

PROJECT OVERVIEW

SITE LOCATION



Source: Google Earth

EXISTING CONDITIONS



Source: Google Earth

Current site has no drainage, and the intersection is unsignalized and stop controlled traffic at Cook Avenue and O.B. Riley Road in Tumalo, Oregon

PROJECT OBJECTIVES AND DESIGN ALTERNATIVES

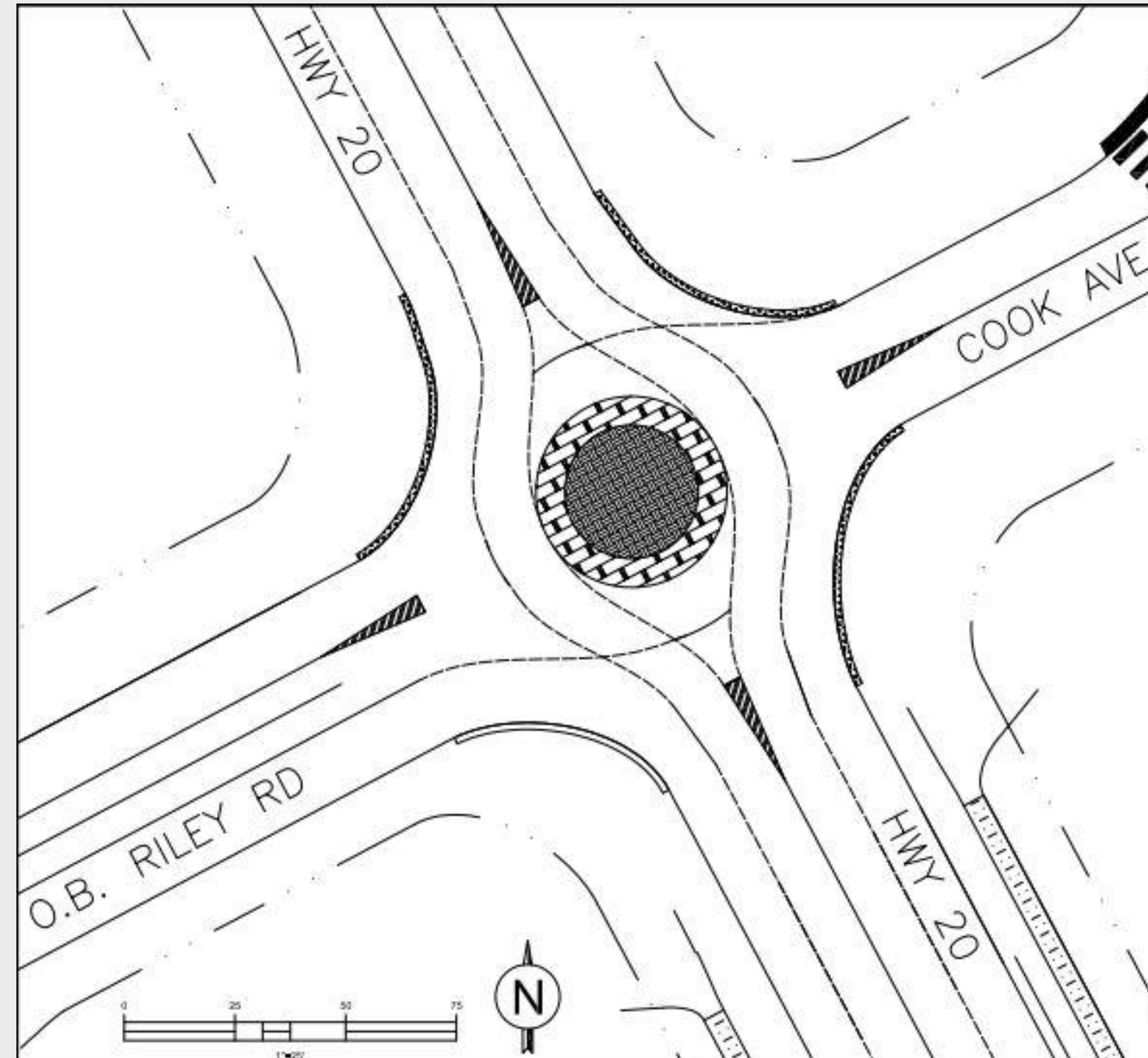
- Decrease the number of vehicle crashes
- Improve stormwater facilities
- Improve traffic flow and vehicle queuing
- Improve bicycle and pedestrian safety



# Tumalo Intersection Project

Located on U.S. 20 at Cook Avenue & O.B. Riley Rd

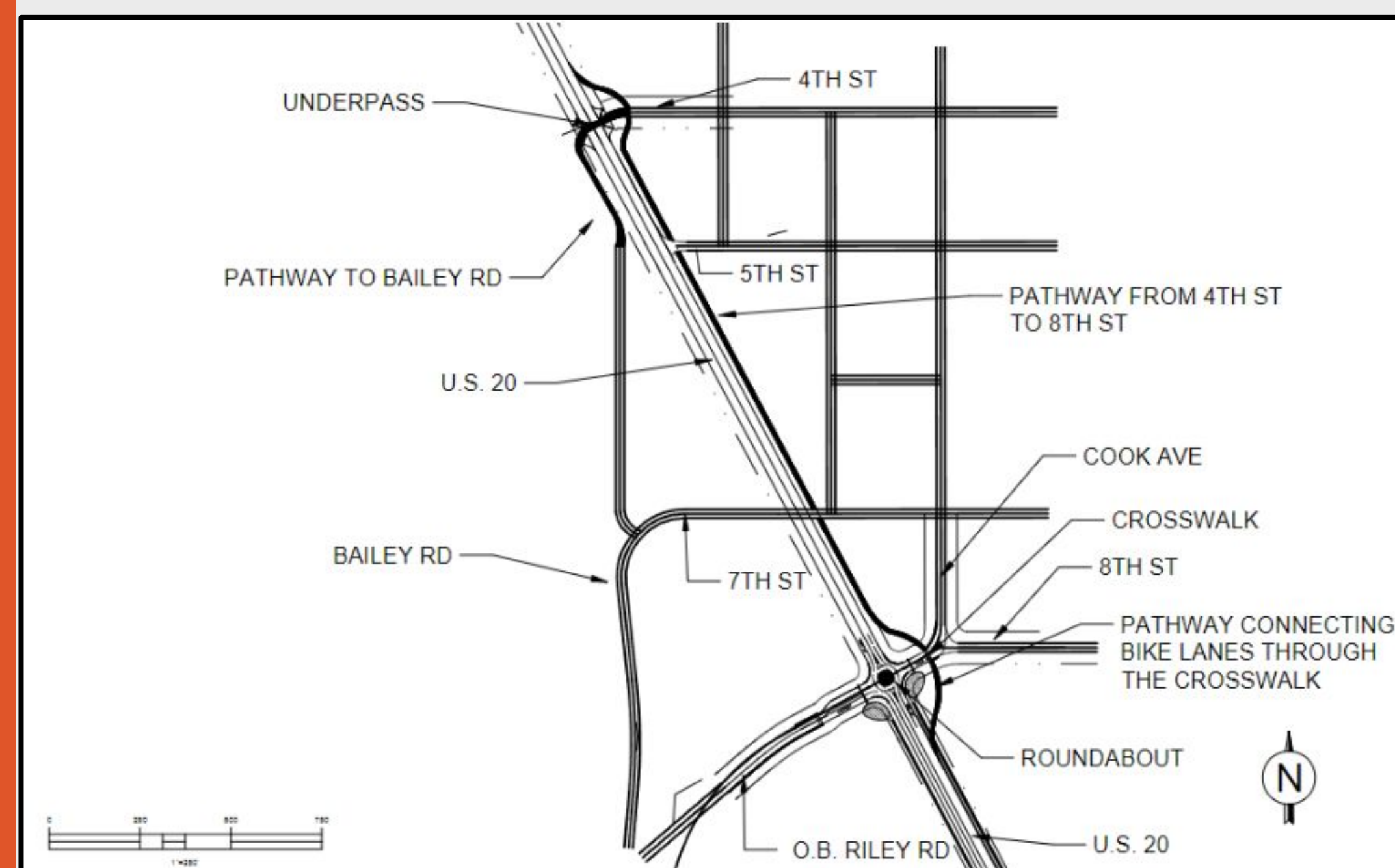
By: Kirk Dibert, Nolan Fragio, Rachel Matthes, Emmelie Schultheis, Sneha Suresh



PROPOSED SITE PLAN

The finalized design will change the unsignalized intersection into a roundabout in addition to implementing an underpass for pedestrians and bicyclists and bioswales for drainage. These changes will improve traffic flow, manage water, and will make drivers, pedestrians, and bicyclists feel safe when commuting through Tumalo.

PROPOSED SITE PLAN EXPANDED



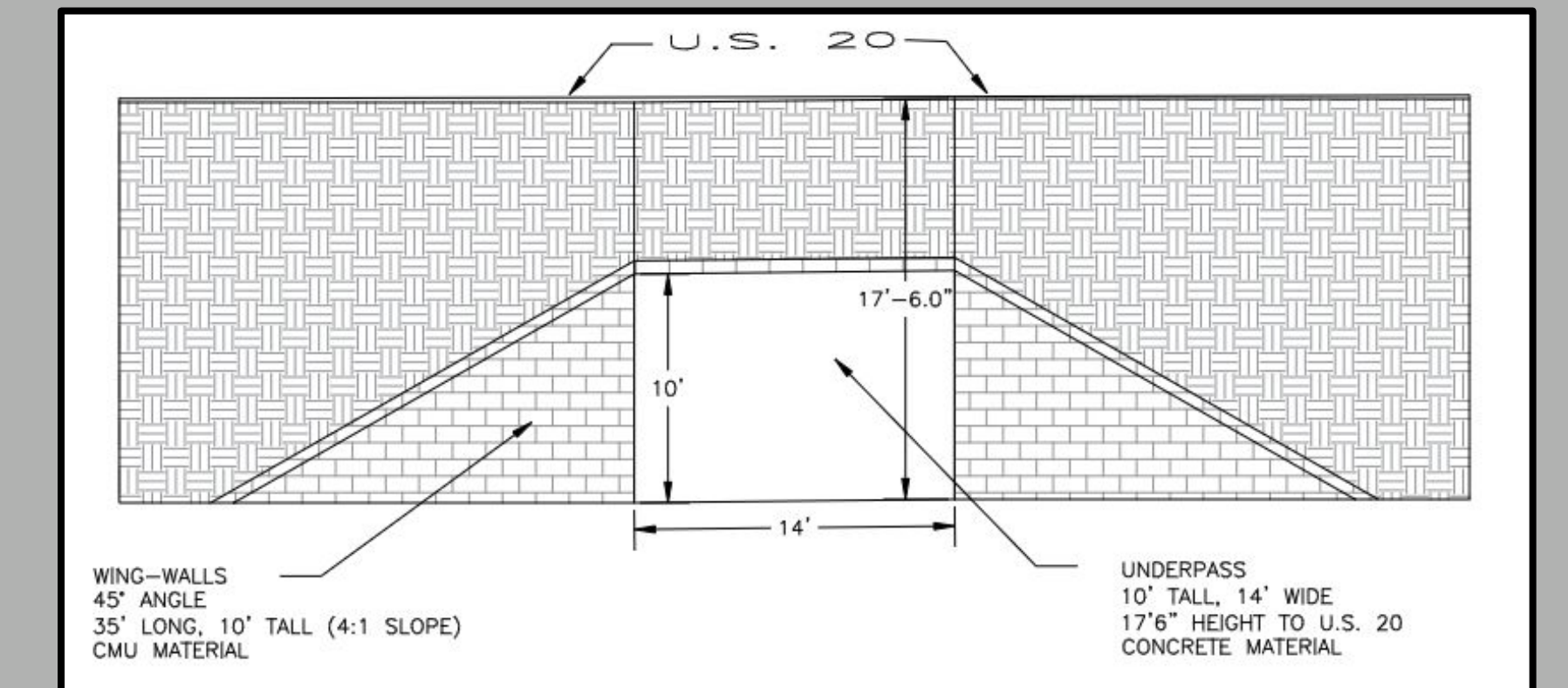
DECISION MATRIX AND DESIGN ALTERNATIVES

	Signalized	Roundabout	Over/Under Passes
Safety	4	4	3
Mobility	3	4	3
Resilience	2	4	4
Maintenance	2	3	3
Bikes	4	3	3
Pedestrian	5	4	3
Cost	2	3	1
Sustainability	3	3	3
<b>Final Score:</b>	<b>25</b>	<b>28</b>	<b>23</b>

5- excellent, 4 - good, 3- average, 2 - poor, 1 - very poor

TRANSPORTATION

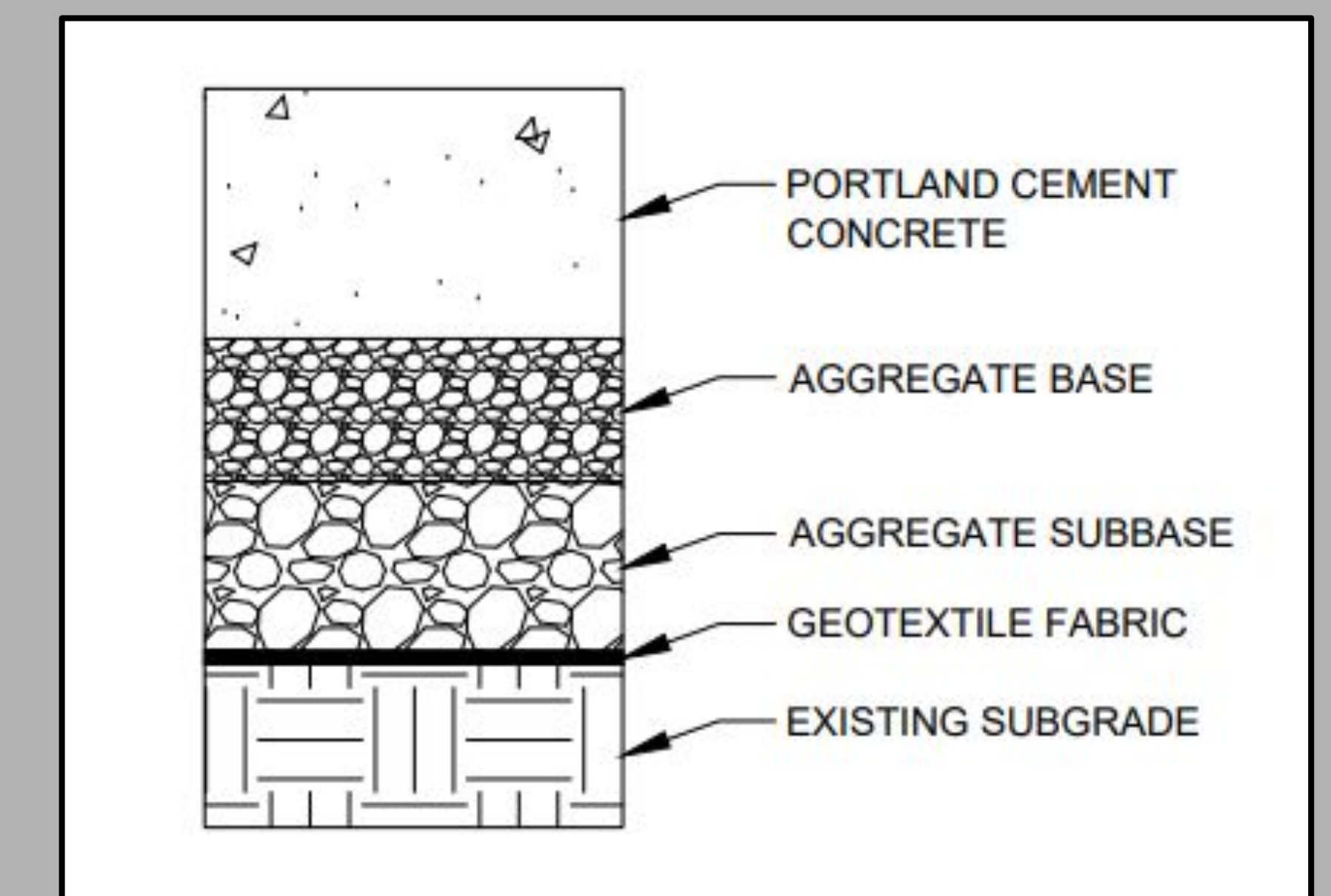
- Signing and striping will be designed according to MUTCD standards
- Proposed 10' underpass design
- 14' travel lanes
- Crosswalk ramps are compliant with ADA standards
- Additional multi-use paths made to improve connectivity



UNDERPASS DESIGN

GEOTECHNICAL

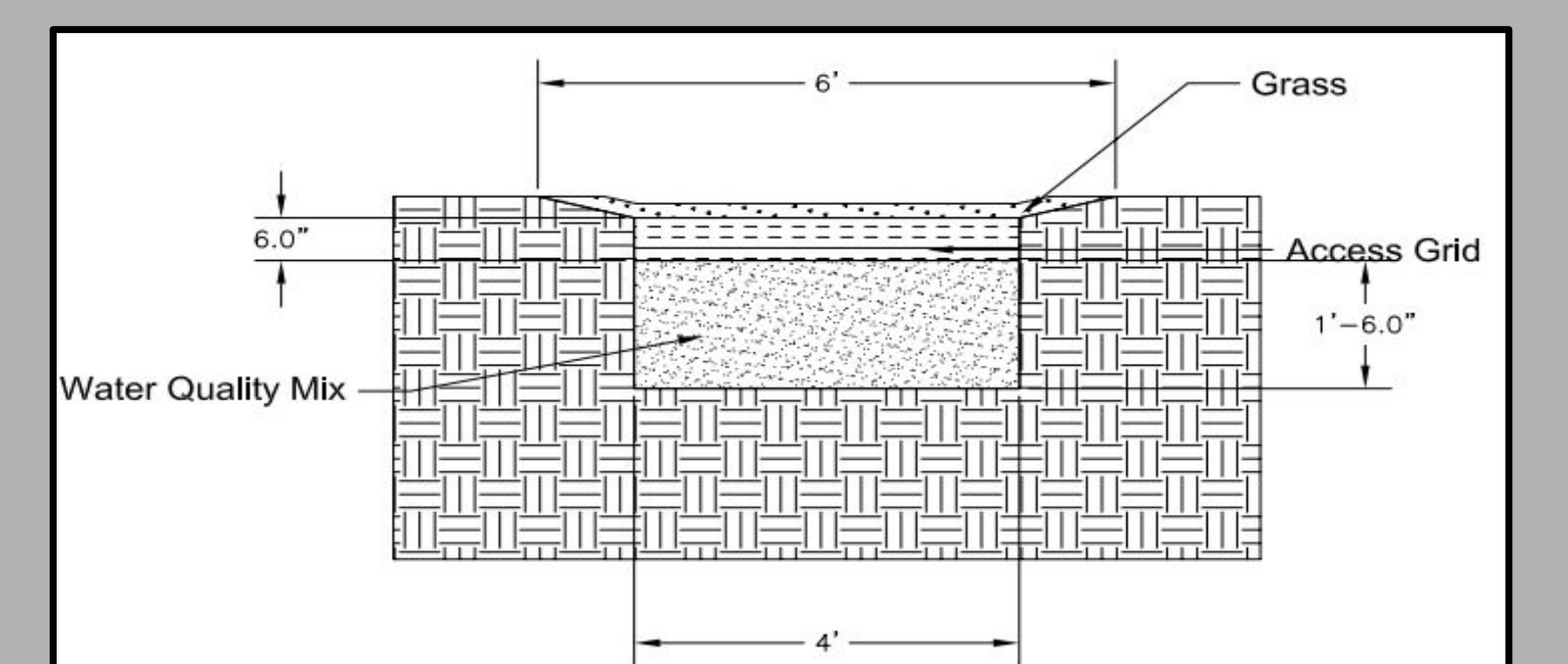
- Proposed pavement cross section based on a 40-year design life



PAVEMENT DESIGN

WATER RESOURCES

- Using bioswales and pipes for the water drainage system
- Using a slope in the underpass to naturally drain water with gravity
- Hydraulics Manual Chapter 14 APPENDIX B - Biofiltration Swales



BIOSWALE DESIGN