

SECTION 12

BIKEWAYS

12-1 GENERAL - The City of Grass Valley bikeway standards are designed to insure that transportation and recreational bikeways are constructed in a manner that would provide a safe and comfortable use by both bicycles and pedestrians. Bikeways shall be designed to enhance safety and reduce maintenance.

12-2 DESIGN CRITERIA -

A. All bikeway design shall conform to the latest editions of the following documents:

1. The State Highway Design Manual, chapter “Bikeway Planning and Design”
2. The CMUTCD
3. The Construction Standards and these Design Standards

B. Bikeways are required on all collectors and arterials.

12-3 PLAN APPROVAL - Prior to construction of any bikeway related improvements, a complete set of bikeway improvement plans must be approved and four (4) sets of approved plans provided to the Engineering Division.

12-4 BIKE PATHS IN FLOODPLAINS - When a bike path is to be located in the floodplain, the path shall be designed to be no less than 1.0-foot below the 100-year storm event water surface elevation (100-WSE). Exceptions to this requirement may be allowed where the path goes under existing bridges to accommodate minimum vertical clearance. All segments of the path that are below the 100-WSE shall be Portland Cement Concrete, or other approved material, with toe protection to prevent the path from being undermined during flood events. All segments of the path that are more than 45 degrees to the directional flow of the water shall be Portland Cement Concrete, or other approved material, and shall have armored embankments with toe protection to prevent the path from being undermined during flood events.

12-5 BIKE BRIDGES IN FLOODPLAINS - When a bike or pedestrian bridge is to be placed in the floodplain, the minimum elevation of the bridge deck shall be no more than 1-foot below the 100-WSE. Bridge railings shall be designed to sustain the 100-year flood event without damage and without human intervention. Hydraulic and structural calculations shall be based on the assumption that the bridge (with railings) is solid, not assuming that water will pass through the rails.

Bridge railings shall be a minimum of 54-inches high, and shall have a toe board at the base of the guardrail.

All material used on the bridge shall be water resistant.

A Letter of Map Revision (LOMR) may need to be submitted to FEMA for approval, as determined by the Public Works Department.

Approach ramps to the bridge shall be armored to allow for cross flow around the bridge without damage to path. Where feasible, the approaches to the bridge shall contain a dip in the profile (lower than the bridge) to facilitate the water to flow around the bridge instead of directly over it. All portions of the path that are more than 45 degrees to the flow path, shall be Portland Cement Concrete, or other approved

material, and shall have armored embankments with toe protections to prevent the path from being undermined during flood events