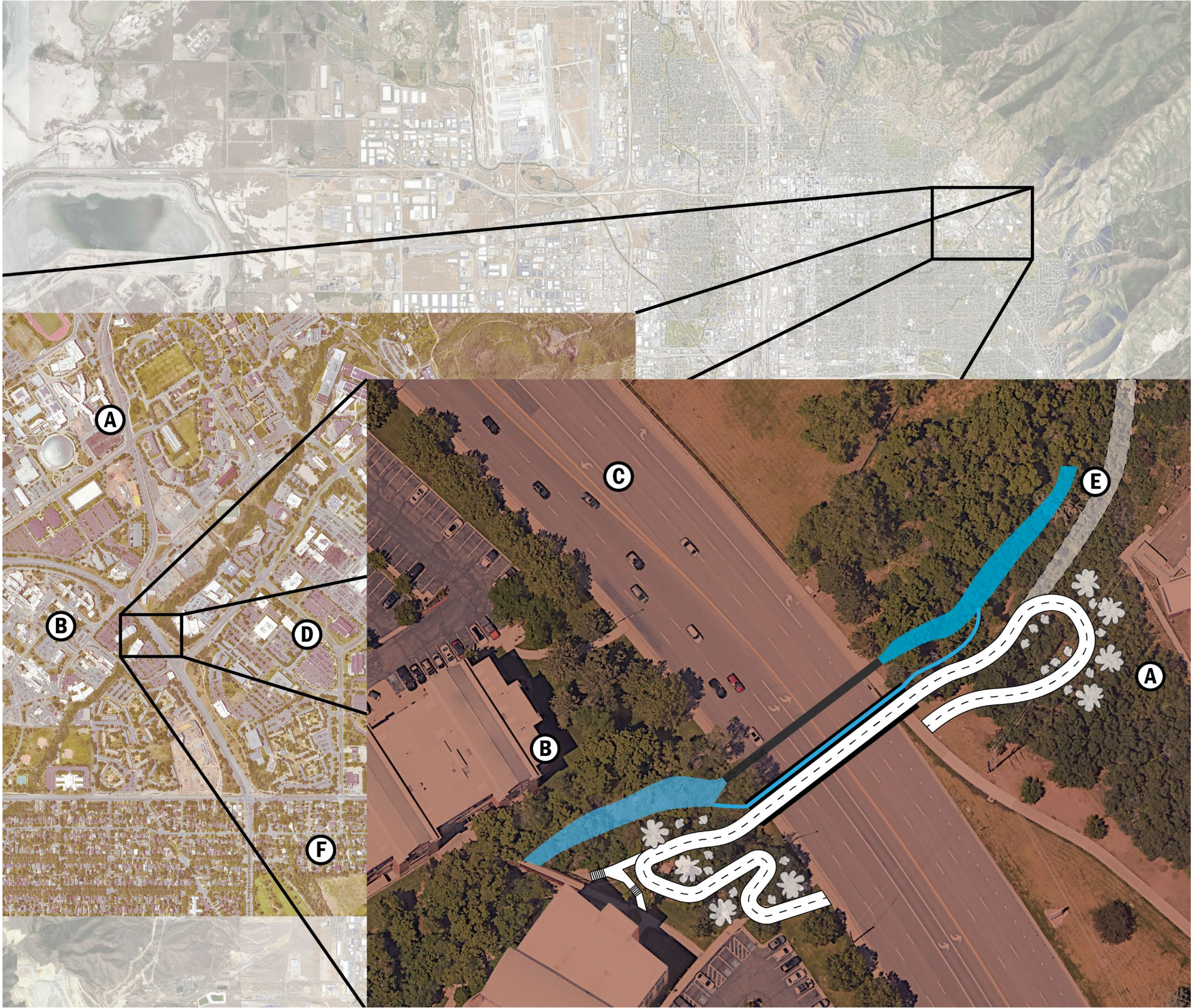


Project Overview



Stakeholders

- A – University of Utah**
Increased pedestrian access between student housing and campus.
- B – VA**
Minimal impact to property and potential for securing property.
- C – UDOT**
Maintenance of traffic.
- D – Research Park**
Increased pedestrian access with expected growth.
- E – SLC Corporation**
Integration with future trails and greater pedestrian safety.
- F – Foothill Community**
Increased pedestrian and biking facilities.

Project #: 4910.23.01.02
Team: Christian Madsen (lead), Carli Dockstader, Jacob Hansen, Jun Ha Kim, Nathan Nobili
Contact: cveensupport@utah.edu

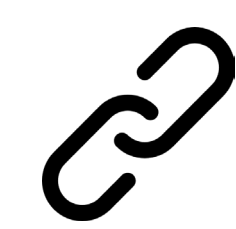
Goals & Vision



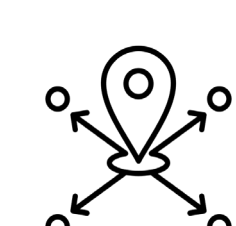
Safety Improve the safety of pedestrians & cyclists crossing Foothill Dr.



Efficiency Increase efficiency of all forms of traffic



Connection Incorporate nearby path and future trails



Mobility Improve mobility and operations for all users

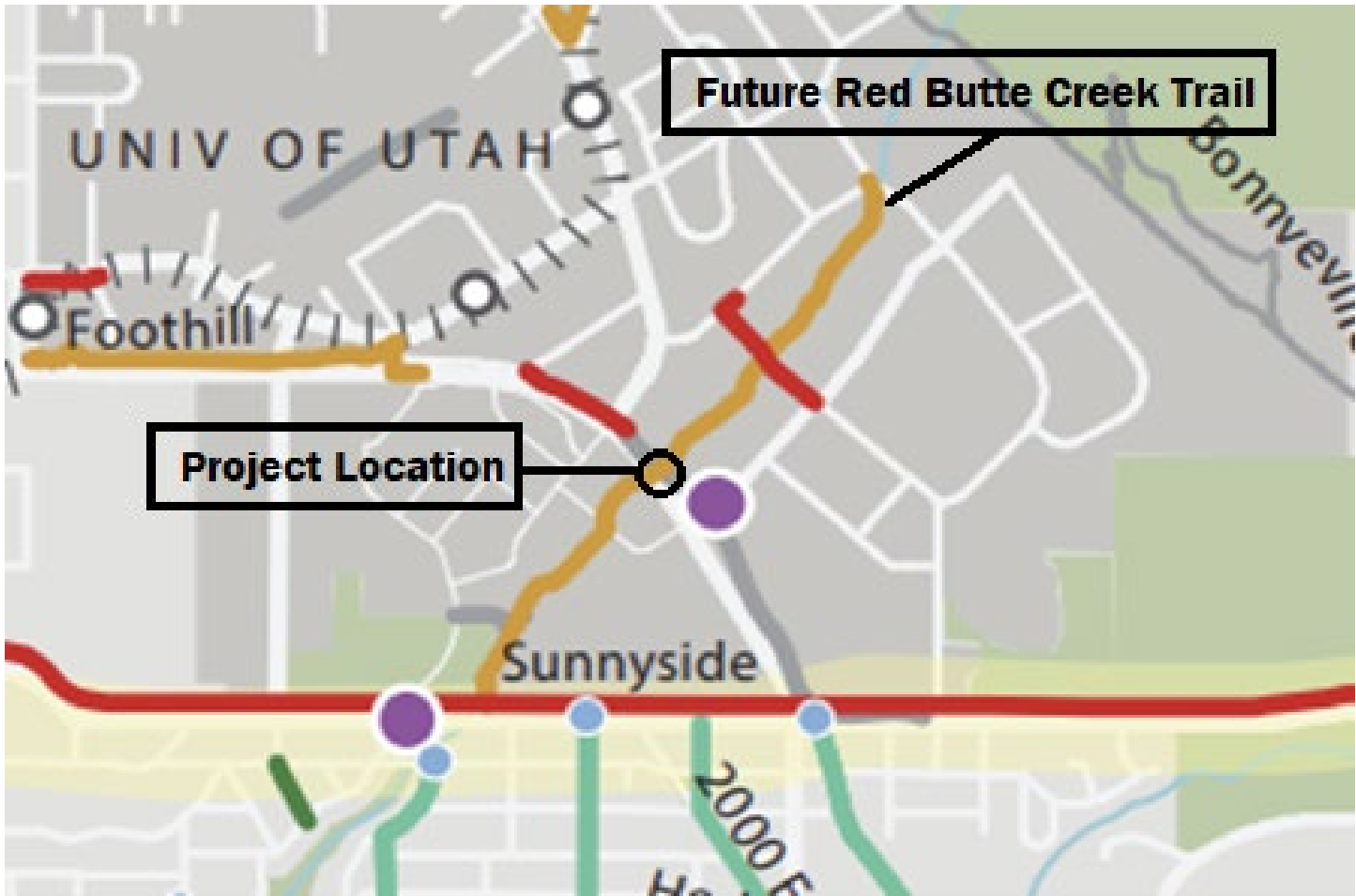
Needs

West Village Student Housing



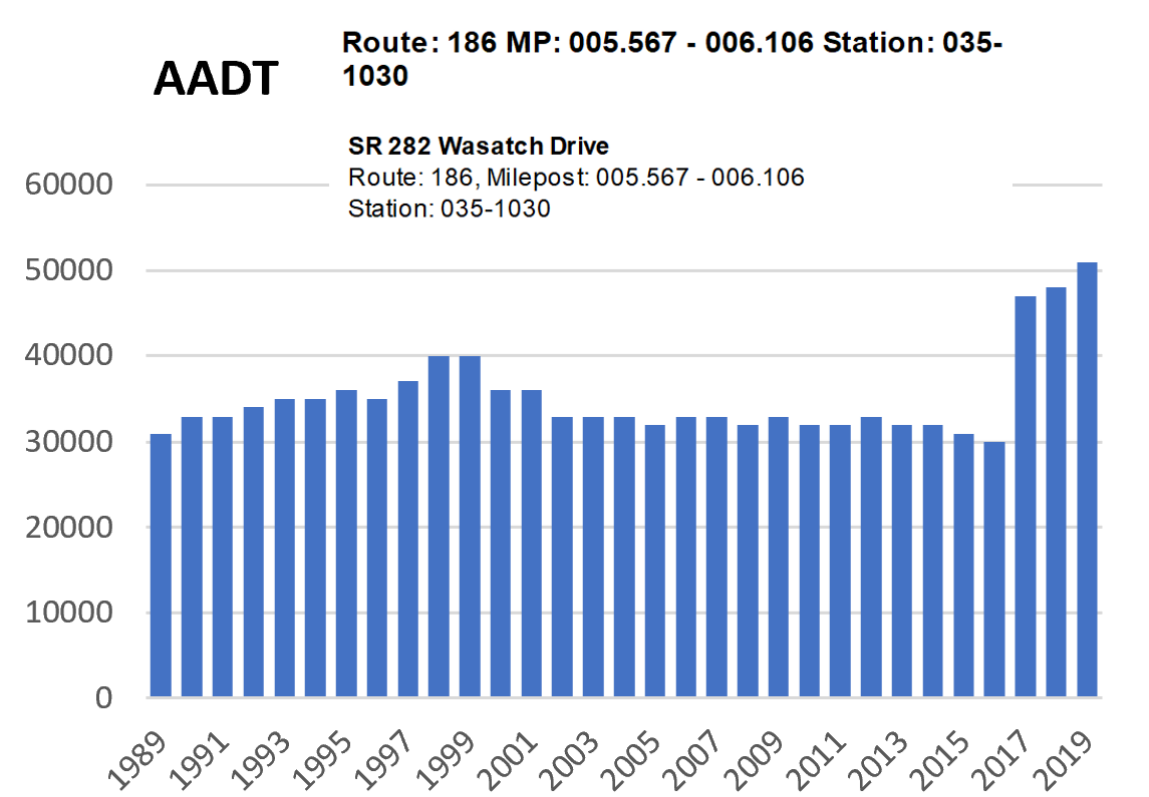
The University of Utah is creating new student housing for Graduate Students. Residents will need safer crossing.

SLC Trails Master Plan



The underpass will allow access to existing and future trail systems as well as future bus stops in the area.

Increasing AADT on Foothill Dr.



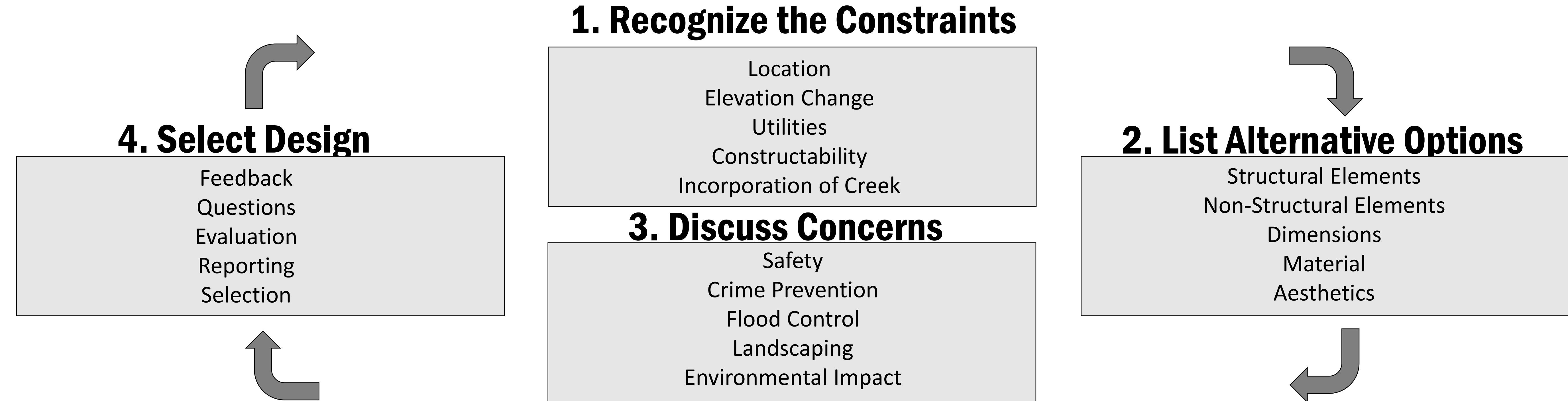
Annual Average Daily Traffic is expected to increase. Crossings will become more difficult due to high traffic volume.

Fatal Pedestrian Accidents



High volume of vehicles and pedestrians can lead to accidents when crossing. Fatal accidents frequently occur on Foothill Dr.

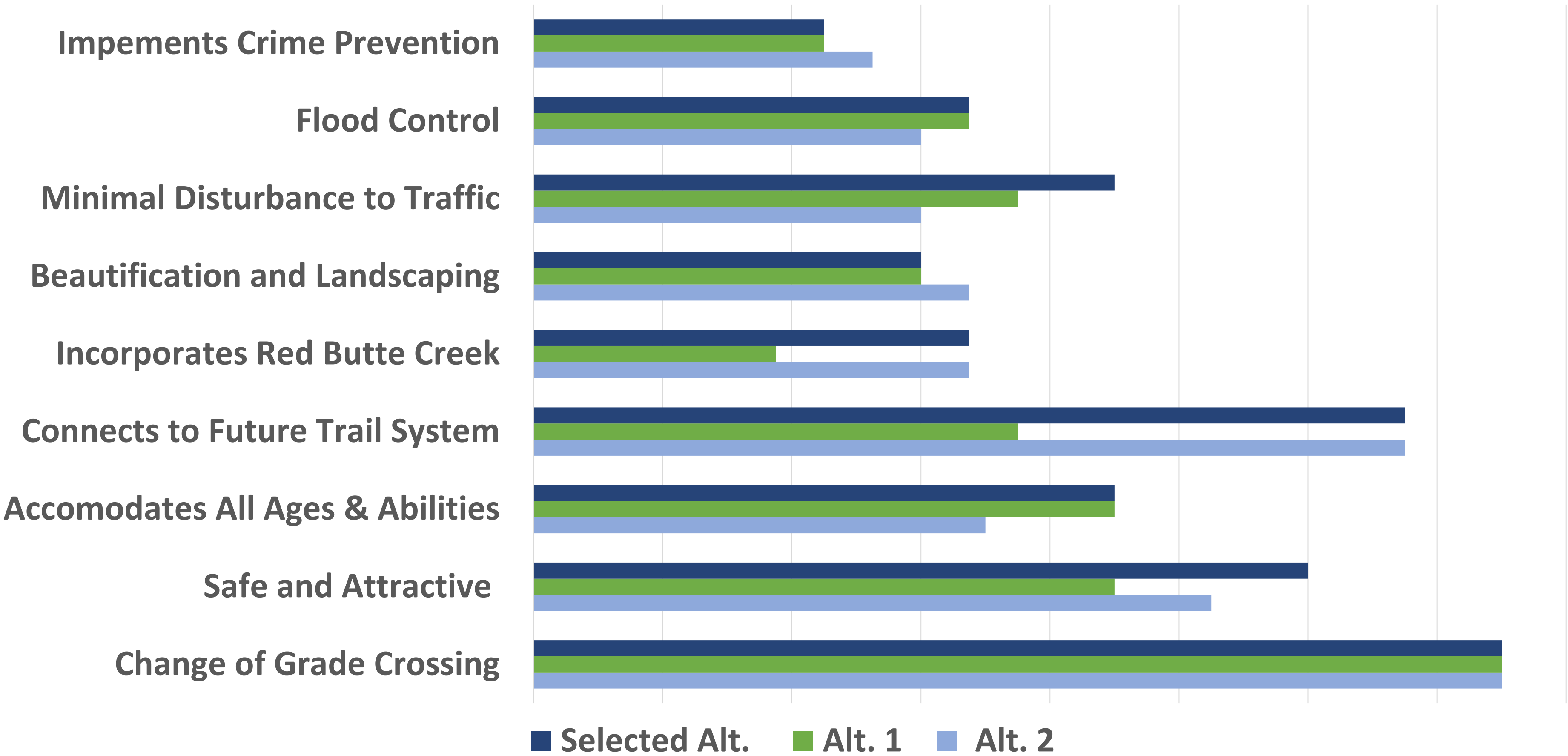
Alternative Analysis



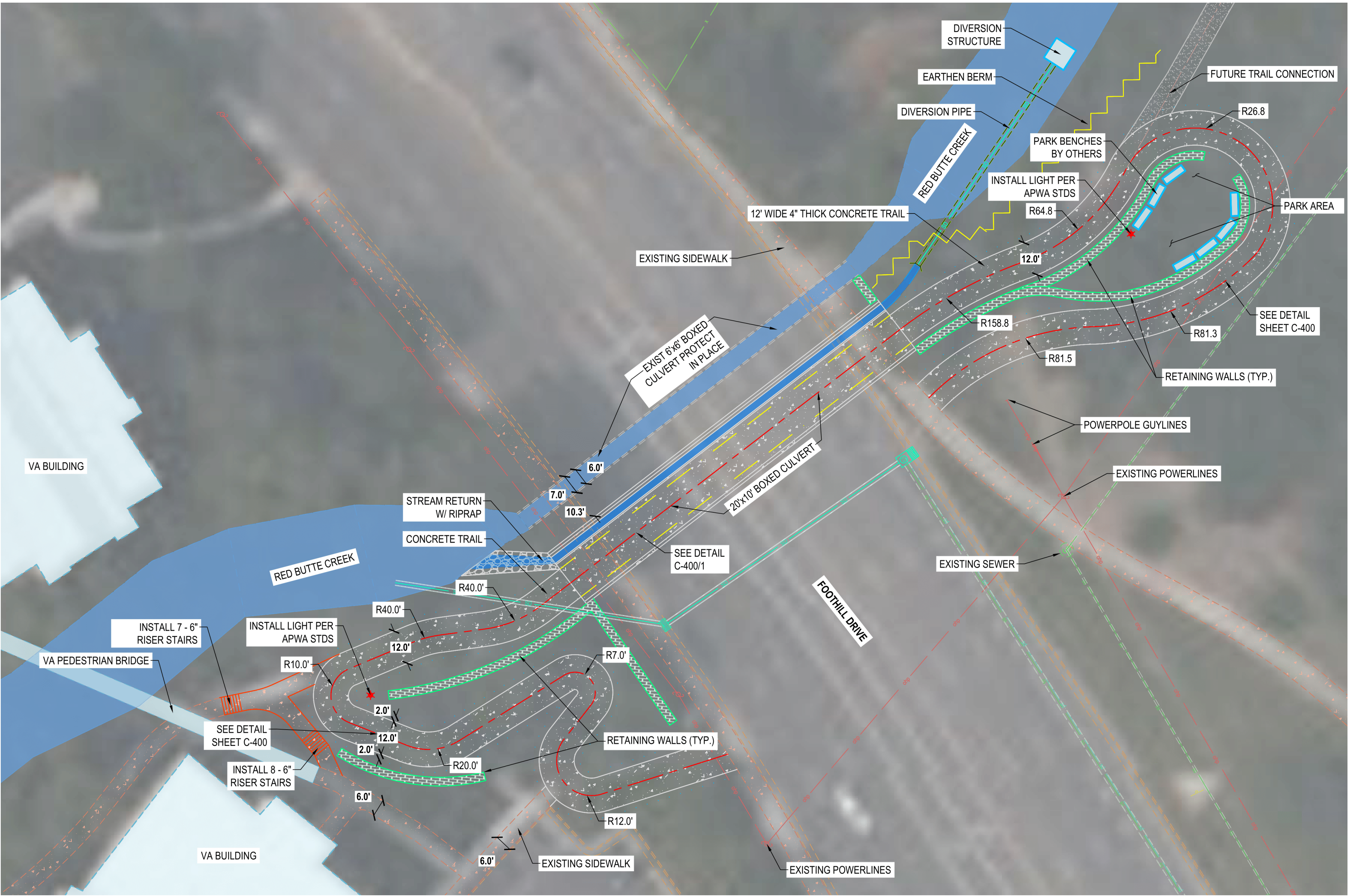
Alternative Options:

- **Alternative 1:** Evaluates a pedestrian underpass that is located down Foothill Drive and does not integrate Red Butte Creek.
- **Alternative 2:** Evaluates a pedestrian overpass in the same area but utilizes a pedestrian elevator in the place of a ramp.
- **Selected Alternative:** Evaluates a pedestrian overpass with incorporation of Red Butte Creek

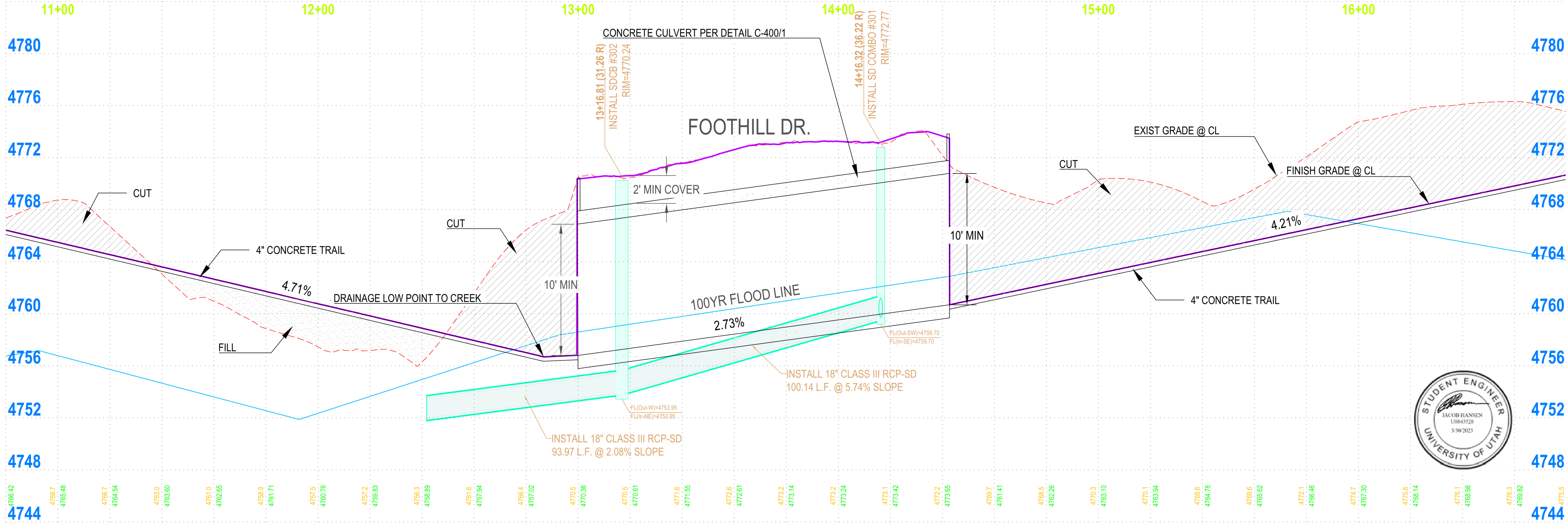
Alternative Evaluation Summary	
Alternative 1	69/100
Alternative 2	77/100
Selected Alternative	83/100



Summary of Selected Design



Design Summary	
Culvert:	10'x20' Boxed Concrete Culvert
Trail Length:	755 L.F. at 1:20 max grade
Park Area:	1500 ft ²
Retaining Walls:	2' to 13' Retaining Walls
Trail Integration Plan:	Future Trail near University
Earthen Berm:	Creek Separation to prevent flooding underpass
Lighting:	For security, underpass and trail are lighted
Storm Drain:	Diversion to avoid new underpass
RipRap:	RipRap cobbles at outflow prevent erosion
Creek Diversion System:	Diverts up to 4 ft ³ /s

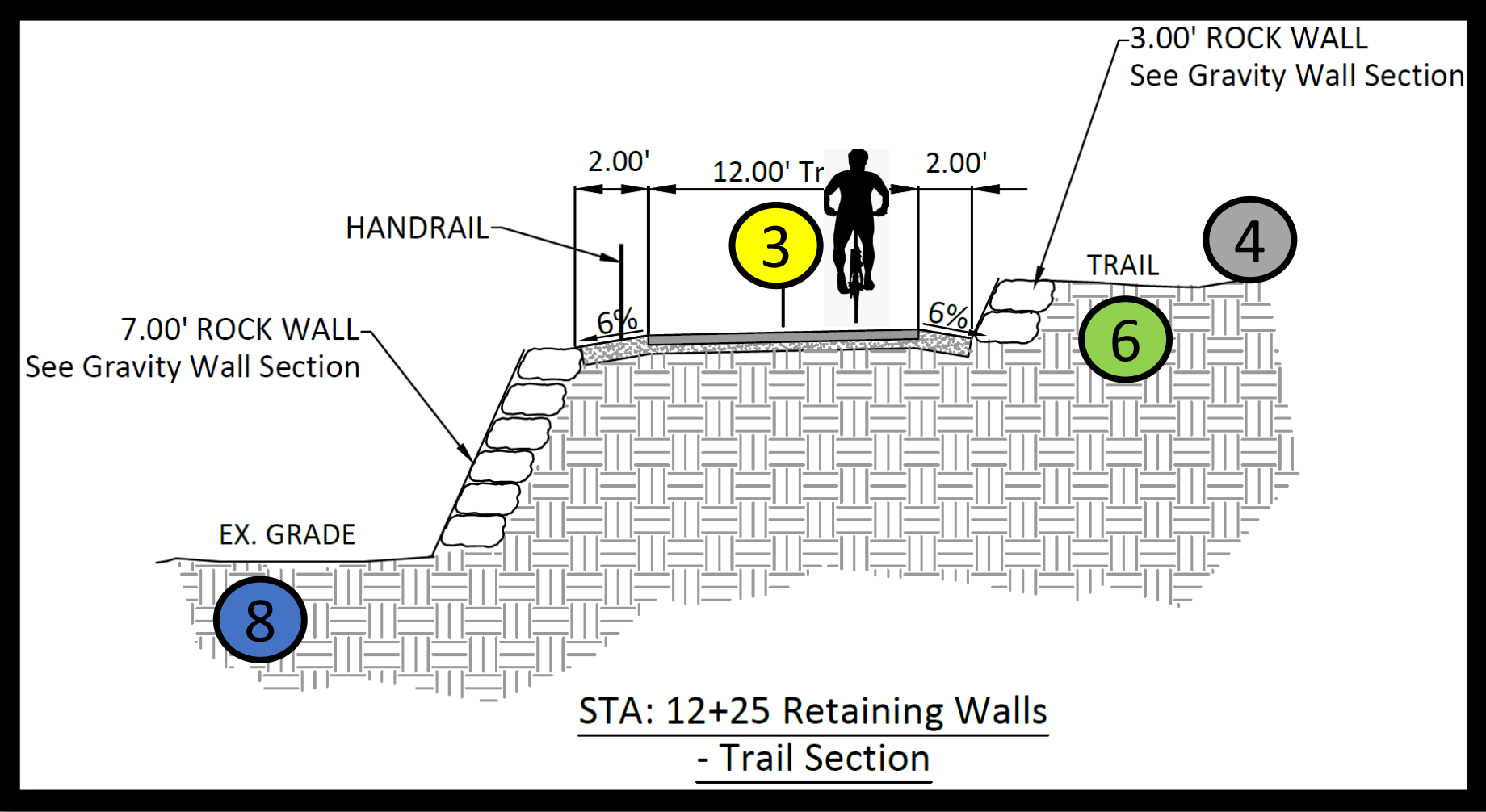
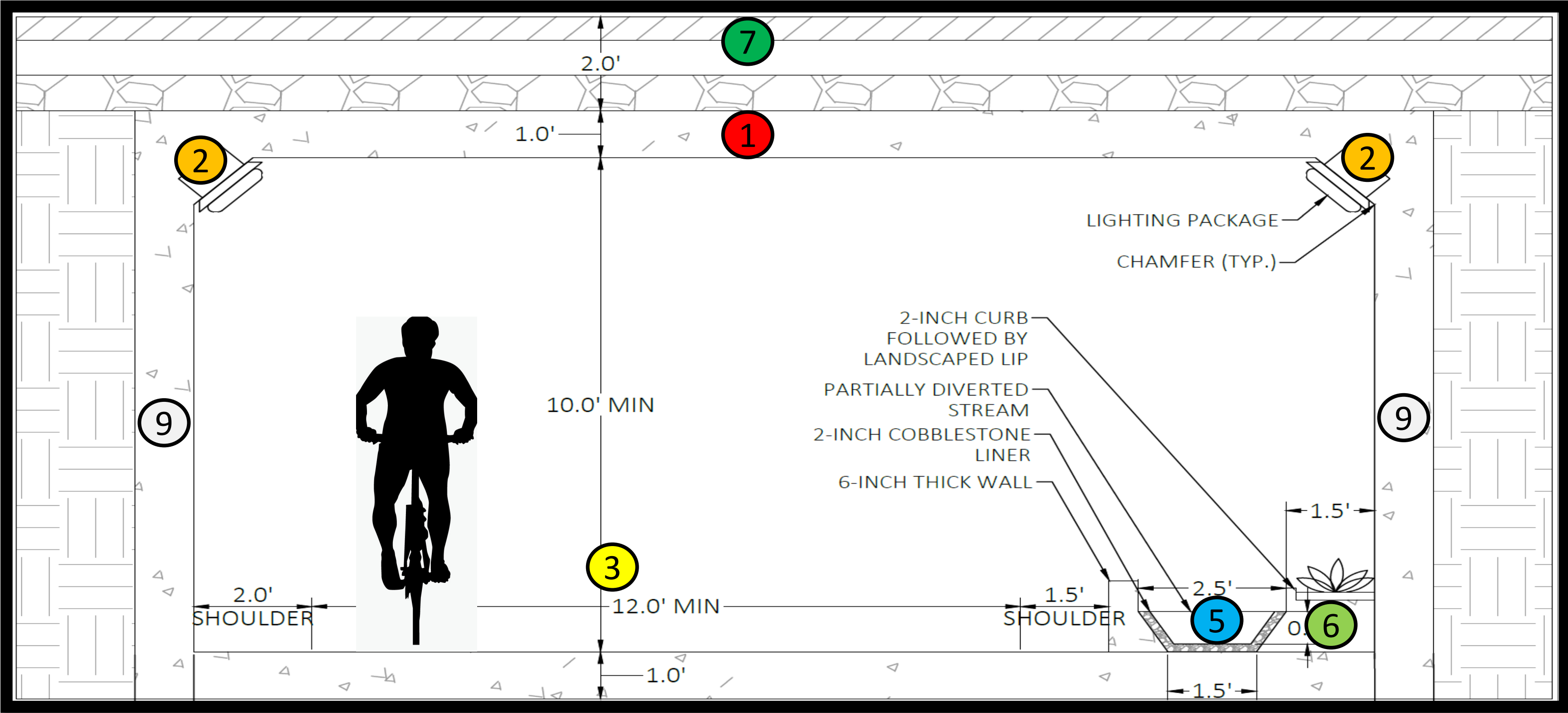


<http://www.carolinareadymixinc.com/retaining-walls/>

Verti-Block Retaining Walls



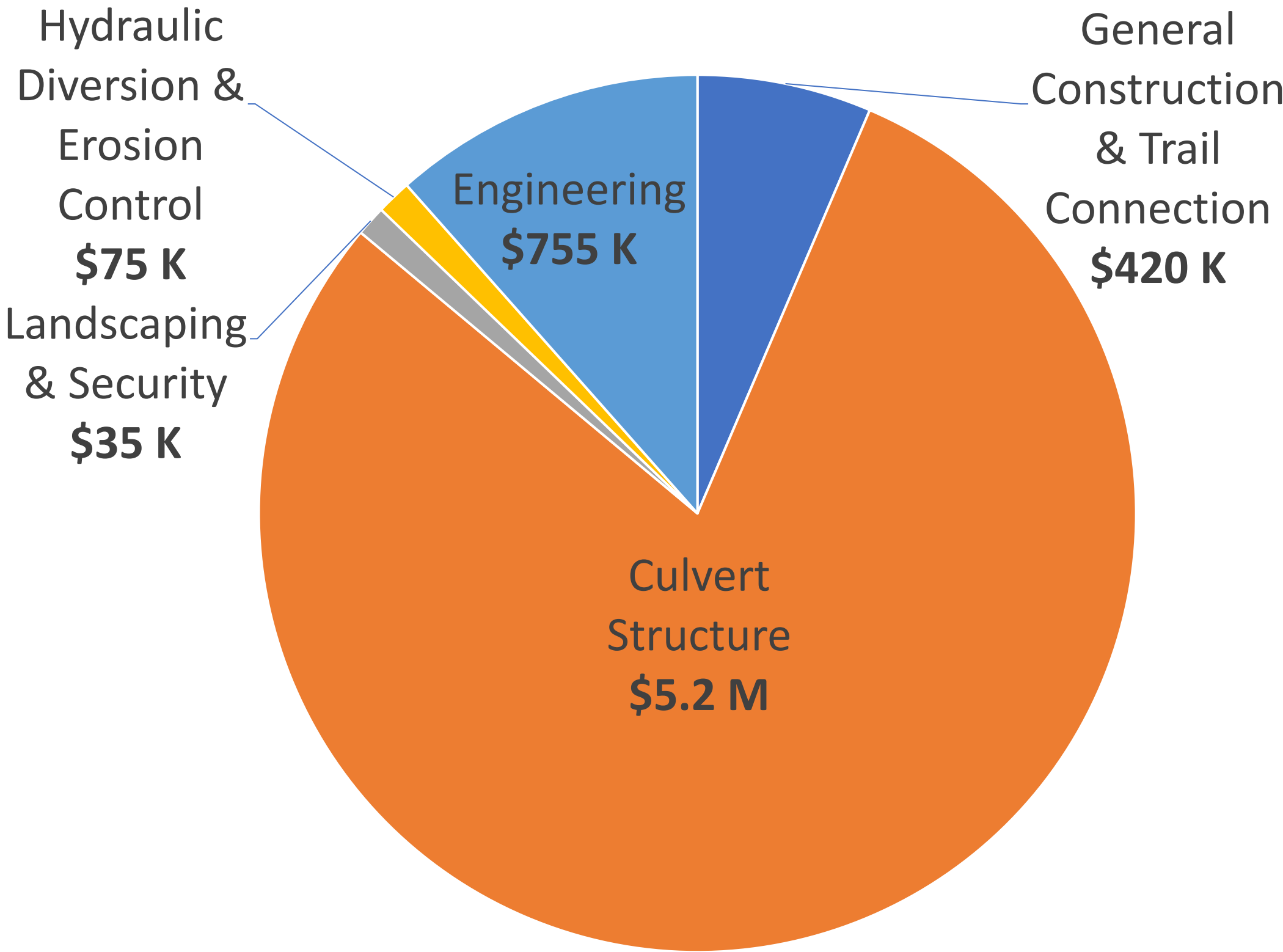
Design Summary of Effectiveness



Project Criteria Accomplished

- 1 Change of Grade Crossing
- 2 Safe and Attractive
- 3 Accommodates All Ages & Abilities
- 4 Connects to Future Trail System
- 5 Incorporates Red Butte Creek

- 6 Beautification and Landscaping
- 7 Minimal Disturbance to Traffic
- 8 Flood Control
- 9 Implements Crime Prevention



Preliminary Project Cost Estimate	\$5,032,048.00
Contingency (15%)	\$754,807.00
Construction Design & Engineering (15%)	\$754,807.00
Grand Total	\$6,541,662.00