

Subpart C. Subdivision Road Standards Applicable to All Subdivision Types and Subtypes

§42-92. Road Disclosure

North Carolina General Statute (NCGS) §136-102.6 requires a developer disclose to each buyer of property the following:

- A. The ownership (public or private) of the *road* serving the *lot*,
- B. How the *road* will be maintained, and
- C. Who shall be responsible for such maintenance.

The law further requires certain *road* maintenance agreements be executed.

§42-93. Right-of-Way

Right-of-way standards apply within the property being developed. *Rights-of-way* shall be capable of supporting a *road* by meeting the minimum width specified by this Chapter (See Table 3.3). Any portion of an existing recorded *right-of-way* which does not meet minimum width requirements of this Chapter shall be upgraded to:

- (1) Meet the full *right-of-way* requirement when the right-of-way is surrounded by or abutting the tract; or
- (2) Provide one-half (1/2) of the required *right-of-way* (measured from the centerline of the existing *right-of-way*) when the *right-of-way* is not completely contained by the tract to be subdivided.

§42-94. Out of County Access

Access to a proposed *subdivision* through another County shall meet or exceed all *right-of-way* and road requirements herein.

§42-95. Existing Private Roads

Any portion of an existing private *road*: (1) located in an existing recorded private *right-of-way* and (2) surrounded by the *tract* to be subdivided shall be upgraded to meet the *road* standards of this Subpart C (Subdivision Road Standards Applicable to All Subdivision Types and Subtypes).

§42-96. Road Construction

Roads should be constructed (1) along the contour of the land because of the difficulty of operating *vehicles* on steep grades and high potential for *erosion*, and (2) so that water will drain from the *road* surface into side ditches.

Roads shall:

- A. Be constructed with suitable stone and compacted properly,
- B. Be constructed on a subbase of suitable soil capable of supporting it, and
- C. Not be constructed on used asphalt (an unacceptable base course).

The *Subdivision Administrator* may require a professional engineer or professional surveyor to certify, or provide applicable proof, that the roads were constructed to standards prescribed in this Subpart C (Subdivision Road Standards Applicable to All Subdivision Types and Subtypes)

and approved development plan. This may be accomplished by on-site supervision by the engineer or his designee during the construction of the *road*, or through a series of core sample tests at appropriate key areas or as requested by the *Subdivision Administrator*. The core samples should be spaced accordingly and the location and number of core samples should be agreed upon by the engineer and *Subdivision Administrator* prior to testing. *NCDOT* certification is not required.

§42-97. Shoulder Stabilization

Permanent stabilization of soils to prevent erosion shall be achieved by seeding areas disturbed by the construction of a *road* (including cut and fill slopes, shoulders, ditch banks, etc.) as soon as feasible after *road* construction. The *Subdivision Administrator*, where seasonal weather prevents seeding, may require:

- A. An improvement guarantee be posted with the County to ensure the installation of permanent stabilization; and
- B. Other materials (straw, mulch, etc.) be applied temporarily until seed can be sewn.

§42-98. Road Names

Road names are required for all public and private roads (including alleys and *driveway easements*) that access more than two (2) lots. Proposed names for *roads* shall:

- A. Be pre-approved by Henderson County in accordance with Chapter 142 of the Henderson County Code, Property Addressing.
- B. Not duplicate or be phonetically similar to existing road names, irrespective of the use of the suffix (i.e., road, avenue, boulevard, drive, place, court etc.).
- C. Not exceed 15 characters, including spaces (not including prefixes and suffixes).

A proposed *road* obviously in alignment with an existing named *road* shall bear the name of existing *road*.

§42-99. Road Name Signs and Regulatory Signs

Road name signs and *regulatory signs* (speed limit signs, stop signs, etc.) shall be provided in accordance with Chapter 142 of the Henderson County Code, *Property Addressing* and with applicable local, state and federal laws, rules and regulations.

§42-100. Road Drainage and Culverts

Road drainage structures, ditches, and culverts shall be designed and constructed in accordance with *State Road Standards* and with sufficient depth and width to carry the expected volume of *stormwater runoff*. Culverts may be required where the *road* crosses streams or minor *watercourses*. *Best Management Practices* should be utilized for road swales (turf matting and vegetation, etc.) to control *erosion* and transport of *sediment* and to filter pollutants from *stormwater runoff*.

§42-101. Stub Roads

Stub *roads* shall be designed in locations which will permit the future extension of *subdivision roads*.

§42-102. Road Type Designation

Applicants shall indicate if *roads* are to be public or private on applications, plans and plats. Where private *roads* are proposed as extensions of existing *public roads*, the developer must clearly justify why proposed *roads* should not be extended for public use. Private *roads* may become public if accepted into the *public road* system by *NCDOT*.

A. *Public Roads*. Public roads (and their associated public bridges) shall:

- (1) Be designed and constructed in accordance with *State Road Standards*.
- (2) Be offered dedication to the public (though this does not guarantee *NCDOT* will accept or agree to assume the maintenance responsibility of the proposed *public road*).

B. *Private Roads*. Private roads shall be the standards of this Subpart C (Subdivision Road Standards Applicable to All Subdivision Types and Subtypes).

§42-103. Private Road Standards for Commercial, Office Institutional, Industrial, and Mixed-Use Subdivisions

Private roads and bridges shall be built to State Road Standards for commercial, office institutional, industrial or mixed-use subdivisions.

§42-104. Residential Private Road Standards by Road Classification

If not specified in Article III (Subdivision Regulations) Subpart C (Subdivision Road Standards Applicable to All Subdivision Types and Subtypes), the design and construction of private *roads* shall be reviewed using *NCDOT* standards and requirements which reflect local *NCDOT* District Engineer policy modifications.

Private roads shall: (1) Be designated based on the number of *lots* served (See Table 3.2); (2) be designed and constructed in accordance with the standards of this Article III (Subdivision Regulations) (see Table 3.3); and (3) be designed to provide, at all times, adequate and unobstructed access for emergency response.

Table 3.2 Subdivision Private Road Classification by Number of Residential Lots Served					
Road Classification	Subdivision Collector	Subdivision Local	Limited Local	Private Driveway Easement	Alley
Number of Residential Lots Served	50+	6 to 49	1-5	1-5	1-49

Private roads shall meet the minimum design and construction standards according to the following road classifications:

A. *Private Subdivision Collector Road*. A “*private subdivision collector road*” shall be required where the road serves:

- (1) 50 or more units (existing or proposed) within the proposed subdivision or as an aggregate of the proposed subdivision and any other development to which it connects,

- (2) As a through-road connecting lots within a subdivision to more than one (1) public thoroughfare, or
 - (3) A nonresidential facility within a residential development, (i.e. clubhouse, golf course, etc.)
- B. Private Subdivision Local Road. A “*private subdivision local road*” shall be required where a *private subdivision collector road* is not required and a *private subdivision limited local road* is not permitted.
- C. Private Subdivision Limited Local Road. A “*private subdivision limited local road*” shall be permitted where the road serves:
- (1) No more than five (5) *lots* or principal units.
 - (2) Only as a maintenance and/or emergency access (regardless of the number of *lots* it adjoins provided the road shall not be used to access *lots* and appropriate signage is provided).
- D. Private Driveway Easements. A private “*driveway easement*” shall be permitted where the driveway serves no more than five (5) *lots* (the *lots* served by the easement shall be identified on all plans and plats). *Final plats* must contain a note conveying maintenance responsibility of the *easement* to the homeowners’ utilizing it to access their property. The note shall state *easement(s)* must be maintained to allow clear passage for emergency response *vehicles*.

- (1) Where private driveway easements are used, the surveyor or engineer shall place and execute the following certification on the plat with their seal and registration or license number.

I, _____, Professional Land Surveyor or Professional Engineer, certify that the lot(s) created by this plat is (are) served and accessed by a recorded driveway easement shown hereon. This easement may or may not meet the standards for roads serving subdivisions in the Henderson County Land Development Code. Neither the undersigned nor Henderson County certify whether this easement meets such standards. This the _____ day of _____, 20____.

Professional Surveyor or Engineer

- E. Alley. An alley shall be permitted where the residential *lot* is also accessible by another public or private road and the alley serves as primary access for the future homeowner and for utility services (i.e. trash collection). Visitors to the residential *lot* will use the principal access road to the property.

Table 3.3. Subdivision Private Road Standards

Requirements		Private Road Classification				
		Subdivision Collector	Subdivision Local	Limited Local	Private Driveway Easement	Alley
Number of Residential Lots Served		50+	6 to 49	1-5	1-5	1-49
Right-of-Way Width (ft.)	Roads (feet)	50	45	30	-	20
	Cul-de-sac (radius)	-	50	50	-	-
Easement Width (ft.)		-	-	-	30	-
Sight Distance on Vertical Curves (ft.)		150	110	110	-	-
Center Line Curve Radius (ft.) – See section F. below		90	90	90	-	-
Maximum Grade %	Stone Only	12	15	15	-	-
	Paved Surface	16	18	18	-	-
Minimum Travelway Width (ft.) (two-way road)		18	16	16	-	12
Minimum Travelway Width (ft.) (one-way road)		12	12	12	-	12
Shoulder Width (each side, two-way road) (ft.)		6	4	2	-	-
Shoulder Width (each side, one-way road) (ft.)		2	2	2	-	-
Stone Base (ABC) Compacted (in.)		8	6	6	-	-
Asphalt		(1½ of S-9.5B or BST)				
Cut and Fill Slope		2:1	1.5:1	1.5:1	-	-
Ditch Slope		4:1	3:1	3:1	-	-
Vertical Clearance (ft.)		13.5	13.5	13.5	13.5	13.5

F. Center Line Curve Radius. The pavement width and stone base indicated in Table 3.3 shall be increased within the curve where the road centerline is less than a 90-foot radius. If the radius is 70 to 90 feet, increase pavement and stone base width by 25 percent. If the radius is 60 to 70 feet, increase the pavement and stone base width by 35 percent. If the radius is 50 to 60 feet, increase the pavement and stone base width by 45 percent. If the radius is 40 to 50 feet, increase the pavement and stone base width by 50 percent. No turn radius shall be less than 40 feet.

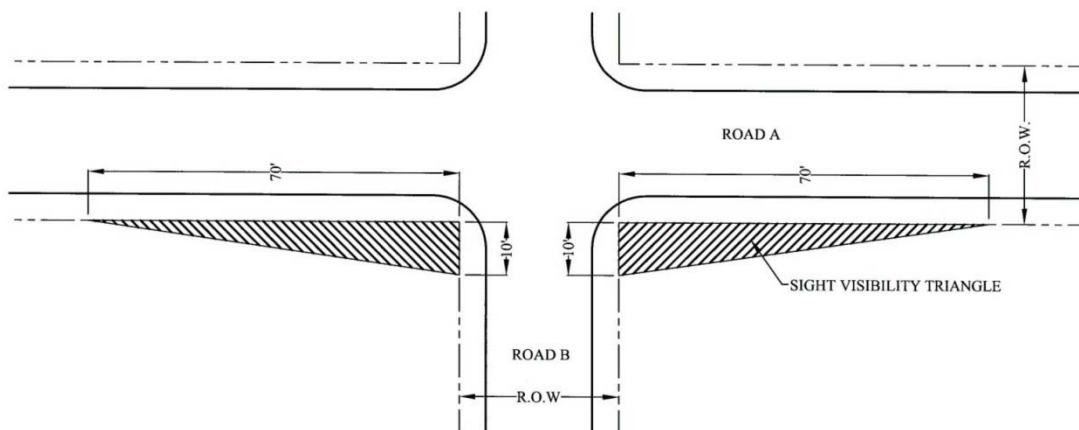
§42-105. Additional Road Design Standards Applicable to all Road Classifications.

A. Intersections. Acceptable angles of intersection are:

- (1) 90 to 75 degrees (preferred)

- (2) 75 to 60 degrees (acceptable under extreme conditions as determined by the reviewing agency).
- B. Adequate Sight Distances. Adequate sight distances (see Figure 3B. Sight Visibility Triangle) along a proposed *road* shall be provided by:
- (1) Choosing a good location for the *right-of-way* and clearing *sight visibility triangles* when constructing the *road* (the minimum sight distance is 70 feet along the “existing” *road right-of-way* and ten (10) feet along the “new” *road right-of-way*).
 - (2) Providing an adequate place for *vehicles* to stop before entering the *road*.
 - (3) Providing an apron design at proposed intersections to permit a *vehicle* to enter when another *vehicle* is waiting to turn.

Figure 3B. Sight Visibility Triangle
Not to Scale



- C. Gates. *Entry gates* shall be constructed and maintained as required by and in accordance with Chapter 89 of the Henderson County Code, *Entry Gates*, and SR 3.7 (Gates and/or Guardhouses).
- D. Dead Ends, Cul-de-sacs and Turnarounds. *Vehicle* turnaround areas shall be provided at the end of all dead-end *roads* that exceed 300 feet. Loop *roads* should be encouraged where possible in lieu of culs-de-sac or turnarounds. The reviewing agency may also require installation of turnarounds at:
- (1) Intermediate locations along dead end *roads* with a centerline length of greater than 2,500 feet.
 - (2) The end of a *phase* of a project.
 - (3) An intermediate location along any *road* that exceeds 1,500 feet in length.

Acceptable alternative turnaround designs for residential *subdivisions* are shown in Figures 3C, 3D, and 3E. Turnaround areas of a dead-end *road* cul-de-sac shall have a radius of not less than 35 feet.

Figure 3C. Alternative Turnaround Design – Island
Not to Scale

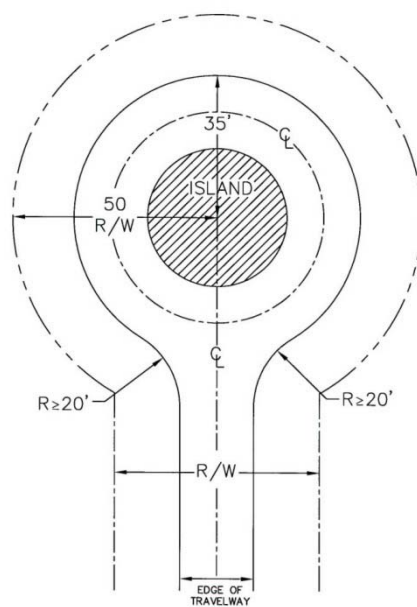


Figure 3D. Alternative Turnaround Design – Branch Turnaround
Not to Scale

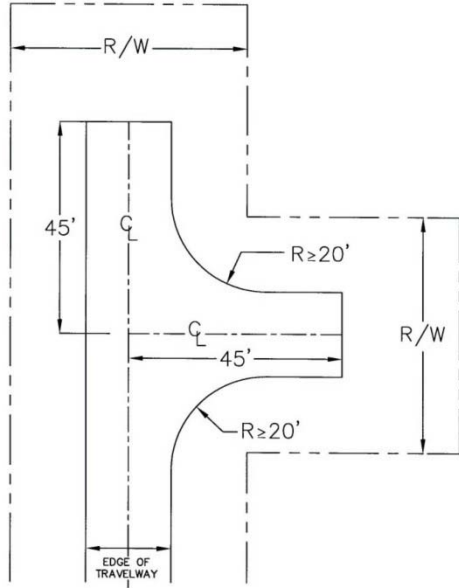
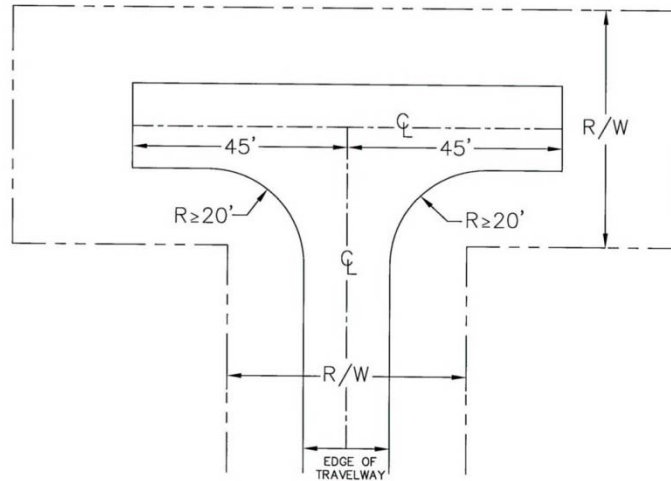


Figure 3E. Alternative Turnaround Design – T Turnaround
Not to Scale



F. Bridges. Bridges shall:

- (1) Be engineered to a minimum weight capacity of 50,000 pounds (For purposes of emergency management *vehicle* access) and documentation shall be provided to indicate such (the 50,000 pound weight capacity requirement shall not apply to *driveways*);
- (2) Adhere to *State Road Standards* for drainage, hydraulics and minimum live load;
- (3) Adhere to standards for *vertical clearance* for roads (See Table 3.3);
- (4) Provide a *travelway* width not less than the *travelway* width of the *road* on either side of the bridge, and in no case less than 12 feet in width;
- (5) Include a paved or gravel turnout on each end of the bridge to provide space for at least one (1) vehicle to safely pull over and allow an oncoming vehicle to traverse the bridge where the *travelway* width is less than 18 feet and is proposed to accommodate two-way traffic; and
- (6) Provide adequate line-of-sight distances for safe operation of two-way traffic.

§42-106. Private Road Standard Reductions

- A. Right-of-way Width Reduction. Right-of-way width requirements may be reduced to 30 feet in width where no more than five (5) lots are proposed and it is unlikely (due to design, topographic conditions or existing development) that any road contained therein would be extended to serve more than five (5) lots.

Right-of-way width reductions are also permitted where the development is a *dwelling, multifamily, five (5) or more units*, provided these modifications are approved by the reviewing agency with consideration to sound engineering, public safety concerns and community character.

- B. Travelway Width Reduction. Travelway width requirements for *private subdivision limited local roads* in special *subdivisions* may be reduced to nine (9) feet where an

existing road with a travelway width of at least nine (9) feet occurs. The *Subdivision Administrator* will permit the reduction only upon inspection for road stability and provided that all other *private subdivision limited local road* standards are met. Existing roads shall be improved to meet the *private subdivision limited local road* standards before a *final plat* can be approved.

C. Centerline Curve Radius Reductions. Centerline curve radius reductions may be reduced to:

- (1) 80 feet where the existing cross slope on *private subdivision collector roads* is 15 percent or greater, or
- (2) 60 feet where the existing cross slope on *private subdivision limited local residential subdivision roads* or *private subdivision local residential subdivision roads* is 15 percent or greater.

Centerline curve radius reductions are also permitted where the development is a *dwelling, multifamily, five (5) or more units*, provided these modifications are approved by the reviewing agency with consideration to sound engineering, public safety concerns and community character.

D. Shoulder Width Reduction. Shoulder width shall be reduced for:

- (1) *Private subdivision local roads* and *private subdivision collector roads* to a minimum of two (2) feet in cases where the existing cross slope is 20 percent or greater; and
- (2) *Private subdivision collector roads* to a minimum of four (4) feet in cases where the existing cross slope is greater than ten (10) but less than 20 percent or greater.

E. Cut and Fill Slopes. Cut and fill slopes shall be reduced to 1:1 where the existing cross slope is 20 percent or greater.

§42-107. Reserved

§42-108. Reserved

§42-109. Reserved