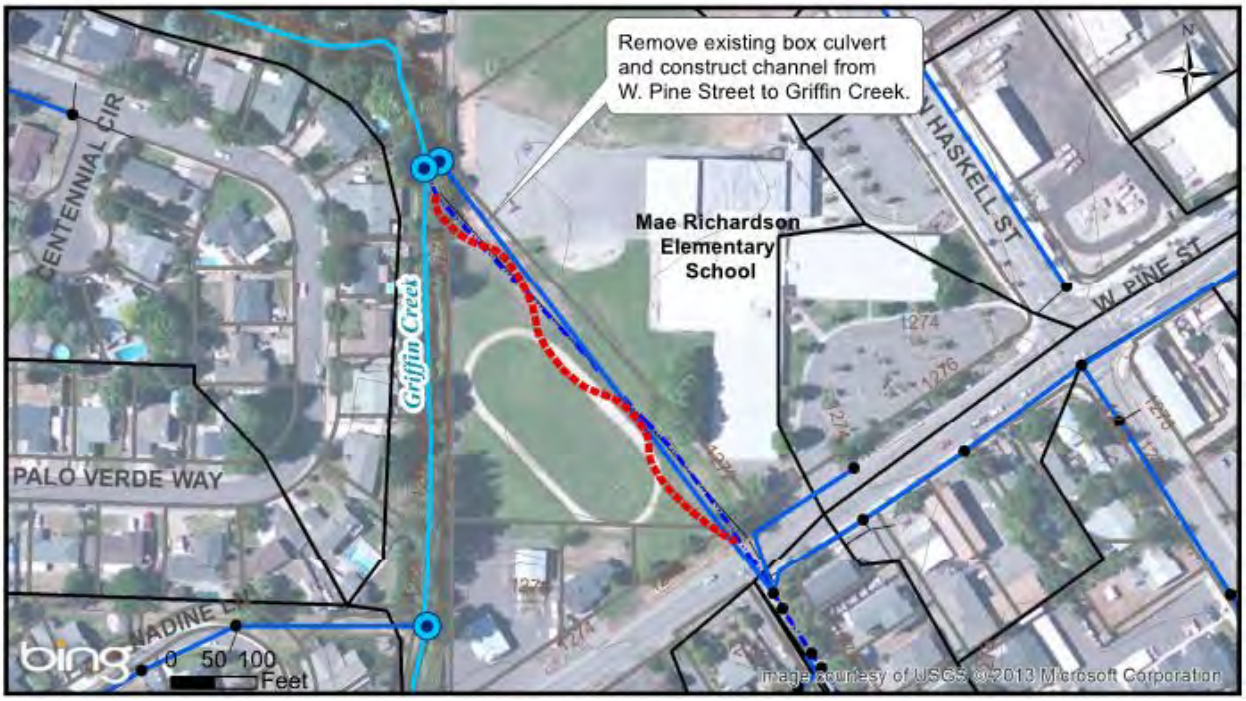

Project Name	Daisy Creek at W. Pine
Modeled System No.	01014, Outfall 1
Drainage	Daisy Creek
Associated Subbasins	Systems 01013, 01014 and 01015.
Contributing Drainage Area	320 acres
Associated Modeled Pipes/Conduits	J644.583 to Griffin Creek Confluence
Objective(s) Addressed	Flood Control/Water Quality

Project Description

Daisy Creek currently flows through an 8 foot by 4 foot box culvert at W. Pine Street. The creek is then routed to an underground box culvert at a horizontal grate on the downstream side of the bridge, as shown in Figure 1.

Figure 1. Looking upstream at W. Pine Street and Daisy Creek

The existing box culvert conveys the creek underneath of the Mae Richardson Elementary School grounds, between the school building and track. During high flow events, debris clogs the grate and the creek spills into a grass lined swale above the box culvert. The grass lined swale is shown in Figure 2.

Figure 2. Looking downstream along grassy swale

Debris is difficult and dangerous for maintenance crews to remove during high flow events. The overland flow through the grass lined swale is a safety concern, because the flow bisects the school play area. Flow in Daisy Creek at this location was estimated to be 53 cfs during the 10-year, 24-hour storm event.

In the future the school plans to relocate to a property outside of the floodplain. If the school relocates, the existing horizontal grate and box culvert could be removed and replaced with a natural channel. This project includes cost for removal of the existing 8 foot by 4 foot box culvert and restoration of Daisy Creek from W. Pine Street to Griffin Creek. The channel dimensions assumed for cost estimating purposes are:

- Length = 600 feet with meanders
- Height = 6 feet on average
- Bottom width = 4 feet
- Side slopes = 3:1

This project also includes 1 acre of riparian plantings along the channel and outfall improvements for the confluence of Daisy Creek and Griffin Creek.

Estimated Planning Cost (2013 dollars, rounded to the thousand)	
Capital Expense Sub-total (See Appendix E for details)	$183,000
Mobilization/Demobilization (10%)	$18,500
Traffic Control/Utility Relocation (0%)	$0
Erosion Control (10%)	$18,500
Construction Cost Sub-total	$220,000
Construction Contingency (30%)	$66,000
Capital Expense Total	$286,000
Engineering and Permitting (30%)	$86,000
Construction Administration (5%)	$14,000
Capital Project Implementation Cost Total	**$386,000**
Existing to Future % Flow Increase[1]	**Not applicable**

Design Assumptions

- Detailed design will coordinate this project with the Griffin Creek Mitigation Project, which extends just past the confluence of Daisy Creek and Griffin Creek.
- Erosion control percentage was increased to 10% for in-stream work.
- Engineering and permitting was increased to 30% for in-stream work.

[1] *Existing to future percent flow increase is based on the 10-year percent peak flow increase from the contributing drainage area between the existing and future land use scenarios for each CIP. The percent flow increase does not apply to this project because it was developed to solve operational issues.*