

REGION OF PEEL

PUBLIC WORKS DESIGN, SPECIFICATIONS & PROCEDURES MANUAL

SUBDIVISION PROCESS

REVISED July 2009

**PUBLIC WORKS
SUBDIVISION PROCESS
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1. INTRODUCTION

The purpose of this manual is to outline the procedures, fees, and engineering submission requirements for a residential, commercial and/or industrial subdivision of land in the Region of Peel. This manual applies to the requirements of the Public Works (PW) Department and is primarily intended to assist the Developer's Consulting Engineer in obtaining clearance for the construction of Regional subdivision services.

Deviations from these procedures may be made where warranted by special circumstances and clearance by the PW Development Engineering Section. The consulting engineer shall contact the appropriate staff in the Development Engineering Section to resolve specific problems.

2. ENGINEERING SUBMISSIONS

2.1 Agreements, Fees and Special Requirements

Before registration of lands can proceed, the Developers are required to enter into an arrangement with the Region and local Municipality to ensure compliance with the draft plan terms and conditions.

The agreement, administered by the related area municipality, is also executed by the Region. The agreement consists of a general body and specific schedules. The general body is in a standard format and is not altered for any individual development. The schedules are specific to each development. In Mississauga the schedules are submitted with the engineering submissions for review. In Brampton and Caledon agreements are submitted separately and drafted by municipal staff.

Engineering fees, hydrant inspection fees and as constructed, as per the latest user-fee bylaw, are included as a clause in the agreement. The Region performs four hydrant inspections during the maintenance period in order to ensure that the hydrants are in working condition.

2.2 Drawing Requirements

All drawings submitted are to conform to the area municipality's most recent requirements with regard to such items as: Drawing size, drawing material, scale, etc. Refer to the "PW CAD Submission Requirements – Development" section of this manual for further details regarding the Region's submitted drawing requirements.

The following items, however, are to be included on all drawings submitted to the Region and prior to the commencement of construction.

- a) Region file number is to be included in the title block on all drawings (i.e., T-78009), use **large bold type**.
- b) A key plan is to be included on all drawings in the upper right hand corner, indicating existing roads and highways around the site, (including concession roads). The key plan on the general plans shall cover two concessions in all directions.
- c) All elevations are to refer to geodetic datum.
- d) A general plan for underground services is to be one composite drawing at a metric scale of 1:1000. For larger developments scales can be selected to permit the use of one plan. For clarity a scale of 1:1500 maximum is recommended. Composite general plans shall be supplied after the engineering drawings are approved.

The General plan for underground servicing shall include the following:

- Proposed construction including any external works
 - Construction limits
 - Lot services and existing services (dashed lines)
 - Existing buildings complete with water services (including size)
 - Water service schedule (table format)
 - Project quantities summary table
 - Zone boundaries indicating closed valves
- e) A sanitary drainage plan is to be one composite drawing to the metric scale of 1:2000 or as required including the total area to be drained by the sanitary sewers. The sanitary drainage plan shall include such items as: Area densities, flow directions, key plan, street names, existing and proposed sewers, maintenance hole numbers and sewer sizes.
 - f) Watermain and sanitary sewer general notes, including trench details shall be on the first plan and profile drawing for each separate street, not on the general plan or a separate sheet. Watermain fill notes shall be placed on each applicable plan and profile drawing.
 - g) All drawings shall be individually folded, stamped and signed by a professional engineer registered in Ontario.

- h) All title blocks shall show the following:
 - 1. Developer's name (in full)
 - 2. Project name and phase then stage
 - 3. Consultant's name (in full) including phone/fax number
 - 4. Area (i.e. Z-01, B-01, C-01)
 - 5. Region file number (i.e. T-78009)
 - 6. A blank field for Region drawing number

- i) Region drawing numbers will be issued by the Region prior submission and shall be shown in the size specified in the margin of the lower right hand corner of the plan.

- j) All plans shall include final street names prior to Final Submission Review.

2.3 Region Criteria

All watermains, sanitary sewers, and Region roadworks are to be designed and constructed in accordance with the Region's "PW Design, Specifications & Procedures Manual" and in accordance with the most recent Region practice and approved material listings. (Where Region of Peel standards are not applicable, the latest version of the OPSD shall apply.)

2.4 "As Recorded" Drawing Requirements

The following are the Region's requirements for "As Recorded" drawings:

- a) The "As Recorded" drawings shall be submitted to the Region within 60 days of Preliminary Clearance. There will be a 1% holdback on the Letter of Credit until these drawings have been approved and received (section 6.4)

- b) The drawings shall be "As Recorded" in accordance with the requirements specified in the "PW CAD Submission Requirements – Development", which is part of the PW Design, Specifications & Procedures Manual.

- c) In addition to the drawings specified in the above section include the general plan of underground (or a composite plan).

- d) In addition to the above submit the following:

2.4.1 "As Recorded" lateral sheets (Appendix 'A')

- Prior to Final clearance, the consultant is to provide water service swing ties (two ties) from each corner of the front of the building on each lot. They are to indicate right and left ties, standing at the road looking at the building as well ties to main line valves. It is important that all the fields on the form are filled in. An Excel spreadsheet is available from the Region of Peel office. (See Appendix A)
- The applicant's Engineer is required to submit, to the Region of Peel, PW Department, linear ties to sanitary sewer services either at the "Y" connection for double services or at the property line for single services prior to preliminary acceptance and swing ties to the building prior to final acceptance. (See Appendix A)

3. SUBMISSION REQUIREMENTS

3.1 General

Generally, the proposed subdivision shall have draft plan approval from the Ministry or the local Municipality before the engineering plans will be accepted for consideration. If, however, there are extenuating circumstances, a 'First Submission' may be reviewed at the discretion of the Supervisor of the PW Development Engineering Section. All submissions are to include a covering letter indicating the submission number, developer and subdivision name (including number). The consulting engineer shall address all engineering submissions to the Manager of Development Engineering. All drawings are to be individually folded (8 ½" x 11") for all submissions.

3.2 First Submission

The following plans and documents are required for the first submission:

- a) Four complete sets of the following drawings are required, five complete sets if adjacent to a Regional road:
 - i) Proposed final plan for registration
 - ii) General aboveground services plan and composite if required
 - iii) General underground services plan and composite if required
 - iv) Plan and profile drawings

- v) Sanitary drainage plan and design sheets, including external areas and contours
 - vi) External watermain layout plan illustrating the distribution system (excluding the Regions' standard drawing)
 - vii) Miscellaneous and special details pertaining to sanitary sewer or watermain design
 - viii) Plan / profile drawings where Regional roads are affected
 - ix) Grading plan
 - x) Traffic signal drawings or drawings indicating underground works (conduits, maintenance holes, hand wells, etc.) for future traffic signal installation
 - xi) Pavement marking and signing where Regional roads are affected
 - xii) Truck Turning Templates where Regional roads are affected
 - xiii) Cross-section drawing where Regional roads are being widened.
- b) Storm Water Management report required if storm drainage from the site is proposed to discharge into the Region's right-of-way or storm sewer system. Refer to the "Functional Servicing and Storm Water Management Report" section of this manual for additional information.
- c) Two copies of the sanitary sewer design sheets are required. Pipe strength and bedding requirements are to be provided if standard graphs are not used. Soils test data and design information is also required.
- d) Two copies of the geotechnical report.
- e) One extra copy of the general underground services plan.
- f) If the proposed development requires extension/construction of Development Capital infrastructures, check with the Development Engineering Section if such infrastructures are approved by Council. If not, a Council Report and approval is required prior to any works being undertaken by the Developer.
- g) General plan showing:
 - Total length of sanitary sewers
 - Number of maintenance holes
 - Number of sanitary sewer laterals and sizes
 - Total length of watermain(s)
 - Number of hydrants
 - Number of water services and sizes

Number of Valves
Land Dedication

When these drawings and calculation sheets are reviewed, a 'marked-up' set will be returned to the consultant for revisions as necessary.

3.3 Second Submission

The following plans and documents are required for the second submission and must be stamped/sealed by a professional engineer:

- a) Two complete sets of all drawings referred to in Section 3.2, Part (a), incorporating all changes required from the first submission.
- b) Return all "marked-up" drawings from the first submission.
- c) Two sets of all revised calculation sheets, if required.
- d) Two copies of all agreement schedules (Mississauga), and cost estimates (Brampton and Caledon).
- e) Ministry of the Environment application forms in triplicate signed by the appropriate parties as per the guidelines including application fee (made payable to the Region of Peel):
 - i) One copy of sanitary sewer design sheets and sanitary drainage plan.
 - ii) One copy of the general underground services plan.
 - iii) One copy of all plan and profile drawings.
 - iv) Articles of Incorporation
 - v) Letter advising that the Region is the operating authority for sanitary sewers and watermains, and the city or town for storm sewers.

All sanitary sewer, watermain, and Regional storm sewer MOE applications will be held until receipt of the approved MOE storm sewer application from the area municipality, if applicable. These will then be forwarded by the Region to the MOE as one package.

- f) Fifteen prints of plan and profile drawings of all existing roads on which new services are to be installed (other than crossings) for PUC approval.

- g) Two copies of the noise attenuation report, if applicable.
- h) Submit applications, fees and documentation for any other approvals required, i.e. MTO, pipelines, and conservation authorities.
- i) Landscape drawings where Regional roads are affected
- j) Base line well condition and monitoring report, as described in the “Hydrogeological Report – New Development” section of this manual that includes as a minimum requirement the following tests:
 - i. Bacteriological Analysis - Total coliform and E-coli counts
 - ii. Chemical Analysis - Nitrate Test
 - iii. Water level measurement below existing grade

3.4 Interim Submission

Submit two copies of only those drawings, schedules and calculations that required correction, including “marked up” materials. The revised documents are to be stamped and sealed by a professional engineer.

3.5 Pre-Servicing Submission

The following plans and documents are required for the third (final) submission and are to be stamped/sealed by a professional engineer:

- a) One complete set of all drawings as referred to in part (a), Section 3.2, incorporating all changes as referred to in the first, second and interim submissions. Include Region drawing numbers as described previously.
- b) One general (or composite) underground servicing plan with tentative construction date. This drawing is for use by Regional Inspections staff.
- c) One set of the final sanitary sewer design calculation sheets.
- d) One complete and correct copy of the agreement schedules.

- e) All draft easement documents and reference plans. The Region will verify the documents and send a clearance letter to the consultant with a copy to the affected municipality.
- f) One general plan (or composite) of the underground and aboveground drawings on a CD in the MicroStation format as outlined in the "PW CAD Submission Requirements – Development", which is part of the PW Design, Specifications & Procedures Manual.
- g) One 8 ½ x 11 size drawing of the complete project including any external work. (See sample attached, Appendix 'D')
- h) If the proposed development requires extension/construction of DC infrastructures, check with the respective divisions if such infrastructures are included in DC and if approved by Council. If not, a Council Report and approval is required prior to any works being undertaken by the Developer.
- i) Where concrete pressure pipe (CPP) watermains are proposed, shop drawings reviewed and signed off by the developer's engineer shall be supplied to the Region for review & approval prior to construction.

4. PRE- SERVICING AND CONSTRUCTION

All pre-servicing shall be carried out in accordance with the area municipality's and Region's current policies.

Prior to the commencement of construction the Region requires the following:

4.1 Confirmations

Confirmation is required from the area municipality that:

- a) All applicable securities and engineering fees have been paid.
- b) Acceptable insurance is in place.
- c) All easement documents and deeds have been received (Mississauga and Brampton).
- d) The work shall be performed only within the subdivision limits.
- e) All external easements have been registered prior to any work outside the limits of the development.

4.2 Construction Drawings

Four (4) complete sets of engineering drawings and ten (10) additional general plans of underground service are to be forwarded to the Region. If the general plans are produced on more than one plan, the ten (10) additional copies of the underground services shall be a composite plan. (Minimum scale 1:1500).

ALL DRAWINGS ARE TO BE INDIVIDUALLY FOLDED (8½x11 size).

4.3 CADD Information

Submit one complete set of drawings on a CD in the format specified in the "PW CAD Submission Requirements – Development" section of this manual.

4.4 Notice of Construction

The developer's contractor shall complete and submit to the Region a "Notification to Commence Work" form (Appendix 'B') a minimum of 48 hours prior to the commencement of construction and this shall be included with the submitted construction drawings.

4.5 Construction Meetings

Prior to commencing construction, a pre-construction meeting is required with the contractor, consultant, Local Municipality and Region (Development Engineering and Inspections). This meeting is required to determine construction, connection, and testing methods.

The name and contact information of the Consultant's full-time Inspector are to be provided to the Region at the pre-construction meeting.

4.6 Consultant's Responsibilities

The developer's consultant shall be responsible for supplying **full time inspection** required to ensure that the work is performed as specified. Any changes or deviation from the plans and specifications will require clearance from the Region and/or other agencies if required.

In addition, all "As Recorded" drawings and "As Recorded" lateral sheets shall be completed and submitted to the Region as set out in Paragraph 2.4.1 including all service ties as required.

The developer's consultant shall be responsible to ensure the requirements in the "Development Agreement" and in this "Subdivision Process Procedures Manual" are carried out in a timely manner.

5. SERVICES PROVIDED BY THE REGION OF PEEL

The Region will provide the following services to the developer for the pre-servicing period and maintenance period of the agreement either at no **additional charge (included in Development Engineering Fee)** or on a time and materials basis as indicated below.

5.1 Inspection

No Additional Charge

The Region will provide spot check inspections during construction to verify that the work is/was performed in accordance with the agreement. Preliminary and Final inspections will be performed only after the developer's consultant has given written confirmation that they have inspected the Regional infrastructure and they are in good standing.

Time and Material Charge

All subsequent preliminary and/or final inspections to confirm repair of deficiencies.

5.2 Valving

External to the project prior to construction clearance.

No Additional Charge

The Region will provide valving in all cases in accordance with the hook-up procedure and schedule agreed to by the Region, consultant and contractor.

The Region will inspect valves that may be required to operate as part of our inspection routine.

The Contractor is not permitted to operate any existing water system valves or any valves once the mains are directly connected to the municipal drinking water system.

Time and Material Charge

All emergency valving required as a result of an unscheduled or accidental disruption of water supply by the contractor or to accommodate additional testing.

5.3 Charging of Watermains

No Additional Charge

The Region will charge the watermain once at no charge.

Time and material Charge

Charging, of the same section (or the same subdivision/project) of watermain, the second and subsequent times for the purpose of hydrotesting. Otherwise the Region's operations may be charging each street separately.

5.4 Hydrostatic Testing, Flushing, Chlorination and Sampling

The Region will provide hydrostatic testing, flushing, chlorinating and sampling in all cases in accordance with the testing and sampling procedures established by the Region. These procedures will be performed once at no charge.

Time and material Charge

Hydrostatic testing, flushing, chlorinating and sampling of the same section of watermain, the second and subsequent times until the section being tested has passed each of the aforementioned tests.

5.5 Maintenance Fees

Should the Region of Peel be involved in repair to any regional services during the maintenance period, the following rates are to be applied.

- i) Where Region forces are used - cost times two
- ii) Where Region retains private contractors to carry out the work – cost plus 40%
- iii) Minimum charge is one half day for the crew and equipment.

5.6 Re-inspection Fees

Should the Region of Peel be required to re-inspect any regional services during the maintenance period (including closed circuit television inspection - CCTV Inspection), the following rates are to be applied.

- i) Where Region forces are used - cost times two, as per the latest user-fee bylaw.
- ii) Where Region retains private contractors to carry out the work – cost plus 40%

5.7 Tapping

Should the Region of Peel be involved in repair of any regional services during the maintenance period, the following rates are to be applied.

- i) Where Region forces are used - cost times two
- ii) Where Region retains private contractors to carry out the work – cost plus 40%
- iii) Minimum charge is one half day for the crew and equipment.

6. CONTRACT ADMIN PERIOD

6.1 Preliminary Clearance

- a)** Upon completion of the construction of the Regional infrastructure as set out in the Agreement, the consultant shall verify in writing (stamped and signed by an Ontario registered Professional Engineer) to the Region's Development Inspection group that the work is complete and ready for inspection by the Region. Prior to the issuance of preliminary clearance, the plan of subdivision and all easement documents shall be registered. At this time the securities may be reduced to 10% by written request, in the usual manner, as per 6.4.
- b)** Sanitary lateral information must be supplied with the verification letter (6.1 a). Please refer to Appendix A.
- c)** CCTV for DC sewers.

6.2 Maintenance Periods

The developer shall maintain all Regional underground and aboveground works for a minimum period of three (3) years from the date of preliminary clearance by the Region and shall correct all deficiencies in no more than four (4) years from the preliminary clearance date (this shall supersede any General Development Agreements). This includes wastewater collection systems, water distribution systems, Regional roads, and Regional storm sewers.

Notwithstanding the above the Developer will be responsible for all Regional works that may be damaged by the construction of aboveground works or building activities until assumption by-law date set by the municipal Council.

6.3 Final Clearance

- i)** 3 months prior to the completion of the maintenance period, the consultant shall provide to the Development Inspection group, written confirmation (stamped and signed by an Ontario registered Professional Engineer) (including a detailed report at final – see Appendix D) that they have inspected all of the Regional works

(including repair of all deficiencies) as set out in the agreement and that the Region requirements as set out in this manual, have been satisfied and are ready for final clearance by the Region.

- ii) Road cuts shall be checked by the developer's consultant to ensure that pavement, gravel, curbs, sod, sidewalk, shrubs, trees, and restoration are acceptable.

Lawns shall be checked with regard to new sod growth and settlement.

- iii) Paved driveways shall be checked to ensure they were saw-cut and patched with hot mix asphalt. Concrete pattern driveways shall be checked to ensure they were saw cut and patched with concrete to match existing.

6.3.1 Sanitary Sewers

- i) 3 months prior to the end of the maintenance period (As per the agreement), the developer's Consultant/Contractor shall flush all lines and visually inspect all manholes for deficiencies and confirm in writing to the Region's Development Inspection Group that the sewers meet Regional standards and are ready for final clearance. The Region will then provide one (1) CCTV Inspection at no additional costs to the developer.
- ii) Any deficiencies shall be corrected prior to final clearance being issued. All cost associated with re-inspection shall be in accordance with 5.6 and 5.1.

6.3.2 Watermain

3 months prior to the expiration of the maintenance period for "Final Watermains", an inspection is to be carried out by the consultant (including a detailed report – Appendix C) and all deficiencies repaired prior to request for Regions final inspection/clearance.

The following items must be checked by the Developers Consultant:

- i) Line Valves and Hydrant Branch Valves

All line and branch valves are to be checked for the following:

- (1.) Visible leakage
- (2.) Grade of valve box
- (3.) Valve or valve box damage
- (4.) Parts missing
- (5.) Condition of chamber
- (6.) Accessibility and no debris in valve box.

ii) Hydrants

- (1.) Grade: The distance between bottom flange and existing ground is checked. Height should be 150mm maximum or 50mm minimum from ground to the flange. The condition of the ground should be noted, i.e., sodded, graded, not graded, settlement, etc.
- (2.) Ensure hydrant is plumb.
- (3.) Repair hydrant damage or parts missing.
- (4.) Distance between the outside edges of the projected garage wall to the centerline of the hydrant shall be 1.25m minimum (1.0m clear minimum).
- (5.) Hydrant operability
- (6.) Condition of hydrant paint.

iii) Water Services

- (1.) Ensure no visible leakage.
- (2.) Grade: Ensure top of curb stop shall be 150mm above ground if lot is not graded. If sodded, should be to grade.
- (3.) Ensure no water service damage or parts missing.
- (4.) Verify service box accessibility. All boxes are plumb and accessible (key will sit on rod).

6.3.3 Region Roads

Three (3) months prior to the expiration of the maintenance period for Region roadwork, a final inspection is carried out by the consultant. Final clearance is issued after all deficiencies have been rectified.

6.3.4. Region Storm Sewers

i) Three (3) months prior to the end of the maintenance period (As per the agreement), the developer's contractor shall flush all lines and visually inspect all manholes and catchbasins for deficiencies and confirm in writing to the Region's Construction Inspection group that the storm sewer meets Regional standards and is ready for final clearance. The Region shall provide one (1) CCTV Inspection at no additional costs to the developer.

ii) All deficiencies must be corrected prior to final clearance being issued

6.3.5. Noise Attenuation Walls

Three (3) months prior to final acceptance, noise attenuation walls abutting Regional roads will be inspected for stability of the wall, warping or shrinkage of wood panels, spalling or flaking of concrete panels and overall appearance.

6.4 Subdivision Securities

a) The Consultant may request in writing to have the Developer's Letter of credit reduced as follows:

i) Prior to Preliminary clearance, the consultant may request a partial reduction in the Letter of Credit as according to the Payment certificates to the contractor.

ii) After Preliminary clearance has been issued (including all "as recorded" requirements), the Letter of Credit may be requested to be reduced to 10% of the original total amounts, subject to the following holdbacks:

Private Well Protection	minimum \$20,000
As Recorded Requirements	1% of original securities, minimum \$1,500
Flushing and Video	0.5% of the original sanitary securities, minimum \$1,000

- iii) Once all of the Regional Services have been given Final Clearance (including all as recorded requirements) the Region, upon written request, will reduce the Letter of Credit to 0%.

- iv) This minimum amount shall be held to cover the private well systems in the zone of influence until the Subdivision has been issued final clearance and assumed by the local municipal council.

Public Works
10 Peel Centre Dr.
Brampton, ON, L6T 4B9

NOTE:

1. Prior to commencing work, this notice must be supplied 48 hours in advance at the above address.
2. Written notice is required to be provided by the Contractor to the Director, Construction Safety Branch, Ministry of Labour, 400 University Avenue, Toronto, Ontario M7A 1V7, before commencing work on the project as required under the provisions of Section 6(3) of the "Regulations for Construction Projects, O.Reg. 213/91"
3. A road cut permit must be obtained from the appropriate road authority, two working days prior to commencing work.
4. This notification will not be accepted unless the Region Project No. is shown correctly.
5. If for any reason, the work proposed on this notice is deferred, then the Contractor must notify the Inspection Foreman at 905-791-5997 x 3250.

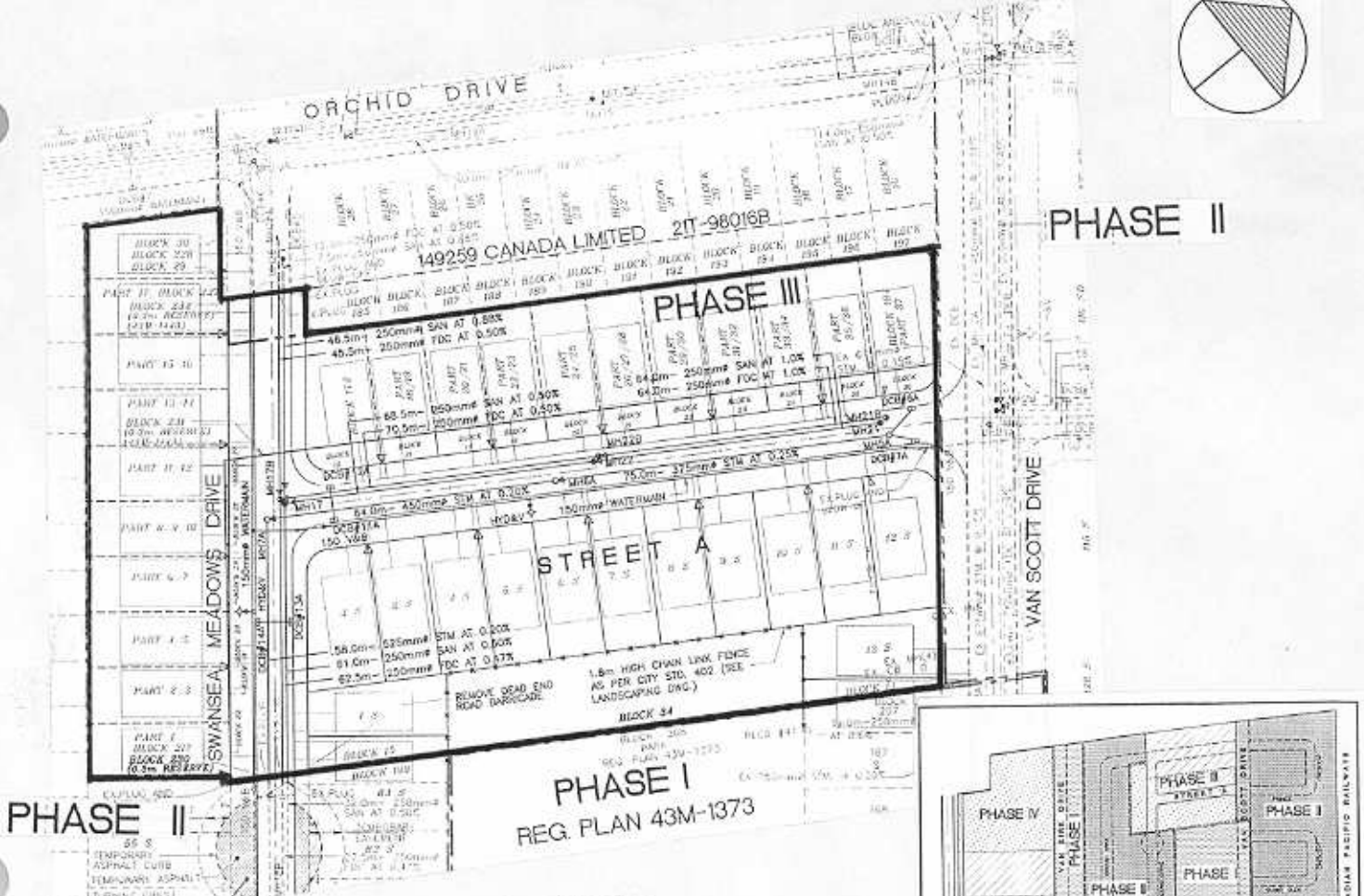
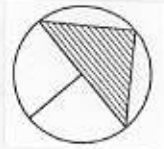
Project Name				Region Project Number			
Project Location				Registered Plan Number			
Description of Works				Total Project Length			
				Estimated Maximum Depth			
				Estimated Minimum Depth			
Proposed Project Start Date	Y	M	D	Proposed Working Hours Per Day		Proposed Working Days Per Week	
				From _____ A.M. To _____ P.M.			_____ Days

Name of Contractor			Bus. Telephone No.		
Address (Street / P.O. Box No.)		(City / Town)	(Province)	(Postal Code)	
Name of Person in Charge of Project Work			Res. Telephone No.		
Address (Street / P.O. Box No.)		(City / Town)	(Province)	(Postal Code)	

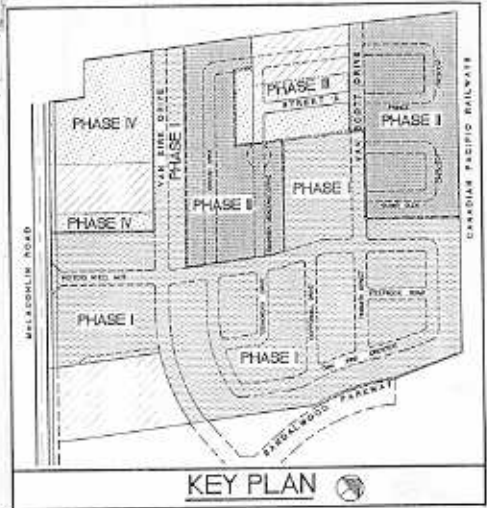
Dated	Y	M	D	Prepared By	Position

For Office Use Only

Water Division Distribution	Init.	Y	M	D	Sewer Division Distribution	Init.	Y	M	D	Roads Division Distribution	Init.	Y	M	D
Project Engineer					Project Engineer									
Connections					Connections									
Survey Supervisor					Survey Supervisor									
Inspection Supervisor					Inspection Supervisor									
Dispatcher					Dispatcher					Dispatcher				



SITE



KEY PLAN

Mia Properties Limited
Mia Subdivision
Phase III
T-00007b

APPENDIX E

(SAMPLE FORMAT OF LETTER OF CREDIT)

(BANK) _____ L/C NO. _____

(BRANCH) _____ (DATE) _____

BENEFICIARY: The Regional Municipality of Peel
10 Peel Centre Drive
Brampton, ON L6T 4B9

WE HEREBY AUTHORIZE YOU TO DRAW ON (BANK) FOR ACCOUNT OF (BANK CUSTOMER) UP TO AN AGGREGATE AMOUNT OF (DOLLAR VALUE) AVAILABLE BY DRAFTS AT SIGHT AS FOLLOWS:

Pursuant to the request of our customer, _____ we, (Bank) _____ hereby establish and give to you an irrevocable Letter of Credit in your favour in the total amount of \$ _____ which may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you which demand we shall honour without enquiring whether you have a right as between yourself and our said customer to make such demand and without recognizing any claim of our said customer.

PROVIDED, however, that you are to deliver to (Bank) _____ at such time as a written demand for payment is made upon us a certificate signed by the **Treasurer of the Regional Municipality of Peel** agreeing and/or confirming that monies drawn pursuant to this Letter of Credit are to be and/or have been expended pursuant to obligations incurred or to be incurred by you with reference to (description of services or projects)

This Letter of Credit will continue up to (Expiry Date) _____.

IT IS A CONDITION of this Letter of Credit, that it shall be deemed to be automatically extended without amendment for one year from the present or any future expiration date hereof, **unless sixty days prior** to any such date we shall notify the Treasurer of the Regional Municipality of Peel in writing that we elect not to consider this Letter of Credit renewed for any such additional period. Upon receipt by you of such notice, you may draw hereunder by means of your demand accompanied by your written certification that the amounts drawn will be retained and used by you to meet obligations incurred or to be incurred by you in connection with (description of services or projects) _____.

THE DRAFTS DRAWN UNDER THIS CREDIT ARE TO BE ENDORSED HERE ON AND SHALL STATE ON THEIR FACT THAT THEY ARE DRAWN UNDER (BANK) _____ (BRANCH) _____.

LETTER OF CREDIT NO. _____ **DATE** _____

WE HEREBY AGREE WITH THE DRAWERS, ENDORSERS AND BONAFIDE HOLDERS OF THE BILLS DRAWN IN COMPLIANCE WITH THE TERMS OF THIS CREDIT THAT THE BILLS SHALL BE DULY HONoured UPON PRESENTATION AT THE DRAWEE BANK.

(ACCOUNTANT)

(MANAGER)

Permit No.	
<input type="checkbox"/> Occupancy	<input type="checkbox"/> Access

APPENDIX F

General Information

Company / Contractor Name	
Address	
Business Telephone Number -	Fax Number -
Applicant's Name (if different from above)	
After hours Contact	Telephone Number -

Type of Work and Purpose

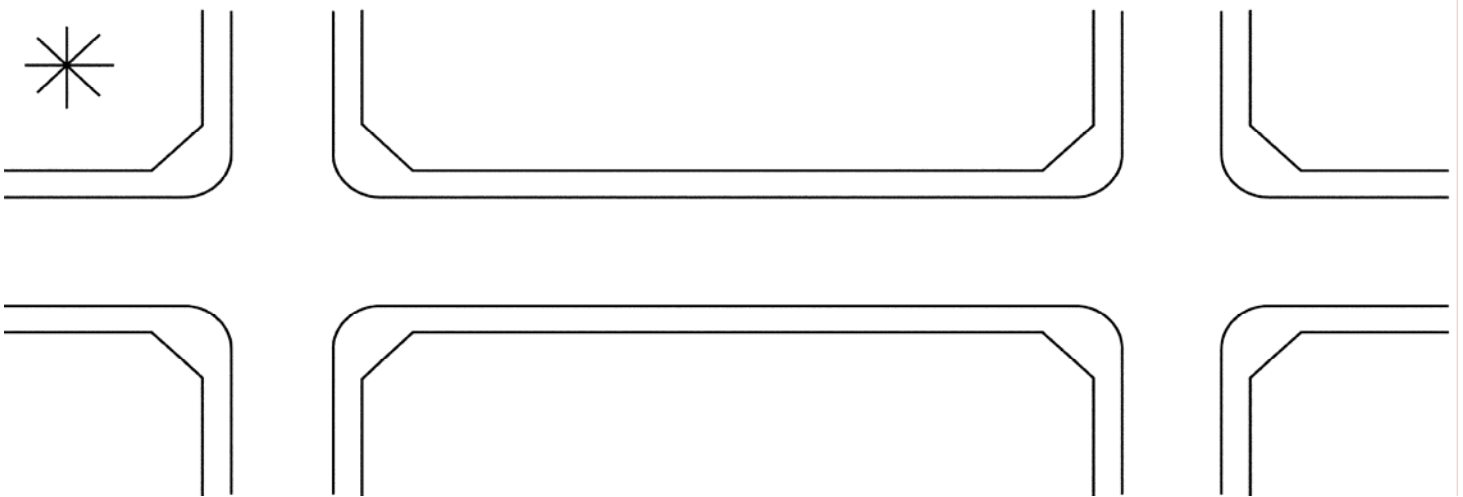
Location

<input type="checkbox"/> Repair	Road Name _____ Road No. _____	
_____	At/Between _____	
<input type="checkbox"/> New	Legal Property Description _____	
_____	Plan No. _____	
<input type="checkbox"/> Boulevard Cut	<input type="checkbox"/> Access	<input type="checkbox"/> Pavement Cut
<input type="checkbox"/> Augered/Bored	<input type="checkbox"/> Fiber	<input type="checkbox"/> Sidewalk Cut
Road Crossing	<input type="checkbox"/> Brampton	<input type="checkbox"/> Caledon
	<input type="checkbox"/> Mississauga	P.U.C.C. No. _____
	Strip Chainage <input type="checkbox"/>	To <input type="checkbox"/>

Drawing

Access Width: _____ Culvert - Length: _____ Diameter: _____ Curb Cut - Length: _____ Paved Gravel

Indicate North Arrow



Special Provisions

1 - 9 10 - 20 21 - 27 28 - 44 45 - 50

The Applicant agrees and accepts full responsibility for the protection of all utilities, private property and persons affected by his/her operations and further agrees to provide proof of liability insurance as per Regional standards naming the Region of Peel and relevant area municipality as additional insured; and further indemnify and save harmless the Region of Peel and all assets and personnel it is in law responsible for.

**Failure to comply with all conditions will render this permit void.
This permit does not constitute site plan, P.U.C.C and/or connection approval.**

Duration Approved,	From: _____ To: _____	Duration required,	From: _____ To: _____
Applicant's Signature	Date	Region of Peel Approval	Date

Application Fee Paid Amount \$ _____
Security Deposit Paid Amount \$ _____

General Conditions

- Prior to commencing work, stakeouts must be obtained from utilities in the Region of Peel.
- The technical analyst must be notified 48 hours before work is to commence, at _____ 905- _____ Ext.
- When working, a copy of this permit and utility locates must be on site at all times.
- This permit is not valid until the signed copy is received by the Regional Municipality of Peel.
- Construction plans must be submitted with this permit, when required (Access permits only).
- A copy of the permit or written notification of completion of work must be provided to the Region of Peel for final approval (Occupancy Permit only)
- Positive drainage shall be maintained during the course of the work.
- No work is to be done during rush hour period (7:00 a.m. to 9:00 a.m., or 3:30 p.m. to 6:00 p.m.) affecting travelled portion of the roadway as determined by the Region.
- Lane(s) of traffic must be maintained during working hours as per O.T.M. Book 7.
All lanes of traffic must be maintained when not working.

Conditions continued on back

General Conditions

10. All utilities shall be protected and supported, to the satisfaction of the utility concerned.
11. All road surfaces and sidewalks shall be kept clear of obstructions and/or debris, to avoid hazard or inconvenience to the public.
12. Mud tracking or dust nuisance shall not be allowed. Any accumulation must be cleaned from the road and/or shoulders immediately. Cleaning instructions may be given by Regional field supervisory personnel. **If at any point Regional supervisory staff find that mud tracking or dust nuisance is excessive, the work shall be stopped** (applicable by-law as amended).
13. The Applicant shall not cut, trim or interfere with any trees in the right-of-way without Region of Peel approval.
14. All changes and/or deviations from the submitted approved plans and/or locations shall be subject to re-approval from the Region of Peel.
15. Subject to Region of Peel approval, **the use of steel plating** shall not be permitted.
16. The road shall not be closed without the consent in writing of the Commissioner of Public Works (applicable by-law as amended).
17. Property owners and/or residents shall receive a minimum of 24 hours written notice prior to temporary closing of an access to homes and businesses.
18. The applicant agrees and accepts full responsibility to supply, maintain, clean and place all barricades, warning signs, delineators, and flashing lights, necessary for the protection of the public and the safe operation of the installation, at the applicant's own expense, as per the Ontario Traffic Control Manual, Book 7, Temporary Conditions latest revision. (Note: This manual depicts minimum standards, additional signing may be required.)
19. All disturbed or affected areas to be maintained and guaranteed for **two years** after completion and acceptance of the work by the Region of Peel, at the applicant's expense.
20. The applicant accepts the Region's right to perform any necessary remedial work caused by the applicant's operation, subject to the following conditions:
 - a) The Region of Peel will give the applicant not less than twenty-four (24) hours notice of any remedial work required, except for emergency work.
 - b) If at the expiration of the time allowed, the applicant or his/her contractor has not commenced remedial work to the Region's satisfaction, the Region of Peel may undertake to have this work done by whatever means it deems necessary.
 - c) The applicant to reimburse the Region of Peel for all costs incurred under 20a) and/or 20b) and/or to supply the Region with a Security Deposit, for a specified amount, where applicable.

Access

21. The access shall have a minimum total platform width of 6m (20').
22. All topsoil within the limits of the proposed access, from the edge of existing shoulder or curb to street line, shall be removed and disposed of by the applicant.
23. Minimum compacted granular base within the right-of-way shall be 200 mm (8") of either granular "A" or 19 mm crusher run.
24. Fencing, gates, curb, headwalls, etc. shall not be constructed or installed on the right-of-way unless approved by the Region of Peel.
25. Culverts shall be new, corrugated, 16-gauge galvanized steel spiral, polyethylene or approved equivalent (diameter and length on front of permit).
26. Culverts shall be backfilled with a minimum compacted cover of 300 mm (12") of granular "A". The remainder of the access within the right-of-way shall have a minimum compacted thickness of 200 mm (8") granular "A" (or as specified by the Region of Peel).
27. Driveway side slopes shall be top dressed with a minimum 100 mm of topsoil and sodded and graded to a maximum 3:1 ratio from the access driveway platform to the ends of the culvert invert.

Trenches and Pits

28. Trenches shall be fully compacted by mechanical mean, (roadway - 100% SPMDD, roadside - 95% SPMDD) and all surfaces restored to original condition. Positive drainage shall be maintained during the course of the operation.
29. Mechanical and/or vibratory compaction equipment shall be on site prior to commencing work.
30. Trench to be backfilled with Granular Subbase Course Class "B", in 150 mm (6") layers to 450 mm (18") below the road surface, and each lift shall be compacted using mechanical tampers or vibrators. Water to be used, if needed, to obtain the required compaction, i.e. 100% SPMDD (Unshrinkable backfill material may be used as a granular substitute, as per OPSS 1010 for native material up to the bottom of the road subbase material).
31. Granular base Course Class "A" to 150 mm (6") below the asphalt base in two layers, and compacted to 100% SPMDD.

Boulevard Works

32. Shoulders to be repaired as per conditions number 30 and 31, cleaned of mud and clay, etc., and restored to original cross-section and appearance.
33. In grassed areas adjacent to homes and businesses, sodding is required as per OPSS 571. All other areas shall be seeded and straw mulched as per OPSS 572. Topsoil shall be placed to a minimum of 100 mm (4") depth prior to seeding or sodding as per Region of Peel requirements.
34. All disturbed ditches to be restored with at least four rows of sod placed in the bottom, as per OPSD 218.01.
35. Driveways shall be repaired in the same manner as the road, as outlined below.
36. Asphalt strips and centre medians shall be restored to original condition or better.
37. Sidewalks shall be restored to match the Area Municipality's standards.

Road Works - Asphalt

38. On hot-mix asphalt pavement, cutting shall be done by means of sawing full depth to leave a clean straight edge. Excavation equipment such as backhoes, etc., shall not be used for this purpose. The adjoining pavement shall be protected from damage by equipment.
39. Cold patching to be placed immediately as a temporary surface. Permanent pavement repairs using hot-mix asphalt shall be made within 14 days. All Regional roads having heavy traffic volumes must be repaired immediately with hot-mix asphalt. Between November 15th and May 15th all cuts must be filled immediately with hot mix. Under no circumstances shall a cut be left with a granular surface.
40. Prior to permanent pavement repairs, a 300 mm (12") wide strip of asphalt each side of the excavation shall be removed by full depth saw cutting.
41. The application of a bonding agent (SS1 emulsion) shall be applied to all cold asphalt joints and exposed concrete faces as per OPSS 1103.
42. Limit of pavement construction joint to be sealed with "TBond HMA Joint Tape", "Densoband" or approved equivalent.
43. 100 mm (4") Heavy Duty HL8 (PG-64-28) placed in two 50 mm lifts as per OPSS 310.
44. 50 mm (2") HL1 (PGAC-64-28) placed as per OPSS 310.

Road Works - Concrete Base/ Misc. Concrete

45. Existing concrete base must be saw cut a minimum of 300 mm wider, each side of excavated trench.
46. Concrete Pavement Reinstatement OPSD 509.101.
47. 35 MPa high early strength concrete to be placed to match existing, as per OPSS 1350.
48. Concrete restoration shall not be open to traffic until concrete has reached 75 per cent of the 28 day strength.
49. Unless otherwise noted, all concrete work shall comply with current CSA and OPSS standards and specifications.
50. Where the Region of Peel issues a permit on a Regional road that has been reconstructed and/or resurfaced within the past 5 years, the Region reserves the right to specify the extent of restoration required.

ALL CONDITIONS ARE SUBJECT TO REVISION AS NECESSARY. REPAIRS SHALL BE EQUAL OR SUPERIOR TO THE ORIGINAL CONDITION.

**Region of Peel, Public Works
11 Indell Lane, Brampton, ON L6T 3Y3**

Appendix G

Do not remove text, just strike out what does not pertain to you

LETTER OF UNDERTAKING
Site Servicing
Sewer, Water, Roads

Date: _____
Regional File #: _____
Site Plan #: _____

FROM:

(DEVELOPER) _____
(Address) _____

TO:

The Regional Municipality of Peel

RE: Part of Lot _____, Concession _____, _____ (THIS
SITE KNOWN AS) _____ more particularly described as
Parts _____ on Reference Plans 43R-_____, City / Town of
_____, Regional Municipality of Peel.

WE, _____ (the "Developer"), in consideration of
being allowed to construct the Watermain, Road Works and Sanitary Sewer,
appurtenances and associated works agree to:

1. Accept the conditions and procedures detailed in the **Development Procedures Manual** which may be revised from time to time, to be part of this Letter of Undertaking.
2. Prepare **design drawings** in accordance with the Region of Peel, Public Works Department Design Criteria Manual and the Development Procedures Manual.
3. Complete the **As Constructed Requirements** as set out in the Development Procedures Manual, current at the time of submission.
4. a) Pay **Engineering Fees** at 6.0% of the estimated cost of the Proposed Works as specified in Schedule "A" to cover design review, approval and inspection by the Region of Peel, Public Works Department. A minimum amount of \$3200.00 is to be applied. Additionally submit hydrant inspection fees in the amount of \$450.00 per Hydrant, as required.
b) Submit MOEE Application Fees as set out in the Ministry's current Guide Lines. The fees are to be made payable to THE REGION OF PEEL.

5. Apply and receive approval for all the **necessary permits** that are required prior to construction of the proposed works. The approval agencies may include but are not limited to MOEE, PUCC, NEC, Conservation Authorities, and Road Authorities, etc.

6. Deposit an acceptable **Letter of Credit** with the Regional Municipality of Peel in the amount of 100% of the estimated cost of the works as specified in Schedule “A”, attached. Acceptable securities must remain in effect for the duration of this Letter of Undertaking until final acceptance of the works including the period of guaranteed maintenance. The Letter of Credit may be reduced to an amount (normally 10% or a minimum \$1,500.00) of the original amount, The reduction will be determined by the Region of Peel, Public Works Department, upon issuance of Preliminary Acceptance, receipt of Item 3 of this Agreement and a completed Statutory Declaration. The Regional Municipality of Peel will release the remainder of the Letter of Credit upon Final Acceptance of the proposed works.

7. Allow the Regional Municipality of Peel to draw upon the Letter of Credit submitted in accordance with the Development Procedures Manual. This would be for repair of any works considered necessary by the Region of Peel including such works as restoration of work area, rectification of drainage problems and clean up of existing roads, upon verbal notification to the consulting Engineer.

8. Deliver to the Region a **Restriction on Transfer or Charge** of the Lands in registerable form together with the costs of registration. Said restriction will have the effect of preventing any transfer or charge of the Lands without the consent of the Region’s Commissioner of Public Works until this Letter of Undertaking is satisfied.

9.
 - a) Prepare and submit to the Region for approval a draft Reference Plan and draft legal documents for _____ within thirty (30) days of execution of this Letter of Undertaking.
 - b) Deposit/register the approved Reference Plan noted in a) within thirty (30) days of approval by the Region.
 - c) **Convey**, at no cost to the Regional Municipality of Peel, all lands and easements required by the Regional Municipality of Peel as specified in schedule “B”, attached free and clear of all encumbrances within ninety (90) days of execution of this Letter of Undertaking.
 - d) Prepare and register, at no cost to the Region, all necessary **plans and documents** required, to facilitate the conveyance of all property and easements required by the Region and to release such easements as are no longer required by the Region, as specified in Schedule “B”.

10. Supply proof of **insurance policy** with the minimum limit of **\$2,000,000.00** all inclusive and satisfactory to the Region of Peel, Public Works Department, to be retained in full effect during the life of this **Letter of Undertaking** until Final Acceptance of the works including the period of guaranteed maintenance. Such policy shall include the Region of Peel as additionally named insured.
11. Provide written notification to the Region of Peel, Public Works Department; of their intent to **Commence Work** forty-eight (48) hours prior to commencing such works. The proposed works must have been given “Design Review Approval” by the Region of Peel, Public Works Department, prior to submitting the notification to commence work.
12. **Construct** the Road, Watermain, Sanitary Sewer and associated works as shown on The(*CONSULTANT*) _____ construction drawings, numbered - _____ to the satisfaction of the Region of Peel, Public Works Department.
13. Limit the **hours of work** associated with the proposed works from 7:00 A.M. to 7:00 P.M. daily or the time period specified by the Region of Peel, Public Works Department. The hours of work may also be limited through the road authorities issuance of road occupancy permits.
14.
 - a) The Developer’s consultant shall provide **full time inspection** and confirm in writing that the works are constructed and are ready for Preliminary Approval by the Region of Peel as set out in the Development Procedures Manual current at the time of this Inspection.
 - b) The Developer acknowledges that it shall **maintain** all Regional Underground and Aboveground Works as set out in the Development Procedures Manual which may be revised from time to time, currently set for a period of Three (3) years from the date of Preliminary Acceptance by the Region. This includes Sanitary Sewers, Underground and Aboveground Watermain, and Regional Road Works. All Regional Works must be constructed and approved prior to any maintenance period commencing. The Registered Plan as set out in Item 9 shall be in place prior to any Preliminary Approvals.
 - c) Prior to the end of the Maintenance Period, the developer’s consultant shall **confirm in writing**, that the works meet all Regional Standards and Specifications Manuals and are ready for final Acceptance as set out in the Region’s Development Procedures Manual current at the time of this inspection.

15. The Developer shall identify to the satisfaction of the Region of Peel any potential impacts to the quality or quantity of water in existing **private wells** that may result from the proposed works relating to his development. The Developer will further be required to monitor wells, within the zone of influence and to submit results to the Region.

Alternatively, a letter shall be received signed and sealed from a recognised hydrogeologist indicating that **no** existing **private wells** are located within the zone of influence of the proposed development.

If private wells have been identified within the zone of influence then, an amount shall be held in the Letter of Credit until final acceptance of the proposed works by the Region to serve as protection for the private wells in the zone of influence of the proposed works. The actual amount shall be based on the anticipated cost of replacing water supplies within the zone of influence of the lands. The minimum amount shall be \$20,000.00. If the private well systems in the zone of influence deteriorate due to the servicing of this site, the Developer shall provide temporary water supply to the residents upon notice by the Region. The Developer will continue supplying the water to the affected residents until the issue is resolved to the satisfaction of involved parties. If the quantity and or quality of water in the existing wells is not restored to its original condition within a month after first identification of the problem, the Developer will engage the services of a recognized hydrogeologist to evaluate the wells. This hydrogeologist will recommend solutions including deepening the wells or providing a permanent water service connection from the watermain to the dwelling unit.

Developer shall inspect, evaluate and monitor all wells, subject to the homeowners permission, within the zone of influence prior to, during and after the construction has been completed. Progress Reports should be submitted to the Region as follows:

- a) Base line well condition and monitoring report shall be submitted to the Region prior to the Design Review Approval and shall include as a minimum requirement the following tests:
 - 1) Bacteriological Analysis - Total coliform and E-coli counts
 - 2) Chemical Analysis - Nitrate Test
 - 3) Water level measurement below existing grade
- b) In the event that the test results are not within the Ontario Drinking Water Standards, the Developer shall notify in writing the Homeowner, the Region of Peel's Health Department (Paul Callanan, Manager - Environmental Health) and Public Works Department (Alex Masley, Supervisor - Development) within 24 Hours of the test results.
- c) Well monitoring shall continue during construction and an interim report shall be submitted to the Region of Peel for records.
- d) Well monitoring shall continue for one year after the completion of construction of the underground services and a summary report shall be submitted to the Region of Peel prior to final acceptance.

16. Should the Region be involved in Re-inspections or Maintenance work, the **rates** will be as set out in the Region's Development Procedures Manual current at that time.

17. In consideration of allowing the Developer to construct the private sewer on public right of way, the Developer will not require **reimbursements** of the Sanitary Sewer and _____ as per the Development Charges By-Law 98-91. The additional size and depth is for the proposed works only.
18. We understand that municipal sanitary sewer, watermain and roadwork will be maintained by The Region of Peel after the Maintenance Period is complete, and all deficiencies are rectified.
19. Warrants that the Developer is the **Registered Owner** of the lands on which the works are to be installed and shall provide evidence of title.
20. Require this Letter of Undertakings and covenants herein to be assumed by any successor in title, to the effect that the obligations and covenants herein shall be binding upon successors and assigns.
21. Allow the Region, its employees, servants and agents, to enter upon its lands at all reasonable times and for all reasonable purposes, including and without limiting the generality of the foregoing, for all necessary inspections and to correct any construction problems, etc. and the cost incurred by the Region in so doing shall be a charge to the Developer.
22. To proceed with the installation of the works only with accordance with the approved plans for such services. Should active development of the land come to a termination for any reason, the Developer shall complete the necessary works as determined by the Region including smooth, grade and seed the site to renew vegetation and prevent erosion problems and upon any failure in performing this obligation, allow the Region to enter upon the lands and carry out the work deemed necessary by the Region, with the cost incurred by the Region to be a charge upon the Developer.
23. Indemnify and hold the Region harmless from and against any and all claims, demands, liens, damages or expenses which may arise either directly or indirectly by reason of the pre-servicing of its lands and construction of the works.
24. Cause all registration of claims for construction liens or certificates of actions relating to any works done by or on behalf of the Developer to be discharged or vacated as the case may be within ten (10) days of such registration or within ten (10) days after notice from the Region.

25. To release and forever discharge the Region from and all actions, causes of actions, claims and demands whatsoever which may arise either directly or indirectly by reason of the works on the Lands prior to construction of the of the works.
26. The Developer agrees that the construction of the works within the project is at the Developer's sole expense and therefore the Region will not be responsible for any financial compensation whatsoever for the construction of such works by the Developer.
27. The Developer shall pay the Region's costs for updating its electronic "as recorded" information for the infrastructure installed by the developer. The cost will be based on a "per kilometer" basis for combined watermains and sanitary sewers installed. The minimum amount shall be \$300 as per Regional User Fee By-law.
28. The Developer shall maintain adequate chlorine residuals in the watermains within the subdivision, from the time the watermains are connected to the municipal system until such time as the Region issues final acceptance. In order to maintain adequate chlorine residuals, the developer will be required to either install automatic flushing devices or retain Regional staff to carry out manual flushing. Regional staff will conduct the monitoring and testing for chlorine residual. The costs associated with the monitoring and flushing will be the responsibility of the developer as per Regional User Fee By-law.
29. The Developer shall be responsible for the removal of existing site services which were provided to service the lot/block that will not be utilized. Removal of said services will be as per current Region of Peel standards and at the sole expense of the Developer.

(DEVELOPER) _____

Per: _____

Name:

Title:

c/s

Per: _____

Name:

Title:

We have authority to bind the Corporation

SCHEDULE "A"

Detailed Cost Estimate

Development:

Developer:

Consulting Engineer:

SCHEDULE “B”

Land Conveyances to the Regional Municipality of Peel

Development:

Developer:

Consulting Engineer:

Note: Release for building permit approval will be issued upon receipt of executed Letter of Undertaking and Letter of Credit satisfactory to the Regional Municipality of Peel.

SCHEDULE “C”

Well Protection Clause Details

Development:

Developer:

Consulting Engineer: