CUSTER COUNTY HIGHWAY DEPARTMENT

ROAD AND APPROACH SPECIFICATIONS

Approved by the Board of Commissioners on 12/28/06 & 6-29-22 (revisions)

ROADS-PUBLIC RIGHTS-OF-WAY

The following minimum construction standards shall apply to all newly constructed public roads within Custer County, unless otherwise first approved in writing by the Custer County Highway Superintendent. The Custer County Highway Superintendent may require plans prepared by a Professional Engineer when waivers or variances to these Specifications are requested. It is understood that many pre-existing roads within Custer County were constructed prior to this document at a standard less than listed below. In the interest of public safety; improvements to any existing roads should follow these specifications whenever possible.

1. The minimum unobstructed vertical clearance above the driving surface shall be fourteen feet (14').

2. The minimum roadbed width below the driving surface shall be twenty-four feet (24').

3. The entire driving surface will consist of at least four inches (4") of gravel compacted to a uniform consistency.

4. Gravel shall consist of ¾ inch or 1 inch surfacing gravel containing acceptable fine material and binder. No 'clean rock' or 'con rock' will be allowed.

5. Application of dust control measures, such as magnesium chloride, may be required.

6. Driving surface vertical grade:

   A. The vertical grade of the first thirty feet (30') of driving surface from any intersection shall be at zero percent (0%) plus or minus two percent (+-2%)

   B. All vertical grade transitions shall be smooth.
   C. No vertical grade shall exceed twelve percent (12%).
   D. Vertical grades shall not exceed the maximum unless first approved by the County Highway Superintendent. In no case shall the grade be so steep as to impede use by emergency vehicles. Should such a grade be determined to exist, a "miscellaneous document" shall be filed with the Register of Deeds that states: "This property is served by a road that contains grades that may make this property inaccessible to emergency vehicles under certain weather/road conditions. Please consult with your local emergency service provider."

7. Road alignment requirements:

   A. Minimum radii of the road centerline on horizontal curves shall not be less than one hundred feet (100').
   B. Roads must be designed to eliminate bends, crooks, and other undesirable or hazardous road conditions.

8. Intersection requirements:
   A. A detailed design is to be submitted for intersections that are either unusual in shape or are located on difficult terrain.
   B. Acute angles at road intersections are to be avoided. Angles of less than eighty degrees (80^0) are not permitted.
   C. The shoulder radius at intersections shall not be less than twenty-five feet (25').

9. Culverts shall:

   A. Have a minimum diameter of eighteen inches (18").
   B. Be of a size, type, and length to assure proper drainage and be approved by the County Highway Superintendent prior to installation. Design of culverts by a licensed professional engineer may be required.
   C. Be marked by Type 2 object markers to AASHTO MUTCD standards.

10. Cattle guards shall be at least two feet wider than the minimum- driving surface width and centered on the centerline of the driving surface. Installation and maintenance of cattle guards is the responsibility of the adjacent landowner per SDCL 31-25-2 and -3.

11. Ditches shall be of sufficient depth and design to adequately move water from the roadbed. It is recognized that Custer County has very diverse terrain and, as a result, a monolithic standard is difficult to apply. The following standards are to be aspired to but may be waived with prior written approval of the County Highway Superintendent. Waivers shall be based on an inability to meet these standards due to on-site construction constraints:

   A. A minimum bottom depth of two and one-half feet (2.5') below the driving surface.
   B. In-slopes of 3:1 or shallower for a minimum of six horizontal feet (6') from the edge of the road surface.
   C. Back-slopes shall not exceed 2:1 without prior written approval of the County Highway Superintendent. Certification as to soil stability by Professional Engineer may be required.
   D. Erosion control structures where deemed appropriate by the County Highway Superintendent.
   E. Guardrail installation to AASHTO's Roadside Design Guide standards where terrain constraints and roadway design give rise to safety concerns for drivers that can only be addressed by such guardrail installation.
   F. The County Highway Superintendent may require certification by a Professional Engineer as to soil stability and guardrail installation should design parameters exceed the above standards.

12. The developer shall be financially responsible for the installation of traffic signs. Traffic signs shall conform to AASHTO MUTCD standards. The County Highway Department shall install all traffic signs. After initial installation, maintenance and replacement of signage will be the responsibility of the landowner/persons/agency/road district charged with maintenance of the roadway.

13. All dead-end roads longer than one-fourth (^{1}/4) mile may be required to have intermediate turn-arounds that are spaced no farther apart than one-fourth (^{1}/4) mile. Approaches for private access roads or driveways may be designated as intermediate turn-arounds and constructed to conform to the "Approach" section of these Specifications.

14. Turn-around design or exceptions sought as a result of this provision must receive written approval by the County Highway Superintendent prior to construction.

15. Roads designed to have one end permanently closed shall be provided at the closed end with a turn-around having a minimum right-of-way diameter of one hundred and thirty feet (130') and a minimum roadway diameter of one hundred feet (100').

16. Additional minimum construction standards for Low-Volume Roads:

    A. Minimum driving surface width of twenty feet (20').
    B. Low-Volume Roads shall provide access for no more than twenty-five (25) dwelling units.

17. Additional minimum construction standards for High-Volume Roads:

    A. Minimum driving surface width of twenty-four feet (24').
    B. High-Volume Roads shall provide access for more than twenty-five (25) dwelling units.

18. Road surface widths shall not be less than the minimum.

20. All public rights-of-way shall be at least sixty-six feet (66') wide.

21. Recommendations for speed limits, signage, and guardrail location to be provided to the County Highway Superintendent by the developer for review and approval prior to construction. The County Highway Superintendent may require that a Professional Engineer make said recommendations.

APPROACHES

General Information

Private roads and driveways are considered to extend as far as the edge of the driving surface of the public road (the through-traffic, or traveled lanes). The approach is that portion of the driveway that crosses the public right-of-way from the right-of-way boundary to the edge of the driving surface. The road's shoulder extends from the edge of the driving surface to the point where the inside slope of the adjacent drainage ditch beyond (see diagram).

The construction and maintenance of an approach and any appurtenances is the responsibility of the landowner and/or permit holder. The landowner and/or permit holder is responsible for the repair, removal or relocation of any public or private utility within the public right-of-way. All materials used in construction within the public right-of-way or on permanent easements shall become public property.

Approaches to public roads are to be located to best advantage in relation to sight distances, grade and curve profiles, and road alignment. As nearly as possible, approaches should be positioned at right angles to the intersecting road.

Approach Permits

1. Custer County requires that a permit be obtained prior to the construction of an approach. An approach permit is good for one (1) approach. Permits can be obtained at the Custer County Courthouse. (see SDCL 31-24-6)

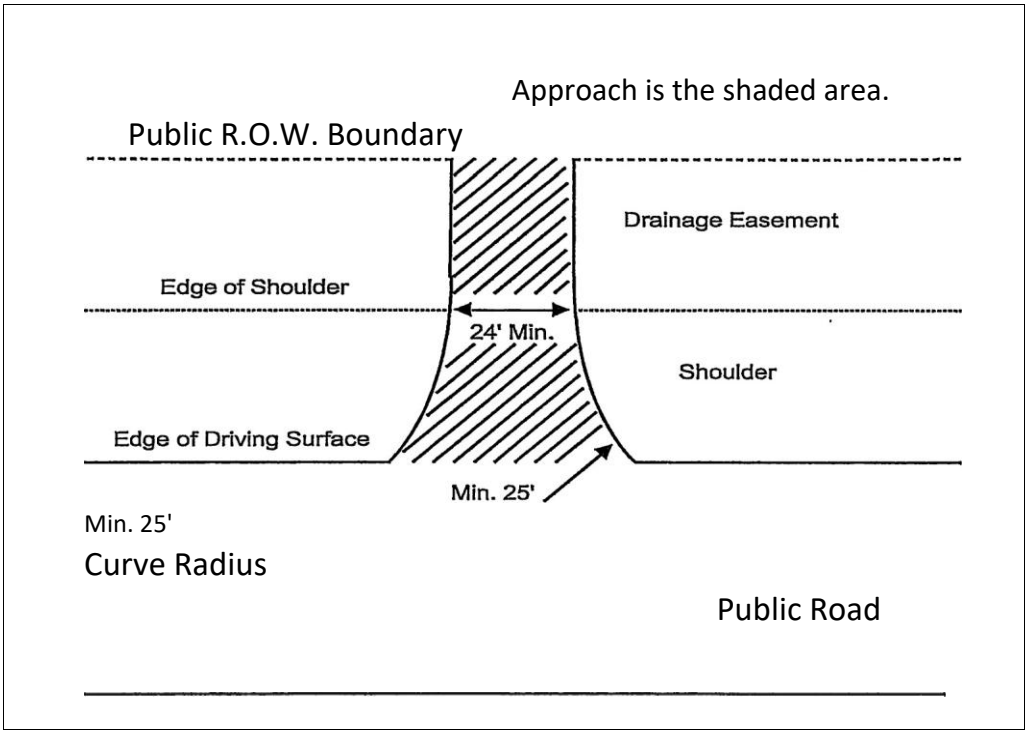
2. One (1) approach will be allowed for each lot, tract, and parcel of land or business establishment unless otherwise first approved by the Custer County Highway Superintendent. Secondary approach approval considerations will be, but are not limited to: geography, drainage, population or housing density, parcel size (road frontage). The Highway Superintendent shall make the determination whether a secondary approach will be allowed.

3. If the road is a state and/or federal highway, additional permitting requirements may apply. Contact the SD Department of Transportation, phone 605-673-4948, for information.

4. The Highway Superintendent, or his representative, may inspect the approach site before and during construction and upon completion of the approach to determine that all conditions and requirements of the Custer County Road and Approach Specifications have been met. Reconstruction, improvement or removal of the approach may be required when the landowner and/or permit holder has failed to meet required specifications with respect to design or materials.

5. The landowner has one year from the date of the approach application to complete the approach to approved specifications. If the approach is not completed by the one-year anniversary of the date of the approach application, the approach application becomes null and void, and the landowner must apply for a new approach application.

6. When construction of the approach has been completed, contact the Custer County Highway Department to schedule a final inspection. A 911 address will be assigned <u>after</u> completion and final inspection of the approach.



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Construction Requirements

1. Approaches shall be built with a minimum road base width of twenty-four (24'), a minimum shoulder radius of twenty-five feet (25'), and a driving surface at least twenty-four feet (24') wide with at least four inches (4") of gravel compacted to a uniform consistency.

2. For a minimum distance of thirty feet (30') before a private road or driveway approach intersects with the edge of the driving surface of the road, a vertical gradient of zero percent (0%) plus or minus two percent (+/- 2%) is required.

3. The edges of a private road or driveway are required to be connected to the edge of the driving surface of the road. Approaches with lesser shoulder radii may be allowed with the approval of the Highway Superintendent.

Drainage

1. All private roads and driveways must be constructed so as not to impair existing roadway drainage systems and ditches. Drainage structures are required to be of a size, type and length to ensure proper drainage at the approach site. (see SDCL 31-24-7)

2. The minimum size required for culverts is eighteen inches (18") in diameter. The minimum lengths required are thirty feet (30') or thirty-two feet (32'). Culverts must be constructed of concrete or galvanized material; however, double-walled plastic pipe may be used with the prior approval of the Highway Superintendent.
3. The required minimum bottom depth of ditches at all culvert inlets and outlets is two and one-half feet (2½') below the driving surface. Certain installations may require ditch improvement to achieve proper drainage.

4. Approval of the Highway Superintendent is required prior to the installation of any drainage structure.

Construction Recommendations for Private Access Roads and Driveways

For areas of private access roads and driveways which do not lie within the approach, a minimum driving surface width of twelve feet (12') is recommended.
In slopes (the inside slope of an adjacent drainage ditch) of 4:1 or shallower for a minimum of six horizontal feet from the edge of the driving surface of the driveway are recommended.

Vertical grades should not exceed 12% and should in no case be so steep as to impede use by emergency vehicles.

Private access roads which exceed one thousand three hundred feet (1,300') in length should provide for intermediate turn-arounds in conformity with Custer County Road Specifications.