

THE MUNICIPALITY OF HASTINGS HIGHLANDS

BY-LAW 36-05

Being a by-law to implement policies of the Official Plan of the County of Hastings,

Being a bylaw to establish construction standards and guidelines for the use and construction of private roads,

AND WHEREAS the policies of the Official Plan of the County of Hastings directs the use and development of private roads be undertaken in a particular manner;

AND WHEREAS THE Council of the Municipality of Hastings Highlands has given due consideration to the need, safety, and convenience of the general public with respect to the use of private roads for waterfront residential lots;

NOW THEREFORE this bylaw shall be named the, "Private Roads Guideline and Standards" bylaw;

AND NOW THEREFORE pursuant to the provisions of The Municipal Act, R.S.O. 1990, Chapter M.45, Section 102, as amended and the provisions of The Public Transportation and Highway Improvement Act, R.S.O. 1990, Chapter P. 50, Section 63 as amended, the Council of the Municipality of Hastings Highlands enacts as follows:

1. That the "Guidelines and Standards for the Design and Construction of Private Roads", Appendix "A" forming part of this by-law, is hereby adopted.
2. That the standards and provisions contained therein may be varied by permission, as per Section 45 of the Planning Act, as may apply.
3. Agreements established as a condition to an approval under Sections 41, 51, or 53 of the Planning Act may require that the minimum requirements of Appendix "A" to be exceeded.

READ A FIRST, SECOND AND THIRD TIME AND PASSED this 13TH day of July 2005.



CLERK



MAYOR

APPENDIX "A"

GUIDELINES AND STANDARDS FOR THE DESIGN & CONSTRUCTION OF PRIVATE ROADS

1 GENERAL

A. Rationale and Purpose

RATIONALE

The use of private roads are generally discouraged for the following reasons:

1. Residents along a private road often call upon the municipality to assume and maintain the access. Because private roads are not usually constructed to municipal standards, this represents a major cost to the public that should have been addressed at the time of development;
2. Emergency services are more difficult to provide the length of sub-standard private roads.

PURPOSE OF THE POLICY AND STANDARDS

A person's investment in a principal residence should be safeguarded. A public road assures access. The purposes of the following design standards are:

1. Provide for the health and safety of inhabitants and general public;
2. Ensure expeditious delivery of emergency services;
3. Safeguard investment in private property by establishing reasonably maintainable roadways; and,
4. Minimize the amount of site and environmental disruption caused by construction.

B. Application

1. Private roads may be used in some limited circumstances as established by land use policies of Official Plan of the County of Hastings.
2. Private roads shall directly connect to public roads that have an adequate standard of construction.
3. Generally, a private road shall only serve areas having a predominantly recreational character. Private roads will not be established in areas where principal occupancy and associated traffic patterns are likely.
4. New developments served by a private road shall generally front onto or have legal access to a major water body. Common element condominiums are the preferred tenure for developments involving conveyance of land accessed by private roads. Condominiums provide a clear legal structure and process for on-going maintenance obligations of all users.
5. Exceptions to these guidelines may be made for non-residential uses that involve only minor ancillary structures.

C. Administration

1. *General.* This guideline shall be administered through the Municipality or its designated representative. The final design of the road is intended to be a cooperative effort between the landowner, the Municipal Transportation Service Manager and other consulting parties as needed. Administration of this guideline shall be driven by the objective of attaining site-specific road design and construction that will meet the minimum requirements for reasonable emergency access, roadway safety, and protection of soil and water natural resources and that respects landowner's individual rights.
2. *Variations.* In order to assure a flexible, site-specific design process, variations within interpretability of this guide may be granted. Variations from the design standards must

be considered on a site-by-site basis and must assure that the final design of the road will not unduly compromise the minimum requirements for emergency access and roadway safety. If the variance is a significant departure from the policy or standard herein, the Municipal Transportation Services Manager should advise and the proponent should refer the matter to the Council or its Committee of Adjustment to expedite a permission process under Section 45 of the Planning Act.

3. *Enforcement.* Construction of a private access road after January 12, 2003 (date of final approval of the County Official Plan) without proper permitting and certification is contrary to this policy. If the road is not in compliance, proper permitting and reconstruction of the road to meet the standards as described in this guideline must be completed before its use as a Multiple Access Road (see below). The Municipality may enforce this policy through the denial, withholding or revocation of permits, certificates or other forms of authorization to use or develop any land, structure or improvements. No permit to access a public Municipal road shall be granted for a private multiple access road unless it is shown to be constructed to meet the minimum requirements of this guideline.
4. *Registration.* Final approval of a private road (right-of-way) shall require its description in accordance with a registered survey. The survey shall show the right-of-way as having a minimum of 20-metres in width. Except as may be established by description under title of a condominium corporation, the right-of-way shall be described on each title of a lot that is dependent on the use of the right-of-way for its principal means of access.

2 ROAD CONSTRUCTION GRADING PERMIT REQUIREMENTS

A. Multiple access roads

A Private Road Construction Permit is required prior to new construction of private local access roads that are:

- Intended to access multiple residences or
- Private roads accessing businesses that are used by the general public in Municipality.

Private Road Construction Permit applications will be reviewed by the Municipal Transportation Services Manager or designated official of the Municipality Council. A site inspection may be required if sufficient information is not included with the application. In such cases, the Municipal Transportation Services Manager will generate a Pre-Application Inspection Report. Issuance of permits requires satisfactory compliance with the Municipality Design Standards for Private Local Access Roads.

Exception: Multiple access roads built before January 12, 2003 are exempt from these standards. However, these standards shall apply to private roads that are subject to development applications that would substantively increase the frequency or intensity of the use of a private road.

B. Requirements for Application

Application for a private road construction permit must be accompanied by a plan of sufficient clarity to indicate the nature and extent of the work. The plan must show sufficient topography to estimate the general longitudinal profile of the proposed road, extent of cuts and fills, and location of drainages, wetlands, and water features. The plan must give the location of the work, the name of the owner, the name of the person who prepared the plan, and the contractor proposed to accomplish the work, if applicable. The plan must include the following specific information:

1. A copy of the Pre-application Inspection Report from the Municipality Council, if applicable.
2. Horizontal alignment of the proposed road shown on a topographic map of sufficient scale to allow cut and fill volumes and longitudinal profile to be estimated.
3. Locations, dimensions, and designed flow capacity of proposed drainage structures such as culverts.
4. Typical cross-sections of the road design showing width, drainage feature dimensions, depth of road surfacing materials, and proposed sub-grade treatment. A cross section must be shown for each major change in design parameters.

5. Location of any buildings, structures, natural drainages, wetlands, and water features within 30 metres of the grading work or that may be affected by the proposed grading work.
6. An erosion control plan specific to the site conditions delineating temporary and permanent mitigation measures to minimize erosion and sediment transport.
7. Identification of the type and volume of aggregate materials used to construct the road.
8. An estimate of the cost of works associated with the construction of the private road shall be submitted to the satisfaction of the municipal designate.
9. Prior to commencing with the construction of works, a development agreement shall be entered into, which shall include provisions for the deposit of financial sureties.

3 ENGINEERED DESIGN

In some cases, where the safety or functionality of the road is compromised by complicated or unstable geology, large stream crossings, or other complicated drainage issues, the Municipal Transportation Services Manager may require an engineered design. In these cases the application must be accompanied by appropriate drainage reports, soils engineering reports and/or engineering geology reports as required by the Municipal Transportation Services Manager. The plans and specifications must be prepared and signed by an individual licensed by the Province to prepare such plans or specifications. The engineer preparing the plans must inspect as necessary and certify that the grading was done in accordance with the final approved plan.

4 RESOLUTION OF CONFLICTS

In cases where irreconcilable differences arise between the Municipal Transportation Services Manager and the applicant, the applicant may refer the issue to local Municipal Council.

5 NOTICE OF COMPLETION

The applicant must notify the Municipal Transportation Services Manager or the designated grading official when the grading operation is ready for final inspection. Final approval will not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion control measures, has been completed in accordance with the final approved plan, and any required certifications are submitted.

6 FEES

Application fees of \$500 for plan review and field inspection(s) must be paid before the Road Construction Permit is granted.

7 ROAD DESIGN STANDARDS

Private local roads accessing multiple residential parcels or serving businesses that will involve travel by the general public must be constructed to the following standards. Although the standards are considered to be minimums to provide a safe, functional road, they represent the preferred situation where few physical constraints exist. Many areas in rural Municipality possess unique physical attributes, which make it necessary to construct the road to fit the individual site circumstances. Variances to address such problems must be shown on the construction plans at time of permit application. The Municipal Transportation Services Manager or his designated representative must approve field changes in writing. They must also be shown on as-built drawings at the time of final inspection. A copy of final as-built drawings shall be submitted to the Planning Office of the County of Hastings in a digital format that meets the satisfaction of mapping staff.

Reconstruction of pre-existing roads or extension of existing private roads shall comply with the standards herein and shall be certified in the same manner. See below for specific standards:

A. Road Width

1. Roads accessing multiple lots and having an estimated volume of below 50 vehicles per day.

	Flat or Gently Rolling Terrain	Steeply Rolling and/or Rocky Terrain
Surveyed Right-of-Way	20.0 m	20.0 m
Minimum Width of Clearing	12.0 m	9.0 m
Surface*		
a) Width	5.5 m	4.5 m
b) Depth	100 mm over adequate sub-grade material	100 mm over adequate sub-grade material
c) Type	Crushed gravel or stone	Crushed gravel or stone
Shoulder Width (Including Rounding)	1.0 m (each side) 3% Slope	1.0 m (each side) 3% Slope
Ditches	Minimum depth from crown of road to bottom of ditch - 0.5 m. All ditches to be carried to sufficient outlet. Common cut slope of 1.5:1 Fill Slope Max. of 2:1	Minimum depth from crown of road to bottom of ditch - 0.5 m. All ditches to be carried to sufficient outlet. Common cut slope of 1.5:1 Fill Slope Max. of 2:1
<p>*A minimum useable all weather road surface width of 5.5 metres is required for an adequate two-way roadway to assure safe ingress and egress of emergency response vehicles. A narrower width for short distances, to minimize cut volumes or address other environmental concerns, may be acceptable if adequate turnouts are incorporated into the design and the road design is demonstrated to be otherwise safe and maintainable. The minimum acceptable width in these cases is 4.5 metres and must incorporate appropriate turnouts. Private roads having higher volumes shall provide for greater surface widths.</p>		

2. Clearance height

Access roads through forested areas must maintain proper clearance heights above the traveled way sufficient to allow passage of emergency vehicles. Tree branches must be trimmed to obtain a minimum overhead clearance of 4.3 metres.

B. Road Grade

Road design must incorporate a maximum longitudinal slope of 8%. Road designs exceeding these longitudinal slopes must ensure that other safety and site disturbance guidelines are not compromised. Where steeply rolling topography requires, steeper grades may be necessary. The Municipal Transportation Services Manager may grant variances in writing for unusual cases in significantly hilly terrain. However, the average grade for 60 metres should not exceed 12%.

C. Horizontal Road Curve

Radii of curvature on centrelines may be a minimum of 30 metres (18 metres in steep terrain), so long as adequate sight distance exists to allow a safe stopping distance. Significantly hilly terrain may require a variance from this standard if topography is steep. The Municipal Transportation Services Manager must approve such variance.

D. Vertical Road Curve

For safety reasons, design of crest vertical curves (top of hill crests) must be based on the design speed of the road. The design speed must take into account sight distance limitations, which result from extreme crest vertical curves. Correspondingly, sag vertical curves (bottom of hill) must also be designed based on the design speed, such that headlight visibility will

not be compromised in night time or dim light conditions. Recommended design speed for most local access roads is 24 kph in steep, hilly areas and 40 kph in rolling to flat areas.

E. Road Intersections

Driveway and road intersections should be within ten degrees of perpendicular for at least 15 metres from intersection centrelines with adequate sight distance both directions. If topography allows, grades should flatten to 3% or less for at least 15 metres approaching intersections.

F. Dead end roads

Dead end roads are encouraged to be designed:

- Not to extend beyond 400 metres without incorporating return loops
- To serve developments not greater than a projected number of developable lots of 30 residences.

Dead end roads exceeding 180 metres in length must be constructed with a vehicular turnaround area at the end or within the last 180 metres of roadway. Turnarounds may take a number of forms, including a traditional cul-de-sac bubble, a hammerhead or "T" shape, or a turning loop. Cul-de-sac bubbles and turning loops must have a minimum radius of 12 metres. T's must have a minimum length of 10 metres on both sides. For roads narrower than 7 metres, turnouts must be provided at approximately every 180 metres of road between the beginning at the road intersection and its terminus. Greater distances may be allowable if good sight distance is maintained between adjacent turnouts. The turnouts must be constructed to allow turning movements to be made by emergency vehicles. Turnouts must be an all weather road surface at least 2.5 metres wide and 9 metres long.

Note: Though not a requirement in the design for 6 metres wide roads, turnouts should be considered if the road is the single access and egress point to the parcels served.

G. Cuts and Fills

Roadways should follow existing contours to the extent possible. Roadway cuts and embankments should be considered only to the extent they are necessary to maintain safe geometric conditions for the design speed. Construction of cuts and fills in these cases must be constructed to the following requirements to maximize the safety and integrity of such work.

1. CUTS

- a. General.** Unless otherwise recommended in an approved soils engineering or engineering geology report, cuts must conform to the provisions of this section.
- b. Slope.** The slope of cut surfaces must be no steeper than is safe for the intended use and must be no steeper than 1 unit vertical in 1.5 units horizontal (66.7% slope) in common soil. Cut slopes in competent rock may be vertical when less than 1 metre high. Cut slopes in competent rock greater than 1 metre high and less than 2.5 metres high must be no greater than 1 unit vertical to 3-unit horizontal. Cut slopes greater than 2.5 metres high, or where unstable or compromising geology occurs, may require a soils engineering or an engineering geology report, or both, stating that the site has been investigated. Such reports must provide a recommended slope configuration to stabilize the constructed cut. When required by the Municipal Transportation Services Manager, the report must be prepared and signed by an individual licensed by the Province to prepare such plans and specifications. Construction of such cut slopes must conform to the recommendations of the report.

Cut slopes must be seeded to re-establish appropriate vegetative cover to maximize slope stability and minimize erosion. Whenever possible, existing topsoil on the site should be saved and stockpiled for dressing the slope prior to seeding. Mulching of the soil surface after seeding is recommended to minimize erosion and protect seeds while germination and plant establishment take place. This requirement may be waived when steepness of the slope or slope material composed of material not conducive to plant growth and establishment make it inappropriate. In these cases it may be necessary to use other physical or mechanical means to stabilize the slope material.

2. FILLS

a. General. Unless otherwise recommended in an approved soils engineering report, fills must conform to the provisions of this section.

b. Preparation of Ground. Fill slopes must not be constructed on natural slopes steeper than 1 unit vertical in 2 units horizontal (50% slope). The ground surface must be prepared to receive fill by removing woody vegetation such as shrubs, topsoil and other unsuitable materials and scarifying to provide a bond with the new fill. Where slopes are steeper than 1 unit vertical in 5 units horizontal (20% slope) and the height is greater than 1.5 metres, stability must be achieved by benching at the toe into sound bedrock or other competent material.

c. Fill Material. Composition of fill material must follow these requirements:

- i. Detrimental amounts of organic material will not be permitted in fills.
- ii. Rock sizes greater than 12 inches in maximum dimension must be placed 0.6 metres or more below grade, measured vertically.
- iii. Rocks must be placed so as to assure filling of all voids with well-graded soil.
- iv. The upper 0.6 metres of fill must be compacted for stability in preparation for placement of surfacing material.

d. Slope. Fill slopes must be no steeper than 1 unit vertical in 2 units horizontal (50% slope) unless the fill is engineered and constructed in such a way as to establish stability at a steeper slope. Design of such fills must be done by an individual licensed by the Province to do such work. Fill slopes must be seeded to re-establish appropriate vegetative cover to maximize slope stability and minimize erosion. Whenever possible, existing topsoil on the site should be saved and stockpiled for dressing the slope prior to seeding.

3. SETBACKS

These setback recommendations are included for general consideration to avoid conflicts and potential problems with other landowners. They should be followed when planning a road or other excavations.

a) General

Cut and fill slopes should be set back from site boundaries in accordance with this section. Setback dimensions are horizontal distances measured perpendicular to the site boundary.

b) Top of Cut Slope

The top of cut slopes should not be made nearer to a site boundary line than one fifth of the vertical height of cut with a minimum of 0.6 metres and a maximum of 3 metres.

c) Toe of Fill Slope

The toe of the fill slope should be made not nearer to the site boundary line than one half the height of the slope with a minimum of 0.6 metres and a maximum of 6 metres. Where a fill slope is to be located near the site boundary and the adjacent off-site property is developed, special precautions should be incorporated in the work, as necessary, to protect the adjoining property from damage as a result of such grading. These precautions may include but are not limited to:

- i. Additional setbacks.
- ii. Provision for retaining or slough walls.

- iii. Mechanical or chemical treatment of the fill slope surface to minimize erosion.
- iv. Provisions for the control of surface waters.

H. Site Drainage

Plans for adequate site and roadway drainage are required for all road construction. Road design must contain provisions for stormwater drainage sufficient to achieve a standard of no ponding at all locations. Adequate design must insure the natural drainage system will be maintained and erosion is minimized.

1. Multiple-residence accesses

Road systems accessing multiple residences must provide cross culverts, as needed, to maintain natural drainage patterns and distribute stormwater away from the roadway. Such structures must be sized to pass at least the flow generated by a 10-year storm. Culverts may not be smaller than 46 cm in diameter nor have cross-sectional area of less than 0.16 square metres. The Municipal Transportation Services Manager may require more stringent design criteria as necessary for safety and protection of property and natural drainage patterns. Adequate sizing of such structures will be determined at the planning and design stage for such road systems and must be accepted by the Municipal Transportation Services Manager before a road construction grading permit is issued.

2. Culvert specification

Culverts must be either double-wall corrugated plastic or single wall corrugated metal pipes. Single-wall pipe may be acceptable if it can be demonstrated that it meets the minimum requirements of this section. A minimum of 0.3 metres of cover of material compacted to manufacturer's specifications is recommended unless manufacturers specifications indicate a lesser amount is sufficient to achieve the required bearing capacity. The culvert must be of sufficient strength and proper installation to assure an adequate bearing capacity.

3. Bridge specification

An engineer's design, construction and inspection/supervision shall be required.

I. Erosion Control and Site Reclamation

Erosion control and site reclamation improvements are required as part of every road construction and excavation project. A plan to control stormwater along the roadway to lessen the degree of concentration of stormwater must be incorporated in the erosion control plan. The plan must incorporate erosion control and site restoration measures to 1) assure effective stabilization of soil materials so that displacement and transport of soil materials is minimized and 2) affect restoration of natural vegetative ground cover to disturbed areas. In many cases the most effective means of controlling erosion is reestablishment of vegetation on disturbed areas. It is recommended that natural vegetation be left intact to the greatest extent possible.

J. Buffer zones for streams, intermittent streams, and wetlands

For roads that follow perennial stream corridors, a minimum 15-metre buffer zone of undisturbed vegetation must be maintained between the roadways or from any fill material generated by the construction of the road and the normal high-water line of the stream. Proper revegetation of cut and fill slopes or other means of erosion and stormwater control must be affected to protect water quality of the stream. The Municipal Transportation Services Manager may grant variances from this requirement if it can be demonstrated that the effects of such construction will not degrade water quality.

Construction of roadways within intermittent streams or drainage ways shall not be permitted except for purposes of crossings. Proper design to allow adequate flow of stormwater, as indicated by the normal high-water line, must be incorporated in the plan. A buffer of at least 6 metres of undisturbed ground and vegetative cover from the normal high-water line must be maintained for roadways paralleling these features.

A 15-metre buffer zone must be maintained for wetlands unless further encroachment has been approved. Delineation of the wetland may be required by a qualified person to properly identify the extent of the wetland boundaries.

K. General considerations

Planning and construction of these roads should take into consideration all aspects of the effects of such construction activities. Among these should be consideration of encroachment upon critical wildlife habitat, wetlands conservation, protection of water quality in local streams, ponds and lakes, aesthetics, etc. Site-specific variances from the above standards to mitigate such concerns shall be considered so long as roadway safety and emergency access are maintained. Applicants are encouraged to study these issues and seek help from appropriate agencies or individuals to assess all effects of the proposed construction as a part of the planning process.