



# Bridges and Culverts

## Building Permit Requirements

### **What is a Crossing?**

A crossing is a bridge or culvert that is designed to allow the movement of people or equipment across streams, rivers, creeks, or irrigation ditches.

### **Why do crossings need a Building Permit?**

Properly designed and constructed crossings ensure public safety and compliance with drainage and floodplain requirements.

### **Are there other County Permits required for my crossing?**

[Other County permits](#) that may also be applicable for your project are a Floodplain Development Permit, Right-of-Way Work Permit, Access Permit, Private Road Construction Permit, and Development Construction Permit.



### **When are Building Permits applicable?**

A building permit IS required for construction or repairs to a crossing when the crossing meets any of the criteria below and when the work is not already permitted under a County Right-of-Way Work Permit, Access Permit, Private Road Construction Permit, or Development Construction Permit:

1. Any vehicular bridge, including a private bridge on private land.
2. Any pedestrian bridge that is intended for public use.
3. Any culvert or private pedestrian bridge that crosses a drainage shown on the County [Major Drainage Area of Interest Map](#)

A building permit for a crossing is NOT required when the crossing meets the following criteria:

1. Any crossing constructed under a Right-of-Way Work Permit, Access Permit, Private Road Construction Permit, or a Development Construction Permit.
2. A culvert crossing or private pedestrian bridge that is not within one of the drainages shown on the County [Major Drainage Area of Interest Map](#).

\* All crossings not requiring a permit are still expected to meet all of the County's stormwater, floodplain, and structural requirements.

## **Permit Process**

1. The building permit is issued by the Larimer County Building Department

**Primary Contact:**

Eric Fried, Chief Building Official  
Phone # (970) 498-7705

2. Prior to permit application, the applicant will need to contact the Engineering Department to discuss the project, drainage and floodplain requirements and the potential need for a floodplain development permit and other permits. **Primary Contact:**

Eric Tracy, Floodplain Administrator  
Phone # (970) 498-5729

3. Irrigation companies must review and approve all proposed crossings of their irrigation ditch.

**Primary Contact:**

Affected [Irrigation Ditch Company](#)

4. The applicant is responsible for ensuring that they have received any other necessary easements from adjacent property owners and permits from other agencies. The 404 permit from the U.S. Army Corp of Engineers (USACE) and access permits from the Colorado Department of Transportation (CDOT) are the most common additional permits that are required.

**Primary Contacts:**

(USACE) Denver Regulatory Office  
Phone # (303) 979-4120

(CDOT) NE Colorado Region 4 Office  
Phone # (970) 350-2163

## **Submittal Requirements**

1. A building permit application form
2. Five (5) copies of a plot plan
  - Drawn to scale showing location of the crossing (See Plot Plan Requirements Handout)
3. Two (2) copies of the construction plans and the hydraulic and erosion protection report
  - Plans and report must be signed and stamped by a registered Colorado professional engineer.
  - Plans for a crossing of an irrigation ditch must be signed by an appropriate representative of the affected Irrigation Company
4. Prior to a letter of completion from the Building Department, the applicant must submit to the Building Department a certification letter, signed and stamped by a Colorado registered professional engineer, verifying:
  - The crossing was inspected during the construction process.
  - The construction was completed pursuant to the approved plans and reports.



## **Technical Requirements**

1. The hydraulic and erosion protection analysis must verify that the capacity of the crossing meets the minimum County drainage and floodplain requirements, including appropriate countermeasures to protect against scour and erosion. For example:
  - All crossings, whether public or private, must show no adverse impact on adjacent property during a 100-year flood. A crossing within a FEMA regulatory floodplain must be shown to not cause a rise in water surface elevations or a Conditional Letter of Map Revision (CLOMR) is required.
  - Crossings intended to serve the public must convey the peak flow shown in Chapter 6 of the Larimer County Rural Area Road standards.
  - Crossings within a private easement or on private land must at a minimum convey the 10 year design flow and meet County floodplain regulations.
  - Freeboard and erosion protections for bridges must be based on the CDOT Drainage Design Manual.
2. Crossings must be designed to the most current edition of the standards and specifications below. The emergency service providers should be consulted for additional loading and width requirements.
  - American Association of State Highway & Transportation Officials (AASHTO) Standard Specification for Highway Bridges (17<sup>th</sup> Edition) or AASHTO's LRFD Bridge Design Specifications. All crossings must be designed to a minimum loading of HS20-44 or HL-93.
  - Colorado Department of Transportation (CDOT) Standard Plans, and M & S Standards.