



**Boulder County
Community Planning &
Permitting Department
Publications**

Driveway Access for Emergency Vehicles

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Permitting Department**
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Driveway Access for Emergency Vehicles

Emergency personnel try their best to respond to calls in a timely manner, often while negotiating difficult terrain. Planning for access by emergency vehicles improves safety for homeowners and their families by providing for a more efficient response by firefighters and other emergency personnel arriving on the scene. This is especially important in rural and mountainous areas where response times may be considerably longer than in cities, where emergency services are closer by.

Driveway Width, Height, and Grade

In order for emergency vehicles to safely access your property, your driveway must have a clean, dry all-weather surface that is able to provide adequate support for large, heavy vehicles. This may require that the drive be graded and a minimum of 4" of road base be added.

- In order to allow for the passage of large vehicles such as fire engines, driveways are required to have an unobstructed vertical clearance of 13 feet, 6 inches. This may require limbing and/or removing trees and brush to provide the necessary vertical clearance
- Driveways must have a minimum 10' wide drivable surface in the plains (12' in mountains), with a 2-foot clear zone on each side of the driveway (overall horizontal clearance = 14' plains, 16' mountains). This may require the removal of boulders and burying utility lines to provide adequate sight distance and drivable width surface for emergency vehicles.
- Grade must also be considered. The maximum grade for a driveway is 12%.
*Note: In the mountains, 14% for up to 200 feet is permitted, though an access serving a single dwelling unit may use 16% for up to 200 feet.

Sharp turns are discouraged. The minimum centerline radius for a driveway curve is 40 feet, with a maximum 6% grade through the curve. A driveway serving a single dwelling unit may use up to 8% with 2 feet of additional width. The drive may need to be straightened or rerouted around rock outcrops and steep banks to achieve this.

Pull-Outs

Pull-outs allow emergency vehicles to pass one another and other private vehicles on one-lane driveways during emergency operations. Pull-outs are required at 400-foot intervals along a driveway or private access road. They must be designed to be of sufficient length and width for emergency vehicles to pass one another, while at the same time minimizing site disturbance. Pull-outs must be a minimum of 8 feet wide and at least 55 feet long (including tapers) to accommodate a fire engine. Total driveway width at pullouts will be a minimum of 20 feet in the plains (22 feet, mountains).

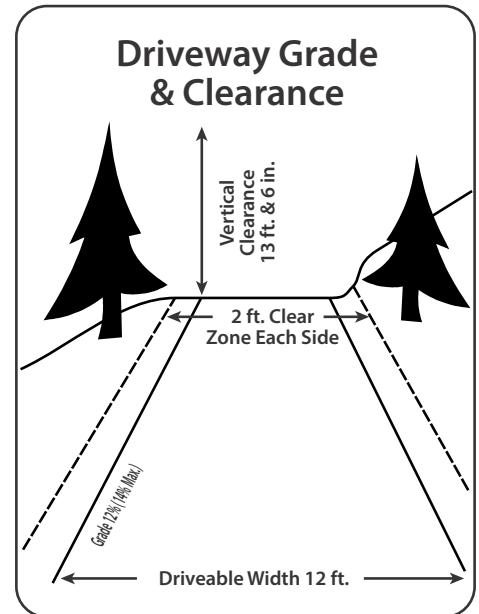


Figure 1: Driveway Grade & Clearance

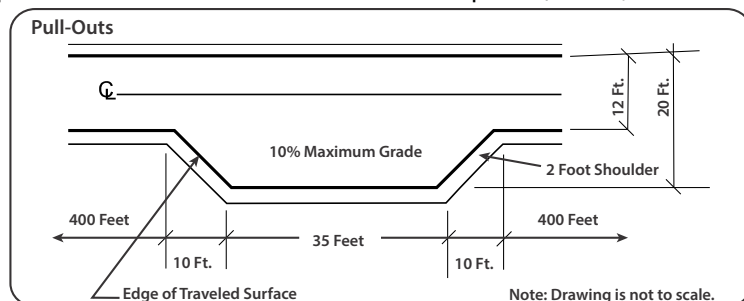


Figure 2: Driveway Pull-Out

Turnarounds

Emergency personnel must be able to reverse the direction of their emergency vehicles once they arrive at the house. This is for the safety of emergency personnel as well as for workability, since many firefighting operations take place from the rear of the emergency vehicle. A turnaround is required if a structure is more than 150 feet away from a public or private road. The turnaround must be located a minimum of 50 feet from the front and no greater than 150 feet from the rear of the structure. Two turnaround designs, the "Y" and the "Hammerhead", are preferred by Boulder County because they provide the necessary turn-around requirements while minimizing site disturbance. Other configurations may be possible, but regardless of the design, they must meet the minimum turning radius of 30 feet.

Access Guidelines

Access design should be guided by the Boulder County Multimodal Transportation Standards and the needs of your local Fire Protection District. It is always helpful for you to discuss your project with these agencies before you submit for any Land Use Review. This will help determine what kind of emergency access, turnarounds and pullouts will work best for your site.

Ultimately, accesses must comply with the county's Multimodal Transportation Standards for emergency access. These requirements may differ somewhat from the Fire Protection Districts suggestions, because while they can focus their comments specifically on the emergency service requirements, the Land Use review must address a wide range of issues.

Address Signs

All new structures must have a permanently posted sign with a green background and white reflective address numbering.

- The address sign must be placed and maintained at the driveway entrance. It must be visible from both directions of travel along the main road or access route.
- Signs must be mounted on a metal t-post or other noncombustible support, not on a wooden post or to a live tree.
- On multiple household driveways, address signs should be placed at the entrance of the drive and also in a location that clearly indicates where each home is located.

Address signs issued by Boulder County will be mailed to you within 45 days of building permit application. If you do not receive your sign within this period, please contact Community Permitting & Planning at 303-441-3930.

Bridge Load Limits

Emergency vehicles are very heavy and will not cross bridges that do not have a sufficient posted weight capacity. The load limits for a bridge must be posted at both entrances of the bridge.

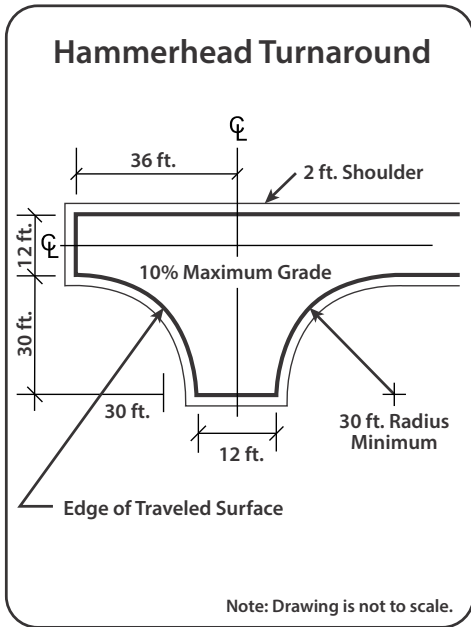


Figure 3: Hammerhead Turnaround

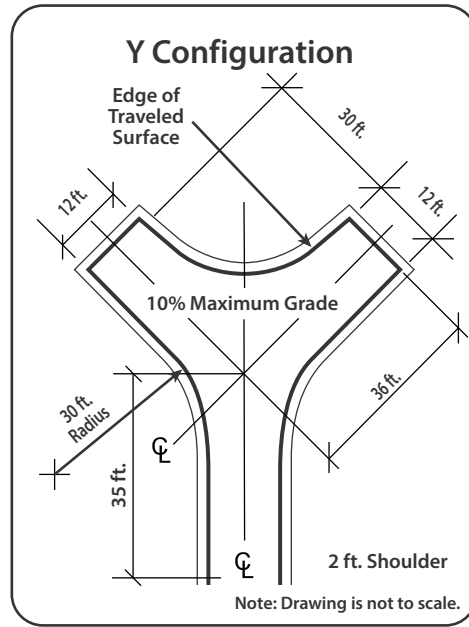


Figure 4: Y Configuration

Location

Emergency turnarounds and pullouts must be unobstructed and may not be used for other purposes, such as parking of private vehicles. The turnaround centerline shall not be closer than 50 feet to the front of the structure and no further than 150 feet from the rear of the structure. The 50 feet distance shall be met if both distances cannot be simultaneously achieved due to the shape of the structure. Pullouts must be placed at 400-foot intervals along the driveway.

The exact location for a turnaround or pullout can be modified to accommodate physical barriers such as rock outcrops, steep drop-offs, bodies of water, and other such features.

Exceptions or modifications to any of these requirements must be approved by the County Engineer and/or the Fire Protection District.

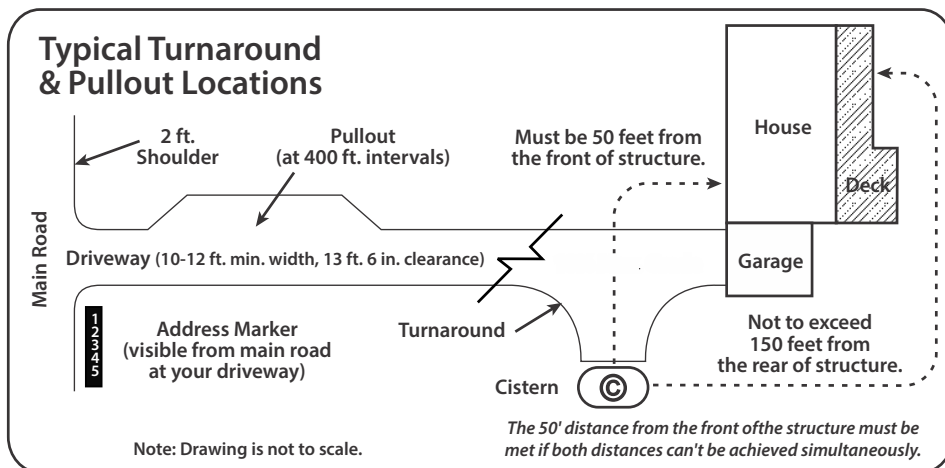


Figure 5: Typical Turnaround and Pull-Out Locations