United States Department of Agriculture

NRCS Natural Resources Conservation Service

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**Subject:** Stonybrook Site Visit and Discussion

**Participants:** W. Barry Southerland, Katie Bergmann.

**Summary of Assistance and Accomplishments:**
We visited Stonybrook Creek on November 16 very briefly so that Barry would have some background in the event that NRCS becomes involved in improvement of fish passage to the stream, which is a focus of current local planning efforts surrounding the restoration of Alameda Creek watershed steelhead habitat. Based on a brief site visitation located next to Palomares Road in Niles canyon (up to culvert at Stobk#2, milepost 8.75) but without reviewing previous studies of fish passage in the stream, Barry provided the following initial comments:

Stream Classification

Rosgen stream type A/B mix

Valley Type I or II:

- Valley Type I, steep canyon: steep, confined V-shaped highly dissected fluvial slopes greater than 2%, rejuvenated sideslopes.
- Valley Type II, colluvial: Moderate relief gentle sloping side slopes with a parabolic valley bottom, often in colluvial valleys.

Steps to Include in Planning (some have already been accomplished):

- Segment approach OK if we are objective-driven by passage
- Limiting factors analysis of system for target species (e.g. fisheries biologists/ geomorphologist stream walk)
- Bedload analysis (goal is to ensure that boulders would transport through any structure)
- Hydrologic and hydraulic analysis
- Operation and maintenance regarding future post-flood large lag deposits that substantially impact migration, longitudinal profile, structures, and hydraulics.
- Visit with the California Department of Fish and Game Regional Habitat Specialist – season of flow, refugia utilization, and life-cycle for salmonids

Conceptual Passage Design:

- Re-work blocked segments into step-pools with occasional roughened chutes
- Provide systematic series of resting, jumping/leaping pools
- Incorporate 'low-flow' pathway to allow for maximum duration of access

W. Barry Southerland

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