## **CASE STUDY**

# N-12® Prevents Dam Erosion

# Madera County, CA

#### **OWNER**

Pacific Gas & Electric, Oakland, CA

#### **CONTRACTOR**

**Kiewit Infrastructure West Co.**, Fairfield, CA

### **INSTALLATION DATE**

2012

#### **PRODUCTS**

2,500' (762 m) of 8" (200 mm) N-12<sup>®</sup> pipe 1,600' (488 m) of 12" (300 mm) perforated N-12 pipe 18"-24" (450-600 mm) N-12 pipe

#### **DESCRIPTION**

Crane Valley Dam, a 145' (44 m) tall, hydraulic earth and rock fill embankment, needed its stability increased to meet state and federal guidelines. In order to do this, 253,000 cubic yards (193,432 m³) of rock fill would need to be added on the upstream and downstream areas of the dam.

In order to control lake seepage and prevent erosion of the dam, N-12 was used to create an underground drainage system. Preventing the erosion was critical, because an earthquake could cause the dam to slump and allow water to flow over the top causing downstream flooding.

N-12 created the toe drain and provided drainage under other areas of the dam. 12" (300 mm) N-12 perforated pipe allows the water to infiltrate the pipe system and pulls groundwater from the bottom of the dam. Then 8"-24" (200-600 mm) N-12 watertight pipe conveyed the water away.

N-12 pipe was chosen due to its long life, ease of installation and long lay lengths. N-12's light weight meant it could be handled easily in the dam's rugged terrain.





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