

Information signing- Street or road name and bridge clearance. Can be attached to bridge girder.

Adequate width for horses and wildlife.

Center line of trail marked with reflective paint for added visibility.

Trail connection to roadway above-and to bike lane or sidewalk. Connection needed on both sides of bridge. Sign identifying trail corridor is helpful.

Bridge Underpass

Bikeway and Pedestrian trails under bridges, typically adjacent to streams or rivers

This is a common condition where open space corridor trails along major water courses pass under roadway and railway bridges. Fitting newer trail requirements with older bridges has been a challenge with many compromises to good trail design being necessary. Outlined here and in this report are some criteria to add to the hydraulic and structural requirements for new trails and bridges.

Flooding- The trail should be located high enough above the stream normal low flow that it may flood or be covered infrequently perhaps 2 to 3 times per average year .

Vertical Clearance - Should be 10 ft . This will allow for equestrian trail use and game crossing. Some larger maintenance vehicles can also utilize this clearance.

Lighting- while not as critical as underpass tunnels, may be necessary for wider bridges or on commuter trail routes. Indirect reflected light is also better because trail users will often emerge at either end into the darkness of the surroundings.

Trail Alignment- Clear direct approaches to the structure with a 90 degree, relatively flat alignment, help trail users to anticipate trail conditions and see oncoming traffic.

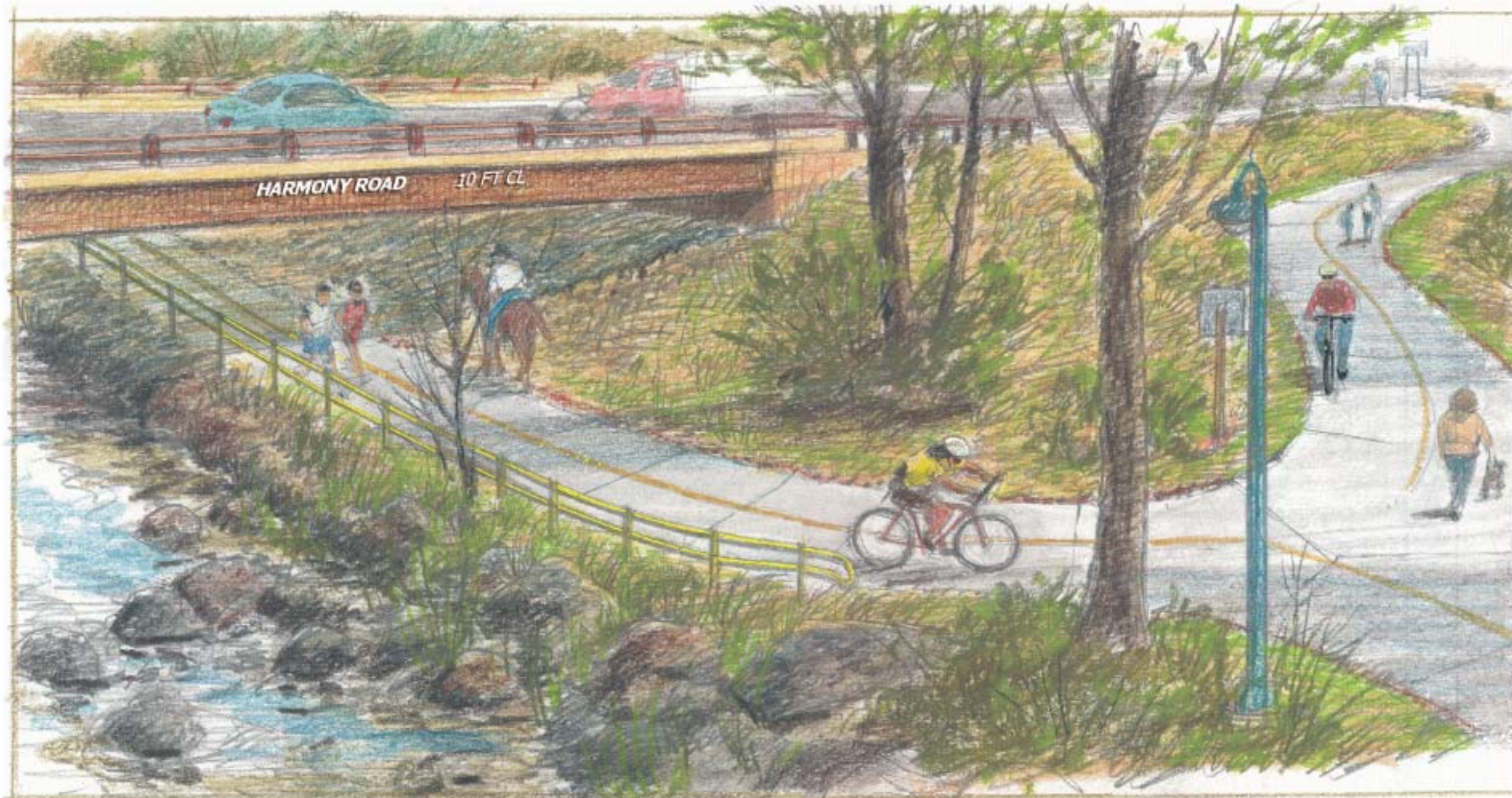


Illustration by: Frank Millenberger Landscape Architect

Enhance stream habitat and aesthetics by using a variety of boulder sizes for channel protection.

Railings - where steep or abrupt slopes present hazards.

Align trail to minimize impacts with adjacent wetland, riparian vegetation. Provide buffer space between trail and water course where possible. Preserve and protect significant large trees.

Intersection with connecting trail should have clear sight lines in all directions and flatter grades if possible. Adequate radii at corners help with trail safety.

Trail Centerline with reflective paint. Reflective paint or reflectors may also be appropriate for railings.



Illustration by: Frank Millenberger Landscape Architect

Trail Bridge over Drainage Way

Bikeway and pedestrian trail bridges over smaller streams

For larger rivers use overpass guidelines.

Stream hydraulics are the major factor in bridge length and channel width. Bridge and trail height should be set so trail may only flood 2-3 times per year. This is more critical for commuter routes where users depend on regular accessibility. Likewise the trail approaches should be high enough above stream flows to be free of at least yearly flooding.

Trail alignments should approach bridges at right angles with wide radius curves to enable trail users to approach bridge with a clear line of sight.

Trail and bridge should also be located where they would minimize disturbance to native ecosystems and stream habitat. Route trail around large existing trees.

Right angled, wide radii approach to bridge with open sight lines.

Landscape treatment - When traversing a native riparian area, stream channel improvements should complement the native landscape setting or stream habitat. More random boulder treatment and channel width variation should be considered.

Flair ends of railings and extend beyond edges of bridge deck toward approaches.

Downcast area lighting for bridge area, 12 ft height poles.

If in a park setting, amenities like benches, information signs or trash receptacles may be appropriate.