

APPENDIX 1: STREET STANDARDS

Section 1.1. ROAD **CLASSIFICATION AND CONSTRUCTION**

- A. **Road Classifications:** Road classification shall be based on the road's ultimate purpose or use as determined by the Planning Board after considering the location of the proposed road and the number and the nature of the uses to be served by the proposed road, 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:
1. Major Collectors – Roads that serve significant traffic volumes and provide regional connectivity between towns or major destinations. These roads are part of the State Aid Highway system and maintained year-round by Maine DOT (Route 9 and 136).
 2. Minor Collector – Roads that collect traffic from local roads and channel it to Major Collectors. These roads also fall under the State Aid Highway system and are maintained by MaineDOT (Route 125).
 3. Local Collector – A Road maintained by the Town of Durham that functions as a collector within the local street network. It connects subcollectors and local roads to State collectors and supports intra-town circulation. Local Collectors generally serve over 100 dwelling units for direct access and carry over 1000 daily trips.
 4. Subcollector – A road maintained by the Town of Durham whose principal function is to provide access to abutting properties, but is also designed to be used or is used to connect local and minor local roads with collector roads. Including residences indirectly served through connecting roads, it serves or is designed to serve at least twenty-six (26) but not more than one hundred (100) dwelling units, and is expected to, or does handle, between two hundred and sixty (260) and one thousand (1000) trips per day.
 5. Local – A road maintained by the Town of Durham or by a homeowner or road association whose sole function is to provide access to abutting properties. It serves or is designed to serve at least ten (10) but no more than twenty-five (25) dwelling units, and is expected to, or does handle, between one hundred (100) and two hundred and fifty (250) trips per day.
 6. Minor Local – A road maintained by a homeowner or road association 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 ninety-nine (99) trips per day.
 7. Road classifications for non-residential uses are determined by trip generation figures for various uses indicated in the most current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.

8. In determining the classification of roads 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 road length.
- B. Road right-of-way shall be a minimum of fifty (50') feet wide for minor local and local roads, and sixty (60') wide for subcollector roads. Road dimensions, geometry, and materials shall conform to the requirements shown in Section 1.2 ~~and~~ 1.3, and 1.4, Figures 1 through 6.
- C. All ~~public and private~~ newly constructed roads in the subdivision shall be paved to Town standards. Pavement width shall be a minimum of twenty-four (24') feet for subcollector roads, twenty-two (22') feet for all public local roads, and twenty (20') feet for all private minor local roads. The road must be complete up to and along the entire frontage of the lot, less except for paving, prior to the issuance of the first building permit in the subdivision a building permit for a structure or residence on such lots. Issuance of said building permit shall require written confirmation from the Fire Chief that the road is accessible by public safety vehicles.
- D. ~~Private~~ Minor local roads serving no more than three (3) dwelling units may be left unpaved so long as they meet the base and subbase standards for gravel, and other applicable requirements listed below. In the event of the road being extended beyond the first three (3) dwelling units, the road shall be paved over its entire length, including the first section serving the first (3) three dwelling units.
- E. The standards for gravel are as follows:
 1. **Aggregate Base Surface Gravel:** Base Surface gravel material shall be screened or crushed gravel of hard durable particle, free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a three (3 ") inch two-inch (2") square mesh sieve shall meet the following requirements:

Sieve Designation	% By Weight Passing Square Mesh Sieves
2-inch	100%
1/2 inch	45-70%
1/4 inch	30-55%
No. 40	0-30 0-20%
No. 200	0-7 0-6%

*Aggregate for the base surface gravel shall contain no particles of rock exceeding four (4") inches in any dimension.

2. **Aggregate Subbase Base Gravel:** Aggregate-subbase shall be sand or gravel of hard durable particles free from vegetable matter, lumps or balls of clay or other deleterious matter. The gradation of the part that passes a four (4") inch

~~six-inch (6")~~ square mesh sieve shall meet the following grading requirements:

Sieve Designation	% By Weight Passing Square Mesh Sieves
6-inch <u>1/2 inch</u>	100 <u>35-80%</u>
<u>1/4 inch</u>	25-70 <u>25-65%</u>
No. 40	0-30%
No. 200	0-7%

*Aggregate-subbase shall contain no particles of rock exceeding six (6") ~~inches (8")~~ eight inches in any dimension.

3. **Surface Leveling Material:** If required shall conform to the gradation requirements of ~~Aggregate Base~~ surface gravel above but shall not contain particles of rock which will not pass the 3/4" sieve.
4. **Bituminous Pavement:** Pavement shall be constructed of two courses of bituminous. Pavement shall be Maine DOT Hot Mix Asphalt pavement ~~MDOT "Superpave"~~ as specified in Section 401 conforming to the latest revisions of the Maine Department of Transportation "Standard Specifications For Highways and Bridges":
 - a. Compacted Binder Course – 2" Grading 19.5mm ~~Superpave~~ hot mix asphalt
 - b. Compacted Surface Course – 1 1/2" Grading 12.5mm or 9.5mm ~~Superpave-hot mix asphalt~~
 - c. Pavement width shall be a minimum of twenty-four (24') feet for subcollector roads, twenty-two (22') feet for ~~public~~ local roads and twenty (20') feet for ~~private~~ minor local roads.
- F. **Culverts:** Culverts shall be High-Density Polyethylene (HDPE) ~~zinc-coated corrugated metal pipe~~, or other pipe approved by the Planning Board or Road Commissioner. Culverts shall be sized and located as determined by drainage calculation, but in no case shall be smaller than fifteen (15") ~~inch~~ twelve (12") in diameter.
- G. **Signs:** Signs required by the Board such as "SPEED LIMIT", "STOP", "CURVE", etc. shall be constructed and located so as to conform with the "Manual on Uniform Traffic Control Devices for Street and Highways", published by the United States Department of Transportation, ~~2004~~ 2025 or most recent revision.
- H. **Sidewalks:** Sidewalks if proposed shall be a minimum of five (5') feet in width and shall be constructed of two (2) one-inch (1") thick courses of bituminous pavement over a minimum eight-inch (8") thick gravel base. Base shall conform to the requirement listed for roadway ~~aggregate base~~ surface gravel stated in paragraph ~~€~~E.1 above.

- I. **Curbs:** Curbs, if proposed shall as a minimum be designed in accordance with Maine Department of Transportation standard details for bituminous curb and shall be constructed as outlined in Maine Department of Transportation Standard Specifications, Section 609.04.
- J. **Construction requirements:** Gravel base shall be compacted over the full width and length of road bed including shoulders to a minimum of ninety-five (95%) percent of proctor density in accordance with American Society for Testing Materials Standard, ASTM D1556 and D1557. Bituminous pavement shall be compacted to a minimum of 92% of the theoretical maximum density as established in accordance with AASHTO Test T209, ASTM D2950 and ASTM D2726. No bituminous paving shall be placed between November 15 and April 15 or when the temperature is below ~~thirty-five (35°)~~ forty (40°) degrees or when the gravel base is frozen. Bituminous ~~placed after September 15~~ shall also be rolled with a pneumatic tire roller in addition to steel rollers. The Road Commissioner and the Code Enforcement Officer shall be notified when road construction is to begin, at the completion of the gravel base, and when paving is to begin. The finished surface of the pavement shall be smooth and tightly compacted with no loose or poorly embedded stone evident. A sixteen-foot (16') straight-edge or string line when placed parallel to the centerline of the pavement and a ten-foot (10') straightedge or string line when placed transverse to the centerline shall not show a variation exceeding one-quarter (1/4") inch.

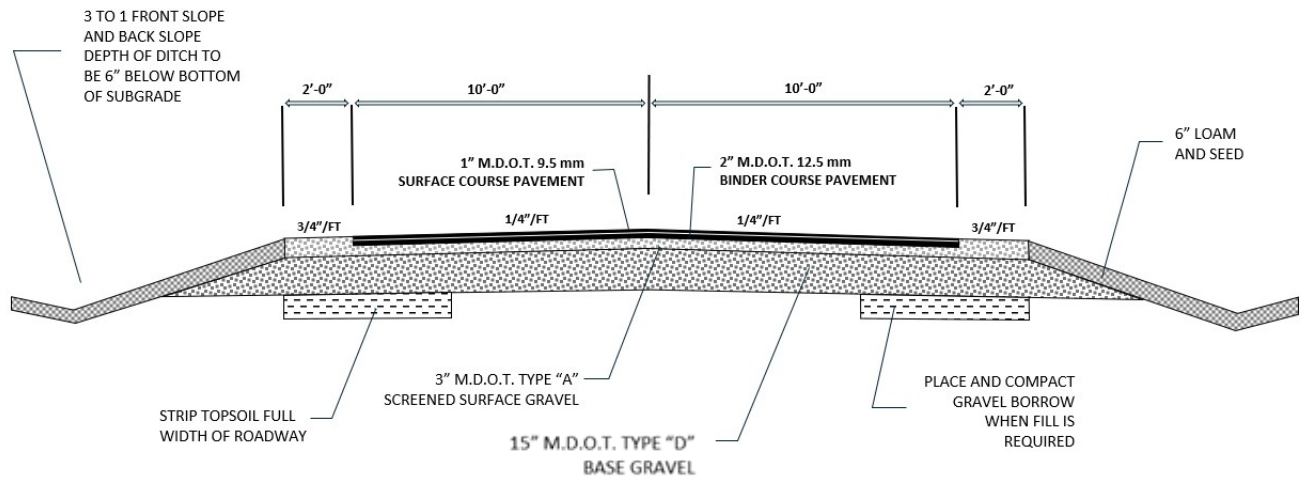
~~**Parking for Commercial Subdivisions:** At least one on-site parking space shall be provided for each employee or other person anticipated to be at the site of the proposed use at any one time. (i.e. six (6) employees and an average of three (3) customers per hour, equals nine (9) required spaces). Parking lots of over ten (10) spaces shall be completely screened from view of public streets or other public land by a vegetative buffer consistent with the general performance standards of the Land Use Ordinance.~~

- K. Provisions shall be made for vehicular access to the development and circulation ~~upon the lot~~ in such a manner as to safeguard against hazards to traffic congestion on any street and to provide safe and convenient circulation on public streets and within the development. More specifically, access and circulation shall also conform to the following standards and the design criteria below:
 1. The road giving access to the lot and neighboring roads which can be expected to carry traffic to and from the development shall have traffic carrying capacity and be suitably improved to accommodate the amount and types of traffic generated by the proposed use.
 2. Where necessary to safeguard against hazards to traffic and pedestrians and/or avoid traffic congestion, provision shall be made for turning lanes, traffic directional islands, frontage roads, driveways and traffic controls within public streets based on engineering study and conforming to Maine DOT policies and practices.
 3. Access ways shall be of a design and have sufficient capacity to avoid queuing of entering vehicles on any road.

Section 1.3. TYPICAL ROAD SECTION & TURNAROUND DESIGNS - PRIVATE MINOR LOCAL ROAD

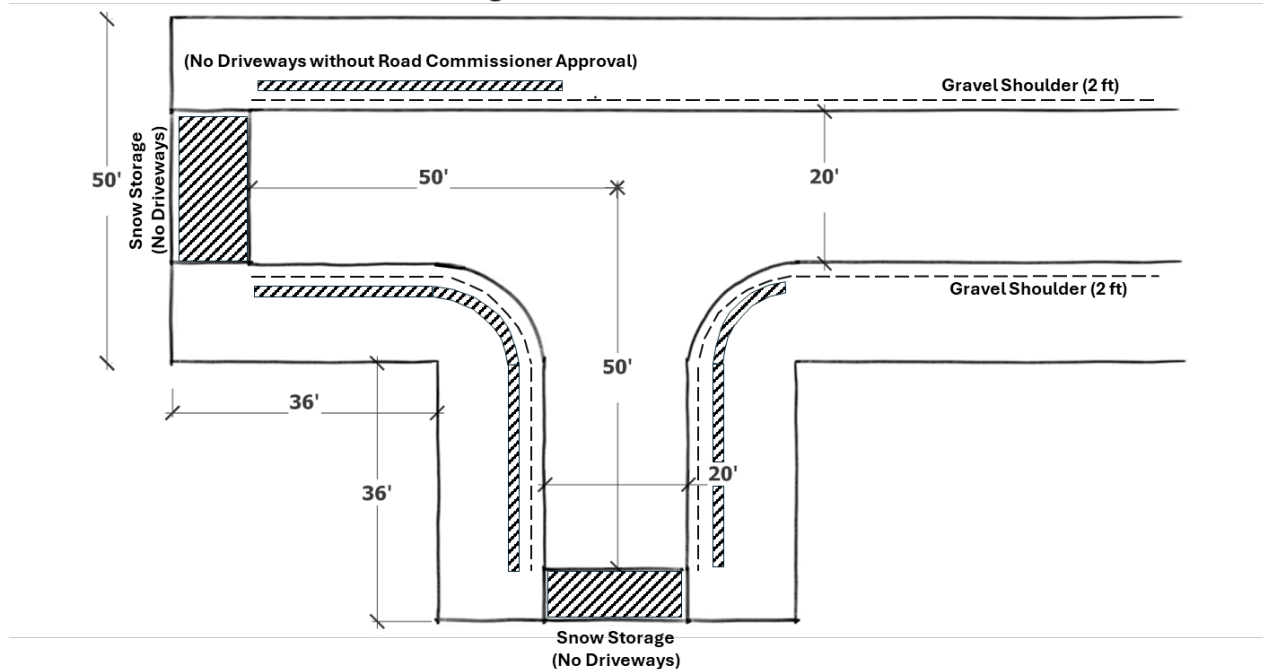
Road geometry requirements shall conform to the recommendations outlined in AASHTO's A Policy on Geometric Design of Highways and Streets (The AASHTO Green Book) most recent edition ("GDHS") Figure 1, Typical Road Cross Section 1984 published by American Association of State Highway and Transportation Officials (1984) ("AASHTO"), excepted that in no case shall grades be greater than eight (8%) percent, curve radii be less than one hundred (100') feet, or vertical sight distance be less than two hundred (200') feet.

Figure 3 – Cross Section



(Not to Scale)

Figure 4 - Turnaround



Section 1.5. SAFE ENTRANCE SIGHT DISTANCES

- A. **Sight Distances:** Driveways shall be designed in profile and grading and located to provide the required sight distance measured in each direction. Sight distances shall be measured from the driver's seat of a vehicle standing on that portion of the exit driveway with the front of the vehicle a minimum of ten (10') feet behind the curb line or edge of shoulder, with the height of the eye three and one half (3 ½') feet, to the top of an object four and one-half (4 ½') feet above the pavement. The required sight distances are listed below for various posted speed limits:

Posted Speed (MPH)	Sight Distance (Feet)
20	155
25	200
30	250
35	305
40	360
45 & higher	425
<u>50</u>	<u>495</u>
<u>55</u>	<u>570</u>
<u>60</u>	<u>645</u>

The minimum allowable sight distances listed above for all accesses, may require up to fifty (50%) percent greater sight distances when at least thirty (30%) percent of the traffic using the driveway will be larger vehicles

- B. All commercial entrances regardless of traffic volume may be required by the Planning Board to be paved with bituminous concrete pavement within thirty (30') feet of the road right-of-way if anticipated traffic volume requires an assured smooth surface to facilitate exit and entry without risk of sudden stop due to rutting.
- C. No development shall increase the volume capacity ratio of any road above 0.8 nor reduce the road's Level of Service to "D" or below as determined by using the capacity analysis procedures set forth in the ~~1985~~ 2022 Highway Capacity Manual, Special Report 290 as published by the Transportation Research Board.

Section 1.6. ROAD MAINTENANCE

In determining whether this standard has been met, the Board must find that the maintenance agreement for any private road meets the following criteria:

- A. ~~Unless or until a road is accepted for maintenance by a Town Meeting vote, a The~~ maintenance agreement ~~or escrow agreement~~ shall be executed by the owners of the lots containing the dwelling units or structures ~~which shall be~~ using the private road ~~or way~~, in registry recordable form, which agreement provides for the obligations of each owner of the lots on which such dwelling units or structures are located with respect to the maintenance, repair and snow plowing of such road ~~or way~~. The applicant shall prepare and submit for approval of the Planning Board a maintenance agreement which shall specify the rights and responsibilities of the owners of the lots on the road ~~or way~~ in question among themselves with respect to responsibility for the costs of construction, maintenance, repair and plowing.
- B. The maintenance agreement shall also include and the Planning Board will consider in granting approval the following factors:
1. A detailed statement of how the ownership interests in the private road way will be structured (i.e., whether ownership will be single or joint, whether lot owners will own the fee or have easements, etc.).
 2. A statement that in the event any of the lots shown on the plan are divided or in the event any remaining land of the declarant is subsequently divided into lots which are served by the private road way, then such resulting lot or lots shall become subject to the maintenance agreement and to any modifications to the maintenance agreement advisable to adjust the duties and responsibilities equitably among the owners of all the lots served by the private road way.
 3. An acknowledgment by the declarant and any other persons signing the maintenance agreement that the Town of Durham is not responsible for the construction, maintenance, repair or plowing of the private road way.
 4. A statement that the duties and obligations imposed by the maintenance agreement run with the land and shall be transferred to donees, purchasers or other transferees of any portion of the real estate subject to the maintenance agreement ~~and that, upon such transfer, the Planning Board shall be notified in writing and provided with a copy of any proposed changes or amendments to the maintenance agreement. All changes to the maintenance agreement, other than changing or adding parties to the agreement, are subject to review and approval by the Planning Board.~~
 5. A requirement that the maintenance agreement be referenced in all deeds to any lots served by the private road way.
 6. If the private road way subject to the maintenance agreement is an extension of an existing private road way ~~which served lots created prior to March 6, 2004~~, a statement that the applicant for private road way approval has contacted the owners of such lots, has offered them the opportunity to make their properties subject to the maintenance agreement and that they have either accepted or declined that offer; and that the Declarant has submitted to the Code Enforcement Officer Planning Department a notarized affidavit confirming the Declarant's compliance with this paragraph. All parties with lots served by the

extension of the private road must be subject to the maintenance agreement for that extension.

7. An agreement which permits the other signatories of the maintenance agreement to place a lien on the property of any signatory who has not paid the share of expenses allocated to them in the amount of the unpaid assessment for costs for the private way.
8. Upon approval of the agreement by Planning Board, the person or persons submitting the agreement shall record it in the Androscoggin County Registry of Deeds so that the obligations therein shall be covenants that run with the land upon which the dwelling units or structures are located. No building permit or other approval required by this Ordinance for the dwelling units or structure to be served by such road shall be issued or approved unless this provision has been complied with.

[SECTION 8.6 SITE PLAN REVIEW APPROVAL CRITERIA & DESIGN STANDARDS]

E. **Parking Requirements:** The following specific requirements shall apply to uses in all districts except as noted:

8. To match actual demand for parking with supply the Planning Board shall determine the number of off-street parking spaces required. The table below provides the minimum number of parking spaces required for the uses listed. Parking for uses not listed shall be determined by the Planning Board based on information submitted by the applicant. For purposes of this section the term independently accessible shall mean that each parking space shall be accessible for use without need for the removal of any other vehicle from any other approved parking space on the site.

a. <u>Business and professional office</u>	<u>1 space for every 500 square feet of gross leasable area, exclusive of common and bulk storage areas.</u>
b. <u>Day Care Center</u>	<u>1 per full-time employee plus 1 space for every four persons attending the day care center at any one time.</u>
c. <u>Health Institution (bed facilities only)</u>	<u>1 space for every 3 beds and 1 for each employee based on the highest expected average employee occupancy.</u>
d. <u>Motel, bed and breakfast, hotel</u>	<u>1 space per sleeping room</u>
e. <u>Place of worship, enclosed place of assembly</u>	<u>1 space for every 5 seats of assemblage</u>
f. <u>Restaurant, indoor</u>	<u>1 space for every 3 seats</u>

Durham Land use Ordinance Adopted 4-2-2005, updated, 2006, 2007, 2008, 2009, 2016, 2019, 2020, 2021, 2022, 2023, 2024, 2025

<u>seating only</u>	
g. <u>Retail and service establishment</u>	<u>1 space for every 500 square feet of gross floor area or permanent outdoor retail display area.</u>
h. <u>School</u>	<u>5 spaces per room used for purpose of instruction.</u>
i. <u>Warehousing, wholesaling, manufacturing</u>	<u>1 space for every 1,000 square feet of gross leasable area</u>