall be installed in a box above the ground.

All work shall be constructed in accordance with the plans submitted with the encroachment permit application and shall be completed and maintained to the satisfaction of the District.

This permit is granted upon the following conditions which, by acceptance of this permit, permittee agrees to observe and perform:

1. All permit fees must be paid with submission of application. Permit fees are charged to defray a portion of District's administrative and inspection costs. This permit has a fee of \$5,000.

2. This permit shall be canceled and void unless work contemplated hereunder is initiated and completed within 180 days from the date hereof. If the work is completed within the time allotted, this permit shall remain valid for ten years after the date it is executed by the District. The District Engineer must be notified at least 3 days prior to the commencement of the permitted work.

3. The permittee shall indicate acceptance of this permit, and the terms and conditions thereof, by executing the form of acceptance on one copy of this permit and returning it to the District office. The permit shall not become effective until accepted and signed by the permittee and the District.

4. Each and every recommendation and requirement set forth herein from the District's Engineer regarding the encroachment above described, shall be fully complied with.

5. The District's property, levees and other reclamation works are used, maintained and operated by the District for District purposes only, and not for any other purposes relating to any use or activity thereon although the District does permit the activity or use expressly described in this permit as long as performed and maintained consistent with the terms of this permit. Permittee takes such District property and works in such condition as they may exist from time to time, and permittee shall be solely responsible for any personal injury, death or property damage occurring from activities arising out of or under this permit. Permittee agrees to defend, indemnify and hold harmless the District, its Trustees, officers, consultants, employees and agents from and against any liability which may be incurred through injury to person or damage to property resulting from or arising out of or connected with the construction, installation or use of the encroachment above described, and from any such liability arising out of or connected with the maintenance and operation of such encroachment, except where maintenance thereof is herein accepted by District.

6. Permittee will provide District with proof of liability insurance satisfactory to the District and an endorsement naming the District, its Trustees, officers, employees and agents as additional insureds, and maintain the same for as long as this encroachment permit continues in effect. Such a provision shall apply only in proportion to and to the extent of the negligent acts or omissions of permittee, its officers, agents and employees, or any person or persons under permittee's direct supervision and control, and then only to the extent such supervision and control is required by law. Permittee, upon full execution of this Agreement, shall furnish District with Certificates of Insurance evidencing compliance with all requirements. Certificates shall provide for thirty (30) days advance written notice to Licensor of any material modification, change or cancellation of any of the above insurance coverages.

7. Permittee shall acquire no easement or property right in or to the property or right of way of the District by virtue of this permit and the District does not hereby relinquish any right or title therein.

8. Except as herein otherwise provided, all cost of maintenance and repair of the encroachment above described shall be borne by permittee. Permittee shall, whenever instructed by District to do so, maintain or repair such encroachment in the manner prescribed by District whenever District shall determine that such maintenance or repair is required in the interest of District. Any such maintenance or repair ordered by District which shall not have been performed by permittee within thirty (30) days after written notice has been given by District of such required maintenance or repair may be performed by District, at permittee's expense and permittee shall promptly reimburse District therefor.

9. District reserves the right of access to the portion of its property, easements and right of way for such maintenance, repairs or alterations of District facilities or of the facilities described above as may be required for District purposes. District shall not be responsible for any damage done to improvements of permittee whether herein permitted or otherwise where necessary as part of the ordinary and necessary access to or exercise of District's easement and right of way for District purposes and need not replace any paving, black top or other improvement damaged or required to be removed in the process of such maintenance, repair or alteration. Permittee shall reimburse District for any increased cost of such access or maintenance or repair occasioned by the improvements of permittee described herein.

10. Permittee may make no alteration or improvement or place any new or additional encroachment within any portion of District's levee or its easement and right of way not specifically herein permitted nor alter or remove any portion of the encroachment or improvement herein described without further permit from District. If permittee does make any alteration or improvement or place any new or additional encroachment not expressly authorized by this permit, this permit shall be null and void, the District may impose liquidated damages against the permittee up to \$5,000 (depending upon the severity of the infraction in the Board's sole and reasonable judgment), permittee shall remove such alteration or improvement consistent with instructions made by District, and permittee will be required to submit a new permit application

and fees to the District for review and possible approval. If permittee does not remove such unpermitted alteration, improvement, or encroachment when or as instructed by District, District may perform such removal at permittee's expense and permittee shall promptly reimburse District therefor.

11. This permit is revocable in whole or in part by District on thirty (30) days written notice to permittee when such revocation is determined by Board of Trustees to be necessary for District purposes. Upon revocation or termination of this permit, permittee shall promptly remove all of its installations/equipment/structure as used in conjunction with its research operations at the License Area. Permittee will clean and smooth out the surface of the ground around the License Area, and leave the grounds of the License Area in as near to its original condition as is reasonably practical. If permittee does not remove such encroachment upon revocation by District, District may perform such removal at permittee's expense and permittee shall promptly reimburse District therefor.

12. Upon the failure of permittee to conform to any of the terms and conditions herein specified this permit shall, at the option of District, cease and terminate and District may remove the encroachment or improvement above described together with any appurtenances thereto located within the easement and right of way of District and permittee shall promptly pay to District all costs and expenses incurred in such removal.

13. Permittee shall cause no adverse environmental impacts during the construction or installation of the encroachment described above.

14. Issuance of this encroachment permit does not relieve the permittee of his/her responsibility for obtaining any other permits required by federal, state or local statutes, or any right of entry from a private landowner.

15. Except as permitted by the terms of this encroachment permit, permittee shall comply with all District Regulations pertaining to Levees.

16. The terms and conditions hereof shall be binding upon the heirs, successors and assigns of the permittee

17. Special Conditions: In maintaining the Equipment within the License Area, permittee shall use reasonable care and diligence and shall perform all work in a proper and workmanlike manner so as to interfere as little as possible with agricultural, grazing or other uses to which District's property may be put. Permittee shall keep the License Area free from rubbish, in a neat and clean condition, and shall use extraordinary care to prevent grass, brush, and forest fires on the License Area or on adjoining lands. Upon request of District, permittee shall erect and maintain substantial fences with proper gates or cattle guards, as directed by District, around those areas of the License Area deemed to constitute a hazard by District in District's sole discretion. All such fences, gates and cattle guards shall be constructed in accordance with the specifications currently in use by District in its own operations.

18. Special Conditions: Permittee may gain access to the Equipment via existing roads only. Permittee understands and agrees that access to the License Area is predominately over District levee roads that are closed to the public. Permittee needs to coordinate visits with the District superintendent at 916-257-4241.

19. Special Conditions: Permittee will provide processed data collected from the Observatory upon District's request.

Dated: _____, 2021

RECLAMATION DISTRICT NO. 1601

By: _____

Print Name: _____

ACCEPTANCE

Permittee and/or landowner hereby accepts the above permit and agrees to comply with all of the requirements thereof.

Dated: _____, 20__ __

PERMITTEE

By: _____

Print Name: _____
USGS

EXHIBIT C

Christopher H. Neudeck

From: Joseph D. Prescott
Sent: Wednesday, September 15, 2021 1:03 PM
To: Perla Tzintzun-Garibay
Cc: Jeff Mueller; Dave C. Carr; Christopher H. Neudeck
Subject: RE: 3 Siphon Pipes along 3 Mile Slough Project Levee on RD 1601

Good afternoon Perla,

I was able to get a hold of Mark List, Ran Singh, and Ara Syada at DWR regarding RD 1601's situation.

First, RD 1601 does not have DMP Funding. The DMP agreement you sent was never executed by DWR. The 5 eligible pipes on the agreement workplan (page A-3) were found to have been previously removed so there was no need to execute the agreement for video inspections.

Secondly, the 3 pipes that RD 1601 wanted video inspected using DMP funds (by amending workplan) are not eligible for public funding since they are privately owned, further expanded upon below.

- 2 of the pipes are permitted and privately owned (not SPFC facility). UCIP also states not eligible for DMP phase 1.
- The last remaining pipe was in the USACE O&M manual and had no permit which was a good sign. However, this pipe was directly adjacent to another pipe that was permitted. Both pipes went to the same distribution box indicating the same owner. Both pipes had also been upsized (recently it appears) and did not have documentation or required permits on file. This pipe is also used for irrigation rather than drainage which makes it harder for DWR to justify spending public funds on. UCIP also states not eligible for DMP phase 1.

Feel free to reach out if you have any other questions.

Regards,
Joseph

From: Perla Tzintzun-Garibay <perla@butterfieldcpas.com>
Sent: Wednesday, June 2, 2021 9:36 AM
To: Christopher H. Neudeck <cneudeck@ksninc.com>
Cc: Joseph D. Prescott <jprescott@ksninc.com>; Jeff Mueller <jmueller@ksninc.com>; Dave C. Carr <dcarr@ksninc.com>
Subject: RE: 3 Siphon Pipes along 3 Mile Slough Project Levee on RD 1601

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Chris,

Attached is a copy of the DMP agreement signed by the RD. It appears Mark List was the contact at the time (presumed e-mail mark.list@water.ca.gov)

Let me know if you need anything else.

Thanks,

Perla

From: Christopher H. Neudeck <cneudeck@ksninc.com>
Sent: Wednesday, June 2, 2021 9:19 AM
To: Perla Tzintzun-Garibay <perla@butterfieldcpas.com>
Cc: Joseph D. Prescott <jprescott@ksninc.com>; Jeff Mueller <jmueller@ksninc.com>; Dave C. Carr <dcarr@ksninc.com>
Subject: FW: 3 Siphon Pipes along 3 Mile Slough Project Levee on RD 1601
Importance: High

Perla,

Can you please send over the DMP PFA and the District's contact at DWR?



Christopher H. Neudeck, P.E.
Vice President

711 N. Pershing Ave. Stockton CA 95203
p 209 946-0268 f 209 946-0296 m 209 481-0316 h 209 948-8479
cneudeck@ksninc.com www.ksninc.com

The trusted firm for delivering the
right solution for our clients' needs.



From: Christopher H. Neudeck
Sent: Wednesday, June 2, 2021 9:18 AM
To: Joseph D. Prescott <jprescott@ksninc.com>
Cc: Jeff Mueller <jmueller@ksninc.com>; Perla Tzintzun-Garibay <perla@butterfieldcpas.com>
Subject: 3 Siphon Pipes along 3 Mile Slough Project Levee on RD 1601
Importance: High

JDP,

RD 1601 has 3 Siphon (diversion pipes) along their 3 Mile Sough Levee (19+70, 121+77, & 121+85). The District would like to commence video inspection every 5 years on these 3 siphons. In addition, they would like to construct an inspection port at each siphon that will allow the ease of video inspection equipment into the pipeline without having to use a cutting torch and then having to weld back the cut-out coupons for access. RD 1601 has a DMP grant with \$26,892.16 left in it and they would like us (KSN Inc.) to verify it would be OK to use this money to inspect and possible construct the inspection ports. I will get copy of the DMP agreement from Perla and the district's contact at DWR for you to call and verify eligibility. Please work with JAM on design options for permanent inspection ports on each of the siphons.