

# Milliken Creek Flood Reduction and Fish Passage Barrier Removal Project



A Tradition of Stewardship  
A Commitment to Service

# Project Background

- Flood of December 31, 2005
- County works with Silverado Property Owner Association and Resort to conduct Feasibility and Cost Benefit Study 2011
- County identifies Grant Funding Opportunity and BOS approves Project for Measure A funding 2013
- County Designs project, conducts environmental review and begins construction in 2017
- Project Goals:
  - Reduce flooding on Kaanapali Drive (56 homes) through removal of a summer dam and replacement with a free span bridge
  - Construct a detention bypass at south end of golf course and drainage improvements at existing culvert on Kaanapali Dr
  - Restore access to upstream spawning and rearing habitat for steelhead trout, expand and restore adjacent riparian areas



Dam removal,  
stream restoration  
and revegetation

Kaanapali Rd  
Curb cuts

Bypass Culverts



# Project Cost and Funding

| Project Activity                            | Estimated Cost     |
|---|--------------------|
| Engineering Design and Permitting           | \$547,080          |
| Easement Acquisition                        | \$36,600           |
| Bridge Removal/Replacement                  | \$150,000          |
| Construction                                | \$1,391,611        |
| Project Management and Grant Administration | \$48,754           |
| <b>Total Costs</b>                          | <b>\$2,174,045</b> |

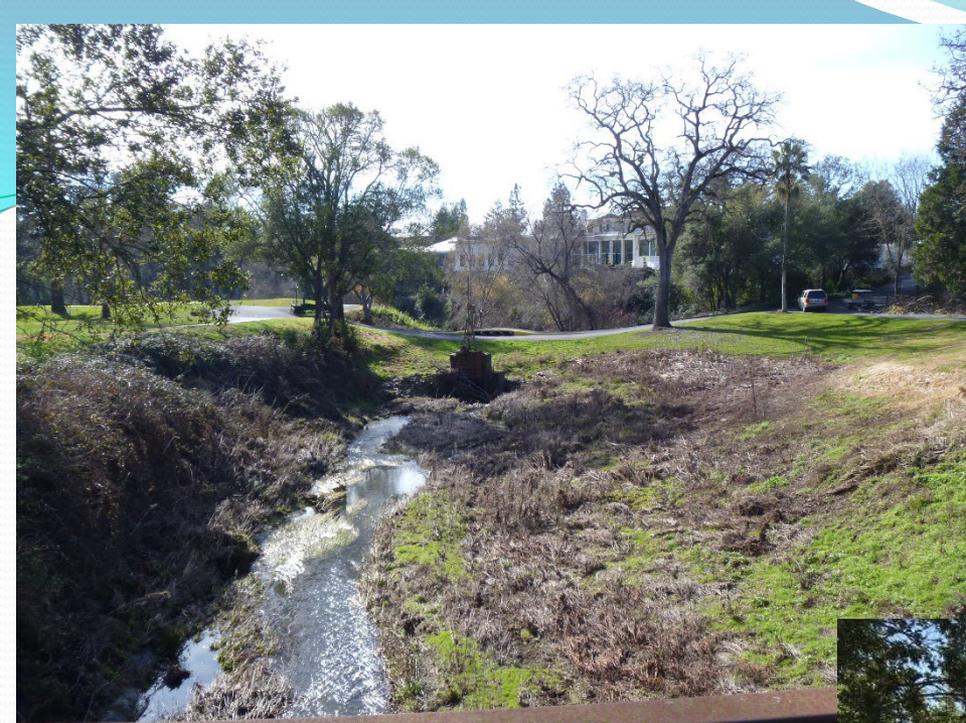
| Funding Source                                     | Amount             |
|--|--------------------|
| <b>Napa County Measure A</b>                       | <b>\$1,316,045</b> |
| <b>IRWM Prop 84 Grant</b>                          | <b>\$500,000</b>   |
| <b>Silverado Resort (Estimated cost of Bridge)</b> | <b>\$150,000</b>   |
| <b>56 Property Owners</b>                          | <b>\$208,000</b>   |



**Existing dam**

**Dam removal and new bridge**





**Channel after dam removal**

**Upstream channel before dam removal**



## Curb cuts, drainage improvements



## Bypass pipes south end of golf course





**Milliken Creek Flood Reduction Project  
Pre and Post Project Floodplain Comparison**

|  |                              |
|--|------------------------------|
|  | Property Boundary            |
|  | Pre-Project 100yr Floodplain |
|  | Revised 100yr Floodplain     |

