INFORMATION SHEET

ORDER NO.
UNIVERSITY OF CALIFORNIA DAVIS
J. AMOROCHO HYDRAULICS LABORATORY
YOLO COUNTY

The University of California, Davis (UCD, hereinafter Discharger) operates the J. Amorocho Hydraulics Laboratory (hereinafter facility), a testing and research laboratory located in west campus adjacent to Putah Creek in Davis. The facility is currently discharging pursuant to Order No. R5-2008-0088 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA00841182. On 21 March 2008, the Discharger requested the Regional Water Board to review the NPDES outfall location and reclassify the outfall location as a discharge to land. On 21 March 2008, the Discharger requested the Regional Water Board to review the NPDES outfall location and reclassify the outfall location as a discharge to land. The Discharger also proposed construction of a 126,000 gallon retention basin as a second outfall location.

Regional Water Board staff evaluated the NPDES discharge point and determined that the discharge to the abandoned north fork stream channel of Putah Creek belongs under the discharge to land program. The reclassification was approved because barriers to flow exist up and downstream. Additionally, since there is no longer a water body, the discharge point would not be considered as a "water of the U.S." for the purposes of the Federal Clean Water Act.

In the 1930's Putah Creek was redirected from its historic course through the north fork to prevent flooding in downtown Davis. At that time, the U.S. Army Corps of Engineers dredged and aligned the south fork, which is now the primary channel of Putah Creek. The north fork has not received flows from Putah Creek since the 1940's and is enclosed with both upstream and downstream barriers. A concrete surface impoundment has been constructed immediately downstream of the facility's discharge point. The north levee of Putah Creek serves as the upstream barrier. However, the levee has an elevated culvert that allows one-directional flow from the dry creek bed, but is gated to prevent flow from Putah Creek into the north fork. The Discharger estimated that the discharge into the north fork is limited to a hydraulic ponding capacity of 350,000 gallons before the culvert allows flow into Putah Creek.

The facility conducts experiments on hydraulics and fish swimming performance, behavior, and physiological response. The facility includes indoor and outdoor experimental areas. A fish treadmill, a sturgeon flume, a slope-adjustable glass flume, several fish holding tanks, and a wind tunnel occupy the indoor floor area. A large flume is located under the covered outdoor area. The capacity of the indoor system is 80,000 gallons and the outdoor system is 40,000 gallons. The indoor and outdoor areas have separate water circulation systems and may discharge to either outfall location. The fish holding tanks are used only periodically to hold fish before and after experiments are conducted. After experimentation, fish are returned to their point of capture.

Source water for the indoor and outdoor systems is drawn from a nearby agricultural well constructed in 1932 with a depth of 270 feet or supplied from the UCD tap water system. Water used in the outdoor flume will be exposed to experimental fish and to river bottom soils or riparian plants prior to discharge. Water used in the indoor system is exposed only to experimental fish prior to discharge, and only when fish are used for experiments. Each flume

includes a storage tank that is used as a settling tank for the effluent prior to discharge. No chemicals or toxins are added to the water.

Well water is used only for experiments involving fish due to their sensitivity to chlorine. Water used in fish experiments is air-equilibrated and temperature controlled in the indoor system and air-equilibrated and at ambient temperature in the outdoor system.

During a site visit to the facility, a representative stated that the operating volume were typically 60,000 gallons for the indoor flume and 20,000 to 30,000 gallons for the outdoor flume. Discharges occur intermittently and only during periods of experimentation. Experiments occur only when funding or a proposal has been awarded to the lab. The currently funded project entitled The Roughness Study of the California Native Vegetation in Floodways utilizes the outdoor flume and involves four experimental runs, each testing a different riparian plant with sediment collected from the Sacramento River. Each experiment consists of three replicate batches with eight trials in each batch. Water is discharged after each batch study and not reused between batches. Each experiment will last for two or three months and requires discharging three times.

The discharge is a low threat to groundwater quality and is not expected to have an effect on groundwater quality thus groundwater monitoring is not being required.

rtm: 4 June 08