



June 9, 2010

7076.00

County of Humboldt  
Community Development Services  
Planning Division  
3015 "H" Street  
Eureka, California 95501

Attention: Michael E. Wheeler

Subject: Evaluation of Preliminary Feasibility Study – Trinidad Water System  
Proposed Service Extension and Impacts to the Luffenholtz Creek Diversion  
Capacity Report

Dear Mr. Wheeler:

At your request LACO Associates (LACO) has reviewed the Preliminary Feasibility of Connecting memorandum prepared by Winzler & Kelly (W&K), April 6, 2009. This memorandum evaluates the City of Trinidad water system's available capacity to serve the existing CalFire Trinidad Station. LACO was tasked with this review in order to determine how this most recent assessment of the City of Trinidad's water production capacity and use compares with the results of LACO's Evaluation of Luffenholtz Creek Diversion Capacity – Trinidad Water System and Proposed Moss Minor Subdivision Project letter prepared for incorporation in the Supplemental EIR for that project.

Overall, the Preliminary Feasibility of Connecting memorandum reinforces LACO's determination that the available creek flows in Luffenholtz Creek exceed the average and maximum day demands of the Trinidad water system. The memorandum establishes an average daily water demand for Trinidad at 100,000 gallons per day (gpd) and a maximum (referred to as "peak" in the W&K memorandum) daily demand of 150,000 gpd based on 2009 system records. The available dry weather creek flow used by W&K was 208 gpm (299,520 gpd) calculated from the dry weather flow rate of 290 gpm less the dry weather minimum flow for fish passage of 67 gpm; and less 3 gpm for water rights below the City's water intake. Based on the W&K feasibility study, the City of Trinidad uses less than 51 percent of the water available from Luffenholtz Creek during dry weather flows.


LACO's 2009 report used slightly more conservative estimates of the City's water demand and the amount of water available from Luffenholtz Creek during dry weather flows. LACO estimated the City's average day and maximum day water demand based on water production and distribution data over the 11 year period from 1997 to 2008, resulting in an estimated average daily demand of 73 gpm (104,613 gpd) and a maximum day demand of 131 gpm (188,352 gpd). LACO's estimate of flows in Luffenholtz Creek used a dry


weather creek flow of 290 gpm (417,600 gpd), taken from the W&K “Evaluation of Supply and Demand of Trinidad Water System,” dated January 24, 1995. Both the 1995 and the 2009 W&K studies note that 1977 was a particularly dry year, however, the 1995 study cites measured flows in 1977 for Luffenholtz Creek of 310 gpm (446,400 gpd), while the 2009 study cites a rate of 278 gpm (400,320 gpd). No data is supplied in either study to account for the difference. In part to account for the inherent uncertainty in predicting dry-weather flows, the 2009 LACO Study assumes that the “normal year” minimum fish passage flow of 112 gpm (161280 gpd) will be maintained in dry years. Each of the studies reports an additional minimum pass through for downstream water users of 3 gpm (4,320 gpd). Based on the estimated dry year flows and pass through requirements, the LACO study estimated dry weather available creek flow to be of 175 gpm, or 252,000 gpd. LACO estimated the City’s water use at less than 75 percent of the water available from Luffenholtz creek during dry weather flows.

The W&K feasibility memorandum estimates the additional CalFire Service Station connection’s maximum daily water use at 0.6 gpm (800 gpd), or 1 percent of the available City supply. Similarly, the 2009 LACO Study estimates the water demand for the Moss Minor Subdivision to be 1.2 gpm (1,766 gpd), which was determined to be less than 1 percent of available creek flows. The LACO Study calculated the anticipated City of Trinidad Maximum Day demand as future development occurs to be 160 gpm (230,299 gpd). The proposed 0.6 gpm (800 gpd) service to CalFire would account for approximately 2 percent of the growth anticipated by the LACO study. This additional water use does not impact LACO’s assessment, and is considered normal growth accounted for in the Projected Future Demand section of the LACO report.

In summary, the W&K feasibility memorandum reinforces LACO’s determination that dry weather flows in Luffenholtz Creek exceed the existing and anticipated water needs of the City of Trinidad and the Moss Minor Subdivision.

Sincerely,  
LACO Associates

  
Benjamin W. Dolf, E.I.T.  
Staff Engineer

  
Leonard M. Osborne, P.E.  
Principal

