



TOWNSHIP OF / CANTON DE
Tiny

TOWNSHIP OF TINY

LOT GRADING PLAN PROCEDURE

Approved: December 2015
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Section 1.0 – Introduction

It is essential that all lots in the Township be graded properly to ensure that surface water drainage is directed away from buildings and does not adversely affect the neighbouring properties including Municipal, County or Provincial roadsides or their lands. It is also important that building elevations be such that there is no risk of hydrostatic pressure acting on any building components.

Section 2.0 – Policy

The Township of Tiny requires that all lots in which a building permit application has been made to construct a dwelling/cottage, raise a dwelling/cottage, in some cases add to an existing dwelling/cottage or construct an accessory building have a Lot Grading Plan. The Chief Building Official may waive the requirement of submitting a Lot Grading Plan if a dwelling/cottage or addition is located a minimum of 30 metres from all property lines and/or an addition does not exceed 46.5 square metres in size.

The Township may also require, in some cases, that a lot in which a building permit application has been made to construct a sewage system also have a Lot Grading Plan. It is at the discretion of the Sewage System Inspector, in consultation with the Chief Building Official and/or Director of Public Works or designate, to determine when a Lot Grading Plan is required as part of a sewage system application.

In addition to the exemptions listed above, the Chief Building Official, in consultation with the Director of Public Works or designate, may waive some or all of the requirements for a Lot Grading Plan, due to lot size, location, characteristics, or the nature of the proposed construction. It is the responsibility of the Owner/Applicant to consult with the Chief Building Official to determine if this Procedure applies to a specific construction project prior to submitting a building permit application. A building permit application will not be accepted without a Lot Grading Plan and the Lot Grading Plan Review Checklist (Appendix B) unless an exemption has been granted by the Chief Building Official, in which case the Lot Grading Procedure Exception Acknowledgment form must be submitted with a building permit application as provided by the Chief Building Official or designate.

Section 3.0 – Preparation of the Lot Grading Plan

With the building permit application, the Owner/Applicant shall submit a copy of the proposed Lot Grading Plan and one copy of the Lot Grading Plan Review Checklist (Appendix B) to the Township. In addition, a copy of the up-to-date survey prepared by an Ontario Land Surveyor that was used to create the Lot Grading Plan shall be provided. Under certain circumstances, exemptions to the survey requirement may be made on a case by case basis by the Director of Planning & Development.

The Lot Grading Plan shall be prepared by a Professional Engineer (P.Eng.), Ontario Land Surveyor (O.L.S.) or a Certified Engineering Technologist (C.E.T.), qualified and

competent in grading and drainage design and the Plan shall conform to all requirements of this Procedure.

It is the P.Eng.'s/O.L.S./C.E.T.'s responsibility to notify the Director of Public Works or designate prior to finalizing the Lot Grading Plan if drainage issues are a concern within a Township of Tiny public right of way. If deemed necessary by the Director of Public Works or designate, the applicant for a building permit may be required to provide additional reports in support of the building permit application prior to the issuance of the building permit. The report(s) shall be prepared by an individual qualified and experienced in the works required. Recommendations within the report(s) shall also make provision for any extra works required and as deemed necessary by the Director of Public Works or designate.

Section 4.0 – Outside Agencies

If the subject property falls within a Ministry of Transportation Highway Corridor or a County of Simcoe Road Corridor then a permit will be required from the Ministry of Transportation or County of Simcoe prior to the issuance of a building permit.

Section 5.0 – Design Criteria

A Lot Grading Plan, bearing the signature and seal of a Professional Engineer, Ontario Land Surveyor or Certified Engineering Technologist qualified and competent in grading and drainage design, is required, indicating the means by which the Owner/Applicant will ensure that the subject lot is to be properly graded and drained, and does not adversely affect neighbouring properties including Municipal, County or Provincial lands.

The Lot Grading Plan Review Checklist (Appendix B) is to be completed by the Owner's P.Eng./O.L.S./C.E.T. and a copy of the Checklist is to be included in the Lot Grading Plan submittal package.

Each Lot Grading Plan must include the following:

1. A north arrow shall be shown. All drawings received shall be to scale, Metric 1:200 or 1:250 and drawn in ink. **Freehand drawings are not acceptable.**
2. Name of street, lot number and registered plan or concession number, plus sufficient detail to describe the location.
3. The legal survey distances and bearings around the perimeter of the property are to be labeled as well as easements and all natural features like watercourses.
4. The location of buildings and structures, existing and/or proposed, with distances to property lines.

5. A test pit located, within the proposed construction's footprint or in close proximity to the proposed construction, complete with the date of the test pit and the observed groundwater table elevation (if observed). Based on the observed groundwater table elevation (if observed), the plan shall also provide an "estimated seasonal high groundwater table elevation". Where the groundwater table is less than the width of the footings below the bearing surface, other means of determining the "estimated seasonal high groundwater table elevation" shall be considered, which could include review of neighbouring property sump pump discharge and basement elevation.
6. The location of all sump pump and other drainage discharge points. Foundation drains shall drain to a swale or dry well. Drainage directly to a municipal ditch is not permitted, which includes roof leaders, basement sumps and foundation drains.
7. All elevations should be to Geodetic Datum where possible. If not possible then the point of reference (Temporary Benchmark), which is to be identified, shall be a fixed object in the immediate area.
8. Identifications of existing elevations on the road, ditch, boulevards, curbs, subject lot and adjoining lands. Sufficient existing grades on adjacent properties must be shown to indicate the drainage pattern.
9. The existing grade elevations at all lot corners and significant changes in grades along property lines shall be clearly indicated.
10. All proposed grading shall have a net zero impact on the road allowance, infrastructure and surrounding properties.
11. Provide a Building Elevation Table, which specifies the following proposed elevations:
 - a) Elevations along the perimeter of the building
 - b) Top of Garage floor (if applicable)
 - c) Top of Finished First Floor
 - d) Top of Foundation Wall
 - e) Top of Basement Slab (or any other slab-on-ground, shall be a minimum 400mm above "estimated seasonal high groundwater table elevation")
 - f) Underside of Footing
 - g) The estimated seasonal high groundwater table elevation.
12. No building(s) with habitable living area located adjacent to Georgian Bay shall have any building opening below the 178.5 m G.S.C. elevation.
13. Indicate the proposed grade elevations at all corners of the house, property lines and particularly at each corner of the lot and include on proposed elevation in the centre of the sewage system envelope.

14. When reasonably possible, the perimeter elevation of the proposed dwelling/cottage must be at least 300mm higher than the edge of any adjacent roadway or public property.
15. Swales shall be located entirely within the limits of the lot and shall match existing grades at the lot lines to ensure that no drainage outlets onto adjacent properties.
16. Swales and slopes must be detailed with sufficient information to show the direction of drainage and the amount of slope. The minimum gradient for all rear and side yard swales shall be 2% with a minimum depth of 150mm. A 1% minimum gradient will be considered where there are soil conditions that allow infiltration.
17. Drainage flows shall be directed away from all buildings at a minimum grade of 2%. Ponding of surface water adjacent to foundation walls is unacceptable.
18. The maximum lot surface grade at any location shall be 5% and a slope of 3 parts horizontal to 1 part vertical shall be used to take up the grade differentials in excess of this 5% slope.
19. Any sediment and erosion control measures deemed necessary to prevent migration of silt and sediment from the subject lot to any adjacent lot, including municipal and/or public right-of-ways shall be indicated on the Lot Grading Plan and shall be implemented and maintained by the Owner/Builder/Applicant. The designer of the lot grading plan shall identify the proposed final erosion control measure in situations where grass cover is not proposed. Special care shall be taken to ensure that silt and sediment laden surface water does not enter any watercourses or environmentally sensitive areas throughout the project, either overland or through the storm drainage system.
20. Interim grading measures may be required during building construction to ensure that drainage does not adversely affect the neighboring properties. Rough grading of the property shall be completed such that drainage is contained on site or controlled to a positive outlet.
21. In many areas within the Municipality, the municipal drainage systems are limited or non-existent. As such the lot grading design must consider ways and means to keep any increase in surface water run-off from the subject site to a minimum, utilizing acceptable surface water retention techniques. In areas where positive storm drainage is not available within the Municipal road allowance the property Owner may be required to provide a soak away pit and/or grade the boulevard to a sufficient outlet to the satisfaction of the Director of Public Works or designate in such a way that ponding does not occur on the surface of the road.

22. Where a retaining wall or other similar structure is proposed on the property, it shall be shown complete with top and bottom of wall elevations and material. Retaining walls are not to encroach onto Municipal property. Retaining walls along lot lines shall be constructed wholly within the subject lot and are subject to zoning setbacks depending on height. Approvals must be obtained from the Federal (Department of Fisheries and Oceans, etc.) and Provincial (Ministry of Natural Resources and Forestry, Ministry of Environment, Conservation and Parks, etc.) Governments for construction of retaining walls adjacent to Georgian Bay, if required.
23. Minimum driveway grade shall be 2% and shall not exceed a maximum grade of 6%, measured from the garage or dwelling/cottage face, to the edge of roadway pavement. Where existing grades are too steep to comply with these requirements, there may be the option of matching adjacent property grades as determined appropriate by the Director of Public Works or designate on a case by case basis. Additional drainage measures may be required in order to prevent hardscaping flow directly onto the road allowance.
24. Where landscaping improvements are proposed adjacent to the driveway (i.e. driveway edging), driveway edging must be flush with the driveway surface (and back of curb, if applicable) to a minimum of 1.5 metres beyond the edge of pavement/curbline. Where sidewalks exist along the frontage of the proposed dwelling/cottage, driveway edging must be flush with the driveway surface for a minimum of 500 mm beyond the back of sidewalk.

Section 6.0 – Mandatory General Notes

The following general notes are to be included on every drawing:

- 1) “Sediment and erosion control measures shall be implemented to prevent migration of silt and sediment from the subject lot to any adjacent lot, including municipal or public right-of-way. Special care shall be taken to ensure that silt and sediment laden surface water does not enter any watercourses or environmentally sensitive areas, either overland or through the storm drainage system. The Owner/Builder/Applicant shall comply with all directives issued by any applicable environmental agency”.
- 2) “Interim grading measures may be required during building construction to ensure that drainage does not adversely affect the neighboring properties. Rough grading of the property shall be completed such that drainage is contained on site or controlled to a positive outlet”.
- 3) “All downspouts, sump pump and other drainage discharge points shall discharge on to a splash pad or approved equivalent. Drainage directly to a municipal ditch is not permitted, which includes roof leaders, basement sumps and foundation drains”.

- 4) "The Owner/Builder/Applicant is responsible for obtaining utility and servicing locates prior to any works".
- 5) "This Lot Grading Plan has been designed/completed such that Municipal, County and Provincial lands adjacent to or in the vicinity of this lot are not affected".
- 6) "A copy of the "Accepted for Construction" Lot Grading Plan is to be on site for reference at all times during construction" in digital or paper format.
- 7) If there is an overall lot grading plan in existence for the lot (i.e. part of a registered subdivision) then the following clauses must be included:
 - a) "This Lot Grading Plan is in conformance with the overall lot grading plan for this subdivision",
 - b) "This Lot Grading Plan has been designed/completed to prevent drainage towards the foundation after settling".
- 8) If there is not an overall lot grading plan in existence for the lot then the following clauses must be included:
 - a) "This Lot Grading Plan has been designed/completed to prevent drainage towards the foundation after settling",
 - b) "This Lot Grading Plan has been designed/completed such that surface drainage (water) from the lot will not adversely affect neighbouring properties or municipal lands/roadways".
- 9) "The building elevations have been set such that there is no risk of hydrostatic pressure affecting the building".
- 10) "Post construction and upon completion of the Lot Grading as per the approved Lot Grading Plan, the Owner is responsible to repair any settlements in order to maintain positive drainage away from the building at all times."
- 11) "Post construction and upon completion of the Lot Grading as per the approved Lot Grading Plan, the Owner is responsible to maintain all downspouts and to ensure that no subsequent modifications to the grading of the lot are made which will adversely affect the drainage of adjacent lots."

Section 7.0 – Geotechnical Investigation

All Lot Grading Plans must have regard for and take into consideration the presence of the natural ground water table and its seasonal fluctuations.

As a minimum the Owner must coordinate, at their expense, the undertaking of a 2 metre deep test pit within the proposed construction's footprint, or in close proximity to the proposed construction, to permit their P.Eng./O.L.S./C.E.T. to determine if a high groundwater table exists and determine the estimated seasonal high groundwater table elevation. The test pit location, high groundwater elevation (if it exists), the estimated seasonal high groundwater table elevation and date of the observance of the test pit are to be shown on the Lot Grading Plan.

If standing water is found in the test hole or if it is deemed necessary by the Township or the P.Eng./O.L.S./C.E.T. preparing the Lot Grading Plan, the applicant will be required to provide a Geotechnical Report in addition to the Lot Grading Plan. The Geotechnical Report shall be prepared by a qualified Geotechnical Consultant/Engineer identifying site soil conditions, soil bearing capacity, existing groundwater table elevation (if it exists), provide an estimated seasonal high groundwater table elevation and comment if the proposed elevations of the building will be affected by hydrostatic pressure. If there is a risk of hydrostatic pressure on the proposed building they shall make recommendations to the P.Eng./O.L.S./C.E.T. preparing the Lot Grading Plan as to changes to the proposed building elevations to eliminate the risk of hydrostatic pressure on building components. They shall also make any recommendations as to the construction of the building they deem necessary due to the site conditions. The report shall be used by the P.Eng./O.L.S./C.E.T. preparing the Lot Grading Plan to make the necessary alterations, if required, to the building elevations to ensure there is no risk of hydrostatic pressure on the building components.

In all circumstances, the underside of any slabs-on-ground shall not be less than 400 mm above the estimated seasonal high groundwater table. If this cannot be achieved through setting the elevations then changes will be required to the proposed construction.

If the underside of the footings is to be placed below the footing width above the estimated seasonal high ground water table then a Professional Engineer shall review the proposed footing and foundation design taking into consideration the soil conditions to ensure the proposed structural components are designed adequately. A Professional Engineer shall seal all structural drawings. They may also make recommendations as to changes to the construction of the building to accommodate specific site conditions.

Where no existing or natural outlets exist, surface drainage shall be directed and collected utilizing designed infiltration technologies as specified by the P.Eng./O.L.S./C.E.T. Examples of designed infiltration technologies include a gallery to hold water, while it dissipates. Permission from the Director of Public Works or designate is required to utilize designed infiltration technologies to ensure that the Township's drainage system can handle the additional discharge volume.

If such outlets do not exist and designed infiltration technologies cannot be accommodated with the proposed construction then modifications to the proposed construction shall be made prior to commencement of construction.

Section 8.0 – Underside of Footing Certification

Upon completion of forming the footings for a dwelling/cottage addition or accessory structure, a certificate from an Ontario Land Surveyor, Professional Engineer, Architect or Certified Engineering Technologist shall be submitted to the Chief Building Official confirming that the elevation(s) of the underside of footings conform to the Lot Grading Plan within a 100 mm tolerance.

Section 9.0 – As-Built Lot Grading Plan Certification

The Township and their agents are provided with the authority/power of entry onto the lands for the purposes of Lot Grading Plan Certification and Review.

Upon completion of site grading including completion of the erosion control the Owner/Builder/Applicant shall be required to submit a two (2) copy of the Lot Grading Plan Certificate (Appendix C), which has been certified by a Professional Engineer/ Ontario Land Surveyor / Certified Engineering Technologist to the Building Department. The Lot Grading Plan Certificate will confirm that the lot grading, drainage works and building elevations have been completed in conformance with the design prepared by the P.Eng./O.L.S/C.E.T.

Section 10.0 – Lot Grading Deposit, Release and Forfeiture

A Lot Grading Deposit of Five Thousand Dollars (\$5,000) per lot must be provided with all Building Permit applications to ensure the Township receives a satisfactory Lot Grading Plan Certificate indicating satisfactory completion of the grading and drainage works. This deposit is required to be paid by the Owner of the property.

Upon receipt of the Lot Grading Plan Certificate by the Chief Building Official and provided all criteria of this Procedure have been met and the occupancy of the building has been granted, the Owner shall apply in writing for the release of the Lot Grading Deposit, without interest within three years of the permit issuance. If the Lot Grading Deposit is not requested within three years of the permit issuance the deposit will be forfeited to the municipality to correct lot grading issues throughout the Township. In special circumstances a request can be made in writing to the Chief Building Official for an extension, if made before the three year expiry date.

Section 11.0 - Maintenance

It is anticipated that some backfill settlements may occur over several years after construction, and as such, it is the responsibility of the Owner to repair any settlements in order to maintain positive drainage away from the building at all times.

Sump pump discharge shall be installed on all buildings related to the approved Lot Grading Plan. It is also the responsibility of the Owner to maintain all downspouts and

to ensure that no subsequent modifications to the grading of the lot are made which will adversely affect the drainage of adjacent lots.

APPENDIX A

EXAMPLE LOT GRADING PLAN

P.Eng,
C.E.T. or
O.L.S
stamp

PLAN OF
PART OF LOT _____
REGISTERED PLAN _____
TOWNSHIP OF TINY
COUNTY OF SIMCOE

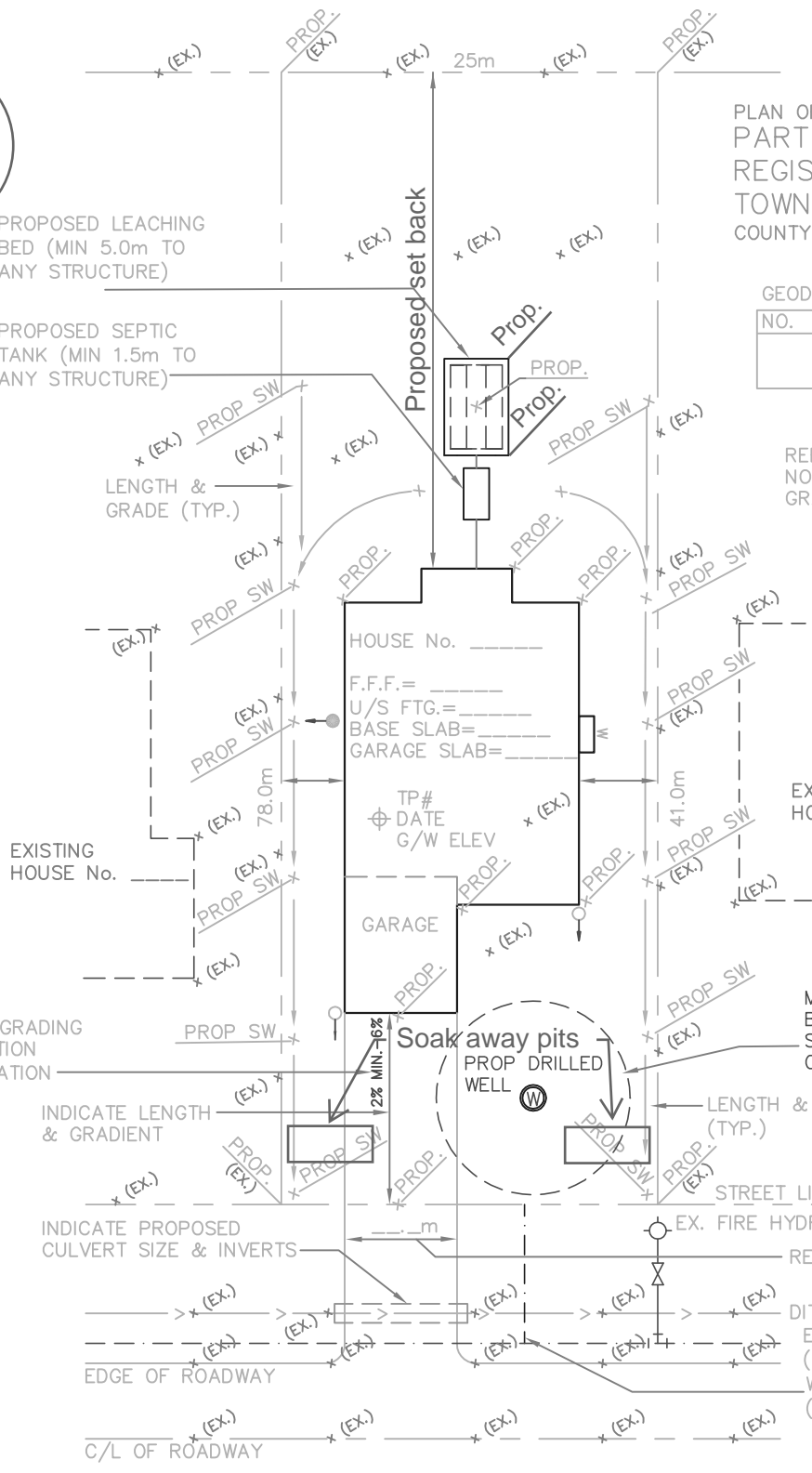
PROPOSED LEACHING
BED (MIN 5.0m TO
ANY STRUCTURE)

PROPOSED SEPTIC
TANK (MIN 1.5m TO
ANY STRUCTURE)

GEODETIC BENCHMARK

NO.	ELEVATION	DESCRIPTION

REFER TO MANDATORY GENERAL
NOTES SECTION 6.0 OF THE LOT
GRADING PLAN PROCEDURE



REFERENCE LOT GRADING
PROCEDURE SECTION
(5.22 FOR VARIATION

INDICATE LENGTH
& GRADIENT

INDICATE PROPOSED
CULVERT SIZE & INVERTS

MIN 15m SEPARATION
BETWEEN WELL AND ALL
SEWAGE SYSTEM
COMPONENTS

LENGTH & GRADE
(TYP.)

REFERENCE BY-LAW NO.17-055

DITCH C/L
EX. _____mmØ WATERMAIN
(IF APPLICABLE)
WATER SERVICE
(IF APPLICABLE)

ESTIMATED SEASONAL
HIGH GROUND WATER
TABLE ELEVATION _____

STREET NAME

LEGEND

- WINDOW WELL
- RAINWATER LEADER
- SUMP PUMP DISCHARGE
- EXISTING ELEVATION REQUIRED
- PROPOSED ELEVATION REQUIRED
- F.F.F.= - FINISHED FIRST FLOOR ELEVATION REQ'D.
- U/S FTG.= - UNDERSIDE OF FOOTING ELEVATION REQ'D.
- BASE SLAB= - BASEMENT SLAB ELEVATION REQ'D.
- GARAGE SLAB= - GARAGE SLAB ELEVATION REQ'D.
- SW= - SWALE

TOWNSHIP OF TINY

MINIMUM LOT GRADING
REQUIREMENTS

DRAWN: T.O.	SCALE: N.T.S.	LGP
DESIGN: T.O.	PLOT: 1=1	
CHECKED: J.R.P.	DATE: APRIL 2020	

APPENDIX B

LOT GRADING PLAN REVIEW CHECKLIST



TOWNSHIP OF / CANTON DE
Tiny

Township of Tiny
Building Department
130 Balm Beach Road West
Tiny, Ontario, L0L 2J0

Lot Grading Plan Review Checklist

Legal Description of Property:

Contact Person (P.Eng./C.E.T.):

Phone Number:

Company:

E-mail Address:

The following list of items are the **minimum** requirements for review and acceptance of the Lot Grading Plan. Plans not meeting these requirements will be deemed incomplete and returned. This checklist must **be completed and submitted by the P.Eng./C.E.T./O.L.S.** as part of the Lot Grading Plan submittal package. Any items which do not apply to the project must be marked N/A (Not Applicable).

HGWL=High Groundwater Level, ESHGL=Estimated Seasonal High Groundwater Level

- A copy of survey prepared by an O.L.S.
- Plan Scale: Metric 1:200 or 1:250
- North arrow
- Lot location information including Street Name and Legal Description
- Location of existing & proposed buildings including existing features such as fences
- Legal survey distances for lot lines
- Location of all sump pump and other drainage discharge points
- Swales located within limits of lot
- Geodetic elevations c/w temporary benchmark
- Existing elevations on road, ditch, boulevards, curbs and adjacent properties
- Existing elevations at all lot corners and significant changes in grade along property line
- Building elevation table including:
 - Garage floor
 - Finished first floor
 - Top of foundation wall
 - Top of slabs-on-ground
 - Underside of footing
- Proposed Lot Coverage
- Engineer, if required, has sealed the plans (See Section 7.0 of Lot Grading Plan Procedure)
- Prop elevations at all corners of house & P/L
- Min 2.0% grade away from house
- Review available storm drainage on the road
- Erosion control addressed if grass cover is not proposed
- Swales min 1.0% grade and 150mm deep.
- Max 5.0% grade on lot with 3:1 slopes
- Reduce surface run-off where appropriate
- Driveway culvert shown and labeled with material, size, length and inverts
- Driveway grade to be between 2.0% and 6.0% or as per Public Works approval
- Driveway width to conform with any applicable Township of Tiny requirement
- Driveway to be a min. of 3.0m from side lot line
- Driveway edging flush for min 1.5m from EOP/curb or 0.5m from back of sidewalk if applicable
- General Notes as per Section 6.0 of the Infill Lot Grading/Drainage Procedure
- Grading along property lines matches existing grades of adjacent properties
- Test pit including HGWL and ESHGWL and date measured
- Proposed Setbacks for all proposed buildings/structures to property lines
- Slabs-on-ground minimum 400 mm above ESHGWL
- The quantity of imported fill will not exceed 2000 cubic metres (if not a Fill Permit is required as per the Township Fill Control By-law and O. Reg. 406/19)
- Waterline or well location shown
- Sewage information provided, tank, bed and elevations

APPENDIX C

LOT GRADING PLAN CERTIFICATE



TOWNSHIP OF / CANTON DE
Tiny

TOWNSHIP OF TINY
BUILDING DEPARTMENT
130 Balm Beach Road West
Tiny, On L0L 2J0

LOT GRADING PLAN CERTIFICATE

REGISTERED PLAN NO.: _____ LOT NO.: _____

CONCESSION: _____ LOT: _____

PART: _____ REFERENCE PLAN: _____

HOUSE NO/STREET _____

This is to confirm that I/we have inspected the above noted lot (s) and certify that lot grading and associated grading requirements including building elevations are in general compliance with the Lot Grading Plan, which was submitted for this lot together with the Lot Grading Plan Review Checklist copies of which are attached.

Stamped & Sealed by a Professional Engineer/Certified Engineering Technologist:

NAME: _____ SIGNATURE: _____

DATE: _____

COMPANY: _____

NOTES:

Received by: _____ Date: _____

Chief Building Official

Disclaimer: The Township of Tiny does not enforce grading/drainage issues on private property.