

PART II CODE OF ORDINANCES

CH. II-7 LAND SUBDIVISION

Appendix 7-5 Street Standards

A. Street Names and Signs

1. Streets which join or are in alignment with streets of abutting or neighboring properties shall bear the same name. Names of new streets shall not duplicate nor bear phonetic resemblance to the names of existing streets within the municipality and shall be subject to the approval of the Board.
2. Street name sign shall be furnished and installed by the subdivider. The type, size and location shall be reviewed by the Town Engineer prior to approval by the Planning Board. [Street name signs are exempt from Section 19-44 of this code.](#)

B. Street Classifications [Amended 5/22/89; 6/16/97]

1. Street classification shall be based on the street's ultimate purpose or use as determined by the Planning Board after considering the location of the proposed street and the number and the nature of the uses to be served by the proposed street, both within and outside the proposed subdivision and any anticipated traffic resulting from interconnection with other streets. Dwelling unit figures are provided as an aid to the Planning Board.
 - a. Arterial Street - Falmouth's arterials are U.S. Route 1 and U.S. 100 (the Gray Road). These major streets serve to carry high volumes of traffic into, through, and out of the Town.
 - b. Collector - A street whose principal function is to carry traffic between minor, local, subcollector, and arterial streets, but that may also provide direct access to abutting properties. It serves or is designed to serve, directly or indirectly, more than 100 dwelling units and is designed to be used, or is used to carry, more than 1000 trips per day.
 - c. Subcollector - A street whose principal function is to provide access to abutting properties, but is also designed to be used or is used to connect minor and local streets with collector or arterial streets. Including residences indirectly served through connecting streets, it serves or is designed to serve at least 26 but not more than 100 dwelling units, and is expected to, or does handle, between 260 and 1000 trips per day.

- d. Local - A street whose sole function is to provide access to abutting properties. It serves or is designed to serve at least 10 but no more than 25 dwelling units, and is expected to, or does handle, between 100 and 250 trips per day.
- e. Minor Local - A street whose sole function is to provide access to abutting properties. It serves or is designed to serve not more than nine (9) dwelling units, and is expected to, or does handle, up to 99 trips per day.
- f. Street classifications for multifamily residential or non-residential uses are determined by trip generation figures for various uses indicated in the most current edition of the Institute of Traffic Engineers' Transportation and Traffic Engineering Handbook (Hornburger, Keefer, & McGrath, eds., Prentice-Hall, Inc., Englewood Cliffs, N.J.).
- g. In determining the classification of streets where a loop configuration is formed, the classification should be based on an analysis of routes and destinations on individual road segments rather than the full street length. [Adopted 6/16/97]

C. Coordination of New Streets with Surrounding Street System [Adopted 6/16/97]

- 1. The street system of a subdivision should be coordinated with existing, proposed, and anticipated streets outside the subdivision.
- 2. Collector streets should intersect with surrounding collector or arterial streets at safe and convenient locations.
- 3. Subcollector, local, and minor local streets should connect with surrounding streets where necessary to permit convenient movement between residential neighborhoods, to diffuse traffic impacts on the external street system, to allow looping of public utility services, and to provide alternative access to emergency vehicles. Connections shall in any event be provided for but should not be required to actually be constructed where such connection shall cause unreasonable highway or public road congestion, or unsafe conditions with respect to use of the highways or public roads (existing or proposed) that cannot be mitigated through reasonable means (reasonable means shall include but not be limited to relocating the entrance to the proposed road; altering the design or routing of the proposed road; or use of mini-roundabouts or other traffic calming measures) . [Amended 4/26/04]
- 4. Whenever connections to anticipated or proposed surrounding streets are required by this section, the street right of way shall be extended to the property line at the point where the future connection is expected. The Planning Board may require pre-application analysis of adjacent lands to determine suitable connection points. Temporary turnarounds shall be constructed where appropriate.
- 5. Whenever a subdivision street continues an existing street that formerly terminated outside the subdivision, or it is expected that a subdivision street will be continued beyond the subdivision at some future time, the classification of the street will be based upon the street in its entirety, both within and outside of the subdivision.
- 6. In the event that a higher street classification is required because of off-site street upgrades or potential extensions, the developer(s) is (are) eligible for a negotiated exactions agreement under Section 7-12. D. of the Subdivision Ordinance, so that subsequent developers that connect to the street(s) shall pay a proportional share of the added construction costs.

D. Private Streets and Reserve Strips:

- 1. There shall be no reserve strips controlling access to streets, except where the control of such strips is placed with the Town under conditions approved by the Planning Board.

2. Private streets may be approved by the Planning Board if they meet the street standards set forth in this ordinance, except that subdivisions of 5 lots or less may be approved with unpaved private streets, provided that all other design requirements are met and the plan contains a note to the effect that the Town cannot accept the street until it is brought into conformance with all street standards.
3. Minor subdivisions containing 3 lots or less may be approved with unpaved private ways, providing that all design requirements of Section 19-60 of the Zoning and Site Plan Review Ordinance are met. Private ways are not, however, permitted in major subdivisions as a means to create additional rear lots. [Adopted, 4/24/00]

E. Street Design Standards [Amended 5/22/89, 6/16/97]

All streets shall be designed to conform to the standards and schematic drawings contained herein.

1. Dimensions for Street Construction.

Descriptions	Type of Street	
	Collector/Subcollector	Local/Minor local
Minimum Right-of-Way Width	60'	50'
Shoulder Width	6'	4'
Minimum Grade	0.5%	0.5%
Maximum Grade	8%*	8%*
Minimum Centerline Radius	230'***	150'***

* Road sections of less than 500' lengths can add 1% to the maximum grade, provided that such sections of 9% grade are separated by a minimum distance of 500'.

** For road sections with more that 5% grade, add 50' to the centerline radius for every 1% of grade over 5%.

Descriptions	Type of Street	
	Collector/Subcollector	Local/Minor local
Minimum Tangent Between Curves of Reverse Alignment	200'	100'
Roadway Crown	¼"/ft.	¼"/ft.
Minimum Angle of Street Intersections	60	60
K Factor - Crest Vertical Curve	30	15
K Factor - Sag Vertical Curve	35	20
Design Speed - MPH	30	25
Maximum Grade at Intersections (within 75' of intersection)	3%	3%
Curb Radii at 90 Intersections	20'	15'
Curb Radii at 60 to 90 Intersections	30'	30'
Curb Radii at 90 to 120 Intersections	40'	30'
Minimum Property Line Radii at Intersections	10'	10'
Sidewalk Width	4'	4'

2. Sight distances - Minimum safe sight distances at intersections shall be determined by analyzing the streets per the standards of the Transportation and Traffic Engineering Handbook. New street entrances onto arterials, collectors, or subcollectors shall require a

full traffic study, unless waived by the Planning Board upon recommendation of the Town Engineer. [Amended 5/22/89].

3. Minimum Distance Between Intersections - New street entrances onto existing or proposed streets shall be separated per the table below:

	Arterial	Collector/Subcollector	Local/Minor local
Minimum Distance Between Intersections			
Same Side	400'	400'	300'
Opposite Sides	300'	250'	150'

4. Pavement Widths and Sidewalks - Pavement width and sidewalk requirements for each of the street construction classifications shall be as indicated in the following table: [Amended 5/22/89].

Street Type	Minimum Pavement Width (in feet)	Sidewalk Requirement*
Collector	34'	One side
Subcollector	30'	One side
Local	24'	One side
Minor local	22'	None

* Sidewalks may be waived by the Planning Board in the RC and FF Districts

5. Dead End Streets

- a. This section applies to local and minor local streets only. Dead end streets are permitted to provide access to residential neighborhoods in a way that discourages through traffic, limits travel distances from residences to collector roads, keeps traffic volumes and speeds low, and provides a quiet neighborhood setting. To achieve these goals while developing a coordinated street network as described in Subsection (C) of this appendix, dead ends should only be used in locations where it is unlikely that there will be a need for interconnections between adjacent subdivisions and the existing or proposed street network.

In those cases where the Planning Board allows a dead end street with no through connection for vehicular traffic, the Board shall require pedestrian and bicycle connections. [Amended 6/16/97, 4/26/04]

- b. Presentation of special design, discussion and written permission by the Planning Board shall be a requirement for those conditions that may require a dead end street under the category of Subcollector, Collector, Industrial, or Commercial. [Amended 6/16/97]
- c. Maximum length of Dead End Street: 1500 feet measured from the centerline of feeder street to center of turnaround. In those cases where on or off-site street configurations create an effective dead end condition, the dead end length is measured from the point where only one means of access exists and extends over the intervening roadway length(s) to the point of turnaround. [Amended 6/16/97]
- d. Maximum length of Dead End Street in RC and FF Districts shall be 1500 feet with a maximum of fifteen (15) single family homes or less, based upon an evaluation by the Planning Board of site conditions. [Amended 6/16/97]
- e. Radii of cul-de-sac turnaround at end: [Amended 5/22/89, 7/22/91, 6/16/97]

Property Line	75'
Outer Edge of pavement	60'
Inner Edge of pavement	42'

- f. The Planning Board may allow the use of an alternative turnaround design per the following requirements [Amended 6/16/97]:

Dimension of turnaround at end:

Distance from street end 50'

Dimensions of easement 50' x 50'

Dimensions of pavement 22' x 40'

- g. The maximum dead end length in conservation subdivisions may be waived by the Planning Board upon a finding that the waiver is needed due to the remote location of optimum building sites as determined by the four-step design process of [Appendix 7-9](#), and provided that at least two paper street locations are established for interconnection with existing or potential adjacent development(s). The requirement for multiple paper streets may be reduced or eliminated upon a showing that the establishment of such interconnection(s) is precluded by physical barriers that cannot be surmounted by standard construction practices, or that adjacent parcels are fully developed with no provision for street interconnection. [Adopted 12/22/05]

6. Rural Road Design for Conservation Subdivisions [Adopted 12/22/05]

The overriding theme is to allow and encourage flexibility in the application of road design standards to meet the specific needs of individual sites. In general, roads would be required to follow and work with the natural topography rather than altering it to produce straighter, gently sloping road grades.

a. Objectives for New Rural Roads

- i. Design with creativity and sensitivity to minimize impacts on scenic, open space, archaeological, social, cultural, and environmental resources;
- ii. Reduce emphasis on automobile mobility and efficiency and put more emphasis on land access and fitting into the natural surroundings; and,
- iii. Increase flexibility and sensitivity to the context and unique character of the site, the surrounding landscape, and the vision for the property being developed.

b. Guidelines for Road Planning

- i. Horizontal road alignments should work with the topography and existing site conditions to follow the natural contours and avoid physical features that give the land its character.
- ii. Where feasible, proposed roads should follow existing dirt/gravel roads, especially when they have value as a local historic resource.
- iii. Where existing roads must be widened to accommodate increased traffic volumes, care should be taken to preserve mature roadside trees and other features which contribute to the road's character.
- iv. Open fields, agricultural lands, and sensitive habitats should be crossed at the edges, preferably along hedgerows and tree lines. Roadways should be avoided bisecting fields.

- v. When roads cross significant viewsheds in open fields, consideration should be given to design approaches that will minimize their visual impact. These may include earth berms (designed with gently tapered side slopes), landscape screening using native shrubs, and 'ha-ha's' (an old English tradition which puts the roadway in a slight depression and out of view).
- vi. In unusual situations it may be advantageous to split the roadway to preserve significant trees, rock outcrops, and similar features. Care must be taken in these situations to minimize root disturbance and maintain a suitable setback between the edge of the pavement and the object being preserved.
- vii. The view FROM the roadway should be considered as well as the view OF the road.

c. Guidelines for Road Construction /Details

- i. Grading easements or wider than normal rights of way can be effective to blend the side slopes into the existing topography.
- ii. Where drainage culverts are visible, the ends should be cut off to follow the contour of the surrounding grade and/or covered with stone.
- iii. Guardrails should be constructed of wood or self-oxidized steel to avoid a harsh industrial appearance.
- iv. Steep slopes adjacent to roadway should be stabilized with hardy groundcovers and native plantings following current bioengineering practice.
- v. Where rip rap must be used to stabilize slopes and protect stream channels, it should be hand placed (not dumped) and constructed of native stone. The use of freshly crushed stone with a high level of color contrast should be avoided.
- vi. Where stone walls must be crossed, the ends should be rebuilt in keeping with local stone wall construction. Stones disturbed during construction should be stockpiled for later re-use in the subdivision as a way of preserving the character of the landscape.

d. Modification of Engineering Standards

In order to meet the guidelines of subsections b. and c. above, the following subdivision standards may be modified with Planning Board approval to the extent necessary to accomplish the stated guidelines and objectives:

- i. Road curvature (horizontal and vertical);
- ii. Distance between reverse curves;
- iii. Road grade limits;
- iv. Limits of clearing; and,
- v. Drainage.

7. Pavement Design

The Subdivider shall be required to investigate and determine the types and classifications of the sub-base soils. Computations shall be made to determine pavement design standards for construction, which shall be submitted for review by the Public Works Director. If, during construction, subsurface soils vary from original classifications, pavement design shall be modified to meet the new classification. Revised pavement shall be modified to

meet the new classification. Revised pavement design shall be submitted to the Public Works Director for approval.

F. Roadway Construction Materials Standards

1. Roadway construction materials standards as specified herein shall conform to the current specifications of the Maine Department of Transportation.
2. Standards and dimensions tabulated herein shall be considered as minimum.
3. Minimum Thickness of Materials after Compaction:

Street Materials	Arterial	Collector	Minimum Requirements Local Streets
Aggregate Sub-base Course (max. sized stone - 3")	18"	16"	14"
Crushed Aggregate Base Course	6"	4"	3"
Hot Bituminous Pavement	3"	3"	3"
Total Thickness	1 ¼"	1"	1"
Surface Course	1 ¾"	2"	2"
Base Course			
(a) Reinforced Portland Cement Sidewalks: Sand Base Portland Cement Concrete w/mesh\	6" 4"	6" 4"	N/A N/A

Curbing Materials	
(a) Granite Stone Curbing	Type 1
(b) Precast Portland Cement Concrete Curbing	Type 2
(c) Granite Stone Edging	Type 5
(d) Bituminous Concrete Curbing	Type 3

NOTE: Although a variety of benefits are frequently claimed for curbing (ITE 1965), the only two functions that are of major importance are for stormwater control and to protect the pavement edge from unraveling along parking lanes or in very intensive developments where heavy use may erode the planted area at the edge of the pavement. Consequently, curbing should be required wherever on-street parking is anticipated and whenever soil conditions and slopes require that stormwater be channeled along the curb. The latter will need to be determined on a site-by-site drainage and stormwater control plan analysis.

G. Street Construction Standards

1. Grading

All streets, roads and alleys shall be graded to their full width by the subdivider so that pavements and sidewalks can be constructed on parallel profiles. Due to special topographical conditions, deviation from the above will be allowed only with special approval of the Planning Board.

a. Preparation

Before grading is started, the entire right-of-way area shall be cleared of all stumps,

roots, brush and other objectionable material and all trees not intended for preservation.

b. Cuts

Tree stumps and other organic materials shall be removed to a depth of 2 feet below the subgrade. Rock and boulders, when encountered, shall be scarified to subgrade.

c. Fill

All material used in the construction of embankments shall be of the quality to meet the standards for embankment of Transportation Standard Specifications. Excess materials including organic materials, soft clays, wet and noncompactible materials, etc., shall be removed from the street site. The fill shall be spread in layers not to exceed 12" loose and compacted: 80% of optimum for sub-base, 95% of optimum for base. The filling of utility trenches and other places shall be mechanically tamped.

d. Side Slopes

All side slopes shall be at a slope of 4 horizontal to 1 vertical except for rural design local streets which may have maximum side slopes of 3 horizontal to 1 vertical. Where cut and fill slopes necessary to meet this and other standards would exceed the right of way width, the right of way width shall be increased to cover all such cut and fill land and to provide adequate space for maintenance access. Slopes and shoulders shall be appropriately vegetated in accordance with an erosion control plan as required in [Appendix 7-7](#) of this Ordinance.

2. Bases and Pavement

The appropriate sections of the Bases and Pavements Divisions of the Maine Department of Transportation Standard Specifications currently in effect at the date of submission of the preliminary plan shall be applicable to this section except as follows:

Bases

- a. Aggregate Sub-base Course - Gravel
Aggregate sub-base shall not contain particles of rock exceeding 3" in any dimension.
- b. Aggregate Base Course - Crushed
Aggregate base shall not contain particles of rock that will not pass the 2" square sieve.

Pavement

- c. Where pavement placed joins an existing pavement, the existing pavement shall be saw cut along a smooth line and to a neat, even vertical joint. No broken or raveled edges and no deviation from grade will be permitted.
- d. Grading for the surface course of Hot Bituminous Pavement (Grading C-1) shall be as follows:

Sieve Designation	% By Weight Passing Square Mesh Sieves Grading C-1
1/2"	100
3/8"	75-100
No. 4	50-85

No. 8	35-70
No. 16	23-57
No. 30	15-44
No. 50	10-30
No. 100	6-22
No. 200	3-8

e. Grading for the base course of Hot Bituminous Pavement shall meet the requirements for Binder, Grading B.

3. Curbing

Section 609 of the Maine State Highway Commission Standard Specifications, revision of June 1968, shall be applicable to this section except as follows:

- a. Curbing shall be limited to Type 1, Type 2, Type 3, and Type 5.
- b. Vertical or sloped curbing shall be used in accordance with the design standards set forth herein for the particular type of street.

4. Sidewalks

Section 608 of the Maine State Highway Commission Standards Specifications, revision of June, 1968, shall be applicable to this section.

All driveway aprons shall be paved with 2" of bituminous concrete from the gutter side or edge of street pavement to the street right-of-way.

H. Monuments

1. Concrete monuments 4" in diameter or square, 4' long with a flat top shall be set at all street corners, at all points where the street line intersects the exterior of the subdivisions and at angle points and points of curve in each street and on each side of the streets. The top of the monument shall have an indented cross to identify properly the location and shall be set flush with the finished grade.
2. All other lot corners shall be marked with iron pipe not less than 3/4" in diameter and 24" long and driven so as to be flush with the finished grade.

I. Street and Storm Drainage Plans

Construction plans for streets and storm drainage systems shall be designed and prepared by a professional engineer registered in the State of Maine. Plans shall show the plan, profile, cross sections and details of appurtenances. [Amended 8/27/07]

No construction will be permitted until the Planning Board has approved construction drawings. The developer is alerted to other approvals and permits which are required prior to construction. Upon completion of construction and prior to acceptance of the streets, a final set of reproducible record drawings will be required.

Effective on: 7/24/2017