


MEMORANDUM

To: Jose Lopez, Project Manager, SDG&E
From: Jing Liang 
Date: 4/16/2010
Re: Mitigation Measure H-8a: Scour and Erosion Protection at Creek Crossings

RESPONSE TO MITIGATION MEASURE, H.8a: BURY POWER LINE BELOW 100-YEAR SCOUR DEPTH.

This memorandum is to respond to the CPUC data request dated on 3/23/10. The followings are detailed requests and responses:

1. **Data Request:** Please confirm that the basis of design for the transmission line crossing considered the structural design and integrity of the existing culvert and that the culvert crossing was engineered to operate and function for flows equaling the estimated 100-yr discharge event.

Response: B&V had discussed with County of San Diego, and confirmed the existing box culvert installed on Alpine Blvd. at approx. 600 feet east of Marshall Road was designed to meet 100-year storm event. B&V confirmed the basis of design for the transmission line does not impact any structural design and integrity of the existing structure.

2. **Date Request:** Please confirm that the concrete entrance and exit slabs that extend upstream and downstream of the Alpine Blvd. culvert crossing were engineered in consideration of potential erosive and scour conditions along the creek channel associated with large flow events (100-yr event) as well as, smaller more frequent events.

Response: B&V confirmed that the concrete entrance and exit slabs that extended upstream and downstream at the box culvert were intended and engineered in consideration of the potential erosion and scour protection from large flow events (100-year storm) and smaller, but more frequent events.

3. **Data Request:** Please confirm that the assumed hydrologic (watershed runoff contribution) and hydraulic (flow velocities, depth, and sheer stress) conditions used as

the basis for design of the Alpine Blvd. culvert crossing are still valid under current watershed and stream conditions.

Response: According to the San Diego County's Recommended Floor Control & Drainage Plan, Zone 2, San Diego County Flood Control District, dated Nov. 1975, the existing double 10' x 6' box culvert was upgraded to accommodate 100-year storm events and meeting the flood capacity of 1,348 cubic feet per second. The areas covered by the box culvert do not contain any development that may impact the watershed and stream conditions.

4. **Data Response:** Please confirm that the existing culvert crossing at Alpine Blvd. is structurally sound and has not experienced any excessive scour or undercutting of its entrance and exit concrete aprons (slabs).

Response: Field inspection was made and verified that there is not any cracking or spalling from existing concrete structure, and there is not any visible excessive scour or undercutting of the entrance and exit concrete slabs.

5. **Data Request:** Please confirm that the existing stream course both upstream and downstream of the culvert crossing at Alpine Blvd. is not excessively erosive in nature and that no observable channel knick point exists that may migrate toward the crossing structure.

Response: From field inspection, B&V confirmed that existing stream course both upstream and downstream of the culvert crossing at Alpine Blvd. is not excessively erosive in nature and that no observable channel knick point exists that may migrate toward the crossing structure.

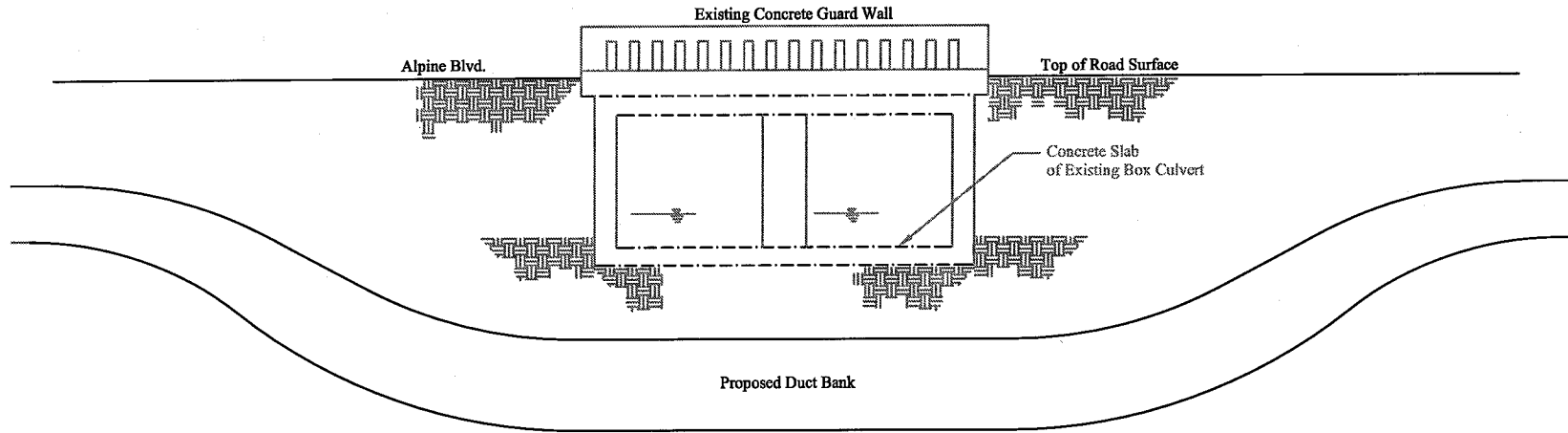
6. **Data Request:** Please confirm that potential future maintenance of the culvert crossing at Alpine Blvd., including potential sediment removal activities for sediment that may collect in the culvert, will not in any way effect the transmission line ducts, either through use of equipment in the culverts or any other maintenance activity.

Response: B&V confirmed that potential maintenance of the culvert crossing at Alpine Blvd., including potential sediment removal with equipment in the existing culvert would not have any impact to the proposed transmission line.

B&V also corrected the typo error on the drawing and included the direction of water flow as noted in the data request on 3/23/10. Please see attached revised sketch.

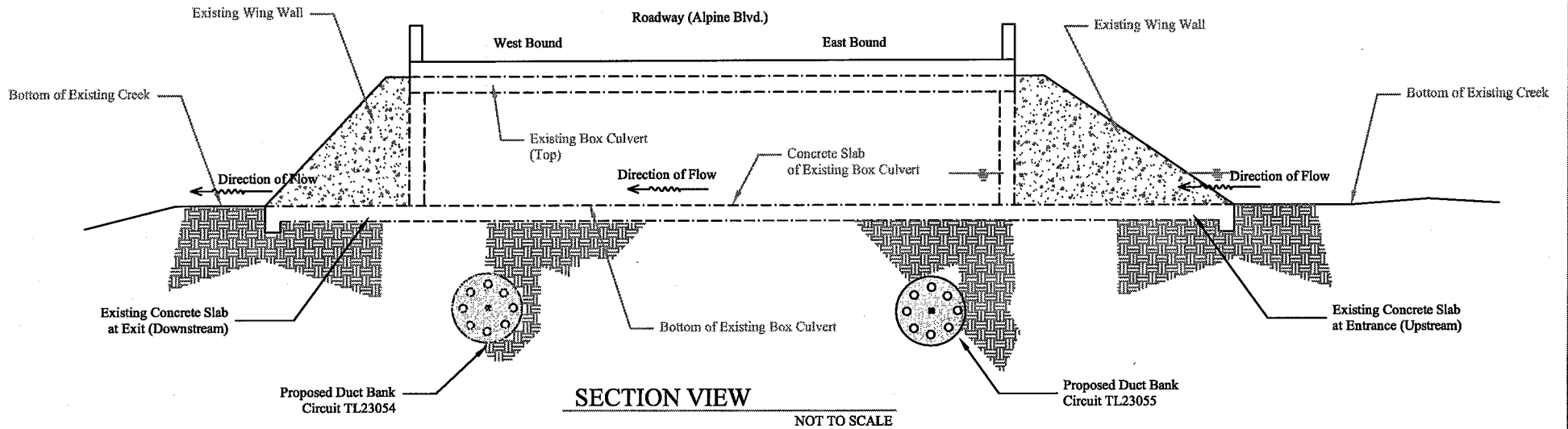
Alpine Blvd. (Creek Crossing)

Location: Station 175+75 to 176+75 (TL 23055)
Station 175+70 to 176+70 (TL 23054)



LONGITUDINAL VIEW

NOT TO SCALE



SECTION VIEW

NOT TO SCALE