



TOWN of LAKESHORE DEVELOPMENT MANUAL

Please note that amendments to the Development Manual are common. Accordingly, all information contained herein should be confirmed with the Municipality.

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REVISIONS

The following table summarizes the revisions to this manual since its preparation on June 1, 1998. Please ensure your manual is up-to-date and you have all the revisions. If you are not certain, call the Town of Lakeshore’s Engineering Services Division.

Revisions (Date/No.)	Description	Subsections/ Page Number Revised
June 1, 1998	Original Manual	No Revisions
April 14, 1999	Internal Review	Entire Manual
December 06, 1999	Sanitary & Storm Sewer Clean Out Drawing	L-1
May 23, 2000	Development in Close Proximity to Railways	Subsection 4.1.7
June 6, 2000	Sureties Right-of-Ways, Cul-de-sacs Pavement Widths (Private roads)	Subsection 2.9 Subsection 4.1.1 Subsection 4.1.2
September 15, 2000	Internal Review	Entire Manual
October 3, 2000	Sureties Model Homes	Subsection 2.9 Subsection 3.11
January 15, 2001	Sanitary & Storm Sewer Clean Out	Drawing No. L-1
May 15, 2001	Consultations Inspection Municipal Acceptance of Services Clean Up General Specific Site Development Right-of-Ways (cul-de-sacs) Water Metering/ Backflow Preventers Roads Sidewalks Storm Sewers Watermains	Subsection 3.3 Subsection 3.5 Subsection 3.7 Subsection 4.1 Subsection 4.1.1 Subsection 4.1.10 Subsection 5.1 Subsection 5.2 Subsection 5.4 Subsection 5.5
September 5, 2001	Updated & New Drawings	D3,D4,D5,R-1,W-1 (New)
September 10, 2001	Communal Wastewater Treatment Facilities	Subsection 5.3.3

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Revisions (Date/No.)	Description	Subsection/ Page Number Revised
June 10, 2003	Internal Review Delayed Work Delay in Accepting Surface Treatment Asphalt and Sidewalks Right-of-Ways, Cul-de-sacs Sidewalks, Bikeways, Walking Trails Water Sampling Station Potable Water Supply Protection Surveys (previously ss. 4.7) Indemnity Deposits (previously ss. 4.8) As Constructed Site Servicing Drawings Watermains Pumping Stations Water Sampling Station Drawing	Entire Manual Subsection 2.9.3 Subsection 3.5.1 Subsection 4.1.1 Subsection 4.1.4 Subsection 4.1.6 Subsection 4.1.10 Subsection 4.1.11 Subsection 4.1.12 Subsection 4.1.13 Subsection 5.5 Subsection 5.7 See L-10
January 7, 2004	Backflow Prevention and Optional Water Meter Chamber	Drawing No. W-1
March 30, 2004	Storm Water Management Facilities	Subsection 5.6 (P. 41)
June 29, 2004	Sidewalks Lot Grading & Service Sheets	Subsection 5.2 (P. 33) See LG1 & LG2
January 10, 2005	Lot Servicing Sheets/ Registered Lot Creation Drawings Surveys Indemnity Deposits Lot Grading & Service Sheets	Subsection 3.8 (P. 16) Subsection 4.1.11 (P. 24) Subsection 4.1.12 (P. 25) See LG1 & LG2
February 14, 2005	Lot Grading & Service Sheets	See LG1 & LG2
May 2008	Internal/ External Review	Entire Manual
November 2008	Insurance and Indemnification	Subsection 2.8 Appendix B (Section 8.2)
May 2009	Text Updates, Updated & New Drawings	Introduction, Subsection 3.11 Appendix F (CS-2, CS-3, CS-5, L-8, L-11)

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Revisions (Date/No.)	Description	Subsection/ Page Number Revised
April 12, 2011	<p>Text Updates Updated Drawings Studies and Reports Record Drawing Details</p> <p>Driveways Multi Lot Creation by Consent Sidewalks Private Water Service Connections Storm Water Management Facilities Street Lighting and Power Distribution Light Intensity Standards Restoration and Landscaping File Formats</p>	<p>Various pages Appendix F (S-5) Subsection 2.6 Subsection 3.3, 3.9 & 4.1.11 Subsection 4.1.5 Subsection 4.1.7 Subsection 5.2 Subsection 5.5 Subsection 5.6 Subsection 5.8 Subsection 5.9 Subsection 5.11 Subsection 7.3</p>
January 2013	<p>Approvals Surface Asphalt Acceptance Specific Site Development Req's Rural Industrial Sites Roads Specifications Watermain Specifications Tree Planting Typical Subdivision Agreement Updated Drawings</p>	<p>Subsection 2.2 Subsection 3.5.1 Subsection 4.1 Subsection 4.4.5 Subsection 5.1 Subsection 5.5 Subsection 8.5 Appendix B Appendix F (CS-2 – CS-5, D1, D3 – D5, LG-1, LG-2, S2)</p>
April 2014	<p>Consultants Inspection and Quality Assurance Testing Sidewalks Sanitary Manholes Watermain Private Services Street Lighting and Power Distribution Light Intensity Standards Updated Drawings</p> <p>New Drawings</p>	<p>Subsection 3.3 Subsection 5.2 Subsection 5.3 Subsection 5.5 Subsection 5.8 Subsection 5.9 Appendix F (CS-5, D-2, L-1, L-2, L-11, L-12, L-13, LG-1, R- 3, W-3) Appendix F (E-1 to E-8)</p>

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Revisions (Date/No.)	Description	Subsection/ Page Number Revised
June 16, 2016	<p>Text Updated</p> <p>Updated Drawings</p>	<p>Subsection 5.2 Subsection 5.5 Subsection 5.8 Subsection 5.9</p> <p>Appendix A Appendix F (CS-2, CS-3 D-3, D-4, D-5, E-01, E-02, E-03, E-04, E-05, E-06, E-07, E-08, S-5)</p>
July 7, 2017	<p><u>Additional Text</u> Plans Design Drawings Consulting Engineering Record Drawings Site Service Record Drawings Roads Sanitary Sewers Storm Sewers/Drainage Watermain Backfill and Compaction</p> <p>Updated Drawings</p>	<p>Subsection 2.3 Subsection 2.4 Subsection 2.7 Subsection 3.9 Subsection 4.1.11 Subsection 5.1 Subsection 5.3 Subsection 5.4 Subsection 5.5 Subsection 5.10</p> <p>Appendix F (CS-2, CS-3, CS-4, CS-5, D-1, D-2, D-3, D-4, D-5, L-1, L-4, S-2, S-5, W-4)</p>

1. INTRODUCTION

In an effort to streamline the development process, the Corporation of the Town of Lakeshore has consolidated its development requirements in this Development Manual.

This manual will be updated from time to time. Users shall confirm with the Town of Lakeshore that this is the most up-to-date version prior to making use of the contents of this manual.

Throughout the remainder of this document, the Corporation of the Town of Lakeshore will be referred to as Lakeshore.

This Development Manual also refers to Ontario Provincial Standard Drawings (OPSD) and Specifications (OPSS). Unless noted otherwise in the revision Section of this manual, the latest edition of these documents applies.

Provincial or Federal requirements shall supersede the requirements of this manual. As well, it is not intended to conflict with the requirements of other agencies including, but not limited to, the Essex Region Conservation Authority (ERCA), Lower Thames Valley Conservation Authority (LTVCA), Hydro One, ELK, Union Gas and Bell Canada. Kindly report any conflicts to Lakeshore.

It is hoped that Lakeshore's development community will find this a useful document. Any suggestions on improving this manual should be forwarded to Lakeshore's Engineering Services Division.

Exceptions to the development standards contained in this Development Manual will be considered for comprehensively planned developments based on new urbanism principles (neo-traditional design) as demonstrated in a secondary plan. Lakeshore may also develop urban design guidelines and special development standards for comprehensively planned areas that, when adopted by Council, will supersede the development standards contained within this Development Manual for those comprehensively planned areas.

2. DEVELOPMENT REQUIREMENTS PRIOR TO CONSTRUCTION

2.1 Subdivision Agreements

All Developments must be designed and constructed in accordance with the requirements of this Development Manual and the corresponding Subdivision Agreement.

The Subdivision Agreement will set out specific requirements for each Development. In case of conflict the Subdivision Agreement will supersede the requirements of this manual.

The Subdivision Agreement will be prepared by Lakeshore at the cost of the Developer.

No work can proceed in the Development until the agreement is executed by both parties and all financial securities and insurance are provided.

Flow charts illustrating the steps in the development process for consent, minor variance, zoning by-law amendments, official plan amendments, site plan control, and plan of subdivision are included in [Appendix A](#).

A typical Subdivision Agreement is included in [Appendix B](#). This typical Subdivision Agreement should be used for format only. Specific details of each Subdivision Agreement will be set out as part of the process as outlined in this manual.

2.2 Approvals

Developers are required to obtain all necessary approvals. Multi-lot creation will proceed under the Plan of Subdivision process or through the Consent process as per clause 4.1.7.

The following is a partial list of approvals that are required. Developers should contact the various approving authorities to ascertain permit fees and the required time periods to obtain the approvals. The Development cannot proceed until these approvals are received and copies of the approvals have been filed with Lakeshore.

Partial List of Approvals	Approving Agency
Draft Plan of Subdivision	County of Essex
Final Plan of Subdivision	County of Essex
Fish Habitat	Federal, Administered by ERCA (Essex Region Conservation Authority) and/ or LTVCA (Lower Thames Valley Conservation Authority))
Shorelines, Fill and Flood lines	ERCA and/or LTVCA
Storm Water Management	Province, MOE; ERCA and/ or LTVCA
Storm and Sanitary Sewers	Province, MOE
Watermains	Town of Lakeshore
County Road Connections and Setbacks	County of Essex
Provincial Road Connections and Setbacks	Province, MTO
Development in Close Proximity to Railways	MOE in consultation with Railway Companies

2.3 Plans

All draft plans shall be drawn to scale. The boundaries of the Development shall be staked and certified by an Ontario Land Surveyor. A reproducible copy of the plan shall be submitted along with an electronic copy and an AutoCAD drawing (AutoCAD 2010 or earlier) that has been coordinated using the Universal Traverse Mercator (UTM) coordinate system. Lakeshore is in Zone 17 of the UTM coordinate system. The draft plan shall also show sufficient ground elevations and reference geodetic elevations to identify drainage patterns. Physical features of the site and abutting lots should be shown. These physical features include drainage ditches, swales, municipal drains, trees, poles, roads, shorelines, buildings, etc.

A flow chart illustrating Lakeshore's policy in approving draft plans can be found in [Appendix A](#).

The requirements for design and servicing drawings are described in the following subsection.

2.4 Design Drawings

All development documents shall include design and servicing drawings. Drawings shall be prepared in accordance with [Appendix A](#) - Guidelines, Professional Engineers Providing

Land Development/ Redevelopment Engineering Services, 1994.

In general, the drawings shall be on "C" size paper (550 mm x 850 mm), shall be signed and sealed by a Professional Engineer licensed in Ontario, and shall include:

- the location and description of the benchmark (referenced to geodetic elevations) with reference to coordinate system used;
- key plan;
- legend and index;
- existing conditions and removals;
- road alignment, road elevations, pavement widths;
- plan and profile sheets (showing road grades, sewer grades, watermain grades, manhole locations, sizes, and materials);
- utility cross-sections;
- grading plans (including lot grading);
- power distribution and road lighting plans; and
- miscellaneous details (including bedding and backfill).

The drawings shall refer to Ontario Provincial Standard Drawings wherever applicable, except as amended or extended by Lakeshore's requirements.

2.5 Specifications and Contract Documents

All development documents shall include specifications and contract documents prepared in accordance with the "Guidelines, Professional Engineers Providing Land Development/ Redevelopment Engineering Services, 1994" (Refer to [Appendix A](#)).

Specifications and contract documents shall be prepared on 8½" x 11" paper, with single or double sided printing, neatly bound with a cover clearly describing the particulars of the Development. The first sheet shall include the date, name and telephone number of the Consulting Engineering firm that prepared the documents.

The specifications and contract documents shall include:

- Information to Tenderers;
- Form of Tender;
- Form of Agreement;

- Special provisions;
- Technical specifications;
- General conditions.

The specifications and contract documents shall refer to the Ontario Provincial Standard Specifications wherever applicable, except as amended or extended by Lakeshore's requirements.

2.6 Studies and Reports

Specific Developments may require the completion of special studies and reports prior to Lakeshore granting approval for the Development. Special studies and reports may also be a requirement of the approving authorities such as the Province or a Conservation Authority.

The costs of these studies shall be borne by the Developer.

Refer to the Town of Lakeshore Official Plan (latest version available on Lakeshore's website) section 8.3.11 for a list of supporting studies, information, and materials which may be required as a result of a development application.

Certain proposed works to be undertaken by Developers may also be subject to the requirements of the Environmental Assessment Act. Contact the Ministry of the Environment for further details.

2.7 Consulting Engineer

All Developers shall retain a Consulting Engineer who shall design all services and provide full-time, on-site inspection during the installation of the services.

The Consulting Engineer shall be so designated by the Association of Professional Engineers of Ontario and have a minimum of five years of land development experience. All reports, drawings and specifications shall be signed, sealed and dated by a Professional Engineer licensed in the Province of Ontario and employed by the Consulting Engineering firm or personally designated as a Consulting Engineer.

The Consulting Engineer shall be responsible to carry out the design of all services including:

- the preparation of design drawings, 3D CAD linework and 3D surfaces when applicable;
- the preparation of specifications and contract documents;
- the preparation of studies and reports;
- providing assistance in obtaining approvals;
- providing full-time, on-site inspection during service installation;
- the preparation of field records;
- chairing and preparing minutes of pre-construction meetings and regular job meetings;
- the co-ordination of the installation of other utilities (gas, telephone, cable T.V., hydro and Canada Post Services);
- the preparation of record drawings;
- the preparation of lot grading sheets; and
- attending at the final inspection meeting.

2.8 Insurance and Indemnification

Developers shall provide liability insurance to protect Lakeshore. Developers shall ensure that their Consulting Engineer, sub consultants, and general contractors also carry liability insurance.

The liability insurance shall:

- be provided in a form satisfactory to Lakeshore;
- for a minimum amount of \$5,000,000; and
- name Lakeshore as an additional insured; and
- name Lakeshore's consultants as additional insured's; and
- shall not be terminated until Lakeshore has accepted all of the required works.

Notwithstanding the limits of the insurance, the Developer shall indemnify Lakeshore against all or any claims or losses arising out of this Development. Lakeshore may consider accepting the general contractor's insurance in fulfilment of this requirement provided all the conditions noted in this section are met.

2.9 Sureties

2.9.1 Performance

To ensure due and proper performance of the work, Developers are required to provide an

irrevocable Letter of Credit or Subdivision Bond, each of which must be in a form satisfactory to Lakeshore, in an amount equal to 50% of the value of the works. All Letters of Credit are required to have automatic renewal clauses (see [Appendix A](#)).

The value of the securities to be provided shall be based upon the full amount of construction costs including all taxes. If there is no tender, the Consulting Engineer shall provide an estimate of the value of the work. Lakeshore reserves the right to verify the value of the work and amend the Consulting Engineer's estimate accordingly. The Consulting Engineer's estimate as amended by Lakeshore shall be used for establishing the amount of the securities.

2.9.2 Maintenance

Unless otherwise noted in the Subdivision Agreement, Developers are required to provide an irrevocable Letter of Credit or Subdivision Bond, each of which must be in a form satisfactory to Lakeshore, in an amount equal to 25% of the value of the works. The length of the maintenance period shall be as noted in Section 3.6.

2.9.3 Delayed Work

Developers shall note that if Lakeshore agrees and/ or requests that some of the work be delayed (i.e., surface asphalt), performance securities for 100% of the outstanding works will be required in addition to the maintenance security. The value of the existing maintenance security can be reduced to cover 100% of the outstanding value of the delayed work once the maintenance period for the work that was not delayed has expired. Lakeshore will not accept any other forms of security.

2.9.4 Easements and Right-of-Ways

Developers shall provide all easements to Lakeshore as Lakeshore deems necessary. The Developer shall retain the services of an Ontario Land Surveyor to prepare all reference plans.

No permanent structures including trees, fences or shrubs (but excluding driveways) shall be placed on right-of-ways or easements except for fences on side and rear lot lines. Lakeshore will not be responsible to restore any permanent structure located on easements, except for driveways. Any trees, shrubs or landscaping structures will not be restored.

Developers shall submit to Lakeshore a copy of all signed purchase/ sale agreements for the lots

which clearly states the conditions being encumbered on the easements on the purchased lot and Lakeshore's unrestricted rights to enter upon the easements to maintain, repair, or replace municipal services.

2.9.5 Oversizing and Off-Site Costs

In order to ensure that development in Lakeshore proceeds in an orderly and cost effective manner, Developers may be required to oversize municipal services to accommodate future Developments. Oversizing includes larger pipe diameter and increased depths, increased road widths and sidewalk widths, power distribution and other services.

As well, Developers may be required to complete off-site works in order to facilitate development. Typical off-site works include trunk sewers to a suitable outlet, water main connections to a suitable feeder, road widening, intersection improvements, traffic signal installation and downstream drainage works.

The Developer's Consulting Engineer will provide an estimate of the oversizing and off-site costs. Lakeshore will establish the cost sharing method to be used in attributing oversizing or off-site costs.

Lakeshore will use its best efforts in recovering these costs on behalf of the Developer. However, Lakeshore does not guarantee that Developers will be repaid the oversizing or off-site costs.

2.10 Development Charges

In order to finance the construction of trunk municipal services, Lakeshore will assess development charges to each buildable lot or unit. These development charges are typically payable at the time building permits are issued.

Development charges are amended from time to time and are approved by Council. Developers should contact Lakeshore for information regarding the current development charge amounts.

2.11 Park Fees

Developers will be required to pay park fees in accordance with Lakeshore's Park Fee Policy. Refer to [Appendix D](#).

Developers shall contact Lakeshore for information regarding the current policy and payment of fees.

2.12 Phasing

Lakeshore acknowledges that Developments may proceed in phases. Prior to the commencement of construction, the Developer shall submit a phasing plan for municipal approval. Lakeshore's approval of the phasing plan will be based on:

- fire fighting protection (All dead-end streets shall have turn-arounds and shall meet the requirements of the Ontario Building Code. Temporary dead-ends shall not exceed 250m in length measured to the end of the cul-de-sac unless approved by Lakeshore.);
- the extension of trunk facilities to adjacent Developments in a timely manner;
- minimizing the municipal maintenance costs, such as snow ploughing;
- completing the municipal road network.

The phasing will be implemented according to the Subdivision Agreement. Any construction drawings submitted must be in accordance with the approved Agreement.

2.13 Pre-Construction Meeting

No later than seven days before construction is to commence, the Developer's Consulting Engineer shall call and chair a pre-construction meeting. The Consulting Engineer, general contractor and municipal representatives must attend.

It is also desirable to have the Developer and the Consulting Engineer's site inspector and representatives from the various utility companies in attendance. The topics of discussion for the meeting shall include but not be limited to:

- the status of contract documents
- the submission of insurance certificates, irrevocable Letter of Credit, Bonds and Work Place Safety Insurance Board clearance
- Ministry of Labour notification
- supervisory staff
- emergency telephone numbers and home telephone numbers
- construction access routes
- schedules
- noise and dust control

- notification for municipal inspections
- suppliers and subcontractors
- specific project items
- pre-construction survey/ photos
- traffic control/ detouring and
- schedule of site meetings

The Consulting Engineer will provide minutes of meetings within one week from the meeting date.

3. GENERAL REQUIREMENTS DURING AND IMMEDIATELY AFTER CONSTRUCTION

3.1 Public and Agency Notification

Prior to the start of construction, the Consulting Engineer shall arrange to notify all public agencies and emergency response agencies of the impending start date and completion date of the project. As well, the Consulting Engineer shall notify all abutting property owners of the impending construction. Copies of the notification shall be submitted to Lakeshore. The notification shall include:

- a brief description of the project
- the construction start date
- the scheduled completion date
- any temporary road closures
- contact people from the Contractor and Consulting Engineer, including their phone numbers

The following is a partial list of the agencies that should be notified:

- Ambulance Service
- Canadian Coast Guard (re: Navigable Waters)
- County Engineer (re: County roads)
- Essex Region Conservation Authority
- Fire Department
- Lower Thames Valley Conservation Authority
- Ministry of Labour

- Ministry of Transportation (re: Provincial roads)
- Police Department
- School Boards (Transportation Services)
- Sewage Treatment Plant Operators
- Water Treatment Plant Operators

3.2 Job Meetings

The Consulting Engineer shall chair and prepare minutes of construction site job meetings. Meetings are to be held at two-week intervals unless Lakeshore agrees that a longer interval is acceptable.

The Consulting Engineer's project manager or project engineer and the site inspector along with the Contractor's project manager and job superintendent (or foreman) shall attend the job meetings. Minutes shall be distributed within one week of the meeting date.

3.3 Consultants Inspection and Quality Assurance Testing Services

The Consulting Engineer shall provide full-time on-site inspection services during the construction activity. The Inspector's skills shall be suitable for the inspection tasks to be undertaken. Lakeshore reserves the right to request a change to the Consulting Engineer's inspector if Lakeshore believes the Inspector is not qualified.

The Consulting Engineer's site inspector shall ensure that the work is constructed in accordance with the intent of the contract documents and shall keep adequate records of the work.

As a minimum, the site inspector shall prepare / conduct:

- a diary indicating daily progress of work, labour and equipment on site;
- measurements of pay items;
- discussions with general public and agency representatives;
- a log of any accidents; and
- record drawing details (including grades, sizes, materials, inverts, etc. of all services)

The Consulting Engineer shall arrange for quality assurance testing by an independent testing firm. Tests shall include:

- granular material gradation analysis;
- engineered fill assessment;
- asphalt extraction and gradation analysis;
- compaction tests, granular, asphalt;
- road cut sub-grade inspection;
- concrete, quality assurance testing (slump, air content, compressive strength samples);
- sewer air tests for storm and sanitary sewers;
- for concrete storm sewer greater than 600 mm (24”), visual inspection and individual joint testing is acceptable
- sewer camera inspections for storm and sanitary sewers, including services, at the time of acceptance and at the time of assumption of the Development;
- water main pressure tests, leak tests, disinfecting tests (see [Appendix E](#)); and
- other tests called for in the contract documents.

One copy of all test certificates shall be neatly bound, indexed and provided to Lakeshore at the time the record drawings are submitted.

3.4 Municipal Inspection

Lakeshore will carry out its own independent inspection as deemed necessary. As a minimum, Lakeshore will inspect the subgrade excavation, granular base prior to placing curbs, granular base prior to asphalt paving, and testing of watermain and sewers. The Consulting Engineer will give Lakeshore 48 hour’s notice prior to these inspections. Should sufficient notice not be given, and the Contractor proceeds with the work, Lakeshore will not accept the services without further testing, which may include total or partial removal of pavement or curbs, etc. All this additional testing will be at the Contractor’s expense. It is therefore imperative that the Contractor’s schedule be made available to Lakeshore at the job meetings, and Lakeshore be promptly advised of any changes to this schedule.

3.5 Municipal Acceptance of Services and Assumption of Development

Once all of the required municipal services listed in Section 4.1 are completed, the Developer will be required to transfer ownership of the services to Lakeshore. This is a two-step process as outlined below.

Refer to [Appendix A](#) - *Assumption and Acceptance of Services Flow Chart*

Once all of the required municipal services listed in Section 4.1 are installed and all deficiencies corrected, Lakeshore's representative will inspect the Development and advise the Manager of Engineering Services by report that Lakeshore should "accept the services" and that the maintenance period should begin. The date of Lakeshore's letter to the Developer accepting the services is the commencement date of the maintenance period. During the maintenance period, it will be the Developer's sole responsibility to maintain all the services, including but not limited to, cleaning catch basins and maintaining the general condition of the vacant lots and road right-of-ways as established in the Subdivision Agreement. Lakeshore will undertake all required snow plowing on the road right-of-ways.

Within 30 days prior to the expiration of the maintenance period, the Consulting Engineer is to arrange for a field inspection by Lakeshore, the Contractor, and the Consulting Engineer. All storm and sanitary sewers and storm and sanitary sewer private drain connections shall be flushed clean and video inspected. Catch basins shall be cleaned and all settlements repaired prior to the municipal inspection. Provided there are no outstanding deficiencies and all Subdivision Agreement requirements have been satisfied, including payment of all accounts and the receipt of a statutory declaration that all accounts have been paid, the municipal representative will submit a report to the Manager of Engineering Services requesting that Lakeshore "assume the Development". The issuance of a Certificate of Assumption to the Developer results in the transfer of ownership of the services to Lakeshore, after which the Developer is no longer obligated to maintain or repair the services.

3.5.1 Delay in Accepting Surface Asphalt

The Developer or Lakeshore may request that not all services be installed prior to requesting "acceptance of services" by Lakeshore. Placement of surface asphalt is normally delayed to a maximum of five years to minimize damage during house construction. Should the surface asphalt be delayed, it shall be placed no later than five (5) years from the commencement date of the first maintenance period for base asphalt, curbs, and underground infrastructure. The acceptance and assumption of this service will be based on the completion of the surface asphalt and the expiration of the maintenance period. In this case only, there will be more than one acceptance date of the service and more than one assumption date of that portion of the Development.

3.6 Maintenance Period

The maintenance period shall be one year from the date of Lakeshore's letter to the Developer accepting the services, except as previously provided in Section 3.5.1.

The delaying of the surface course of asphalt will not prevent accepting the remaining services. The maintenance security and liability insurance must remain in force for the duration of the maintenance period.

The Developer is obligated to perform (or pay for) all maintenance and repairs to the services (should Lakeshore undertake this work) during the maintenance period including street cleaning of mud and debris, sewer flushing if necessary, weed control on all developed or undeveloped lands. For storm and sanitary pump stations refer to Section 5.7.2.

3.7 Clean-up

The Developer shall maintain the construction site in a neat and tidy manner (also during the maintenance period). Dust shall be controlled by wetting or establishing vegetative ground cover. Debris blown off the site shall be cleaned up on a daily basis. All mud and dirt tracked off-site shall be cleaned frequently and at least once a day.

All vacant lots, owned by the Developer, shall be maintained at the Developer's expense. The Developer shall provide notice in all purchase and sale agreements that Lakeshore may perform periodic maintenance and will invoice the Owner of the lot. Periodic maintenance will be required to remove debris, to eliminate standing water, and to cut weeds. All waste materials must be properly disposed to eliminate the risk of injury and to maintain a healthy environment to all surroundings.

The decision of Lakeshore regarding clean up shall be considered final. Should the Developer or lot Owner not clean-up in a timely manner, Lakeshore will arrange to have the work done by others, or its own forces, and will invoice the Developer or lot Owner for its costs.

3.8 Lot Servicing Sheets/Registered Lot Creation Drawings

The Consulting Engineer shall provide copies of lot servicing sheets and registered lot creation drawings (i.e. M-plans, R-plans). Two copies of each (lot servicing and registered lot creation drawings), shall be submitted to the Chief Building Official and the Manager of Engineering Services. The lot servicing sheets shall show final lot grades, sidewalk widths, setbacks from property line, easements, noise attenuation walls, and the location, elevation, material, and size of lot services (storm, sanitary, water). The municipal address should also be included (contact Community and Development Services at 519-728-2818). Drawings shall be submitted in electronic format (AutoCAD 2010 or earlier and TIFF/PDF).

The form of the lot servicing sheets is included in [Appendix F](#), Figure [LG-1, 2](#). Electronic copies are available from Lakeshore or on Lakeshore's website.

3.9 Record Drawings

Record drawings shall be prepared by the Consulting Engineer showing the as-constructed, world coordinated location, invert elevation, size, and material of all services. Wherever possible, underground utilities located relative to property lines shall also be located relative to surface features. Record drawings shall be coordinated using the Universal Traverse Mercator (UTM) coordinate system. The record drawings shall be dated and noted 'As Built'. (Also see Subsection 4.1.11)

One drawing set in each CAD and TIFF format shall be provided in electronic format (CD ROM disk).

Record Drawings must be submitted within 60 days from the date Engineering and Infrastructure Services has "accepted the services".

3.10 Building Permit Issuance

In accordance with the requirements of the Ontario Building Code, construction cannot commence on any buildings until a building permit is issued. This is Provincial legislation administered by Lakeshore. Lakeshore does not have the authority to waive this Provincial legislative requirement. Building permits will not be issued until such time as Lakeshore has "accepted the services" as outlined in Subsection 3.5.

In order to issue building permits other than for model homes, Lakeshore's Chief Building Official must have a complete set of documents and be assured that the buildings have full services including base asphalt, fire fighting access, potable water, heat, and energized power. All Railway requirements must be satisfied for those lots impacted by the presence of the Railway. Streetlights must be operational within 60 days of building permit issuance.

The issuance of building permits will cease if street lights are not operational within 60 days of the issuance of the first building permit. Conditional permits may be released subject to approval by the Chief Building Official.

Developers are cautioned that the Chief Building Official will not be in a position to advise that building permits are available until:

- lot servicing sheets have been submitted;
- registered lot creation plans have been submitted; and
- Engineering and Infrastructure Services has "accepted the services".

If record drawings have not been submitted within 60 days from the date which Engineering & Infrastructure Services has "accepted the services", the Chief Building Official will not continue to issue building permits.

3.11 Model Homes

(1) Except as noted in (2), The Chief Building Official may issue building permits in advance of the completion of all required works for the greater of either four dwellings or ten percent (rounded upward) of the total dwelling units in any particular phase of a Development provided:

- a) the base coat of asphalt has been installed, to the satisfaction of the Manager of Engineering Services, in the road allowance in front of and abutting the lot for which the building permit is being sought; and
- b) all works necessary to meet the Railway requirements must be installed prior to the issuance of any building permit for a dwelling that is within 300 metres of the Railway right-of-way; and
- c) it is determined from a review of the approved plans that there is no conflict between the activity that would result from the building permit being issued and the installation of

- various utilities in the utility corridor; and
- d) a surveyor's certificate has been received by Lakeshore pertaining to the lot for which the building permit is being sought; and
 - e) it is clearly noted on the building permit that occupancy of the dwelling unit will not be permitted until the Developer has completed all required works, except the top coat of asphalt to the satisfaction of the Manager of Engineering Services and that all Agreements to Purchase affecting the subject property will provide a notice regarding the restriction pertaining to occupancy. Such notice will be required on all Agreements to Purchase until such time as the required works, excluding the top coat of asphalt, are completed to the satisfaction of the Manager of Engineering Services; and
 - f) a letter is received from the Developer's Consulting Engineer confirming support for the model home building permit issuance.

(2) The dwelling unit may connect to water and sewer services. The dwelling unit shall not be granted occupancy by Lakeshore until such time that all outstanding items relating to the Development are completed and signed off by Lakeshore.

4. SPECIFIC SITE DEVELOPMENT REQUIREMENTS

4.1 GENERAL

Unless noted otherwise in the subsections of Chapter 4 or in the Subdivision Agreement, Lakeshore will require full municipal services for all Developments. These services in the right-of-way or within easements shall include:

- asphalt paved roads
- sidewalks
- concrete curb and gutter
- precast concrete curb-inlet catch basins with cast iron frame and cover
- road subdrains
- concrete or PVC pipe storm services
- PVC pipe sanitary sewers
- precast concrete manholes with cast iron frames and covers and aluminum ladder rungs
- PVC pipe water mains with cast iron fittings and/ or PVC fittings, valves and fire hydrants with Storz couplings

- private service connections including storm and sanitary PDCs, and copper or polyethylene water services and in some cases backflow prevention devices
- underground power distribution with pad mounted transformers
- street lighting using precast concrete poles and high pressure sodium fixtures unless other types are approved
- other services including telephone, cable TV and gas
- water meters
- water sample stations
- 1, 60 mm calliper tree per each newly developed lot (see Section 8.5)
- 3, 60 mm calliper trees per each commercial and industrial lot
- extra conduit for future use

4.1.1 Right-of-Ways, Cul-de-sacs

For local roads, right-of-way widths shall be 20 metres wide. For collector roads, right-of-way widths shall be increased to a minimum width of 22 metres. For arterial roads, contact Lakeshore. Cul-de-sacs are discouraged by Lakeshore, because of maintenance and emergency access issues.

Cul-de-sacs and other single access roadways may be permitted when they are 150 metres or less in length measuring from the intersecting right-of-way to the end of the cul-de-sac or the farthest extent of the single access road. For staged development temporary dead-end roads shall have a maximum length of 250 metres.

Any revised concept plan pertaining to the undeveloped portions of the Lighthouse Cove Area can be developed subject to the approval of Council, even though the revised concept plan may not be consistent with the cul-de-sac policy of the Development Manual. The revised concept plan must have fewer cul-de-sacs than the current approved plan.

4.1.2 Pavement Widths

- The pavement width for local roads shall be 8.5 metres (measured between faces of curbs), as per drawings Figure [CS-2](#) and [CS-5](#) of [Appendix F](#).
- The private road widths for condominium type developments shall be 8.5 metres (measured between faces of curbs).

- For collector roads, the road width shall be 10 metres (measured between faces of curbs), as per Figure [CS-3](#) of [Appendix F](#).
- For collector roads containing a boulevard, pavement widths shall be 5.8m (measured between faces of curbs) on either side of the boulevard, as per Figure [CS-4](#) of [Appendix E](#).
- For arterial roads, contact Lakeshore.

The actual street pattern, street widths, including number of access locations, turning lanes, intersection signalization, shall be identified through a traffic study carried out by the Developer's Consulting Engineer or a subconsultant experienced in traffic engineering if requested by Lakeshore.

Developers are encouraged to contact Lakeshore early in the process to determine whether a traffic study is required.

4.1.3 Minimum Turning Radius

Unless specifically noted otherwise, all intersection streets shall have a minimum radius of 9 metres (measured at curb face) for Residential or 12 metres for Industrial. Cul-de-sacs shall have a minimum radius of 12 metres (measured at curb face).

4.1.4 Sidewalks, Bikeways, Walking Trails, Multi-use Pathways

Lakeshore requires that sidewalks be located on both sides of all arterial roads and collector roads and on one side of all local roads. Sidewalks are not required on cul- de-sacs less than 150 m in length. Any other requirements for sidewalks will be noted in the Subdivision Agreement. Lakeshore encourages bikeways, walking trails, and multi-use pathways in all new Developments. Bikelanes may be requested on collector and arterial roads, at Lakeshore's discretion, and at the Developer's expense. Walking trails and multi-use pathways may be required at various locations, at the Developer's expense. See Sections 5.2 and [Appendix F](#) for further details.

4.1.5 Driveways

Unless otherwise noted in the applicable Zoning By-law, only one driveway per lot will be permitted for single unit dwellings and only one driveway per unit will be permitted for two unit and townhouse style multi-unit development. Two driveways may be permitted for commercial, industrial and

institutional developments as determined through site plan control and the Corridor Management and Access Control Policy. Driveways will not be permitted within site visibility triangles. The homeowner/ builder will be required to hard surface the driveway apron (the area between the paved portion of the street and the front lot line). However, driveway aprons shall not be constructed sooner than one (1) year after completion of underground works located beneath the driveway. If there is a sidewalk located through the driveway, the homeowner is required to hard surface Lakeshore's property on both sides of the sidewalk.

Refund of the required indemnity deposit submitted at the time of the building permit issuance will also be subject to the satisfactory completion of the hard surfacing of the driveway apron. The building permit applicant will be solely responsible for any necessary repairs to the sidewalk, concrete curb and asphalt road caused by the construction of the home abutting that lot, regardless of who caused the damage. The policy shall apply to all residential lots in registered plans of subdivision and other subdivision type development for which Subdivision Agreements are required.

4.1.6 Development In Close Proximity to Railways

Developers and owners are to note that for all Developments abutting or in close proximity to Railway right-of-ways, Lakeshore will require them to:

- obtain written comments from the Railway company and submit a copy of the Railway's comments to Lakeshore;
- address safety issues in case of train derailments, by including setbacks, safety berms, or other safety measures in the design;
- complete a noise and vibration study providing site specification recommendations;
- address trespass issues.

Notwithstanding, any other requirements, the Developer must comply with the Railway's principal main line requirements.

All infrastructure works needed to comply with this clause shall be the property of the Developer (and subsequent property owners), who shall maintain these infrastructure works in a good state of repair in perpetuity and cause no changes to be made. All purchase and sale agreements shall clearly state that property owners are responsible for maintenance and repair of these facilities as

directed by the Railway company and Lakeshore.

All works necessary to meet the Railway requirements must be installed prior to the issuance of any building permit for a dwelling that is within 300 metres of the Railway right- of-way.

The Developer (and subsequent property owners) shall grant easements in favour of Lakeshore and the Railway Company, to enable inspection of the infrastructure.

Noise walls shall be constructed from decorative or plain precast concrete panels and they shall be constructed to meet the requirements of the noise and vibration study. All noise berms to be constructed shall have minimum side slopes of 3:1 and minimum 2.5 metre top width or as required by the Railway company.

4.1.7 Multi Lot Creation by Consent

Should Lakeshore agree to permit multi-lot creation by the consent process, rather than by the plan of subdivision process, all of the requirements noted in this Development Manual shall apply including the preparation and approval of a Stormwater Management Plan.

Refer to the Town of Lakeshore Official Plan (latest version available on Lakeshore's website) section 8.3.5.2 for specific requirements for multi lot creation by consent.

4.1.8 Potable Water Supply Protection

Lakeshore is obligated to provide a safe, reliable potable water supply to its customers. To this end, Lakeshore will require the installation of backflow prevention devices on all fire lines. Unless specifically allowed by Lakeshore, all services larger than 25mm shall have backflow prevention devices installed and located in an accessible location within the building, subject to the approved plans. Backflow devices will not normally be required for single occupancy, residential type buildings or small, single tenant commercial occupancy buildings. See [Appendix E](#) for cross connection protection and backflow prevention by-law requirements.

A single water service will supply water to the building from the Municipal watermain and shall be equipped with an isolation valve at the property line or another location that is approved by Lakeshore. The potable water line will be teed off of the single water service either just outside or

just inside the building and will be equipped with an isolation valve, a backflow preventer and a water meter. The single water service line will be equipped with a backflow preventer to be located within the building and shall serve as the fire protection water line. The fire protection water line will be used solely for firefighting purposes.

The location of the water meter on the potable water line will be at Lakeshore's discretion.

In some cases, fire lines will be required to be metered, unless the owner can demonstrate that water cannot be used for any purpose other than firefighting.

These appurtenances shall be paid for and maintained at the owner's expense, according to the requirement of Lakeshore's Cross Connection By-law (refer to [Appendix A](#)), as amended from time to time. All water meters require remote reading capability.

4.1.9 Setback & Elevation Certificate

A setback certificate will be required from a registered Ontario Land Surveyor (OLS) for all residential Developments where the main building is within 1.8 metres (6') of the property line.

A registered Ontario Land Surveyor is required to prepare a setback certificate to verify setbacks and an elevation certificate to verify elevations of the main building prior to pouring the footings for all development within a plan of subdivision.

A grade certificate, prepared by an Ontario Land Surveyor, may also be required indicating compliance with final lot grades.

4.1.10 Indemnity Deposits

Developers shall either pay for, or arrange to have the lot purchaser deposit, indemnity fees at the time building permits are issued. These fees are to address items such as but not limited to ensuring:

- All required work is completed, including rear yard drainage;
- Any damage to the municipal infrastructure is repaired at the purchaser's expense;
- All streets are kept cleaned;
- Any standing water is drained;
- All weeds are cut;
- Dust from the site is controlled;

- Driveway approaches are constructed;
- The water meter is installed and inspected;
- The location of municipal service connections is submitted; and
- Record drawings are submitted, if required.

Contact Lakeshore for the value of the current indemnity deposit. The indemnity deposit will be returned in part or in full at the time that all the conditions are satisfied and a final inspection has been granted.

4.1.11 Site Servicing Record Drawings

Lakeshore may require site servicing record drawings for site development on private property. Record Drawings shall be submitted in electronic format (AutoCAD 2010 or earlier and PDF/TIFF).

These drawings must have all elevations and grades, shown in plan or profile, referenced to a geodetic benchmark and indicate the 'as constructed' world coordinated location, size, and material of:

- Storm and sanitary manholes;
- Catch basins;
- Storm and sanitary sewer lines;
- Waterlines, including backflow prevention devices;
- Water valves;
- Meter chambers, including detail of water meter and related plumbing; and
- Municipal connections.

The indemnity refund associated with this site will not be refunded until satisfactory 'as constructed' drawings are provided to Lakeshore.

4.2 RESIDENTIAL SITES

4.2.1 General

The general requirements of Subsection 4.1 shall apply and govern except as amended or extended herein.

4.2.2 Semi-Urban Developments

Notwithstanding that it is Lakeshore's policy to require curbs and gutters on all new streets, Lakeshore may consider reducing the municipal standard for new Developments abutting existing Developments that have been developed to semi-urban standards (Refer to [Appendix F](#), Figure [CS-5](#)).

This special relief will require a Council resolution and Developers are encouraged to obtain Council approval early in the development process.

As a guide to Developers, in granting this exemption Council will consider:

- Specific locations designated in the Town of Lakeshore Official Plan to permit residential development in non-urban settings;
- The relative size of the proposed Development and other adjacent lands that are designated for residential development in the Town of Lakeshore Official Plan. The smaller the new Development is in comparison to the neighbourhood, the more likely semi-urban development will be permitted;
- The size of the lots. Generally, estate size lots (frontages of 30 metres or more) are candidates for semi-urban development;
- The adequacy of downstream storm sewer outlets. Less than desirable storm sewer outlets support semi-urban construction; and
- The absence of sanitary sewers.

4.2.3 Road Classification

Arterial streets are defined by Lakeshore after conducting a traffic study. Contact Lakeshore for details.

Residential collector streets will be defined in the Subdivision Agreement and are streets that provide the major access and egress point to the development in the area. These streets will be the major access route for firefighting and emergency service vehicles to the Development and will generally service more than 200 residential units. The estimated minimum Annual Average Daily Traffic (AADT) would be 1000 when the site and surrounding area are developed. Collector roads may have restricted and/ or controlled access.

All other residential streets are classified as local residential streets.

4.2.4 Driveways

All residential driveways shall be hard surfaced from the curb and gutter or pavement edge (except for semi-urban developments), to the property line or easement line, whichever is furthest from the street. Acceptable driveway materials are asphalt, concrete and paving stones. (Also, see Subsection 4.1.5 of this Development Manual for further details).

Driveway construction shall be delayed for one (1) year from the date the services have been accepted on maintenance.

Developers shall advise purchasers of lots in the Purchase/ Sale Agreement, that should it be necessary for Lakeshore to repair or replace municipal services (and private driveways are damaged) Lakeshore will restore the driveway with asphalt, concrete or paving stones only, regardless of the existing driveway type unless the property owner pays for the additional costs to restore special driveways including stamped or coloured concrete.

4.2.5 Condominiums

In Condominium type development where Lakeshore will not assume the roadway and other services, the development standards shall be established in the Site Plan Agreement. Pavement widths shall be as per Section 4.1.2 of this Development Manual.

4.3 COMMERCIAL SITES

4.3.1 General

The general requirements of Subsection 4.1 shall apply and govern except as may be extended or amended herein.

4.3.2 Parking and Access Areas

All parking areas and access areas shall be paved with asphalt, concrete or paving stones to control dust and provide adequate drainage.

4.3.3 Storm Water Management Facilities

Should Developers use the parking areas as temporary ponds to retain storm water, the maximum depth of ponding shall be limited to 150 mm and the maximum duration of storage shall be 1 hour for a 1:2 year rainfall event unless it can be shown that deeper depths (or a longer duration) will not adversely affect parking lot operation.

4.4 INDUSTRIAL SITES URBAN:

4.4.1 General

The general requirements of Subsection 4.1 shall apply and govern except as may be extended or amended herein.

4.4.2 Roads

The minimum road width shall be 10 metres (measured between faces of curbs). A geotechnical investigation defining the pavement cross section parameters may be required by Lakeshore. Intersection turning radius shall be a minimum of 15 metres. Cul-de-sac radius, if allowed, shall be a minimum of 15 metres.

4.4.3 Parking and Access Areas

All parking areas and access areas shall be paved with asphalt, concrete or paving stones to control dust and shall be adequately drained.

4.4.4 Storm Water Management Facilities

Should Developers use the parking areas as temporary ponds to retain storm water, the maximum depth of ponding shall be 200 mm and the maximum duration shall be 2 hours for a 1:2 year rainfall event unless it can be shown that deeper depths (or a longer duration) will not adversely affect parking lot operations.

4.4.5 Rural Industrial Sites

Notwithstanding that it is Lakeshore's policy to require all items as previously outlined within this section in all new industrial Developments, Lakeshore may consider reducing the municipal standard for new industrial sites in rural / agricultural areas. Special relief from the above standards may be granted through the Site Plan Control process with specific reliefs detailed in the Site Plan Agreement. The extent to which relief shall be granted is affected by factors

including, but not limited to, the zoning and level of development of the abutting properties, the relative size of the site in relation to surrounding Developments, and the absence of sanitary sewers.

4.5 INSTITUTIONAL SITES

4.5.1 General

The general requirements of Subsection 4.1 shall apply and govern except as may be extended or amended herein.

4.5.2 Parking and Access Area

All parking areas and access areas shall be paved with asphalt, concrete or paving stones to control dust and shall be adequately drained.

4.5.3 Storm Water Management Facilities

Should Developers use the parking areas as temporary ponds to retain storm water, the maximum depth of ponding shall be 150 mm and the maximum duration shall be 1 hour for a 1:2 year rainfall event unless it can be shown that deeper depths (or a longer duration) will not adversely affect parking lot operations.

4.6 RECREATIONAL/ PARK SITES

4.6.1 General

The general requirements of Subsection 4.1 shall apply and govern except as may be extended or amended herein. All parkland must be fine graded and hydra-seeded by the Developer within 12 months of acceptance of the abutting services on maintenance. A minimum 75% consistent germination is required as determined by Lakeshore. All park sites abutting residential shall be fenced to Lakeshore's satisfaction.

4.6.2 Parking and Access Areas

All parking areas and access areas shall be paved with asphalt to control dust.

4.6.3 Storm Water Management Facilities

All play areas or passive areas used for storm water management facilities shall be designed so

that the maximum depth of storage is 600 mm for a maximum duration of 4 hours, for a 1:2 year rainfall event or less. Parking lots may be used for storm water storage.

4.7 Transportation Policy Guidelines

The Transportation Policy Guidelines are applicable to non-residential development only. They consist of Parking, Walking and Cycling, Road Classification, and Subdivision Design. These Policy Guidelines are available on Lakeshore's website: www.lakeshore.ca

5. DESIGN CRITERIA

The following design criteria shall apply as minimum requirements unless specifically noted otherwise in the Subdivision Agreement or superseded by Provincial or Federal legislation. (See [Appendix E](#) for sewer testing requirements)

5.1 Roads

Asphalt Pavement structures shall consist of the following minimum material thicknesses:

Local Roads:

* Granular 'A' Base	-	300 mm	
HL4 Base Asphalt	-	50 mm	(At centerline tapered to 135mm at curb)
HL3 Surface Asphalt	-	40 mm	

Collector Roads and Industrial Roads:

* Granular 'A' Base	-	450 mm	
HL4 Base Asphalt	-	60 mm	(At centreline tapered to 135mm at curb)
HL3 Surface Asphalt	-	40 mm	

- On a competent native sub-grade. For fill sub-grade increase granular 'A' Base by 50 mm

Lakeshore reserves the right to require a geotechnical investigation. Pavement structures may be determined from the geotechnical investigation.

Granular 'A' materials shall meet the minimum requirements of OPSS 1010 and shall be

compacted to a minimum 100 percent of the Standard Proctor maximum dry density.

Recycled material shall not be used for granular road base.

Asphaltic concrete mixes shall consist of PG 58-28 asphalt cement conforming to OPSS 1101, fine and coarse aggregates conforming to OPSS 1003 and recycled asphalt pavements (RAP). The use of RAP in the final product should not exceed 15% for surface course asphaltic concrete and 20% for binder course asphaltic concrete. A qualified materials testing company shall be retained by the Contractor to design the asphalt mixes, which will be submitted to Lakeshore for review. The use of recycled asphalt in the final product shall not exceed 15 percent.

Other Pavements:

Other pavements such as concrete pavements shall be designed on the basis of a geotechnical investigation.

Pavements shall be designed to provide adequate drainage of stormwater runoff as well as drainage of the granular road base. Accordingly, the following minimum standards shall apply:

Subdrains with Filter Sock:

- 150 mm diameter heavy-duty perforated Big 'O' for all roads.
- At Lakeshore's discretion, 100 mm diameter heavy-duty perforated Big 'O' may be acceptable if installed with grade stakes or laser level.
- Constructed continuously along the back of curbs at a gradient equal to the longitudinal pavement slope (or minimum 0.30 percent)
- Connected to roadway catch basins or other appropriate outlet.

Curb-Inlet Catch Basins:

- OPSD 610.030
- Placed at intersections for proper drainage.
- Spaced for road drainage no more than 90 m per catch basin per lane.

Longitudinal Grade:

- Desirable minimum 0.5%
- Absolute minimum 0.3%

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- Absolute minimum at curb returns and cul-de-sacs 0.5%
- Maximum 5.0%

Crossfall:

- Desirable 3.0%
- Minimum Concrete 2.0%
- Asphalt 3.0%

In intersection areas and cul-de-sacs:

- Desirable Minimum 1.0%
- Absolute Minimum 0.6%

Concrete Curbs and Gutters:

- OPSD 600.040

5.2 Sidewalks

Concrete sidewalks shall be constructed in accordance with Figures [S-5](#), and [D-3](#) to [D-7](#) of [Appendix F](#).

Residential:

- Width 1.5 m
- Minimum Thickness 150 mm
- Base Material 150 mm of Granular 'A'

Commercial, Industrial, Institutional:

- Width 1.5 m
- Minimum Thickness 150 mm
- Base Material 200 mm of Granular 'A'

All sidewalks shall be constructed and clearly delineated through driveways. Expansion joints shall be spaced no more than 15 m apart. At any intersection, concrete sidewalk ramps and asphalt multi use pathways ramps shall comply with O.P.S. 310.030. Furthermore, Figure [S-5](#) of

Appendix F shall be included in the referenced drawings.

The Accessibility for Ontarians with Disabilities Act (AODA) was established in 2005 outlining accessibility standards for organizations, including Municipalities. Ontario Regulation 119/11, Accessibility for Ontarians with Disabilities Act (AODA), was amended by Ontario Regulation 413/12 to include Part IV.1, Design of Public Space Standards (Accessibility Standards for the Built Environment). The amendment to the regulation came into force January 1, 2013 and applies to public spaces that are newly constructed or redeveloped after January 1, 2016 by municipalities among other obligated organizations. The Act does not require existing sidewalks or wheelchair ramps to be retrofitted or replaced.

In order to comply with the Act requirements, the exterior path must have a minimum clear width of 1500 mm. This width can be reduced to 1200 mm to serve as a turning space where the exterior path connects with a curb ramp. Where the curb ramp is provided at a pedestrian crossing, it must have tactile walking surface indicators that:

- i. have raised tactile profiles,
- ii. have a high tonal contrast with the adjacent surface,
- iii. are located at the bottom of the curb ramp,
- iv. are set back between 150 mm and 200 mm from the curb edge,
- v. extend the full width of the curb ramp, and
- vi. are a minimum of 610 mm in depth.

The Developer shall install all sidewalks at the time of completion of the underground services with a minimum of 1.5 m width to meet new requirements, including all utilities, and road construction (up to base asphalt). For developments, any review and approval of development drawings includes the requirement for tactile walking surface indicators at all municipal sidewalk curb ramps. Additionally, the required type to be used is the Access Tile tactile system, part # ACC-R-2436-XX. Lakeshore may require a delay in the schedule to install sidewalks based on the level of building activity and/or to allow for the consolidation of utility trenches as determined by the Manager of Engineering Services. Developers will be responsible to maintain and repair damaged sidewalks, for one year from Lakeshore's "acceptance of services". The Developer shall also include sidewalks shown on the lot grading sheets submitted to Lakeshore, prior to the issuance of building permits.

Drop Manhole Structures:

A drop structure is required where the entering pipe invert is more than 0.6 metres higher than the lowest pipe. Where a drop structure is not required, a channel must be constructed in the benching from the invert of the higher pipe to the lower pipe. If the drop is close to 0.6 metres, the grade of the incoming pipe can be increased as required, subject to maximum velocity limitations. Drop structure shall be bowl type.

Minimum Service	Single	125 mm diameter
Connection Size	Double	150 mm diameter
		(Doubles only permitted on longside san. laterals)

Clean Out	All services shall include a Tee and a cleanout at the property line. The cleanout should not project more than 0.3 metres above the ground level for inspection.
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Pipe Material	Sewer Main	(<450 mm)	PVC DR35
		(≥450mm)	Reinforced Concrete (min 65-D) Class of pipe to be sufficient for condition
	Private Services		PVC DR28

Sanitary Sewer Manholes	To be equipped with flexible pipe connectors Minimum manhole size – 1200 mm diameter Shall be equipped with a Cretex Inflow Dish, with neoprene gasket and diffuser valve.
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The Consulting Engineer shall confirm the availability and location of an appropriate outlet with Lakeshore, shall complete the final design and shall obtain Environmental Compliance Approval from the Ministry of the Environment (MOE) prior to construction. Work on private property shall conform to the Ontario Building Code.

5.3.1 Private On-Site Wastewater Treatment Facilities

In those instances where land is designated for development in the Town of Lakeshore Official Plan and an extension of servicing from an existing municipal wastewater treatment facility is not available or practical at the time that development wishes to proceed, Lakeshore will consider the use of a private on-site wastewater treatment facility in compliance with the relevant Town of Lakeshore Official Plan policies.

Where a site is approved for a private on-site wastewater treatment facility, Lakeshore will require, as a condition of site plan approval, that the owner agree to connect to the municipal wastewater treatment facility where services are available as determined by Lakeshore. Lakeshore will also require that the appropriate buy-in fee or development charge be paid by the Developer at site plan approval.

5.4 Storm Sewers/ Drainage

Storm sewers and appurtenances shall be constructed in accordance with the approved contract documents prepared by the Consulting Engineer. The minimum design criteria are noted below:

Design Method	Rational Formula
Design Frequency	1 in 2 years Windsor AES (Atmospheric Environment Services)
Inlet Time Lakeshore	20 minutes required maximum unless agreed to by Lakeshore
Run-off Co-efficient	Verified based on the proposed development plan but not less than 0.4 for sewers to be assumed by Lakeshore.
Minimum Velocity for Pipes Flowing Full	0.8 metres per second
Manning's Roughness for Storm Sewers	0.013 (Smooth Wall Pipe) Co-efficient
Minimum Cover	1.07 metres
Minimum Pipe Size	300 mm diameter
Maximum Manhole Spacing	<900mm dia. 120 m

		≥900mm dia.	150 m
Minimum Service Connection Size		Single/Double	150 mm diameter
Clean Out			All services shall include a Tee and a clean out at the property line. The cleanout shall not project more than 0.3 metres above the ground level for inspection.
Pipe Material	Sewer Main	(≤450 mm) (>450 mm)	PVC or HDPE (320 kPa pipe stiffness) PVC or Reinforced Concrete or HDPE (320 kPa pipe stiffness)
	Private Services		PVC

Note: Pipe class to be confirmed by the Consulting Engineer based on trench transition widths.

Adjacent neighbouring surface water and sub-surface water (tiles) shall be re-routed so that the new Development has no adverse impacts on the existing Development and the adjacent neighbouring lands. A plan shall be submitted to Lakeshore’s Engineering and Infrastructure Services Department for review prior to construction.

All new Developments shall have their downspouts outlet onto the finished grade of the lot with storm water directed away from the building without impacting adjacent properties. Splash pads should be used to prevent erosion at the downspout outlet. Downspouts should only be connected to the storm sewer system if health and safety is a concern due to slips, trips and/or falls (e.g. downspouts with an outlet onto sidewalks or driveways creating a slippery condition in cold temperatures.) The Developer’s Consulting Engineer is to incorporate additional storm water from downspout connections into the overall storm sewer design and calculations.

The Consulting Engineer shall confirm the availability and location of an appropriate outlet with Lakeshore and shall complete the final design and shall obtain Environmental Compliance Approval from the Ministry of Environment (MOE) prior to construction. Work on private property shall conform to the Ontario Building Code.

5.5 Watermains

Design and installation shall be in accordance with Lakeshore’s requirements and provincial regulation. A network analysis and transient pressure analysis may be required if requested by Lakeshore. Watermain and appurtenances shall be constructed in accordance with the approved contract documents prepared by the Consulting Engineer. The Consulting Engineer shall obtain the Fire Chief’s approval for Fire Hydrant location. The minimum design criteria are noted below:

Minimum Pipe Size	150 mm diameter
Minimum Cover	1.5 m
Hydrant Spacing	At intersections Maximum spacing of 150 m (Not at dead ends)
Valve Spacing	At intersections Maximum spacing of 250 m
Lot Connections	Minimum 25 mm Maximum 250 mm

Material Specifications:

Watermain

- PVC DR18, Class 150, AWWA C900-905
- Or an equivalent PVC piping approved by Lakeshore

Joints

- Bell and Spigot with rubber rings to ASTM D3139.
- Restrained with mechanical restraint devices.

Fittings

- Ductile Iron, cement or epoxy lined, Class 250
- PVC Class 150, DR18, to AWWA C907, certified to CSA B137.2, colour coded blue.
- All fittings to be M.J. type or push-on type.

Fasteners

- All fasteners to include Duratron sacrificial zinc bolt caps.

Denso Corrosion Prevention System

- Anti-corrosion materials consisting of Paste Primer, Mastics and Petrolatum tape that complies with CSA Z-245-30 and is CFIA approved.
 - Denso S105 Paste Primer/Priming solution for cold temperature application
 - Denso Profilic Mastic or Denso Mastic Blankets
 - Denso Petrolatum Tapes
- All materials to be from the same manufacturer to ensure compatibility and optimal performance.
- Additional coating of Denso Paste must be applied to the outside of the Denso tape installation to provide additional barrier and to facilitate closing of all seams.
- Denso Corrosion Prevention Systems to be used on the following:
 - All gate valves in their entirety
 - All fittings in their entirety
 - All restraint systems and fasteners
 - All mechanical and flanged joints

Mechanical Joint Systems:

- T-bolts and nuts, low alloy steel in accordance with ANS/AWWA C111/A21.11
- All bolts and nuts on mechanical joint system shall include Protecto caps at every bolt 90 grams, 20 mm diameter.

Flanged Joints System:

- Nuts, bolt and washers for all flanged joints shall be Type 304 stainless steel conforming to ASTM A193, Grade B8M, Class 1 and ASTM 194, Grade 8M nuts.

Gate Valves and Boxes

- AWWA C509, Class 200W
- Iron body, bronze mounted, modified wedge disc.
- Non rising stem with O-ring seals.
- Open by turning counter-clockwise.
- 50 mm square operating nut extended to within 150 mm of finished grade with mechanical joint to ANSI A21.11.
- All valves 100mm or larger to be installed with galvanized operating rod extensions to within 150mm of the top of the valve box.
- For tapping gate valve or connection to flanged outlets, ends shall be flanged and mechanical joints to ANSI B16.1 and ANSI A21.11

Approved Models:

- Mueller Canada resilient wedge gate valve
- CLOW Canada resilient wedge gate valve
- Equivalent resilient wedge gate valve approved by Lakeshore.

Fire Hydrants (including on private property)

- Hydrants shall conform to AWWA C502.
- Each hydrant shall have 2-65 mm hose nozzles and one 117 mm pumper nozzle with 'Storz' type pumper outlet configuration.
- Drainage holes to be unplugged unless otherwise directed by Water Department.
- Anti-tampering devices must be installed on new hydrants until the majority of construction is complete.
- Staging for Flow Testing is as follows:
 1. All new watermain work must be 100% complete including all tie-ins, services etc.

2. The Contractor shall be responsible for providing a certified and competent contractor to complete flow tests of all newly installed hydrants in accordance to NFPA 291.
 3. Contractor must call Lakeshore Environmental Services Division to arrange for a representative to be on site to review flow testing
 4. Flow test results are to be submitted electronically to Lakeshore Environmental Services Division for review and approval before painting
 5. Once flow tests have been approved the contractor shall be responsible for painting all barrels and caps for all newly installed hydrants in accordance to NFPA 291. Colour coding is based on flow test results. (Figure W-4, Fire Hydrant Flow Colour Codes)
- Exterior ductile iron underground portion coated with bitumen or epoxy coated shall be encased with 8 mil thick polyethylene encasement as per AWWA C105.
 - All hydrants shall have a secondary gate valve to isolate from the system.

Approved Models:

- Mueller Century
- CLOW Brigadier M67B Bibby (Sentinel Model Type 4) Note:
Drain outlets must be plugged.

Restraining Devices

- Provide thrust restraint on all fittings such as valves, bends, tees, pipe bells that are liable to draw off or blow off.
- Thrust restraints shall be concrete thrust blocks and/or mechanical restraint devices.
- All elbows, tees, valves, hydrants to be restrained.
- Where mechanical restraint devices are used, the watermain joints shall be restrained for three (3) pipe lengths on each of the fittings.

Concrete Thrust Blocks:

- To OPSD 1103.01, 1103.02 and standard detail in contract drawings for pipe sizes of 350 mm diameter and smaller.
- Shall conform to OPSS 1350 with a nominal minimum 28 day compressive strength of 20 MPa.
- Type 20 Portland cement shall be used in all cases.
- A polyethylene bond breaker shall be used against the fitting and all joints and bolts to be protected.
- Shall be used in conjunction with the mechanical restraint equipment where required.
- The size and position will vary according to pipe size, fitting type, test pressure, and soil conditions.

Mechanical Thrust Restraint Devices:

- Uniflange Series 1500 or Star Series 4000 for PVC pipe at gray/ductile iron fittings and valves 150 to 300 mm diameter
- Uniflange Series 1350/1360 or Clow Series 350/360 or Star Series 1200 (as applicable) at PVC fittings 150 to 300 mm diameter
- Uniflange Series 1390 or Clow Series 390 or Star Series 1100 at PVC bell and spigot joints 150 to 300 mm diameter
- Connect all valves to other appurtenances using 12mm diameter stainless steel threaded rods, washers, and nuts.
- Fastening hardware on thrust restraining systems shall be either epoxy coated, stainless steel or hot dip galvanized including bolts, rods, washers and nuts.

Tracer Wire

- Tracer wire on all plastic mainline pipes to be #12 AWG conductor, solid white, TWU copper with plastic coat.
- Splicer to be Burndy KS-90, 16-10 connector
- Insulating mastic tape to be used to wrap connector (Plymoute Bishop 10 polyseal)

- Tracer wire shall be brought up at all mainline & fire hydrant secondary valves, outside of valve box with a 300 mm loop of wire inserted into upper section of box under the cap.
- Upon completion of the watermain, the tracer wire will be tested by Lakeshore’s Environmental Services Division and any breaks in continuity must be repaired by the contractor at his expense.

Private Services

<u>Connection Size</u>	<u>Approved Material(s)</u>
≥25 mm dia.	Copper, Type ‘K’; or Polyethylene, 160 psi AWWA C-901 stamped “Series 160 Potable O.D. Pipe PE 2306 CSA certified”

Note: Poly must have a tracer wire installed with it from the main to the curbstop, accessible at the service box.

- Service saddles to be double bolt [s.s] stainless steel.
- All private service fittings to be lead-free brass, compression type.
- Curbstops to be non-draining, to AWWA C-800-89
- Excess water service line coiled at property line is not permitted as the goose-neck provides sufficient slack. Water service connections are to be a direct connection to the house with no coiling.
- Curbstops to be lead-free brass type
- No. 7 service box and rod. Curb box to be arch type with brass pentagon plug, with stainless steel rod and pin
- See [Appendix F](#), Figure [W-1](#), [W-2](#) for meter pits on 100mm or larger services
- Unless approved by Lakeshore, all services larger than 25mm shall have backflow preventative devices installed within the building and accessible.
See Section 4.1.8 – Potable Water Supply Protection for cross connection protection and backflow prevention requirements.

Installation

- All watermain pipes shall be delivered to the work area with end covers at both ends and a tamper evident seal on only the bell end, as required by OPSS 441.
- The connection of a new watermain into the existing water distribution infrastructure shall utilize a tapping sleeve, unless otherwise approved by the Manager of Environmental Services, or the designate.
- All new mains shall be swabbed using high density foam swabs.
- New watermain shall be bedded in sand, with no large or sharp aggregate, from 150mm below the pipe invert to 150mm above the pipe crown.

Testing

- All service connections to be dry tapped before pressure testing and chlorinating.
- See [Appendix "E"](#) for chlorination and testing procedures.

Lakeshore is the approval authority for most watermain installations in the municipality under its Drinking Water Works Permit. The Consulting Engineer will consult with Lakeshore's Environmental Services Division to determine if the proposed watermain can be approved by Lakeshore and if so, the Consulting Engineer will complete the MOE's "Form 1-Record of Watermain Authorized as a Future Alteration" which will be provided by Lakeshore. In the event that the proposed watermain is in a category that does require MOE approval, the Consulting Engineer will apply for this approval. Work on private property shall conform to the Ontario Building Code.

5.5.1 Water Sampling Station

All new watermain shall be equipped with water sampling stations as detailed in [Appendix F](#), Figure [L-10](#). One station will be required for Developments up to 100 lots, and an additional sampling station will be required for every additional 100 lots or less. The location of the water sampling stations shall meet the approval of the Manager of Environmental Services and shall be shown on the construction drawings.

5.6 Storm Water Management Facilities

Storm water management facilities shall be constructed in accordance with the approved Storm Water Management Plan approved by Lakeshore and any other required agency, and prepared by the Consulting Engineer. The minimum design criteria are noted below:

- The Stormwater Management Plan shall be prepared to address the specific municipal, regional and provincial requirements to control stormwater quantity and quality. Refer to MOE website: (<http://www.ene.gov.on.ca/envision/gp/4329eindex.htm>) for the Stormwater Management Planning and Design Manual 2003.
- In all cases, storm water quality measures shall be incorporated to address provincial water quality guidelines, including short term measures to control soil erosion during construction of site services.
- Where stormwater quantity controls are required, runoff must be limited to the pre-development peak flow condition for the 1:2 year to 1:100 year AES rainfall events with duration of 24 hours. Surface storage in roadways will not be permitted for the 1:2 year rainfall event and must be limited to 300 mm above the catch basin for the 1:100 year event.
- The stormwater management facility shall be designed to current Best Management Practices and subject to the approval of Lakeshore, and the required agencies.
- On-site measures to control stormwater quantity for industrial, commercial, and institutional developments will be permitted, including temporary parking lot, loading dock, and roof top storage. Storage depths in parking lots and loading docks shall be limited to the depths noted in Subsection 4 and 300 mm for the 1:100 year rainfall event.
- The lowest opening into a building should be a minimum of 0.3 metre above the calculated on-site 1:100 year storage elevation (or higher if required by other agencies).
- Storm water ponds shall have minimum slopes of 1:3 (vertical: horizontal).
- In an industrial or commercial setting, storm water ponds shall contain integrated sluice gates to allow for temporary outlet shutoff.

The Consulting Engineer shall obtain Environmental Compliance from the MOE and any necessary permits prior to commencing with construction.

5.7 Pumping Stations

Storm and sanitary pumping stations shall be designed and constructed in accordance with Town of Lakeshore (Town) approved construction drawings & specifications prepared by a Professional Engineer licensed in the Province of Ontario.

Drawings & specifications shall meet the following minimum design criteria. Please note that the Town shall reserve the right to amend and/or impose additional requirements to those noted herein at any time.

Refer to the typical sanitary sewer pump station drawings depicted in Figure's L-11, L-11A, L-11B, L-12, L-12A and L-12B in Appendix "F" which shall serve as the basis of design within the Town. These standard drawings shall also serve as a reference to assist the Engineer in the design and preparation of detailed construction drawings.

Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in these drawings to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town on a case by case basis prior to implementation.

5.7.1 Site Selection

The site shall be accessible from a municipal street and sized to provide for the parking of vehicles used for inspecting and maintaining the station. Access must also be provided for a standby electrical generating system where required. Access shall also be provided for the storage or removal of snow. All access roads and parking areas shall be paved with asphalt.

Minimum lot size shall be based primarily on being able to remove and replace entire station without encroaching on adjacent private property and shall take into consideration a minimum 1:1 soil slope during excavation while meeting the objectives in the paragraph above.

Site shall be graded to ensure proper surface drainage and landscaped to be compatible with the surrounding neighborhood. Landscaping design shall be submitted and approved by the Town for any areas adjacent to road right of ways.

Any associated buildings shall be designed to be permanent, durable and aesthetically pleasing and compatible with other buildings in the area.

5.7.2 Pumping Station Design

Pumping stations shall be designed in accordance with Ministry of Environment (MOE) guidelines and specifications herein.

Wet well submersible pump stations shall also be designed in accordance with Ministry of Environment Specification No.3 – Standard Specification for Submersible Sewage Pumps – Issue No. 2 – March 1984 and specifications herein. The specifications herein will supersede the MOE guidelines should there be any contradictions between the two documents.

All pump stations shall be fitted with an external electrical weatherproof plug for connection of a mobile emergency standby electrical generator in a manner suitable to and approved by the Town.

Permanent emergency standby electrical generator facilities shall be provided in all cases where flooding and backup of sewage into private buildings can occur and where the uses of mobile emergency standby electrical generators are not practical or desired by the Town.

The need and type of emergency standby power shall be reviewed with the Town and MOE Regional Staff early in the design stage.

The sewage retention period shall be adequate to allow for transportation time and shall not be less than 4 hours under average daily flow rates plus infiltration.

One or more pumps capable of pumping the peak design flow with an additional stand-by pump (this is known as firm capacity).

System head calculations shall be undertaken in accordance with MOE Guidelines for Design of Sanitary Sewage Systems and MOE Specification No. 3 as noted herein and per the following:

- Hazen-Williams Coefficient of $C=120$ for low water level, $C=130$ for median water level and $C = 140$ for high water level conditions
- Minimum force main velocity of 0.76 meters per second (2.5 feet per second)
- Maximum force main velocity of 2.3 meters per second (7.5 feet per second)
- Minimum pump cycle time of 10 minutes

Only pumps manufactured by Xylem Flygt shall be used in the Town. The use of alternative manufacturers must be approved by the Town on a case by case basis due to or to suit specific circumstances.

Pumping stations shall generally be circular in design and constructed of precast or cast in place reinforced concrete using Type 20 cement. They shall have a minimum inside diameter of 3.0 meters and shall include at minimum, the following items all of which are to be detailed in the project's construction drawings and specified in the project's specification documents. Refer also to details in the typical sanitary pump station drawings contained herein for reference and additional requirements.

- Access hatches shall be of the lockable, single leaf, insulated roof scuttle design of aluminum construction with a minimum clear opening of 762mm x 914mm, and fitted with Type 316 stainless steel hardware complete with continuous piano hinge, gas assist springs, hold open arms with handles, flush recessed lock with provisions for padlock and designed to withstand minimum live load of 150 pounds per square foot using min. 6mm thick aluminum tread plate all as manufactured & supplied by MSU Mississauga or approved equal.
- Pump/Equipment hatches shall be of the lockable, single leaf cast-in-place design of aluminum construction with a minimum clear opening of 914mm x 914mm for 3000mm diameter chambers and 914mm x 1220mm for 3600mm diameter chambers to allow complete removal and replacement of pumps. Hatches shall be fitted with Type 316 stainless steel hardware complete with stainless steel hinges, gas assist springs, hold open arms with handles, flush recessed lock with provisions for padlock and designed to withstand minimum live load of 150 pounds per square foot using min. 6mm thick aluminum tread plate. Hatch shall also come complete with hinged orange colour safety grate and retractable safety post & chain all as manufactured & supplied by MSU Mississauga, Flygt or approved equal.
- Access ladders shall be fabricated, heavy duty design of aluminum construction having a width of 500 mm. Ladder shall be supported off chamber wall using flanged brackets at maximum spacing of 1200mm and Type 316 stainless hardware. Top of ladder shall be fitted with heavy duty, retractable, double post access rails all as manufactured & supplied by MSU Mississauga or approved equal.

- Platforms shall be fabricated and of all aluminum construction (T-6061) with Type 316 stainless steel hardware complete with channel & angle support framing and “close mesh (4.76mm)” aluminum “serrated” grating fastened to framing using Type 316 stainless steel hold down clips at minimum 500mm centers (min of 4 hold down clips per panel).
Provide hinged grating section for access to lower level having minimum clear opening of 762mm x 914mm fitted with aluminum or stainless steel hinges and lifting handles All edges and holes through grating shall be banded.
Platform shall also be fitted with safety handrail of welded double rail design and aluminum alloy 6063-T6 or 6351-T6 construction with clear anodized finish. Pipe rails shall be 38mm diameter, IPS Schedule 40 complete with bottom flanged posts at max spacing of 1800mm and 150mm high x 6mm thick aluminum kick plates fastened to bottom of posts.
Platform shall also be fitted with 1040 high aluminum post & chain assembly for personnel safety around the hinged grating section. Removable posts shall be set in floor sockets & fitted with two rows of Type 316 stainless steel chain on 3 sides complete with stainless steel eyehooks and spring loaded hooks to engage the eyehooks.
- Sewage pumps shall be of the non-clog submersible design with separate pump base discharge connection and dual sliding rail system. Pumps to be rated for 600 volts, 3 phase, 60 hertz operation and certified for Class 1, Group D, Division 1 hazardous environments. Each pump to be equipped with a mix flush valve and lift chain of hot dip galvanized steel construction. In addition, each pump to be fitted with leakage detectors capable of sensing stator over temperature and liquid in stator housing complete with automatic reset once the fault has cleared, LED fault indications, dedicated dry output contact closures for temperature and leakage faults using Flygt Mini-CAS II Supervision relay. Pump power cables to be supported from stainless steel cable support grips above with min. 3 meters slack after installation. Pump surfaces to be finished with an epoxy coating system for corrosion protection. Provide a chain hoist with sufficient load chain and grip eye lifting device for proper removal and installation of each pump. All as manufactured and supplied by Xylem/Flygt Canada – N-pump.
- Pump rails shall be of Schedule 80 hot dip galvanized steel piping construction. Intermediate and upper guide bar holders including pump lift chains and chain hooks shall also be of hot dip galvanized steel construction with Type 316 stainless steel hardware.
- Pump discharge piping shall be to ASTM A-774/778 Type 316L stainless steel welded construction, I.D. pipe size with minimum thickness of 11 gauge (3.2mm) (0.125-inch).

Fittings shall be prefabricated, smooth flow, long radius type. Joints shall be welded except at valves & equipment where flanged type backing flanges and rolled van stone collars are to be used. Backing flanges to be min. hot dip galvanized steel construction drilled to ANSI B16.1, Class 125, thickness T3 for 150 psi test pressure. Victaulic couplings and victaulic flange adaptors of hot dip galvanized steel construction are to be used where shown on the typical sanitary pump station drawings contained herein. All joint fasteners to be Type 316 stainless steel. All piping and fittings to be pickled and passivized after fabrication and field welding to achieve a consistent finish and appearance. As manufactured and supplied by Douglas Barwick Inc. or approved equal.

- Gate valves shall be of the resilient wedge type to AWWA C509 Class 200W and/or AWWA C515 Class 250W with manual handwheels and gear operators. Manual square nut operators and stainless steel extension stems shall be implemented where shown on the typical sanitary pump station drawings contained herein. Valve to be of ductile iron construction, bronze mounted with rubber encapsulated modified wedge disk and non-rising stem with O-ring seals and flange x flange ends drilled to ANSI B16.1, Class 125. Valve to open by turning counterclockwise. All exposed fasteners to be Type 316 stainless steel. The exterior and interior of the valve shall be coated with an NSF/ANSI 61 approved fusion bonded epoxy coating system. As manufactured by Mueller, Clow, American AVK or approved equal.
- Swing check valves shall be of the rubber flapper design to AWWA C508. Valve shall be full globe style body with domed access cover and flexible disc made of Buna-N (NBR) and steel reinforcement with disc accelerator. Body shall be of ductile iron construction with all stainless steel trim and flange x flange ends drilled to ANSI B16.1 Class 125. Valve shall be fitted with screw type backflow actuator to enable opening of valve during no flow conditions and a mechanical indicator to provide disc position indication on valve. All exposed fasteners to be Type 316 stainless steel. The exterior and interior of the valve shall be coated with an NSF/ANSI 61 approved fusion bonded epoxy coating system. As manufactured by Val-Matic - Surgebuster Swing Check Valve Series 7200.
- Curved sluice gate shall be fabricated from Type 316L stainless steel to AWWA C501 requirements. Gate shall consist of wall thimble, gate frame, yoke, threaded stem, stem extension and stem guides all constructed from Type 316L stainless steel and assembled using Type 316 stainless steel fasteners and hardware. Stem guide liner, side & top seals to be constructed from polyethylene with bottom seal from neoprene rubber. Leakage rate shall not exceed 0.05 l/gpm per linear foot of seal against both seating and unseating head.

Gate to be controlled with manual operator on top of chamber using pedestal constructed of hot dip galvanized steel with geared hand crank and aluminum stem cover with graduated window for valve position indication. All hardware and fasteners to be Type 316 stainless steel. As manufactured and supplied by Armtec, Fontaine or Rodney Hunt.

- Sewage air release & vacuum break valve shall be suitable for air release and vacuum break functions during pipeline filling, pipeline drawing, water column separation, normal operation and surge alleviation. Body to be compact single chamber design of stainless steel and/or epoxy coated construction with all fasteners and hardware in Type 316 stainless steel. Float, seat and all moving parts to be of Type 316 stainless steel construction. Valve shall incorporate over-pressure safety feature and optional 6mm ports fitted with Type 316 stainless steel ball valves, nipples and caps. As manufactured by Vent-O-Mat - Series RGX.
- Vent pipes for both shallow and deep chamber levels of hot dip galvanized steel construction complete with 180 degree gooseneck having a bolted flange arrangement fitted with both bird & insect screens sandwiched between the flanges. Vents shall have min. inside diameter of 100mm for 3000mm diameter chambers and 150mm diameter for 3600mm diameter chambers.
- Above Ground Free Standing Fixed Davit Bases are for general purpose use for most applications. These are either attached to concrete or other structural materials such as steel. Review exact socket requirements with Town of Lakeshore at time of specification preparation.
- All fasteners and hardware including brackets in interior & exterior of pump chamber shall be minimum Type 316 stainless steel construction.
- All thrust restraint and pipe support brackets including fasteners shall be of minimum Type 316 stainless steel construction.
- Levels sensor shall be of the ultrasonic type. The level transmitter shall be equipped with auxiliary relays (minimum three) configurable to control pumps for drawing down the pumping well in a lead-lag process and automatically alternate pump duty. Level transducer is to be supported from its own cable using a strain relief cord grip and hung within a 150mm diameter PVC standpipe accessible from above the top slab via the equipment hatch or dedicated access cover (so as to avoid having to enter the chamber) all as shown and detailed in the typical sanitary pump station drawings contained herein. As manufactured and supplied by Siemens-Milltronics Multi-Ranger 100 w/XPS-15.
- Alarm Float Switches shall be micro tilt switch type Ex approved version with sufficient

cable length to reach control panel without splices and complete with Type 316 stainless steel horizontal hanger, stainless steel or PVC strain relief cord grips and Type 316 stainless steel sway and control rings all as manufactured and supplied by Xylem Flygt Canada.

All pumping stations shall be fitted with electrical service entrance & pump control panels and mounted on standalone aluminum channel support system positioned minimum 1500mm from closest edge of pump chamber (to avoid Class 1 Division 1 or 2 hazardous environment classification). Electrical & controls work shall conform to the following requirements and be detailed in the project's construction drawings and specified in the project's specification documents. Refer also to details in the typical sanitary pump station drawings contained herein for reference and additional requirements.

- Supply & Installation of electrical & control works shall meet the minimum requirements of Ontario electrical safety code.
- Electrical and control works shall be designed and constructed in accordance with approved detailed construction drawings & specifications prepared and sealed by a Professional Electrical Engineer licensed in the Province of Ontario competent in undertaking this type of work. Refer to details in the typical sanitary pump station drawings contained herein for reference and additional requirements.
- Electrical design shall include procurement and coordination of both the power supply from electrical supply authority and telephone lines from Bell Canada.
- Electrical design shall also include provisions (external plug) for connecting a portable/mobile emergency standby generator set in a manner acceptable to the Town of Lakeshore for installations where a permanent emergency standby generator will not be provided.
- Panels shall be fitted with automatic dialer and/or SCADA equipment to relay alarms to the Town's operating authority. Exact requirements are to be reviewed with the Town and their operating authority early in the design stage.
- Service entrance shall be 600 volts, 3 phase, 60 hertz of sufficient capacity to meet pump station requirements. 3 phase power shall be implemented where available and desirable by the Town.
- All current protection must be accomplished thru the use of thermal/ magnetic circuit breakers having sufficient interrupting ratings.

- Each sewage pump to be controlled thru a Hand-Off-Auto selector switch and monitored with an hour meter.
- External alarm light for high-high level float switch with push-to-test lamp push button.
- All electrical & control panels, cabinets, enclosures, boxes, fasteners and all hardware shall be of Type 316 stainless steel construction.
- All pumps and associated wiring from the wet well shall be continuous without splices and terminate to a junction box (with terminal strips) located prior to the EYS fittings in accordance with the Electrical Safety Code. Wet well wiring to continue from the junction box through EYS fittings into the pump control panel.
- All electrical equipment to be manufactured and supplied by Allen Bradley, Siemens, Square D or approved equal. Electrical components shall be in full compliance with the NEMA standards and have a NEMA rating identification (IEC components with NEMA equivalent ratings are not acceptable).
- Minimum 3-pair phone line system to facilitate alarm monitoring system.
- Alarm monitoring system as follows:
 - DSC alarm system and minimum zone requirements and features as follows:
 - key pad entry and delay of 30 seconds
 - monitor A/C power failure within 30 second delay on dial out
 - monitor door security
 - monitor door entry and closing
 - monitor high level float (first stage)
 - monitor high-high level float (second stage)
 - monitor pump failure for each pump
 - test signal programmed for 1700 hours daily
 - entire alarm system to be supplied and wired by Security One Alarm Systems
 - all zones to be monitored 24 hours and programmed to dial out to Security One Alarm Systems
 - alarms to also be monitored at Denis St. Pierre WPCP thru the plant's existing SCADA system receiving signals from the DSC alarm network. Retain the services of the Town's approved system integrator to program the new alarms into the SCADA system.

During the maintenance period, the Developer will be responsible for all costs incurred by the Town excluding hydro, telephone and Security One monitoring services. Hydro, telephone and

Security One monitoring services to be set up through the Town's Engineering & Infrastructure Services Department for all storm & sanitary pump stations.

Should any major repairs to a pump station that is under maintenance be required, the Town will advise the Developer who will be given opportunity to make repairs through their contractor within reasonable time period. Should Developer not carry out repairs within reasonable time period, as determined by Town, then the Town will carry out all required repairs and all costs incurred shall be assessed to and be borne by the Developer.

5.7.3 Regulatory Requirements & Submittals

The Consulting Engineer shall make all applications and submissions necessary to obtain a Certificate of Approval (including addendums) from the MOE for all works proposed prior to commencing any work on-site.

Upon completion of the works, the Town shall be provided with three (3) copies of a complete & detailed Operating & Maintenance Manual and separate Project Documentation Manual all bound in 3-“D”ring binder(s) that include the following:

- O&M documentation for all components and equipment used on the project including warranty information, commissioning reports and signed letters of certifications from suppliers regarding installation, service and operation.
- Annual maintenance report templates for all control and pump equipment including voltage, current and Megger results from the manufacturer
- Contingency plans to address potential malfunctions and/or emergency site conditions.
- Operational controls narrative.
- Standard Operating Procedures and/or Operations Manual covering the operation of the pump station.
- MOE C of A's
- Three (3) copies of full size project “construction record” drawings in both printed form and PDF & AutoCAD electronic formats on CD.
- Final electrical inspection certificate from electrical safety authority (ESA).
- Copy of final commissioning report from Consulting Engineer.
- All spare parts shall be turned over to the Town of Lakeshore or its operating authority.

5.8 Street Lighting, Power Distribution and Other Services

The minimum criteria for the design of street lighting, power distribution and other services are noted below. All materials shall be compliant with Canadian Standards, as a minimum, and suitable for its intended application. The project Designer shall verify all existing services to the best of their knowledge and coordinate all new lighting, power distribution and communication services to avoid conflicts with other trades.

Street Lighting Luminaires - Light Emitting Diode (LED)

Standard

- Cobrahead style, small body with 12, 24 or 36 LEDs or medium body with 48, 60 or 72 LEDs as required providing adequate illumination¹, Type II Max throw, distribution, with glass lens. The luminaire driver current will be based upon the design fixture selected, with a 4000K colour temperature for residential/minor collector and industrial streets and 5000K colour temperature for major collector and arterial streets (as defined in RP-8, latest revision), complete with NEMA or 7-pin photocell receptacle and control. Assembly to come with 120V driver or otherwise to suit site conditions. Colour to match the pole noted below. LED Roadway Lighting, “NXT” series luminaire. Catalogue number NXT-xxS/M-0-7-2ES. Refer to figure [E-01](#) in the development manual.
- Cobrahead Style, small body with 12, 24, or 36 LEDs as required providing adequate illumination¹, ANZ high distribution, with glass lens. The luminaire driver current will be based upon the design fixture selected, with a 4000K colour temperature for residential/minor collector and industrial cul-de-sacs (as defined in RP-8, latest revision), complete with NEMA or 7-pin photocell receptacle and control. Assembly to come with 120V driver or otherwise to suit its site conditions. Colour of the luminaire to match the pole noted below. LED Roadway Lighting, “NXT” series luminaire. Catalogue number NXT-xxS-0-7-4AH. Refer to figure [E-01](#) in the development manual.

Decorative – Acrylic Option

- Acorn style, 100W solid state LED source or as otherwise required to provide adequate illumination¹, with refractive array acrylic rippled globe, Type III⁴ distribution, 1063 series, 4000K, pole capital, solid spun aluminum top and NEMA twistlock receptacle

and photocell control. Assembly to come with 120V driver or otherwise to suit site conditions. Colour to match the pole noted below. King Luminaire, Washington series “K118R” luminaire. Catalogue number K118R-xxAR-III-100(SSL). Refer to figure [E-02](#) in the development manual.

- Acorn style, 100W (525mA) solid state LED source or as otherwise required to provide adequate illumination¹, with clear prismatic acrylic refractor, Type III⁴ asymmetric distribution, 4000K colour temperature, standard finial, top acrylic reflector & cap and NEMA twistlock receptacle and DTL twistlock photocell control. Modern style swing open housing. Assembly to come with auto-sensing 120V driver or otherwise to suit site conditions. Colour to match the pole noted below. Holophane, Washington series “Postlite II LED Utility” luminaire. Catalogue number AWDE2-P50-40K. Refer to Figure [E-03](#) in the development manual.

Decorative –Polycarbonate Option

- Acorn style, 100W solid state LED source or as otherwise required to provide adequate illumination¹, with refractive array polycarbonate rippled globe, Type III⁴ distribution, 1063 series, 4000K, pole capital, solid spun aluminum top and NEMA twistlock receptacle and photocell control. Assembly to come with 120V drive or otherwise to suit site conditions. Colour to match the pole note below. King Luminaire, Washington series, “K118” luminaire. Catalogue number K118R-xxPR-III-100(SSL). Refer to Figure [E-04](#) in the development manual.

Decorative - Glass Option

- Acorn style, 100W (525mA) solid state LED source or as otherwise required to provide adequate illumination¹, with clear prismatic glass refractor, Type III⁴ asymmetric distribution, 4000K colour temperature, spike aluminum finial, shorewood style cover and NEMA twistlock receptacle and DTL twistlock photocell control. Modern style swing open housing. Assembly to come with auto-sensing 120V driver or otherwise to suit site conditions. Colour to match the pole noted below. Holophane, Utility Washington series “Postlite LED” luminaire. Catalogue number WAUE2-P50-40K. Refer to Figure [E-05](#) in the development manual.

Poles

Standard

- Class A (light duty), spun concrete, round symmetrically tapered shaft, direct buried style, mould finish, suitable for a standard elliptical arm. Overall pole length shall be 30'-0"⁵. Stresscrete catalogue number E-300-APR-G-MOO. Refer to Figure [E-06](#).
- Class A (light duty), spun concrete, round symmetrically tapered shaft, direct buried style, etched Eclipse finish, suitable for a standard elliptical arm. Overall pole length shall be 30'-0"⁵. Stresscrete catalogue number E-300-APR-G-E11. Refer to Figure [E-06](#).

Decorative

- Class A (light duty), prestressed concrete, octagonal symmetrically straight shaft with flared base, direct buried style, polished "[Midnight Lace](#)" finish complete with a 35" outside diameter tenon and 40" height. Pole length above finished grade shall be 18'-0"⁵. Stresscrete catalogue number KBH18-E10-DB-140-35/40. Refer to Figure [E-07](#).
- Class A (light duty), prestressed concrete, octagonal symmetrically straight shaft with flared base, direct buried style, polished "[Eclipse Black](#)" finish complete with a 35" outside diameter tenon and 40" height. Pole length above finished grade shall be 18'-0"⁵. Stresscrete catalogue number KBH18-E11-DB-140-35/40. Refer to Figure [E-07](#).

Arms

Standard

- Side mounted tapered elliptical aluminum arm. Overall arm length shall be 4'-0" or as otherwise required to suit the application, and approved by the Town of Lakeshore. Refer to Figure [E-08](#).

General Lighting Notes:

1. Street lighting design shall be based on road and pedestrian classification as defined by the authority having jurisdiction. Classifications may be found within the Illuminating Engineering Society of North America (IESNA) standards for roadway lighting (RP-8-00), and luminaire classification system for outdoor luminaires (TM-15-11), and/or the Transportation Association of Canada (TAC) guide book. The designer is responsible to review the latest

edition of all codes and standards to ensure all lighting levels, intensity and uniformity ratios are achieved. Ratios can also found in Table 5.8 in this manual.

2. Every effort should be made to align street lights with side lot lines between parcels. Designer shall follow the Town of Lakeshore cross section details.
3. Electrical ground grid or rods to be installed as per all applicable local codes, regulations and/or standards.
4. Distribution patterns may vary depending on the design application. Other distribution patterns may be accepted upon review of a complete photometric drawing submission to the Town of Lakeshore provided by the Designer.
5. It is the Designer's responsibility to ensure the appropriate pole height, class and diameter are specified in order to suit the application and maintain the lighting levels as recommended by standards noted in note 1. If changes to the specified poles noted above are required, the Designer shall contact the Town of Lakeshore with the Designer's recommendations to be approved prior to implementation.
6. All new subdivisions and/or roadways shall be designed with LED lighting. Where new phases are constructed off existing subdivisions and/or roadways, contact the Town of Lakeshore for direction.
7. The Developer is responsible for the illumination of all newly created intersections.
8. The joint IESNA (Illuminating Engineering Society North America) and IDA (International Dark Sky Association) societies MLO (Model Lighting Ordinance) BUG system (Backlight-Uplight-Glare) was implemented to provide a more accurate and consistent rating system for light fixtures that will provide enhanced control with glare and light trespass and will reduce overall light pollution than the conventional full, semi and non "cutoff" rating system. The BUG system was released as an IES Technical Memorandum TM-15. The BUG rating system employs zones of intended use and evaluates the desired light fixture by % of total lumens at various angles in specified defined quadrants that represent backlight, up light and glare. The Designer will attempt to implement fixtures that will be rated in accordance with the joint IDA and IES lighting design guideline to minimize light pollution and to better evaluate the proposed light fixture, utilizing fixtures that are compliant with the ratings of the zone intended for use.

Power Distribution

The power distribution system consisting of the primary and secondary power feeders,

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transformers and underground infrastructure shall be designed in accordance with the appropriate power supply authority requirements. The Developer is responsible to obtain the approval of the appropriate power supply authority prior to construction.

Other Services

Other services such as, but not limited to, voice, data and television shall be coordinated by the Designer unless otherwise advised. These services and associated conduit routing shall be clearly identified in road crossings, on cross-sections, etc.

Table 5.8 Illumination Standards –Street and Roadway Lighting, Illuminance

Based on the type and function of the roadway as identified by the Town of Lakeshore, the following illumination level guidelines will apply for illumination within public right-of-ways. The following table should be used for streets and roadways of pedestrian areas or that are curved. Otherwise, Table 5.8.1 below, reproduced from RP-8-14, will be used to evaluate straight segments of roadways and streets. The street and roadway classifications of Table 5.8.1 are as per the road classifications of RP-8.

	Street Classification	Illumination Maintained Average		Uniformity Ratio Average/ Max
		Lux	Ft Candles	
1	Arterial	20	2.0	3.0
2	Major Collector	15	1.5	3.0
3	Residential or Minor Collector	5	0.5	6.0
4	Industrial	5	0.5	6.0

Table 5.8.1 – Street and Roadway Lighting, Luminance Method

Street Classification	Pedestrian Area Classification	Avg. Luminance L_{avg} (cd/m ²)	Avg. Uniformity Ratio L_{avg}/L_{min}	Max. Uniformity Ratio L_{max}/L_{min}	Max. Veiling Luminance Ratio LV_{max}/L_{avg}
Major ²	High ¹	1.2	3.0	5.0	0.3
	Medium ¹	0.9	3.0	5.0	0.3
	Low ¹	0.6	3.5	6.0	0.3
Collector ²	High ¹	0.8	3.0	5.0	0.4
	Medium ¹	0.6	3.5	6.0	0.4
	Low ¹	0.4	4.0	8.0	0.4
Local ²	High ¹	0.6	6.0	10.0	0.4
	Medium ¹	0.5	6.0	10.0	0.4
	Low ¹	0.3	6.0	10.0	0.4

L_{avg} = minimum maintained average pavement luminance

L_{min} = minimum pavement luminance

L_{max} = maximum pavement luminance

LV_{max} = maximum veiling luminance

1. Pedestrian Classifications: High = over 100 pedestrians/hour, Medium = 1 to 100 pedestrians/hour, Low 10 or fewer pedestrians/hour

2. Town of Lakeshore’s Road Classification System vs RP-8 Road Classification:

<u>Town of Lakeshore</u>		<u>RP-8</u>
Arterial	<->	Major
Major Collector	<->	Collector
Residential or Minor Collector	<->	Local
Industrial	<->	Local

3. Luminance on the pavement is based on the quantity and direction of light, observer location,

and the pavement reflectance characteristics. The overall average luminance of the road surface as observed from a specific point in cd/m^2 and the observer position per RP-8, latest edition, is 1.45m above the pavement surface and with a line of sight is 1 degree below the horizontal.

All intersections are now required to be evaluated separately, in addition to, the street and roadway lighting photometric, to provide adequate illumination at these higher traffic and activity areas, where safety is a concern. The intersections are to be measured using the horizontal illuminance method. The illumination guidelines in the chart below have been reproduced from RP-8 to assist the Designer with the intersection analysis. Statistical analysis of each intersection should be provided as part of the lighting design for review in addition to the individual street summaries. The road classifications listed in Table 5.8.2 are as per the road classifications of RP-8

Table 5.8.2 Illumination for Intersections

Functional Classification	Average Maintained Illumination at Pavement by Pedestrian Area Classification in Lux/fc			E_{avg}/E_{min}
	High ¹	Medium ¹	Low ¹	
Major / Major ²	34.0/3.4	26.0/2.6	18.0/1.8	3.0
Major / Collector ²	29.0/2.9	22.0/2.2	15.0/1.5	3.0
Major / Local ²	26.0/2.6	20.0/2.0	13.0/1.3	3.0
Collector / Collector ²	24.0/2.4	18.0/1.8	12.0/1.2	4.0
Collector / Local ²	21.0/2.1	16.0/1.6	10.0/1.0	4.0
Local / Local ²	18.0/1.8	14.0/1.4	8.0/0.8	6.0

E_{avg} = minimum maintained average horizontal illuminance at pavement

E_{min} = minimum horizontal illuminance at pavement

1. Pedestrian Classifications: High = over 100 pedestrians/hour, Medium = 1 to 100 pedestrians/hour, Low 10 or fewer pedestrians/hour

2. Town of Lakeshore's Road Classification System vs RP-8 Road Classification:

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RP-8

Arterial

<->

Major

Major Collector	<->	Collector
Residential or Minor Collector	<->	Local
Industrial	<->	Local

5.9 Light Intensity Standards

- I. The following Principles are to be adopted for the lighting of private and public lands, subject to Site Plan approval, in the Town of Lakeshore:
 - a. Contribute to personal safety
 - b. Support the supervision of secure areas
 - c. Assist in way finding
 - d. Conserve energy
 - e. Preserve the experience of the night sky
 - f. Respect the privacy of residential space
 - g. Respect animal habitat
 - h. Heighten the enjoyment of public space and night time activity
 - i. Apply the above listed guiding principles consistently;
- II. To insure the provisions of adequate and safe, full cut off lighting levels, bonding for the provision of on-site lighting may be required as a condition of site plan approvals;
- III. Lighting plans and photometric data including IES format files (as required) must be prepared, and all lighting be installed and maintained by the Developer, in accordance with lighting plans, to their best ability (for all development sites of 2300 m² building lot , or greater) which will be approved and enforced by Lakeshore;
- IV. The Sign By-law 78-2001, (as amended), shall be reviewed with regards to externally lit billboards and electronic changing copy signs and their impact on the night sky and traffic safety;
- V. The lighting requirements for public right-of-ways and other publicly owned lands will be reported by Lakeshore Administration to Council on every application;
- VI. All Site Plan applications, in their review and approval, shall be consistent with the Guiding Principals in Recommendation I and implement as required the techniques including in “Techniques to Implement Lighting Guiding Principles”; Table I Illumination Requirements; Table II Guidelines for Structure Lighting and Illustrations, as follows:

5.9.1 Techniques to Implement Lighting Guiding Principles:

- I. Contribute to personal safety
 - a. Provide minimum illumination in accordance with Table 1: Illumination Requirement
 - b. Locate lamps so as to avoid glare
 - c. Provide additional shielding of lamp fixtures to avoid glare
 - d. Provide uniform lighting without sudden light to dark transitions e. Provide overlap of light distribution
 - f. Provide illumination to articulate steps
 - g. Coordinate spacing and height of lamps with landscaping to ensure lighting coverage is not interrupted
- II. Support the supervision of secure areas
 - a. Provide illumination in accordance with Table 1: Illumination Requirements
 - b. Provide good colour rendering for identification purposes using acceptable street lighting standards outline in the Town of Lakeshore Development Manual section 5.8.
 - c. Provide sufficient lighting coverage including building recesses or inside corners
- III. Assist in way finding
 - a. Provide illumination to improve legibility of notes, landmarks and circulation areas
 - b. Align lamps in consistent, recognizable and unambiguous patterns c. Provide a uniform and modest brightness along paths of travel
- IV. Conserve energy
 - a. Maintain light levels within recommended range set out in Table 1: Illumination Requirements
 - b. Employ alternatives to best conserve energy
 - c. Dim down lighting to minimum levels after normal operating hours (Where required/ requested)
- V. Preserve the experience of the night sky

- a. Light pollution is considered undesirable and many feel that it reduces the enjoyment of night sky.
- b. Provide full cut-off lighting (zero percent of peak intensity radiating above 90 degrees and 10 percent of peak intensity above 80 degrees) or employ low cut-off where full cut-off lighting alternatives are not feasible, as approved by the Town of Lakeshore. As LED fixtures can't be fully evaluated in terms of full, semi-cutoff or non-cutoff terms, and as the movement towards anti-light pollution increases, a new system has been implemented jointly by IESNA and IDA to evaluate luminaires. The MLO (Model Lighting Ordinance) uses the BUG (note 8) rating of the fixture shall be in compliance with TM-15, issued by IESNA and IDA.
- c. For all area lighting, luminaires should be equipped with devices for re-directing light such as shields, visors or hoods.
- d. Beacon lights are strongly discouraged unless the application requires such lighting, and as approved by Lakeshore.

VI. Respect the privacy of residential space

- a. Locate lamps to direct light away from neighbouring properties
- b. Provide supplementary shielding of lamps to direct light away from neighbouring properties
- c. Provide lamp fixture mounting heights that avoid glare to the vantage point of neighbouring residential units
- d. Provide recessed light fixtures that avoid glare to the vantage point of neighbouring residential units

VII. Respect animal habitat

- a. Direct illumination away from abutting Municipal Parks and naturalized areas on abutting private lands

VIII. Heighten the enjoyment of public space and night time activity

- a. Provide minimum illumination to encourage night time use
- b. Minimize glare using shielding of fully recessed light fixtures, as required
- c. Reveal the salient features of a site using a combination of diffused and spot lighting

IX. Apply the above listed standards consistently

- a. Provide photometric plans and lamp specifications for use by Municipal staff in

the review of site plan applications and for inclusion in site plan development approval agreements

Illuminance determines the amount of light incident on a surface, measured in lux or footcandles. Illuminance levels provide an effective method of measuring the performance of a lighting design therefore Designers shall use the Illuminance method for their analysis.

Illuminance uniformity is measured by the ratios Maximum to Minimum and Average to Minimum. These ratios provide a measure of the consistency of lighting across a site and provide assurance that the illuminance is within a range that the human eye can properly discern all objects in its field of view.

The following chart indicates the required illuminance levels for various types of facility's or usages.

Uses	Horizontal Illumination (footcandles)		Vertical Illumination (footcandles)	
	Min	Max	Min	Max
Uncovered Parking Area	0.5	4.0	0.5	4.0
Covered Parking Area	2.0	10.0	5	25.0
Covered Outdoor Area	0.5	10.0	5	25.0
Walkway	0.5	2.0	0.5	5.0
Principle Building Entrance	3.5	8.0	3.5	8.0
Loading and Garage Storage Area	1.0	2.0	5.0	25.0
Covered Gas Pumping Area	5.0	25.0	5.0	50.0
Outdoor Active Recreation Facility – Values vary per recreational activity and shall be verified with IESNA standards (latest edition)	1.0	150.0	1.0	150.0
Auto Dealership Display	1.0	8.0	1.0	8.0

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Outdoor Storage Yard	1.0	2.5	1.0	2.5
All Non-residential uses at normal non-business hours (11:00pm to 5:00am) and when employees other than security personnel are not present	0.5	2.0	0.5	2.0
All other uses	0.5	2.0	0.5	10.0
<p>None of the minimums noted above apply to adjacent property lines.</p> <p>Illumination levels at all property lines shall be as close to 0.0 foot-candles as possible to respect private properties surrounding the area.</p> <p>Fully shielded is assumed in all references</p> <p>Luminaires will be full cut-off unless otherwise provided with IESNA BUG rating.</p>				

Submission Requirements for Outdoor Lighting Plans:

For each site plan requiring submission of an Outdoor Lighting Plan, the Designer must submit the following information as a minimum for review by the Town of Lakeshore:

- Location of all buildings, structures, property lines, parking, loading and amenity areas.
- Location of all lights, poles and transformer units.
- Mounting height, quantity, orientation and arrangement of all lighting
- Type of light source
- Manufacturer’s catalogue information and detail of the fixture.
- Illumination levels for all proposed fixtures
- Calculation summary indicating the minimum value, maximum value, maximum-to-minimum ratio and average-to-minimum ratio
- Submission should include the project name, designer and date whether on a cover sheet or on the drawings itself.
- Include all external lighting to the site under evaluation where it may be considered to be a relevant contribution to the new site.
- Extend photometric analysis past site property lines to evaluate any horizontal illumination that would contribute to light trespass onto neighbouring properties.
- All other relevant information

<p>Table II: Guidelines For Structure Lighting</p>
<p>1. The illumination of structures that consist of uniformly dark materials or that contain reflective-coated glass is discouraged.</p>
<p>2. The illumination of tall, slender structures or monuments, such as flagpoles, where stray light is difficult or impossible to control, is discouraged.</p>
<p>3. Equip luminaries with devices to eliminate stray light as much as possible. Examples of such devices are four-sided shields, internal louvers, and top visors.</p>
<p>4. Locate structure lighting luminaries in places where the unshielded light source cannot be seen by pedestrians or motorists.</p>
<p>5. Average illuminance levels (vertical, measured at the structure face):</p> <ul style="list-style-type: none"> a. Bright surroundings and light surfaces: 1.0 to 5.0 foot-candles b. Bright surroundings and medium surfaces: 1.0 to 6.0 foot-candles c. Dark surroundings and light surfaces: 0.5 to 2.0 foot-candles d. Dark surroundings and medium surfaces: 0.5 to 3.0 foot-candles
<p>Definitions</p> <p>1 Foot-Candle = 10 Lux</p> <p>Full Cut Off Lighting = “A light fixture constructed in such a manner that all light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal.”</p> <p>Horizontal Illuminance = “The measurement of brightness from a light source, usually measured in foot-candles or lumens, which is taken through a light meter’s sensor at a horizontal position.”</p> <p>IDA: “International Dark Sky Association”</p> <p>IESNA: “Illuminating Engineering Society of North America”</p> <p>Light Pollution: “Any adverse effect of artificial light including, but not limited to, glare, light trespass, sky-glow, energy waste, compromised safety and security, and impacts on the nocturnal environment”</p> <p>Luminance: “the measure of brightness of a point on a surface that is radiating or reflecting light, measured in candelas per square meter, it is the photometric measure of luminous intensity, per unit area of light travelling in a given direction”.</p> <p>Vertical Illumination = “The measurement of brightness from a light source, usually measured in foot-candles or lumens, which is taken through a light meter’s sensor at a vertical position.”</p>

5.10 Backfill and Compaction

Trench backfill and compaction shall generally be in conformance with the minimum requirements outlined in the Trench Backfill Details included in [Appendix "F"](#). For all open cut trenches within the Roadway (Back of curb to back of curb) approved granular shall be used. Granular trench backfill should be brought up 50mm-100mm above subgrade. This process is to ensure that during road cut operations, granular trenches are fully exposed in the subgrade. Based on site specific soil conditions, geotechnical recommendations for alternative degrees of native backfill compaction should be confirmed by a qualified geotechnical engineer. Recycled materials are acceptable provided they meet provincial requirements.

5.11 Restoration and Landscaping

Restoration of all boulevard areas disturbed as a result of the construction of site services shall be completed to match the existing conditions, but not less than 100mm topsoil and seed and mulch for maintained lawn areas.

The Developer must have a landscape plan prepared by a professional landscaping firm and it is to be reviewed and approved by Lakeshore. The following guidelines should be considered by the landscape firm in the landscape design for median/ boulevard areas:

1. The plan should be designed with low maintenance features in mind.
2. The plan should strive to provide environmental benefits for the community.
3. The plan should create a more aesthetically pleasing environment.
4. The plan should include additional features such as trees, shrubbery, landscape stone or mulch, decorative rocks, and other pleasing features.
5. The plan should enhance a sense of personal safety and reduce the opportunity of crime by facilitating the unobstructed observation of public spaces and areas (Crime Prevention Through Environmental Design).

The general principles of CPTED are outlined below:

Natural Surveillance: Criminals do not want to be seen. Barriers like shrubs, clutter, or shadows can impair visibility / view corridors. The correct placement of these barriers prevents loss of natural surveillance / self-policing.

Territoriality: Owners tend to protect their space through visible border definition.

Fences, pavement treatments, and art murals are some ways of expressing ownership. Identifying intruders and law breakers is easier in well-defined spaces.

Access Control: Properly located entrances, exits, fencing, and lighting can discourage criminal behaviour. It may be a tasteful, well placed sign, or a parking lot with highly visible pavement markings.

Target Hardening: Use motion-activated flood lighting in the “back” of public areas.

Activity Management: Encouraging legitimate activity in public spaces discourages crime. Increase the sense of natural surveillance and sense of ownership.

Behaviour Engineering: Changes in the placement and arrangement of physical attributes influences behaviour; essentially “Architectural Risk Management.”

The Developer will also make an effort to salvage any existing landscaping located within the public right-of-way and in the interest of public relations, wherever practical, offer to transplant and/ or replace plantings to the abutting owners.

5.12 Recycled Materials

Only recycled material approved by the Province and Lakeshore may be used. Lakeshore reserves the right to request engineered and environmental reports on the acceptability of the recycled material for specific intended uses at the Developer’s expense.

5.13 Other Utilities

The Consulting Engineer will be responsible to co-ordinate the efforts of other public utilities as a result of conflicts with proposed services and/ or upgrading to accommodate the new Development.

6. SPECIFICATIONS

6.1 General

The Consulting Engineer shall make reference to the latest Ontario Provincial Standard Specifications and Municipal Specifications in the contract documents for construction of site

services, including any amendments and extensions outlined herein. In case of a conflict between OPSS and Municipal Specifications, Municipal Specifications shall govern.

6.2 Ontario Provincial Standard Specifications

There are currently no amendments or extensions to the OPSS.

6.3 Municipal Specifications

Municipal specifications are included in the Appendices.

7. DRAWINGS

7.1 General

All site or subdivision plans and record drawings and/ or specifications must be submitted, at a minimum, in both AutoCAD (2010 or earlier) and PDF/TIFF on CD ROM or DVD to Lakeshore. One set of hard copy prints will accompany the digital submission. Submissions will be made within 60 days from the date Engineering and Infrastructure Services has “accepted the services”.

7.2 Electronic Drawing Requirements

All geographic data must be submitted in a standard real-world coordinate system. The preferred projected coordinate system is NAD83 UTM Zone 17N. If another system is used it must be documented.

7.3 File Formats

In addition to the minimum digital submission requirements outlined in Section 7.1, digital data will also be accepted in one of the following formats (in order of preference):

- a. ESRI Shapefile
- b. ESRI Geodatabase
- c. ESRI Arc/ Info Interchange (e00)

7.4 Drawing Details

All data must be clean of undershooting and overshooting arcs (dangles). Polygons must be snapped closed at nodes and lines must snap to one another at nodes. Features which cross map

sheets must precisely match each other at the join lines between sheets. Edge matching must be seamless.

7.5 Layers

All data must be thematically organized. There must be separate layers for all different object types (i.e. road edges, road centerlines, water mains, storm sewer mains, sanitary sewer mains, etc.). If a coincident line exists, for example a stream and a parcel boundary, the line must appear in both layers.

7.6 Elevation Data

Features which contain a third dimension or elevation data (z value) must have the elevation value within the attribute data. Elevation data submitted in CAD format must be part of the feature.

7.7 Documentation:

- a. A list of all files being submitted is required.
- b. CAD data shall include metadata for each layer including within the file.
This documentation will provide information on the source of the data, feature type (point, line, polygon, etc.), source date and a general description of what is shown on the layer(s). It should be clearly defined, the period for which the drawings are relative (Construction drawings, Record drawings, etc.).
- c. GIS data submissions must include all items from b. above as well as metadata for each of the featured geographic data attributes. This will include a complete description of each attributes definition as well as a description of what each of the attribute values mean for each field.
- d. Methods used for data collection and the horizontal and vertical accuracy should be documented and submitted for all data deliverables.

7.8 Text and Annotation:

- a. For CAD submissions, text must be placed in separate layers. Features must not be erased in order to accommodate the placement of text. Text layers must be thematically separate, meaning text associated with water mains should be placed on a layer separate from text associated with parcels.
- b. For GIS submissions, text must be in either a label attribute or an annotation subclass.

8. MISCELLANEOUS

8.1 Signs

The Developer will be responsible for the installation of all new regulatory, warning and street name signs in accordance with the Manual of Uniform Traffic Control Devices. The Developer shall pay for all required signs including “no parking” signs. The Developer must provide Lakeshore with a sign layout plan. This plan must include locations of all signs to be used.

The Developer shall be responsible to maintain all existing roadway signs as well as temporary signs required as a result of the construction. No existing signs are to be removed without Lakeshore’s written approval.

8.2 Barriers and Guard Rails

Dead end barriers shall be constructed at all temporary cul-de-sacs and/ or ends of roadways, which are to be extended in subsequent phases.

8.3 Pavement Markings

The following pavement markings shall be provided or paid for by the Developer within 5 days of final asphalt placement:

- Stop Bars
- Yellow centreline marking to a 30 m distance from stop bars on local roads
- Yellow centreline marking continuous on all collector roads
- Crosswalk marking, where specified in the Subdivision Agreement
- Auxiliary lane markings including arrows, where specified in the Subdivision Agreement

Temporary and permanent pavement markings on the base course and surface course of asphalt shall be organic solvent-based paint including reflective glass beads in accordance with OPSS 1712 and 1750.

8.4 Community Mail Boxes

Community Mail Boxes (CMB) must be coordinated with Canada Post and approved by Lakeshore. As well, they must be built on a concrete pad 150 mm thick (150 mm Granular A Base). The concrete pad will be installed by the Developer and will vary according to the size of the super

mail box. If possible, CMBs should be built adjacent to sidewalks and with a car bay for easy access. All mailboxes shall be the CMB style and shall be lagged to the concrete pad with bolts. The location of these CMBs must be established prior to the issuance of building permits. (See [Appendix F](#), Figure [R-2](#))

8.5 Tree Planting (Also see Section 4.1)

The number of trees required for the development is, as follows: Single

Family Residential:	1 - 60 mm caliper tree required per lot
Semi-detached Residential:	1 - 60 mm caliper tree required for each unit
Townhouse units:	3 - 60 mm caliper trees required per 4 units
Industrial Lots:	3 - 60 mm caliper trees per lot

The Developer will pay Lakeshore the amount of \$350 per tree and Lakeshore will plant same. Lakeshore will determine the species of the trees. The trees shall be planted in the public right-of-way in front of each newly developed lot.

8.6 Extra Conduit for Future Use

Lakeshore will require an extra conduit to be installed in the same trench as the hydro, Bell and cable for future use. The minimum size of the conduit shall be 3 inches and the conduit shall consist of PVC material.

9. TRANSITION POLICY

The policies and requirements in this Development Manual shall take effect within 90 days of the date of the amendment, noted as a footer on each page. For any current Subdivision Agreements the requirements of those conditions of the Subdivision Agreements shall apply. For any future phases, the requirements of this Development Manual shall apply unless superseded by a new Subdivision Agreement.

APPENDICES

APPENDIX A

1. DEVELOPMENT FLOW CHARTS
2. ASSUMPTION AND ACCEPTANCE OF SERVICES
3. GUIDELINES, PROFESSIONAL ENGINEERS, 1994
4. IRREVOCABLE LETTER OF CREDIT
5. COMMUNITY MAILBOX INSTALLATION GUIDELINE

APPENDIX B

1. TYPICAL SITE PLAN AGREEMENT
2. TYPICAL SUBDIVISION AGREEMENT

APPENDIX C

- DEVELOPMENT CHARGES & TARIFF OF FEES BY-LAW

APPENDIX D

- PARK FEES

APPENDIX E

1. CROSS CONNECTION BY-LAW 11-2001
2. ASSUMPTION OF PRIVATE ROADS POLICY
3. WATERMAIN PROCEDURES, JANUARY 3, 2007
4. SEWER TESTING

APPENDIX F

- FIGURES

APPENDIX G

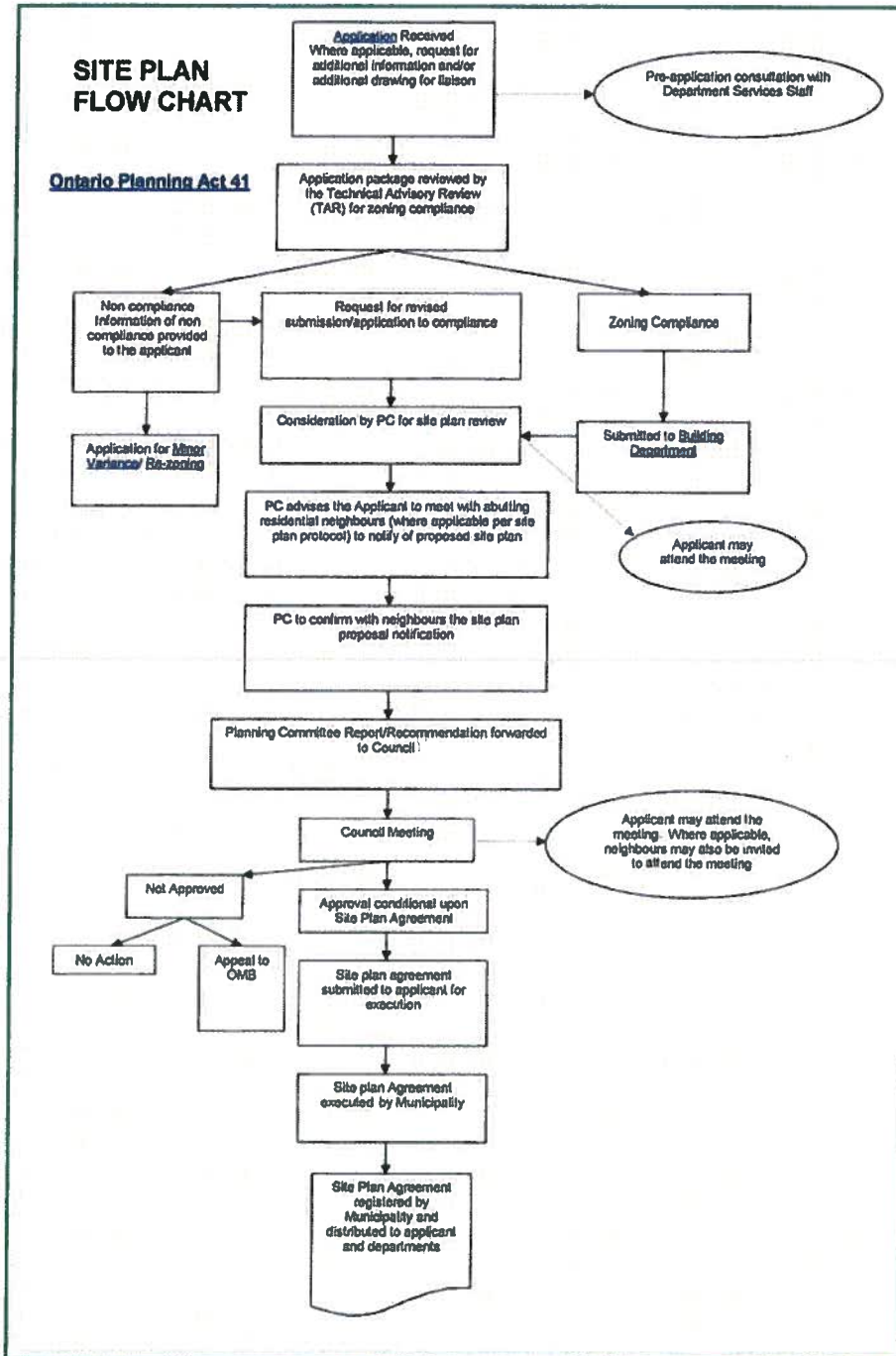
1. CONSTRUCTION CHECKLIST
2. SITE PLAN CHECKLIST
3. SUBDIVISION DEVELOPMENT CHECKLIST

APPENDIX A

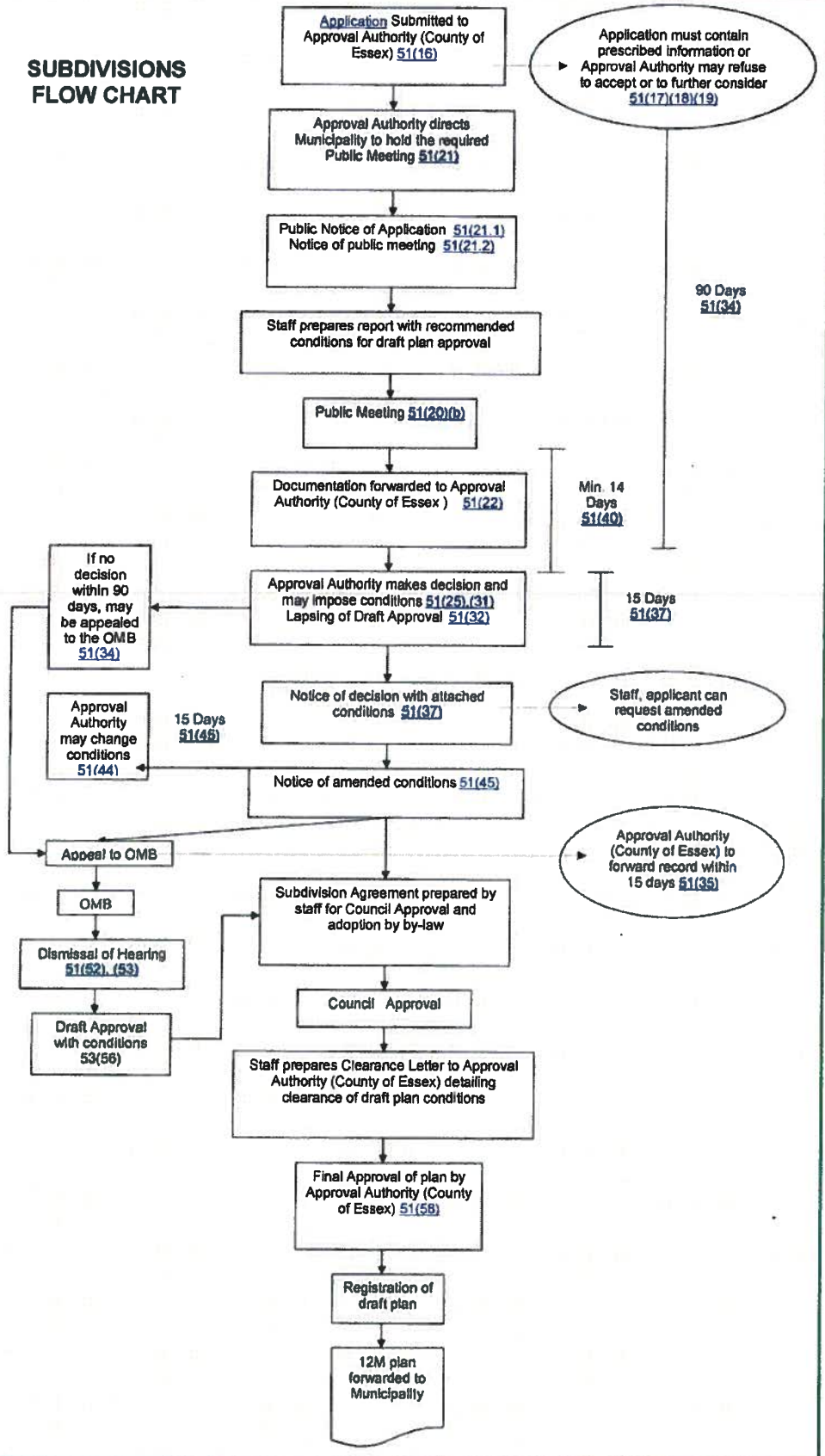
1. Development Flow Charts
2. Assumption and Acceptance of Services
3. Guidelines, Professional Engineers...1994
4. Irrevocable Letter of Credit
5. Community Mailbox Installation Guideline

SITE PLAN FLOW CHART

Ontario Planning Act 41

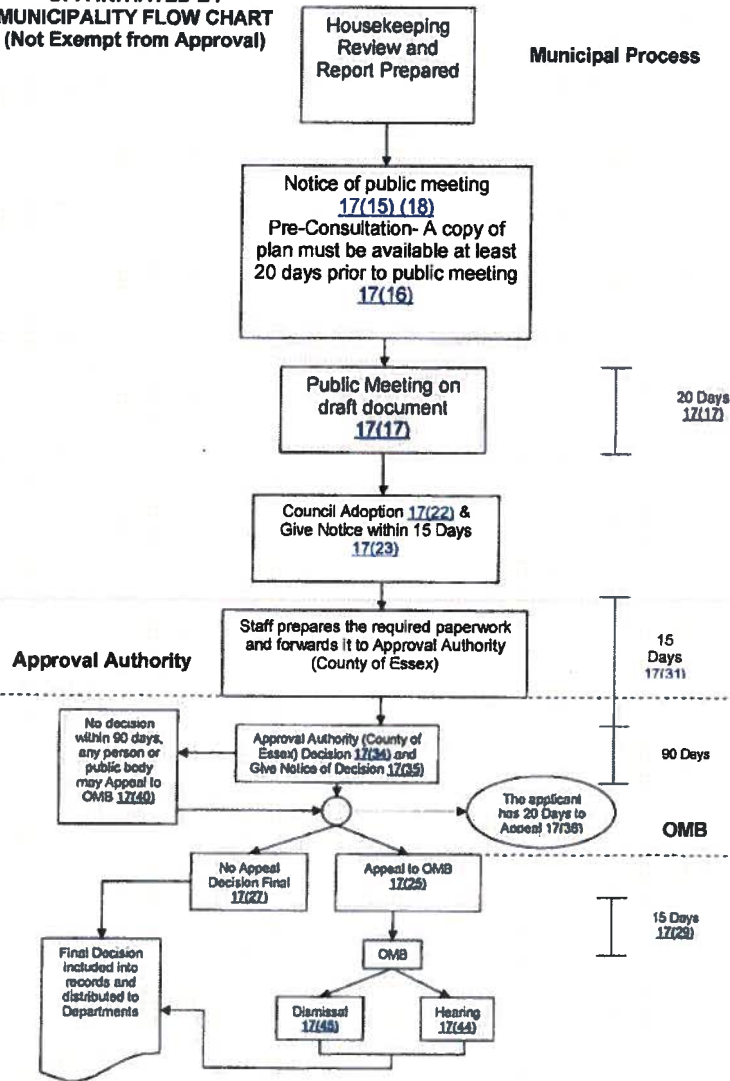


SUBDIVISIONS FLOW CHART

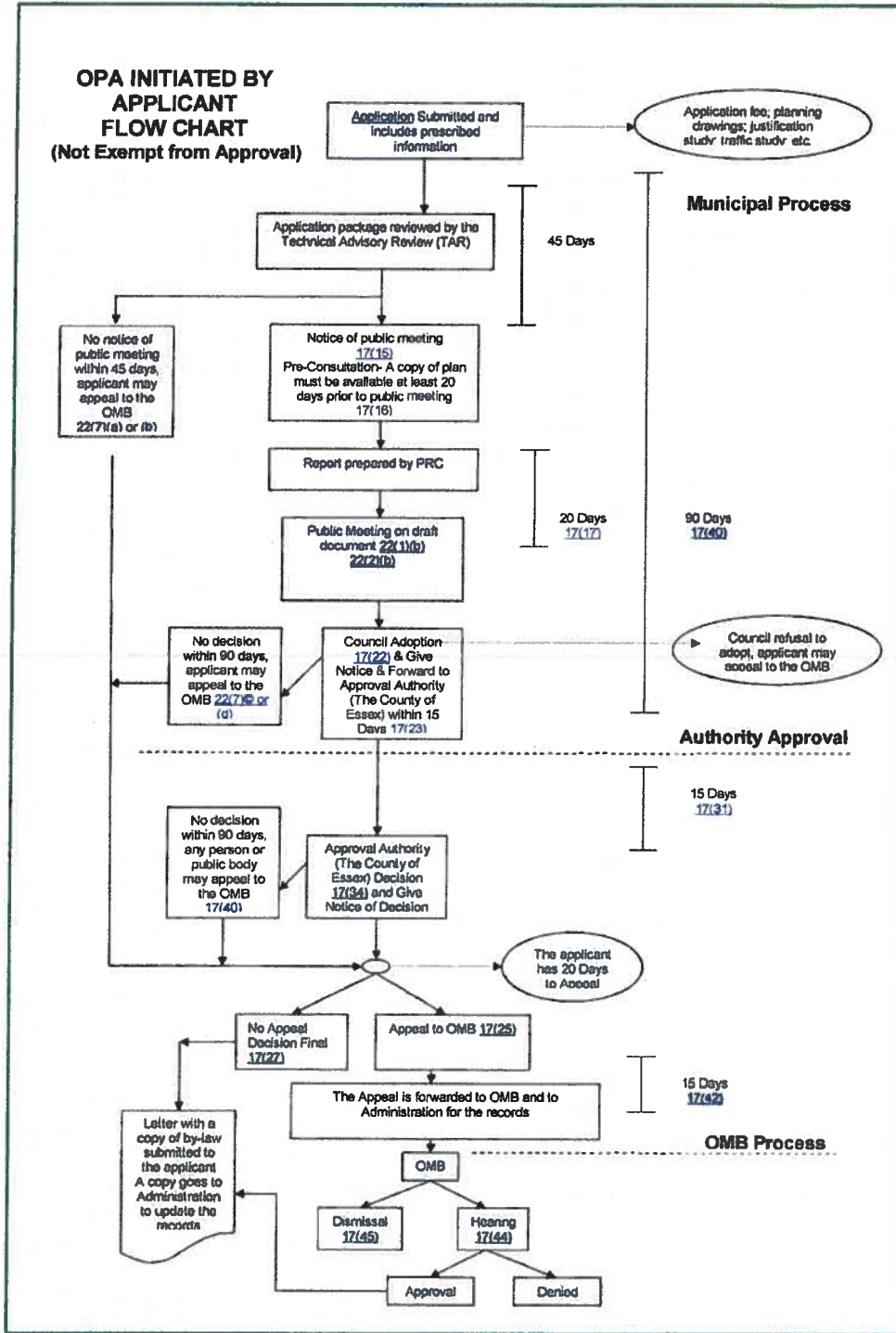


**OPA INITIATED BY
MUNICIPALITY FLOW CHART
(Not Exempt from Approval)**

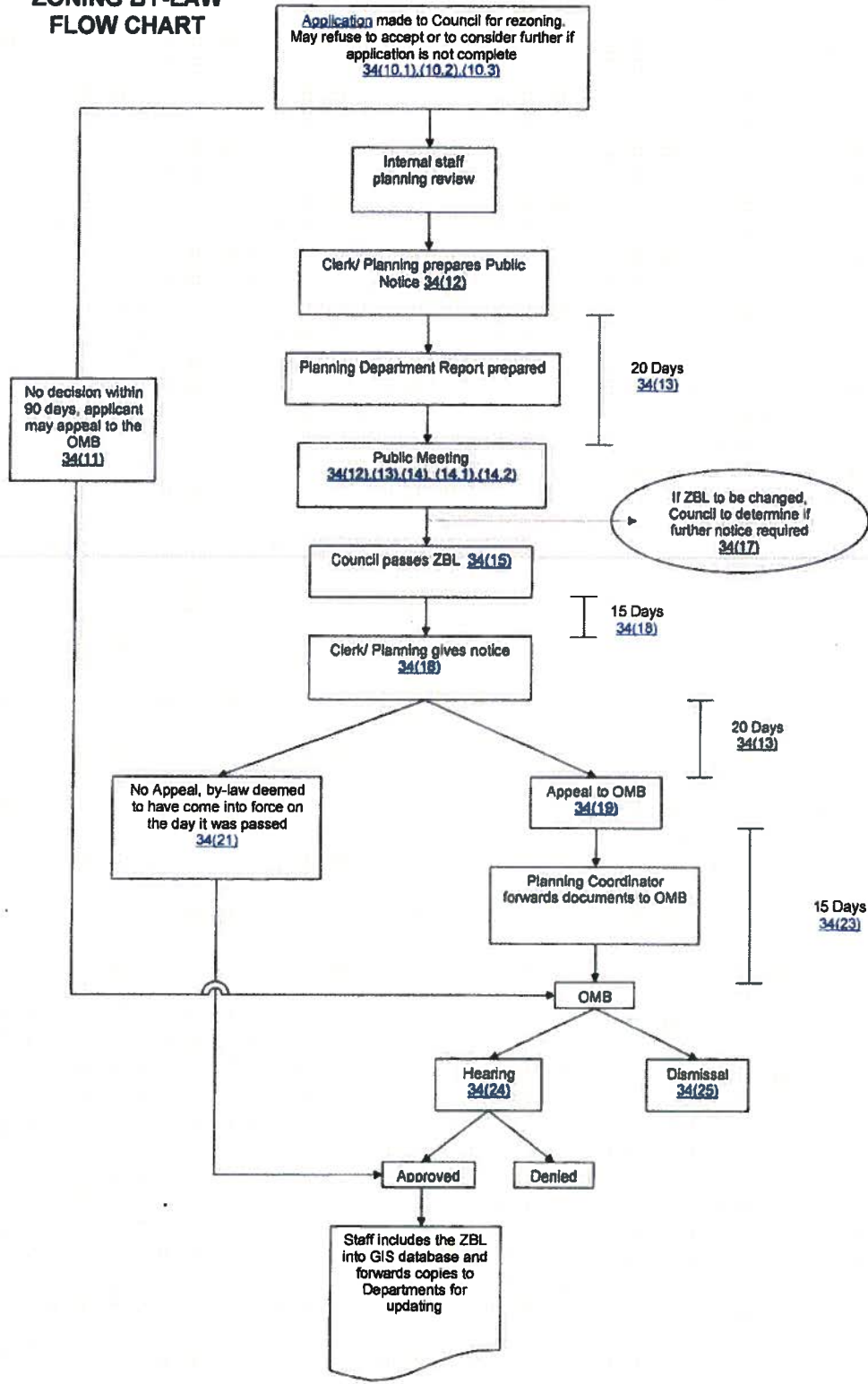
Municipal Process



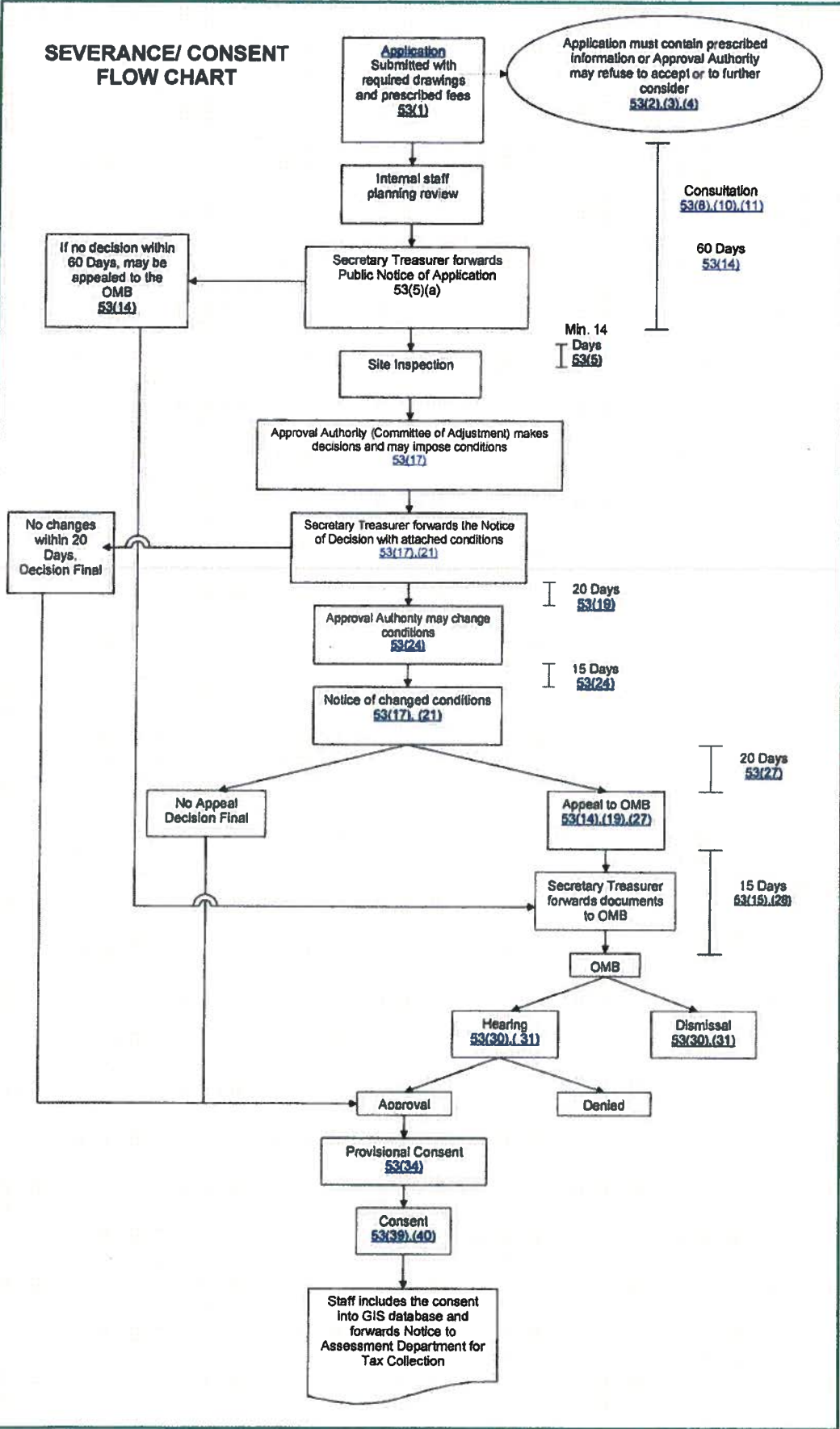
**OPA INITIATED BY APPLICANT
FLOW CHART
(Not Exempt from Approval)**



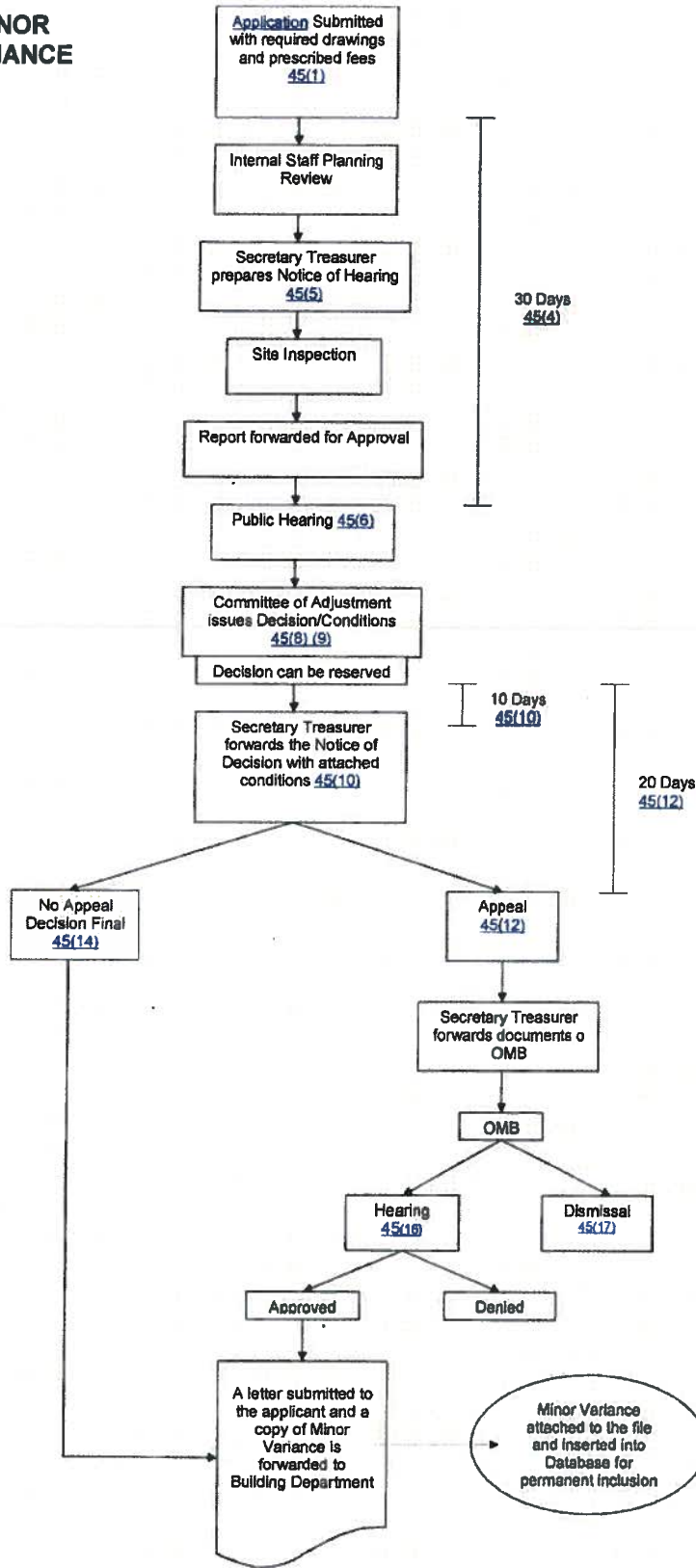
ZONING BY-LAW FLOW CHART



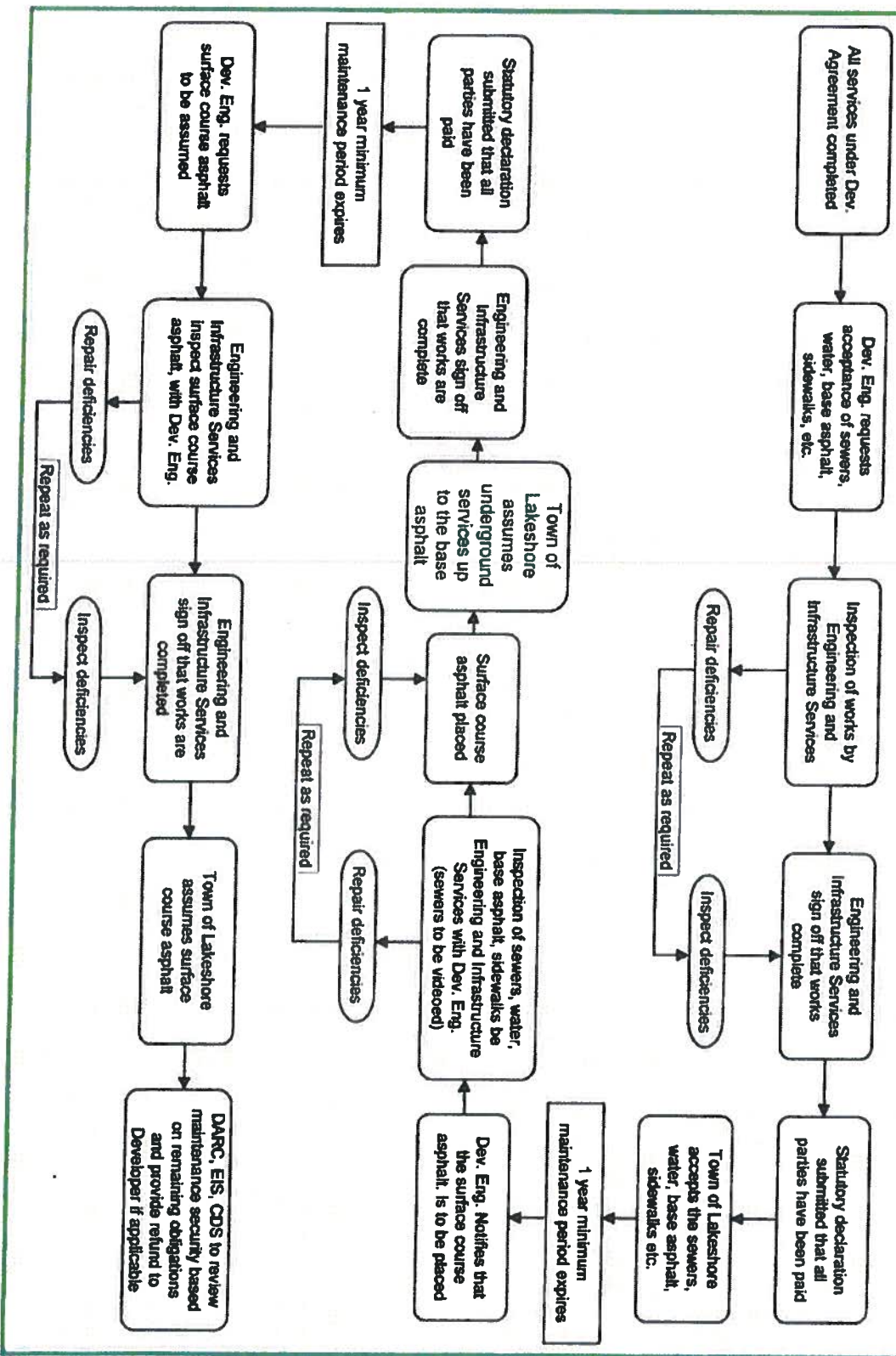
SEVERANCE/ CONSENT FLOW CHART



MINOR VARIANCE



ASSUMPTION AND ACCEPTANCE OF SERVICES



GUIDELINE

**Professional Engineers
Providing Land Development/
Redevelopment Engineering
Services**

1994

Published by
Association of Professional Engineers of Ontario

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SCOPE

This Professional Engineers Ontario guideline is for engineers providing land development or redevelopment professional engineering services, and for those responsible for regulatory review and appraisal of land development or redevelopment applications. It should be read in conjunction with the Foreword and Glossary common to all PEO guidelines.

1. PREDESIGN SERVICES

1.1 General

Pre-design services are generally provided before draft plan finalization. When engineers are not engaged before draft plan approval, these services should be provided before engineers undertake detailed design. Engineers should recognize and identify specific land development approval requirements and any concomitant constraints early in the land development process, and communicate these to the client, in order to minimize potential conflict and loss of valuable time, and to protect the client's financial interests.

Pre-design services may include advisory services, project familiarization and feasibility studies.

1.2 Advisory Services

These may include some or all of :

- ◆ determining the availability of municipal and other services;
- ◆ relating proposed land development servicing requirements to official, secondary and other approved plans;
- ◆ establishing design criteria for engineering works;
- ◆ recommending policies to implement and control development;
- ◆ consulting with regulatory authorities to coordinate infrastructure requirements;
- ◆ assessing the impact of policies on subdivision agreements;
- ◆ assessing boundary conditions and potential external improvements resulting from proposed development;
- ◆ preparing preliminary cost estimates for land purchase decisions;
- ◆ recommending a subsurface investigation and characterization program, including appropriate geo-environmental audits;
- ◆ reviewing existing agreements on cost sharing and/or front-ending, and advising on their implications;
- ◆ reviewing the nature, extent and time of required approvals for each stage of the proposed development;
- ◆ assessing the feasibility of developments relying on private sewage disposal and/or water supply systems;
- ◆ assessing storm drainage, temporary onsite storage and runoff water quality requirements, and
- ◆ advising on the potential limitations of environmental constraints, flood protection zones, hazard land designations, ecologically sensitive natural features and similar constraints.

1.3 Project Familiarization

This may include some or all of:

- ◆ reviewing municipal servicing capacity constraints;
- ◆ interagency coordination, as necessary;
- ◆ exploring cooperative approaches with adjacent owners;
- ◆ reviewing municipal practices for provision of stormwater quantity and quality control, according to guidelines established by the Ministry of Natural Resources and the appropriate conservation authorities, and
- ◆ determining project status and needs under the *Environmental Assessment Act*.

Engineers should become familiar with the project site, topography, drainage, existing municipal services, transportation infrastructure and draft plan proposals, in order to determine design objectives. Engineers should also deal with the appropriate regulatory authorities to determine or negotiate:

- ◆ information on existing and proposed municipal services, roads and other facilities;
- ◆ municipal standards and criteria for design and presentation of plans and proposals;
- ◆ municipal practice for providing such major services as: trunk sewers and watermains, roads and required widths and treatments, intersection signalization, grade separation structures and stream improvements, including requirements for fish habitat preservation and enhancement;
- ◆ municipal requirements for development or subdivision agreements;
- ◆ municipal policies on cost sharing and levies; and
- ◆ municipal and utility bonding requirements.

1.4 Feasibility Studies

Engineers should study appropriate alternative options for routes, major services, methods of construction and materials for the proposed land development, for capital cost and land economy. The feasibility study should demonstrate a clear understanding of the purpose, concept and limitations of the proposed development by considering:

- ◆ engineering design parameters;
- ◆ preliminary design briefs on viable alternatives;
- ◆ compliance of alternatives with engineering design parameters;
- ◆ requirements of other design professionals;
- ◆ resolution of unusual problems through creative approaches, including suggested changes to municipal standards;
- ◆ mechanisms to satisfy the requirements of jurisdictional authorities;
- ◆ preliminary estimates of capital costs for alternatives and staging, together with appropriate cost/benefit analyses and comparisons, including operating and maintenance, as required; and
- ◆ the need for additional qualified professional services, including those of hydrogeologists, geoenvironmentalists and fish biologists. In advising clients on additional professional services, engineers should prepare appropriate terms of reference, and review results in light of the alternatives being considered.

The engineer's report should describe preliminary design concepts, alternatives, constraints resolved or imposed, preliminary cost estimates and cost/benefit analyses. It should recommend an alternative with supporting rationale, and include documents, correspondence, drawings and other information required for detailed design of the selected alternative.

2. DETAILED DESIGN

2.1 General

Detailed design involves developing and preparing a final design, including standards and specifications, for economically constructing and operating all of the facilities within the development, as intended. Engineers should prepare surface grading and drainage plans, showing functional relationships between buildings, infrastructure and the developed environment. These should include details of stormwater detention, slope stability, erosion control during construction and, later, protection of fish habitat, and compliance with all natural and regulatory requirements.

2.2 Functional Report

This is the basis for detailed design and should be submitted to the client and the appropriate authorities, to obtain approval in principle before commencing final design. Functional reports should support the draft plan application, and include the following basic data in drawings and text:

- ◆ a copy of the draft plan, showing existing and proposed grades and surface features;
- ◆ a master watershed drainage plan, showing the routing of sanitary and storm drainage systems;
- ◆ water supplies, including domestic and fire flows and pressures;
- ◆ infrastructure design, pedestrian facilities, and basic dimensions of special structures;
- ◆ measures taken to comply with local and provincial jurisdictional requirements, including conservation authority requirements, and
- ◆ proposed construction scheduling and operational features and constraints.

2.3 Design Considerations

In preparing the final design, engineers should:

- ◆ develop detailed surface grading and drainage design criteria, incorporating municipal design requirements. This would include defining perimeter and internal lot grades and building elevations, perimeter block grades and all required drainage structures and swales. Engineers should also relate the design to final road grades and storm sewer design.
- ◆ conduct field surveys, to obtain profiles, cross-sections and topographical information for designing roadways, sewers, lot grading, surface grading and drainage, and to verify the accuracy of photogrammetric mapping. Field surveys should be undertaken after an Ontario land surveyor prepares a final plan of survey and stakeout of the road allowance and lot fabric, and extend beyond the limits of the subject lands, if such external information is significant to preparing the design. In subdivisions where extensive cuts and fills are required to comply with lot grades, engineered fill may be necessary. Engineers should assume responsibility for the placement of engineered fill, especially for services and building foundations. The control of engineered fill, or imported earth borrow, is critical to the design of private sewage disposal systems and private well installations. Engineers should aim to achieve an economic and practical balance between excavation and filling. They should also provide rough grading plans of the area, identifying all fill and cut sections larger than 400 mm, to minimize the dust nuisance to precompletion home occupants and the potential damage to infrastructure in the future.
- ◆ design and prepare flow sheets and hydrological and hydrogeological design briefs for surface and underground storm drainage systems and external drainage flow. Engineers should consider overland routing for emergency overflow and storms exceeding the design capacity of the storm sewer system, so that buildings are adequately protected.
- ◆ design the sanitary sewer system, to accommodate adequately the intended population density and land use, allowing for peak flow and low flow conditions, according to the appropriate regulatory requirements. Engineers should design sewage pumping stations forming part of the sanitary sewer system, to minimize future maintenance and operating costs, as well as initial capital cost.
- ◆ design the water distribution system, to provide domestic fire service appropriate to the land use and with adequate system security, according to good waterworks practice and fire underwriters' regulations;

- ◆ design the roadway system according to current standards and specifications and the geometric standards and criteria established for the development, including provisions for on- and off-street parking as approved. The roadway system design should include, as appropriate, considerations of pedestrian and community safety, including illumination, crosswalks, signalization and signage. Engineers should specify the pavement design and materials quality and compaction criteria.
- ◆ design grade separation structures and culverts, including associated retaining structures and approaches;
- ◆ incorporate appropriate considerations of ecology and tree preservation in the design, and
- ◆ propose architectural styles for buildings compatible with the intended development concept.

2.4 Drawings

Engineers should prepare contract drawings to the standards established, and referenced to an Ontario land surveyor's legal surveys, using the Canada Land Inventory coordinate grid system, where available.

Design drawings should indicate proposed road grades, existing ground contours, parcel dimensions, casements, service connection locations, surface appurtenance locations within the road allowance, existing and final grade elevations at lot corners and along block limits, internal final lot and block grades, embankments, structures, sales, driveway constraints, catchbasins and leads, building types and other relevant information, including the use of engineered fill. In anticipation of building construction and excavation, a rough grading plan may be required to achieve site balancing of earthworks most economically.

2.4.1

The general plan should present a summary of all proposed facilities and services, with street names and lot numbers related to the legal survey plan, registered or to be registered.

2.4.2

The plan and profile for each street should be drawn in sufficient detail to enable construction. The plans should show the locations of sewers, watermains, curbs, sidewalks, maintenance holes, catchbasins, hydrants, valves and other facilities or structures, including street names, lot numbers, lot widths, and reference to adjacent plans. The profile should show invert elevation of sewers (including maintenance hole connections), the length, grade and class of sewer pipe and bedding detail for each section, as well as the length and grade of each tangent or roadway section, the elevation of the existing ground and other relevant details.

2.4.3

The sanitary and storm drainage area plans should define the drainage areas and design criteria for sanitary and storm facilities.

2.4.4

Cross-sections and other standard drawings should include the design details of nonstandard construction, and refer to applicable standards and special provisions. Engineers should use supplementary drawings to illustrate the design of appurtenant structures, if these cannot readily be shown on the plan and profile, or on the general plan.

2.4.5

Surface grading and drainage control drawings, based on legal surveys, should define the requirements and restrictions on surface grading, drainage, and structures.

2.4.6

Utilities coordination drawings, if required, should show all above-ground features and known locations of underground services.

2.5 Schedules for Subdivision Agreement

Engineers should prepare schedules required by municipal authorities, for inclusion in the subdivision or land development/redevelopment agreement. These should include an estimate of costs for financial securities and insurance. Engineers should participate in preparing the subdivision agreement, related to the assumption of roads, and ensure that lot grading is carried out in accordance with design.

2.6 Draft Conditions

Engineers should assist in satisfying conditions of draft approval.

2.7 Control Procedures

Driveway construction over private lands is an area of significant concern in new residential subdivisions. Engineers should be proactive in supervising/controlling driveway grades to the established standards. Engineers should also provide advice on control procedures, and carry out all authorized procedures, including:

- ◆ reviewing, correcting and approving builder site plans, prepared in sufficient detail to provide exact grading and drainage definition for the lot or blocks in relationship to the proposed building and lot grading plan, including top of footing elevations;
- ◆ applying location information on the drawings for street lights and buried service utilities, and
- ◆ reviewing builders' plans for driveway locations and building setbacks for traffic visibility at corners.

2.8 Specifications

These should be complete, clear and concise, describing the work's general scope, various classes, method of measurement and payment. The document should follow normal specification practice, including special provisions and nonstandard sections for special elements in the contract. Nomenclature should be the same as that used in drawings.

2.9 Contract Documents

These should include general and special conditions, priorities, specifications and plans, in addition to forms of tender with estimates of quantities of materials and work required. Engineers should prepare a cost estimate following preparation of the tender documents but before tendering, for acceptance by the client. Plans, schedules and applications for approval should be submitted to the client and regulatory authorities, for review and approval. Engineers should communicate with the regulatory authorities, to discuss the design and provide explanations, help further the land development application's approval.

Engineers should participate in the tendering procedure and make recommendations on the award of the contract, based on the tender bids received.

2.10 Submission of Plans, Tender Call and Contract Award

Tenders should include details of all draft plan conditions, permits/approvals and the subdivision agreements required.

3. ADMINISTRATION DURING CONSTRUCTION

3.1 General

Engineers designing the project should provide general administration services during construction to completion. These usually include:

- ◆ administration of construction contracts for each contract, to ensure general compliance with plans and specifications, and
- ◆ other development-related office and field services exclusive of contract administration, when so required.

Engineers acting as regulators should administer the development agreement according to the rules and regulations imposed on the proposed development.

3.2 Administration

Administration during construction includes:

- ◆ preparing payment certificates and processing contractor requests and claims;
- ◆ ensuring that work is executed in general conformity with plans and specifications;
- ◆ considering and evaluating alternative methods, equipment and materials, to achieve the desired end results;
- ◆ monitoring schedules and budgets;
- ◆ preparing, in conjunction with regulatory or approving authorities, work deficiency lists;
- ◆ advising on, and coordinating installation of, servicing utilities;
- ◆ reviewing shop drawings and other proprietary specifications for general conformity to the intent of project design. Where such drawings bear the seal of a professional engineer, reliance will be placed on the designer's calculations, unless otherwise specifically stated in the review.
- ◆ preparing "as-built" drawings;
- ◆ organizing and recording site meetings and construction-related decisions, and
- ◆ arranging quality control testing and providing quality assurance.

3.3 Resident Services

Engineers may offer to provide resident staff for contract supervision, inspection and layout. The extent of the requirement for resident staff is determined by development agreement obligations, client objectives, contractor's competence, site conditions and other factors, separately or in combination. Engineers should, after taking all such factors into account, recommend the extent of resident supervision services required, avoiding duplication of any services provided by municipal authorities.

Site resident services may include some or all of:

- ◆ field layout, or checking the contractor's field layout;
- ◆ periodic or continuous supervision of construction, to ensure conformance with approved plans and agreements;
- ◆ materials, time and equipment auditing services, including assessment and cost estimation of any extras associated with change orders. Field measurements of quantities. Maintenance of daily diaries and work sheets, signed by the contractor and the resident staff.
- ◆ issuance of change initiation orders to the client, where justified by site conditions, with adequate explanation and proposed methods for monitoring the change order;
- ◆ inspection of the works to confirm conformity with regulatory/approved conditions;
- ◆ follow-up inspection, audit and approval of corrective actions and works, and
- ◆ quality control and assurance testing, using independent laboratories and agencies as appropriate, for manufactured and natural products and materials specified.

4. RELATED SERVICES

4.1 General

Engineers or selected subconsultants may perform the following related services, under agreement with the client:

- ◆ legal, topographical, condition and location surveys of existing utilities and conduits;
- ◆ geoenvironmental audits and subsurface characterization studies;
- ◆ environmental impact surveys and studies; and
- ◆ natural resource inventories and surveys, including fauna and flora characterization for ecologically sensitive developments.

4.2 Public Hearings

Engineers may be required to conduct public hearings, to publicize the project and inform the public and affected communities on the scope of the proposed development. In such cases, engineers should prepare plans of the proposed development, and arrange for public hearings by suitable advertisement and notice, in concurrence with the affected municipal, provincial and other regulatory authorities.

Engineers should conduct or assist with the conduct of such public hearings and, from the input received, propose conceptual or design alterations that satisfy public and regulatory concerns and the client's development objectives, through negotiations and additional studies if necessary.

4.3 Additional Design Services

Engineers may be required to provide the following additional services in connection with proposed land developments:

- ◆ change or add to the design, specifications or contract documents, as dictated by circumstances beyond the engineer's control;
- ◆ review and assess the impact of proposed adjacent developments and the requirements of regulatory authorities;
- ◆ conduct storm water management studies;
- ◆ provide engineering services required under the *Environmental Assessment Act*;
- ◆ review or prepare reinforcing bar schedules and shop drawings;
- ◆ review or provide town planning services, and
- ◆ retain specialized services (e.g., geotechnical, geoenvironmental, architectural, landscaping, inspection and testing, quality control, project management, project audit) on behalf of the client.

4.4 Additional Administrative Services

Engineers may also be required to provide additional administrative services, including:

- ◆ easement negotiations;
- ◆ participation in legal, zoning and similar meetings;
- ◆ coordinating with utilities/services regarding installation schedules and unique locations;
- ◆ preparing cost sharing agreements;
- ◆ preparing detailed cost analysis, procuring and scheduling special applications for grants, loans, tax rebates and contributions from municipalities and other developers;
- ◆ administering financial arrangements;

- ◆ administering agreements of purchase and sale with builders;
- ◆ calculating and verifying extended footing charges;
- ◆ coordinating separate construction contracts and other consultants' work;
- ◆ attending special site meetings, dealing with extraordinary or extensive field problems, or situations not anticipated during design;
- ◆ providing computer services, except where a computer is used for design under the percentage schedule, or for the consulting engineer's normal office administration;
- ◆ providing operating manuals, plant start-up and operating personnel trainings;
- ◆ preparing special theoretical designs, reports and documents required for a project's approval and financing;
- ◆ providing translation of contractual documents or reports, conversion to metric or imperial units, and preparation of drawings for reduction, and
- ◆ assisting in having all constructed works assumed by the agencies having jurisdiction.

4.5 Additional Field Services

The following are examples of additional field services:

- ◆ arranging for subsurface environmental audits, and soil and groundwater testings;
- ◆ conducting surveys, to ensure that buildings are constructed in conformity with approved site and lot grading plans;
- ◆ conducting surveys and inspections, to ensure conformity of lot grades with approved plans, note deficiencies, supervise, and inspect rectification, and
- ◆ certifying that construction and grading are in accordance with the approved plans, as required.

4.6 Administering Subdivision and Development Agreements

When required by clients, engineers should:

- ◆ maintain sufficiently detailed records of construction progress that municipalities can authorize adjustments in subdivision securities;
- ◆ ensure that the scheduling and order of construction conforms to the requirements of the subdivision agreement and the appropriate regulatory authority, and will achieve the most efficient and economical end product;
- ◆ maintain records and follow-up procedures, to ensure that securities, liability coverage, etc., are maintained in, and reduced to, the correct amounts and form required during the term of the development agreement;
- ◆ ensure that full-time inspection services are being carried out by either their resident staff or municipal inspectors;
- ◆ assume responsibility for ensuring that terms of the subdivision agreement are being followed, and
- ◆ provide written declaration to the local municipality, stating that all subdivision works have been constructed according to the subdivision agreement, approved engineering drawings and the municipality's design criteria before "final acceptance" under municipal bylaws.



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Financial Institution

IRREVOCABLE STANDBY LETTER OF CREDIT

Month Day Year

Town of Lakeshore
419 Notre Dame
Belle River, ON
N0R 1A0

Letter of Credit No. _____

We hereby authorize you to draw on the **Financial Institution** for the account of our customer **Name**, up to an aggregate amount of **Amount** available on demand as follows:

Pursuant to the request of our customer, we **Financial Institution** hereby establish and give to you an Irrevocable Standby Letter of Credit (the "Credit") in your favour in the total amount of **Total** 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 inquiring whether you have a right as between yourself and our Customer to make such demand and without recognizing any claim of our customer.

Provided, however, that you are to deliver to us at such time as written demand for payment is made upon us a certificate purported to be signed by an authorized officer of the Town of Lakeshore, agreeing and / or confirming that monies drawn pursuant to this Credit No. _____ will be retained and used by you to meet our Customer's obligations in connection with Land Development.

The amount of this Credit shall be reduced from time to time as advised by notice in writing given to this branch from time to time by you.

This credit will continue to the **Date** and will expire on that date unless you call for payment of the full amount outstanding under this letter at any time up to the close of the business on that date.

It is a condition of this Credit that it shall be deemed to be automatically extended for one year from the present or any future expiration date hereof, unless thirty days before any such date we notify you in writing by Registered Mail that we elect not to consider this Credit renewed for any such additional period. Upon receipt by you of such notice, you may draw by means of your demand accompanied by your written certification, that the amount will be retained and used by you to meet obligations incurred or to be incurred in connection with the Agreement.

THIS LETTER OF CREDIT IS ISSUED SUBJECT TO THE UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS (1993 REVISION), ICC PUBLICATION NO 500.

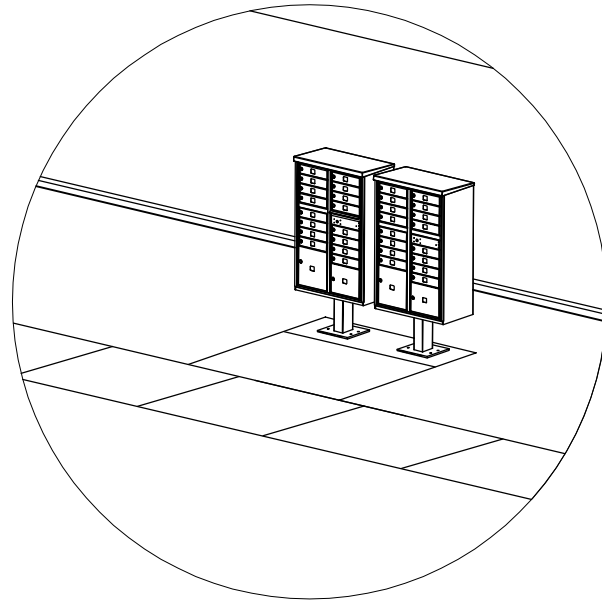
Financial Institution

Name:
Title:

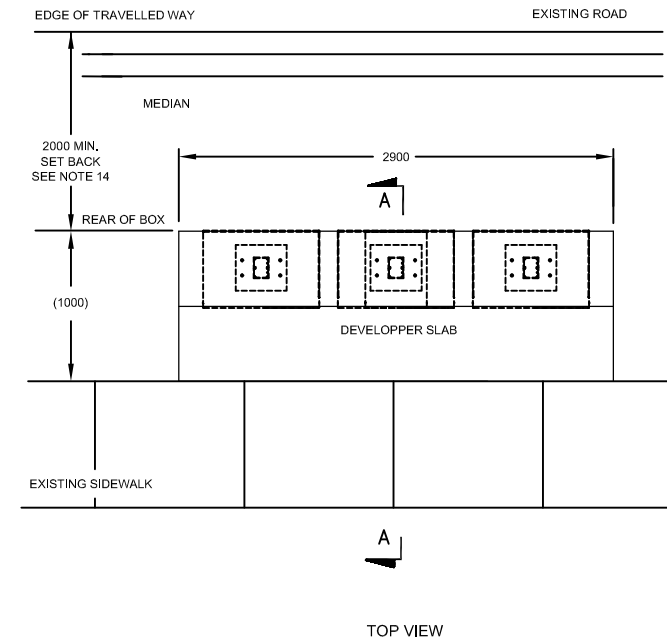
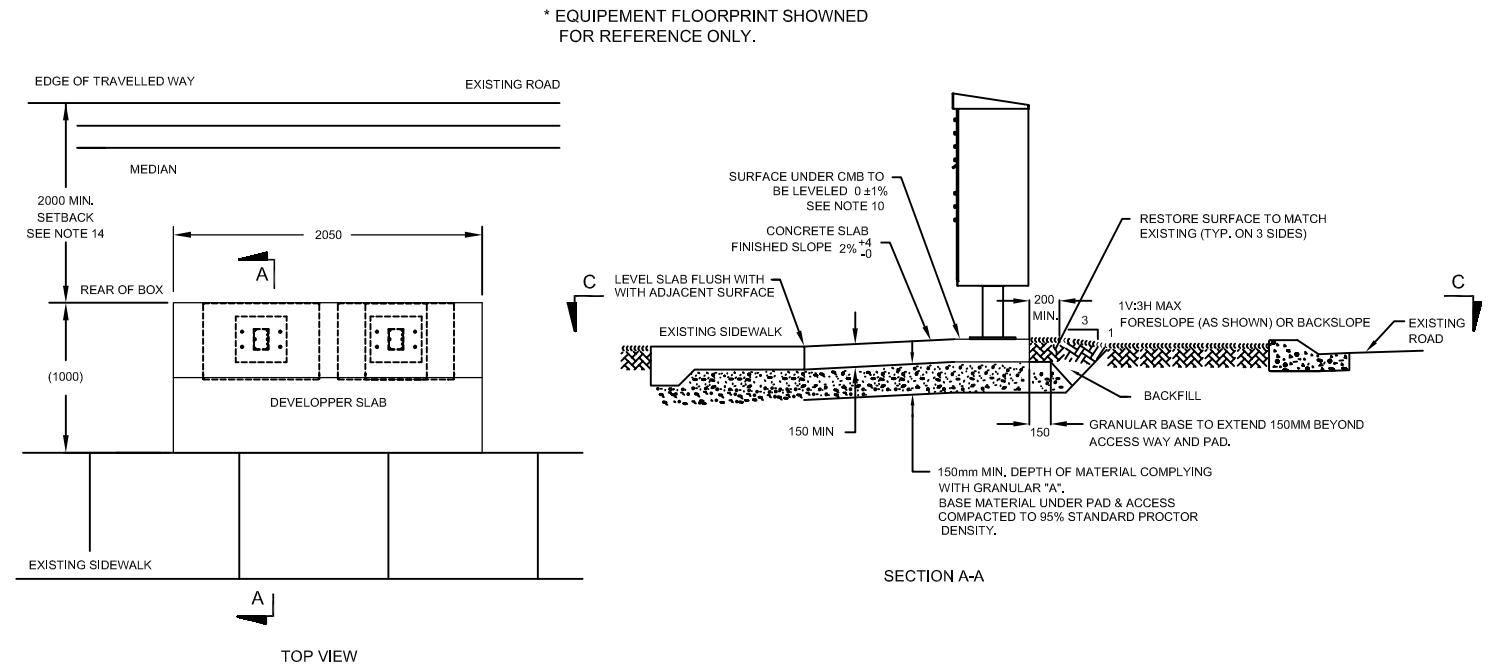
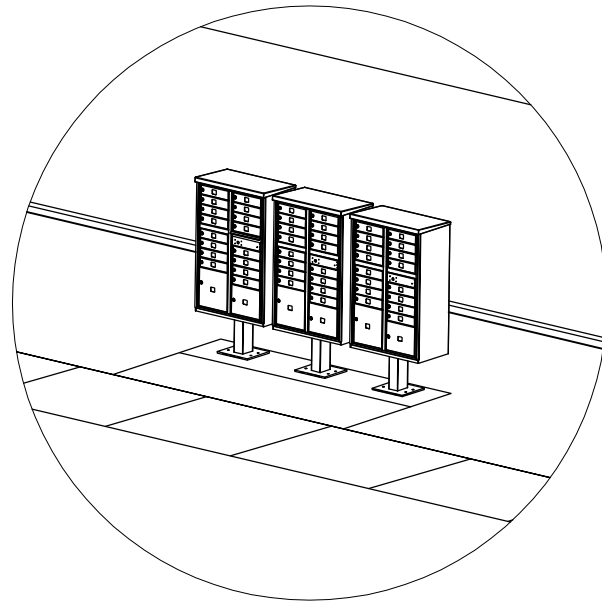
Name:
Title:

NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE. ABIDE BY LOCAL MUNICIPAL BY-LAWS AND REGULATORY AGENCIES THAT MAY AFFECT THE WORK.
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5. GRANULAR BASE SHALL BE PLACED ON SOIL CAPABLE OF SAFELY SUSTAINING A BEARING PRESSURE OF NOT LESS THAN 30 kPa.
6. CONCRETE CONSTRUCTION SHALL CONFORM TO CSA A23.1.
7. CONCRETE TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH CSA A23.1 AND CSA 23.2.
8. CSA A23.1 CONCRETE EXPOSURE CLASSIFICATION TO BE C-1 WITH THE FOLLOWING PROPERTIES:
 - MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 35 MPA
 - MINIMUM WATER TO CEMENTING MATERIALS RATIO: 0.40
 - MAXIMUM COARSE AGGREGATE SIZE: 20 mm
 - MAXIMUM SLUMP: 90 mm
 - AIR CONTENT: 5% TO 8%
9. SURFACE OF SLAB TO BE SLOPED 2% -0/+4% TO THE NEAREST PLUVIAL DRAIN.
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12. APPLY PIGMENTED CURING COMPOUND TO SURFACE OR REBAR OF SLAB IN ACCORDANCE WITH ASTM C309 TYPE 2 (WHITE COLOUR), CLASS B (RESIN).
13. PROVIDE A MINIMUM SETBACK DISTANCE OF 2000 mm FROM ANY EDGE OF MAILBOX TO NEAREST EDGE OF TRAVELLED ROADWAY.
14. IF THERE IS A VERTICAL CURB, SETBACK CAN BE REDUCED TO 1800mm FROM CMB TO EDGE OF CURB. THIS DISTANCE CAN ALSO BE REDUCED DOWN TO 1200mm ONLY IF ROAD IS NOT USED AS A THRU ROAD OR THERE IS A BARRIER PROTECTING THE TRAVELLED SIDE.
15. ALL SITE LOCATIONS REQUIRE CPC AND MUNICIPAL APPROVAL.
16. IF SITE CONDITIONS LIMIT PLACEMENT, CONTACT CPC FOR ASSISTANCE.
17. LARGER PADS AND NUMBER OF BOXES PERMITTED WITH CPC INPUT.



COMMUNITY MAILBOX SHOWN WITH PEDESTAL INSTALLATION. PRECAST CONCRETE BALLASTED BASE COULD ALSO BE USED.



SIDEWALK BLVD INSTALLATION

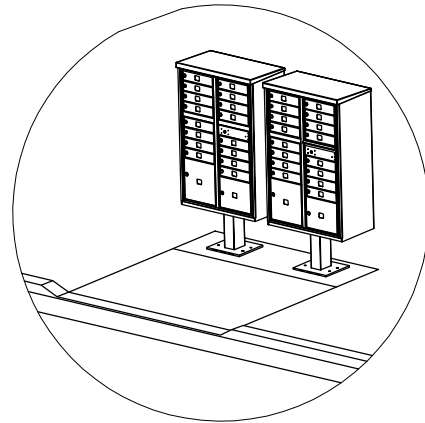
TOLERANCES
 UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MILLIMETERS.
 SAUF SI SPÉCIFICATIONS CONTRAIRES DIMENSIONS SONT EN MILLIMÈTRES

DEC.	ANGLES	CONFORMS TO
X ±1	±1°	CONFORME À
XX ±3		CONFORME À
XXX ±15		CONFORME À

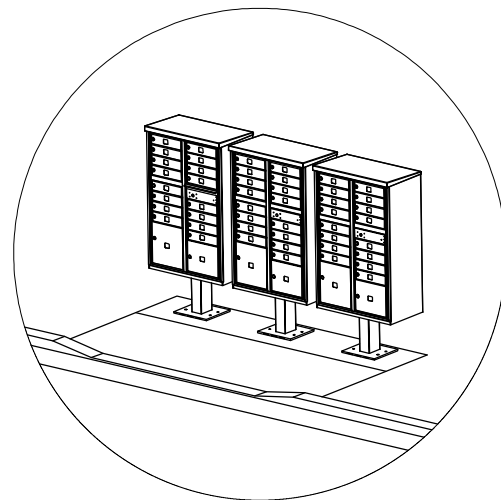
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# REV		PAR	VER	RG	CCD
DESCRIPTION					
ENGINEERING SERVICES / SERVICES D'INGÉNIÈRE					DATE
CREATED BY / CRÉÉ PAR					DD-MM-YYYY
CHECKED BY / VÉRIFIÉ PAR					JJ-MM-AAAA
ENGINEERING AUTH. / RESP. DU GÉNIE					
PROJECT / PROJET					
CPC ID: E10X-ENG-08					
TITLE / TITRE: DEVELOPER PROVIDED CONCRETE PAD SPECIFICATIONS - BOULEVARD INSTALLATION					
SCALE / ÉCHELLE: NTS	SHEET / FEUILLE: 1 OF / DE 1		REV: 01		

NOTES:

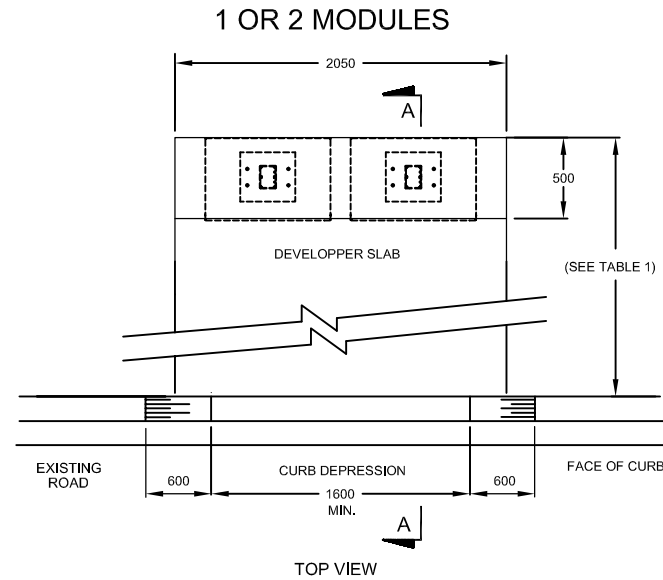
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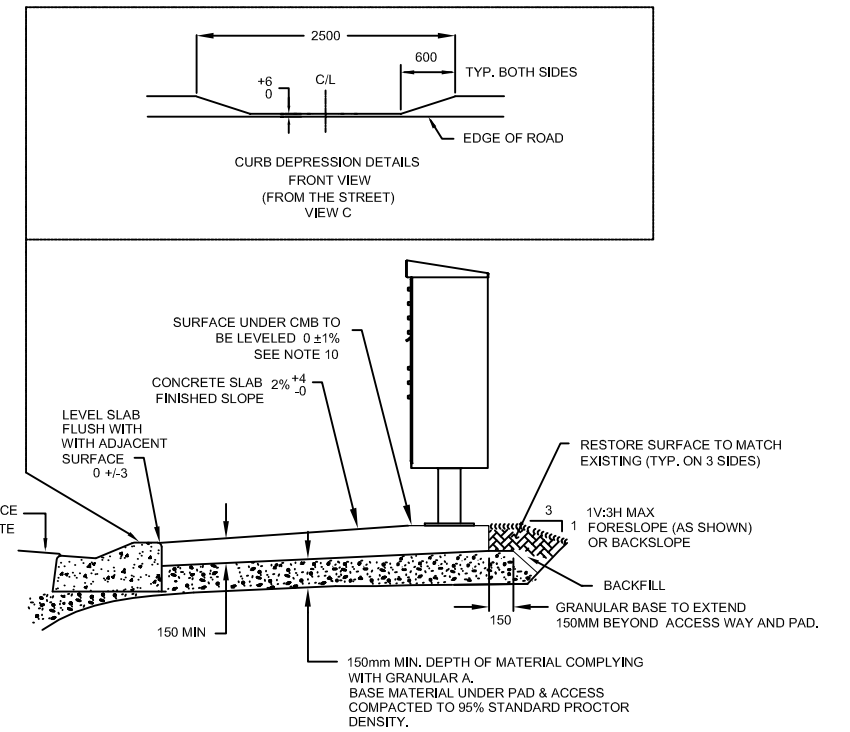
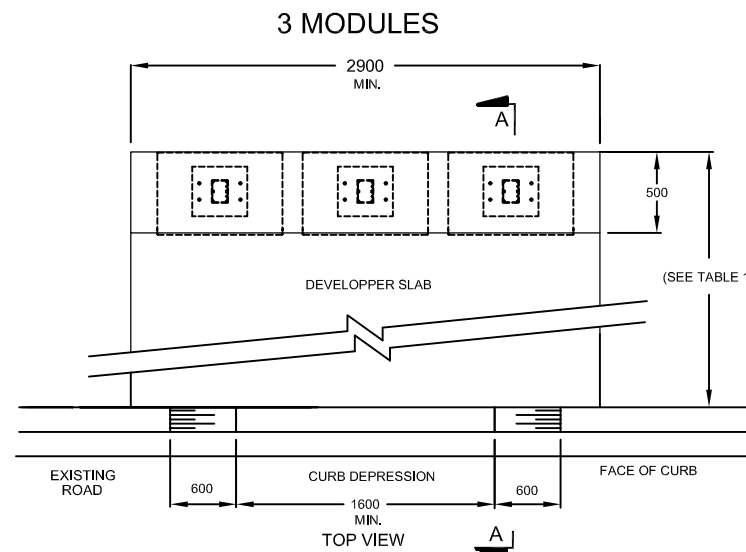
COMMUNITY MAILBOX SHOWN WITH PEDESTAL INSTALLATION. PRECAST CONCRETE BALLASTED BASE COULD ALSO BE USED.



* EQUIPMENT FLOORPRINT SHOWN FOR REFERENCE ONLY.



ROAD FACING



SECTION A-A

TABLE 1

TYPE OF CURB / TYPE DE BORDURE	PAD DEPTH / PROFONDEUR DE BORDURE	**PAD DEPTH / PROFONDEUR DE BORDURE
road/route MG 20 BORDURE VERTICALE / BARRIER CURB	2100 mm	1500mm
road/route MG 20 BORDURE DE BETON CANIVEAU / BARRIER/GUTTER CURB	1700mm	1100mm
road/route MG 20 BORDURE FARNCHISSABLE / MOUNTABLE CURB	2200mm	N/A

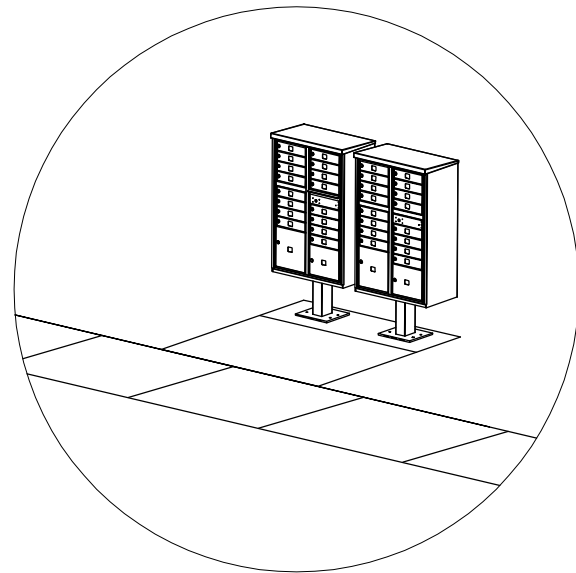
**IF ROAD IS NOT USED AS A THROUGH ROAD /
LORSQUE LA ROUTE NEST PAS UTILISE A
TITRE DE CHEMIN TRANSIT

TOLERANCES
 UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MILLIMETERS,
 SAUF SI SPECIFICATIONS CONTRAIRES DIMENSIONS SONT EN MILLIMETRES
 DEC. ANGLES
 X .±1 ±1° CONFORMS TO
 XX ±3 CONFORME A
 XXX ±15 CSA B75.2

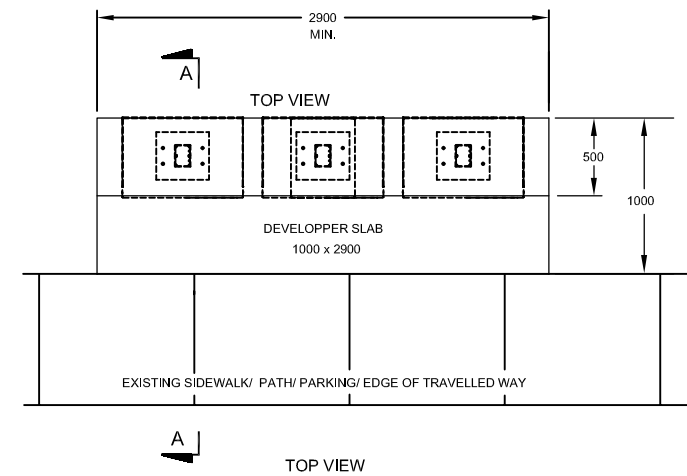
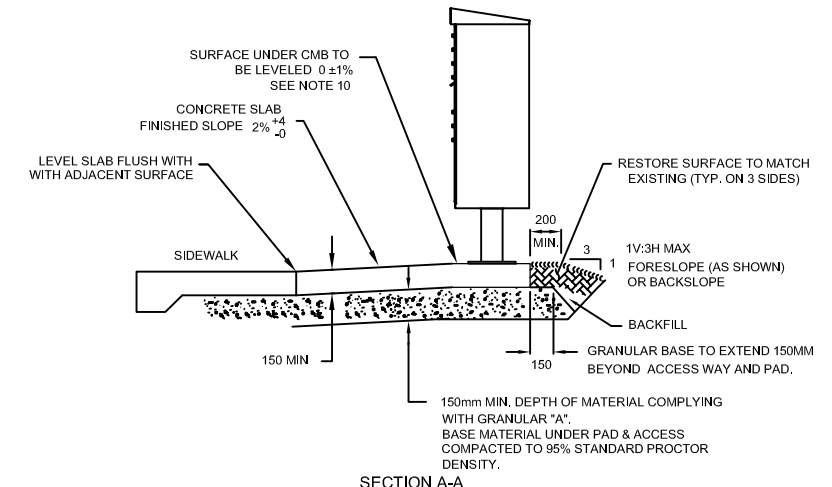
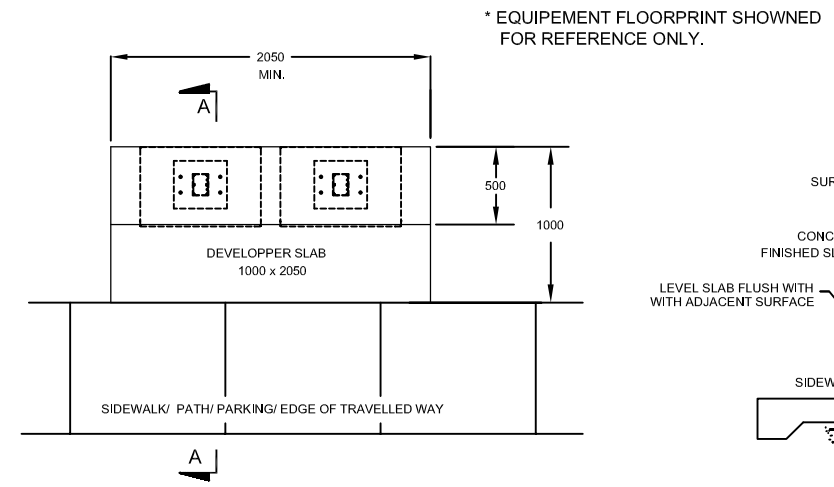
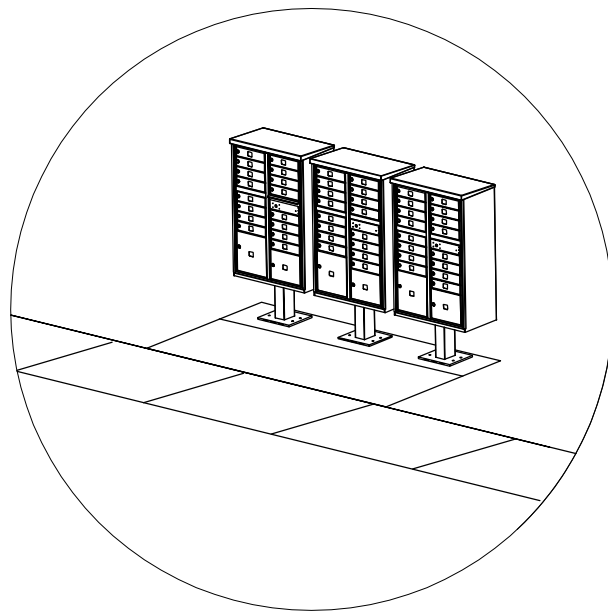
REV # # REV	DATE	BY PAR	CHKD VER	EA RG	DCC CCD
DESCRIPTION					
CANADA POSTES POST CANADA					
ENGINEERING SERVICES / SERVICES D'INGÉNIÈRE					DATE DD-MM-YYYY JJ-MM-AAAA
CREATED BY CRÉÉ PAR	M. ALLARD				20-06-2014
CHECKED BY VÉRIFIÉ PAR	P. BENOIT				20-06-2014
ENGINEERING AUTH. RESP. DU GÉNIE	T. MACGILLIVRAY				20-06-2014
PROJECT PROJET					
CPC ID E10X-ENG-06					
TITLE TITRE DEVELOPER PROVIDED CONCRETE PAD SPECIFICATIONS ROAD FACING INSTALLATION					
SCALE ÉCHELLE	NTS	SHEET FEUILLE	1	OF DE	1
					REV: 01

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COMMUNITY MAILBOX SHOWN WITH PEDESTAL INSTALLATION. PRECAST CONCRETE BALLASTED BASE COULD ALSO BE USED.



SIDEWALK ROAD FACING

TOLERANCES
 UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MILLIMETERS.
 SAUF SI SPÉCIFICATIONS CONTRAIRES DIMENSIONS SONT EN MILLIMÈTRES

DEC.	ANGLES	CONFORMES TO
X ±1	±1°	CONFORME À
XX ±3		CONFORME À
XXX ±15		CSA B75.2

REV #	DATE	BY	CHKD	EA	DCC
# REV		PAR	VER	RG	CCD
DESCRIPTION					
ENGINEERING SERVICES / SERVICES D'INGÉNIÈRE					DATE
CREATED BY / CRÉÉ PAR					JJ-MM-AAAA
CHECKED BY / VÉRIFIÉ PAR					20-06-2014
ENGINEERING AUTH. / RESP. DU GÉNIE					20-06-2014
PROJECT / PROJET					
CPC ID: E10X-ENG-07					
TITLE / TITRE: DEVELOPER PROVIDED CONCRETE PAD SPECIFICATIONS - SIDEWALK INSTALLATION					
SCALE / ÉCHELLE	NTS	SHEET / FEUILLE	1 OF / DE	1	REV: 01

APPENDIX B
TYPICAL AGREEMENTS

1. Typical Site Plan Agreement
2. Typical Subdivision Agreement

SITE PLAN AGREEMENT

THIS AGREEMENT made (in triplicate) this day of _____, 20__.

BETWEEN:

THE CORPORATION OF THE TOWN OF LAKESHORE,
(hereinafter called the "Corporation"),

OF THE FIRST PART

-and-

XYZ DEVELOPMENTS INC.
(hereinafter called the "Owner"),

OF THE SECOND PART

WHEREAS the Corporation has enacted a By-law designating the lands described in Schedule "A" hereto annexed, (hereinafter the "Subject Lands") as a Site Plan Control Area pursuant to Section 41 of the *Planning Act*, R.S.O. 1990, c.P.13, as amended (hereinafter the "Act");

AND WHEREAS the Owner is the registered owner of the Subject Lands and has applied to Site Plan Approval pursuant to the Act;

AND WHEREAS Council of the Corporation has approved the site plans submitted by the Developer subject to certain conditions in accordance with the provisions of the Act which approval is evidenced by the authorization and execution of this Agreement;

NOW THEREFORE in consideration of the premises and other good and valuable consideration, the receipt and sufficiency whereof the parties irrevocably acknowledge, the parties agree as follows:

1. The Parties warrant that the recitals hereto are true and agree that the same are incorporated into this agreement as though repeated herein.
2. The Owner agrees to provide and maintain, for the life of the development at the Owner's entire expense and to the Corporation's entire satisfaction, all buildings, sidewalks, driveways, parking facilities, buffering, landscaping, lighting, fencing, grading, drainage, stormwater management, road improvements, any necessary service connections, easements and other related items in accordance with drawings listed in Schedule "B" to this agreement ("Approved Drawings") and the Corporation's Development Manual as revised _____, 20____.
3. The Owner agrees to satisfy each of the terms and conditions set forth in Schedule "C" to this agreement.
4. The Owner shall convey or dedicate, upon demand without cost and free of encumbrances, any and all easements, grants, conveyances and reserves as may be required by the Corporation, Hydro One, Bell Canada and Union Gas in, through, over and under the Subject Lands and as may be required for drainage purposes, sewers, hydro, gas, watermains and telephone.
5. The fees, expenses and charges of the Corporation for the preparation and enforcement of this Agreement shall be payable by the Owner to the Corporation upon demand.
6. All works required herein, unless otherwise stated, shall be completed within one hundred and eighty (180) days of the date of execution of this Agreement, provided however, that the said completion date may be extended with the approval of the Corporation. The granting of an extension shall be in the sole discretion of the Corporation and will be conditional upon the recalculation of all outstanding monies owed to the Corporation by the Owner pursuant to this Agreement. In this paragraph recalculation means the addition of a simple interest charge based on the average annual rate of debentures issued by the Corporation in the one year period to the terminal date being so extended.

7. All facilities and matters required by this Agreement shall be provided and maintained by the Owner at the Owner's sole risk and expense to the satisfaction of the Corporation and in default thereof and without limiting other remedies available to the Corporation, the provisions of Section 446 of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended shall apply.

If any matter or thing required to be done by this Agreement is in default and such default continues, in addition to other remedies available to it, the Corporation may direct that such matter or thing be done at the expense of the Owner and the Corporation may recover the expense incurred in doing it through municipal taxes and the Owner hereby authorizes the Corporation to enter upon the said land to do such matters or things.

8. This Agreement shall be binding upon the Owner and the Owner's heirs, executors, administrators, successors and assigns and the Owner from time to time of the Subject Lands. This Agreement may be amended at any time with the consent of the Corporation and the registered Owner of the Subject Lands at the time of such amendment.

9. If any term, covenant or condition of this Agreement is, to any extent, declared invalid or unenforceable, the remainder of this Agreement shall not be affected thereby and each term, covenant or condition of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

10. The Owner agrees to pay all municipal taxes pertaining to the Subject Lands in full at the execution of the Agreement.

11. The Owner hereby consents to the registration of this Agreement on the title of the Subject Lands.

12. This Agreement shall enure to the benefits of the parties hereto, their successors and assigns.

IN WITNESS THEREOF the said parties hereto have hereunto affixed their signatures and corporate seals attested to by the hands of their property officers, duly authorized in that behalf.

XYZ DEVELOPMENTS INC.

per: _____
President

I have the authority to bind the Corporation.

**THE CORPORATION OF THE TOWN OF
LAKESHORE**

per: _____
Mayor

per: _____
Clerk

We have authority to bind the Corporation.

SCHEDULE "A"
TO SITE PLAN AGREEMENT BETWEEN THE TOWN OF LAKESHORE
AND XYZ DEVELOPMENTS INC.

LEGAL DESCRIPTION

LAND TITLES DIVISION OF ESSEX (12)

SUBJECT

SCHEDULE "B"
TO SITE PLAN AGREEMENT BETWEEN THE TOWN OF LAKESHORE
AND XYZ DEVELOPMENTS INC.

APPROVED DRAWINGS

Drawing No.	Title	Author	Date

SCHEDULE

SCHEDULE "C"
TO SITE PLAN AGREEMENT BETWEEN THE TOWN OF LAKESHORE
AND INC.

TERMS AND CONDITIONS

Lot Grading Plan

1. The Owner shall submit to the satisfaction of the Corporation's Chief Building Official, a lot grading plan covering the Subject Lands for the Chief Building Official's approval prior to the issuance of any building permits. The owner shall ensure that the drainage of the Subject Lands shall not affect adjacent properties.

Signs

2. All signs proposed to be erected or placed on the Subject Lands shall comply with the Corporation's Sign By-law.

On-Site Traffic Signage

3. The Owner shall provide on-site traffic signage and pavement markings to the satisfaction of the Corporation.

Dirt and Debris

4. The Owner shall keep the public highways adjacent to the Subject Lands free from dirt and debris from the demolition and construction processes.

Repair of Highway

5. Any curbs, gutters, pavements or landscaped areas on the public highway that are damaged during demolition or construction on the Subject Lands shall be restored by the Owner at the Owner's expense and to the satisfaction of the Corporation.

Driveway Approaches and Parking Areas

6. The Owner shall construct driveway approaches in such manner, widths and location as approved by the Corporation and the County of Essex.

Driveway/Access Permits

7. The Owner shall obtain an access permit for driveway approaches where necessary.

Lighting

8. The Owner shall provide a lighting plan of all the parking area and buildings as shown on the Approved Drawings as approved by the Engineering Department. Lights used for the aforementioned illumination shall be arranged so as to divert the light away from adjacent properties.

Parking

9. The Owner shall provide adequate on-site parking in accordance with the Corporation's Zoning By-law, as amended, and as shown on the Approved Drawings.

Landscaping

10. The Owner shall install and maintain all landscaping features shown on the Approved Drawings and as approved by the Chief Building Official.

Fire Protection

11. The Owner shall, if required by the Building Code, provide a water supply for fire fighting purposes in accordance with the Insurance Service Office Guidelines and Tables and to the satisfaction of the Corporation's Fire Chief and Chief Building Official.

Hydrants

12. Any hydrant situated within the road allowance is the property of the Town and shall be maintained by it. The Town shall maintain any Town-owned hydrants located on private property. Hydrants owned and paid for by any persons other than the Town and located on private property shall be maintained by such persons in accordance with the Town of Lakeshore By-law 136-2009.

Storm Water Management

13. The Owner shall provide a stormwater management report for internal drainage of the Subject Land to the satisfaction of the Engineering Department.
14. The Owner shall maintain (grade and keep groomed) the undeveloped portions of the Subject Lands.
15. In keeping with the requirements of the Ministry of Environment, in an effort to improve the quality of storm water runoff, the Owner shall equip all catch basins shown on the Approved Drawings with filter cloth inserts during the construction period.

Existing Watercourses and Natural Land Drainage

16. The Owner shall not block, abandon or otherwise alter natural watercourses during the course of construction of this development unless approved by the Corporation. No natural land drainage shall be cut off without adequate provision made for its interception to the satisfaction of the Corporation.

Drainage

17. The Owner shall meet any drainage requirements that the Essex Region Conservation Authority may have with respect to development of the Subject Lands.

As-Built Drawings

18. The Owner agrees to ensure that the "as-built" site servicing and landscaping drawings for each property be forwarded in digital format, to be AutoCad compatible, to the Town of Lakeshore.

Development Charges

19. The Owner shall pay to the Corporation on the issuance of a building permit, the appropriate development charge in accordance with the Corporation's Development Charges By-law, as amended.

Financial Security

20. Upon execution of this agreement, the Owner shall provide cash or a certified cheque in the amount of \$5,000 as security for the performance of the Owner's obligations under this agreement. The Corporation may draw upon this security to complete any obligation imposed by this agreement that the Owner fails to complete. Once all of the works required by this agreement are completed to the satisfaction of the Corporation, any unused balance of the said \$5,000 shall be returned to the Owner, without interest, upon request.

TOWN OF LAKESHORE
SUBDIVISION AGREEMENT

(XYZ Estates)

THIS AGREEMENT made (in triplicate) this th day of January, 2013.

BETWEEN:

THE CORPORATION OF THE TOWN OF LAKESHORE,
(hereinafter referred to as "Lakeshore"),

OF THE FIRST PART

-and-

XYZ DEVELOPMENTS INC.,
(hereinafter referred to as the "Owner"),

OF THE SECOND PART

WHEREAS the Owner has received Draft Plan Approval with Conditions to create (File No.: 37-T _____) to create **** single unit dwelling lots (hereinafter referred to as the "Development") on the lands described in Schedule "A" attached hereto and forming part of this Agreement (hereinafter referred to as the "Subject Lands");

AND WHEREAS the Development consists of ***** residential lots for detached single unit dwellings to be configured in the manner shown on Draft Plan ***** (hereinafter referred to as the "Plan");

AND WHEREAS the Conditions of the aforementioned Draft Plan Approval require that the Owner enter into this Agreement for the provision of services for the Development and to satisfy all other requirements of the Town, financial and otherwise, related to the Development;

AND WHEREAS Lakeshore has certain design criteria that the Owner's construction and installation of services must meet or exceed. Lakeshore's design criteria are contained in its Development Manual, current as of the date first mentioned above (hereinafter referred to as the "Development Manual");

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the aforesaid premises and in consideration of the sum of Five (\$5.00) Dollars now paid by the Owner to Lakeshore, the receipt whereof is hereby expressly acknowledged, the parties hereto covenant and agree one with the other as follows:

Definitions

1.1 In this Agreement the following terms shall have the meanings set out below, unless otherwise redefined or where the subject matter or context requires another meaning to be ascribed:

- (a) "Agreement" means this subdivision agreement;
- (b) "Approval" means draft plan approval under the Planning Act;
- (c) "Engineer" means the Owner's consulting engineer who is hired and retained in accordance with Section 2.2 hereof;
- (d) "Final Approval" means approval for the final plan of subdivision under the Planning Act;
- (e) "Planning Act" means the *Planning Act*, R.S.O. 1990, c. P.13, as amended or any successor statute;
- (f) "Specifications" means those specifications contained in the Development Manual;
- (g) "Works" means all services to be constructed pursuant to this Agreement that will ultimately be utilized by the general public and assumed by Lakeshore.

Lands Affected

- 1.2 This Agreement applies to the Subject Lands. The Owner warrants that it is the registered owner of the Subject Lands.

Scope

- 1.3 This Agreement shall define the obligations and duties of the Owner with respect to the development of the Subject Lands and, without limiting the generality of the foregoing, shall include the installation, construction, repair and maintenance of the Works to be provided and payments required to be made to Lakeshore and to such other persons or entities, and such other matters as may be more specifically set out herein, and shall define the responsibilities of the Owner related to the acceptance and assumption of the Works by Lakeshore.

GENERAL CONDITIONS

Cost of Works

- 2.1 The Owner shall be solely responsible for the cost of the Works. Lakeshore shall not be required to pay any portion of any cost related to the Works unless otherwise expressly provided in this agreement or as expressly required by statute. In the event that Lakeshore incurs any expenses related to construction lien actions or otherwise respecting the construction of the Works, such expenses shall be reimbursed by the Owner forthwith upon demand.

Consulting Engineer

2.2 The Owner shall employ at its sole expense a Professional Engineer registered under the *Professional Engineers' Act* of Ontario (hereinafter called the "Engineer").

The Engineer, and any successor, must be acceptable to Lakeshore and shall carry out all necessary engineering requirements for the development of the Subject Lands in accordance with this Agreement and with the Specifications. The Engineer shall be retained by the Owner until all requirements of this Agreement have been completed to Lakeshore's satisfaction. The Owner's agreement with its Engineer shall include design, general supervision and/or resident supervision and shall provide that Lakeshore may inspect the construction, installation and provision of the Works and shall have the power to stop any work or construction that, in Lakeshore's opinion, is being performed in a manner that may result in completed installations or construction that would not be satisfactory to Lakeshore. The Owner shall provide Lakeshore with a certificate from the Engineer certifying that the Works have been completed in accordance with this Agreement and the Specifications prior to Lakeshore accepting the Works. Without limiting the generality of the foregoing, the Engineer shall:

- a) design and submit to Lakeshore for approval, engineering drawings for the Works;
- b) prepare any contracts necessary for the construction of the Works;
- c) forward of all documentation necessary to obtain from municipal, provincial and federal authorities all approvals required for the construction of the Works;
- d) submit to Lakeshore, prior to the commencement of any construction, a report showing existing elevations and the proposed method of drainage of the Subject Lands;
- e) arrange for all survey and layout work required for the construction of the Works;
- f) maintain, for his/her client's purposes, all records of construction for the Works;
- g) submit to Lakeshore all required record drawings of all details, elevations and drawings of the Works;
- h) be responsible for the coordination of all services required under this Agreement; and
- i) visit the site of the said works as requested by Lakeshore for any reasons related to the Works.

Lakeshore's Review and Inspection

2.3 Lakeshore, at its option, may retain a professional engineer in the Province of Ontario ("Reviewing Engineer") for the purpose of:

- a) reviewing all plans, specifications, engineering documents, contracts, records, details, elevations and other relevant information; and
- b) supervising the installation of the Works.

The fees, expenses and charges of the Reviewing Engineer shall be payable by the Owner to Lakeshore upon demand. The Reviewing Engineer's charges with respect to the services provided shall be in accordance with the hourly rate normally applicable in the engineering profession for like work.

Prior to Commencement of Construction

- 2.4 Unless the Owner has received Lakeshore's written consent to do so, no work shall be commenced until the designs for all the Works have been approved by Lakeshore. Any work undertaken by the Owner prior to this Agreement coming into force shall not be accepted by Lakeshore unless the Engineer has advised Lakeshore in writing that such work has been carried out in accordance with the Specifications and Lakeshore, and/or the Reviewing Engineer, are satisfied that such is the case. The Owner shall provide all the information and expose or reconstruct any portion of the Works that Lakeshore may in its absolute discretion require.

Contractor for Construction of Works

- 2.5 The Owner covenants and agrees not to let any contract for the performance of any of the Works unless the contractor has first been approved by Lakeshore, which approval shall not be unreasonably withheld. The contract(s) shall provide that Lakeshore may inspect the construction of all Works and shall have authority to instruct the contractor(s) to stop work should any construction be undertaken contrary to the provisions of this Agreement or the Specifications or that may result in the Works or any part thereof being unsatisfactory to the Lakeshore.

Approval of Plans

- 2.6 Detailed plans and specifications for the Works shall be submitted to Lakeshore for final approval before any work is commenced. Lakeshore shall provide written confirmation that it is satisfied that the Works have been designed in accordance with the Approval and the Development Manual by placing its certificate on the plans and specifications. Plans submitted will be reviewed within a reasonable time. Lakeshore's approval of the plans and specifications shall not absolve the Owner of responsibility for errors or omissions in the plans and specifications. Lakeshore shall not grant final approval of the plans and specifications until all Ministry of Environment, ERCA and any other government approvals have been received.

Installation

- 2.7 The Works shall be constructed and/or installed in accordance with the plans and specifications approved pursuant to section 2.6, above, the Specifications, this Agreement and all applicable law.

Inspection of Work

- 2.8 The Owner shall, at any time or times prior to the issuance of the Certificate of Completion, when required to do so by Lakeshore, make such openings, tests, inspections, excavations, examinations, or other investigations in, through, of or in the vicinity of the Works as may be necessary for Lakeshore to make adequate inspection and observation, and shall, as required, make good again, to the satisfaction of Lakeshore, any openings, excavations or disturbances of any property, real or personal, resulting there from. If, in the opinion of Lakeshore, any unacceptable work for which the Owner is responsible is found by such investigations, the cost of such investigations and such making good shall be borne by the Owner but if, in the opinion of Lakeshore, no such unacceptable work is found by such investigations, the said costs shall be borne by Lakeshore.

Sewer Video Inspection Program

- 2.9 The Owner covenants and agrees to:
- (a) undertake and pay for a sewer video inspection program for all new storm and sanitary sewers constructed as part of the Works. This inspection shall be undertaken by a qualified provider of this service that has been approved by Lakeshore's Director of Engineering and Infrastructure Services prior to the video inspection being undertaken;
 - (b) provide Lakeshore with video tapes and written reports in a format as specified by Lakeshore;
 - (c) carry out the video inspection:
 - i. after completion of the base coat of asphalt and prior to Acceptance of the applicable works by Lakeshore;
 - ii. prior to Assumption of the applicable works; and
 - iii. at any other time if required by Lakeshore's Director of Engineering and Infrastructure Services.
 - (d) remove all silt and debris from the storm and sanitary sewers prior to the video inspection taking place and to rectify any sewer deficiencies that may be outlined in the written report or as may be identified by Lakeshore during its review of the video.

Specifications and Materials

- 2.10 All work or detail required for the completion of the Works shall adhere to the Specifications.

- 2.11 In the event the Owner shall call for tenders for any of the Works, such tenders shall be called on the basis of the specific requirements prescribed under this agreement and in accordance with the Specifications and the Owner shall provide Lakeshore with a copy of the tender and an executed copy of the contract let to each successful tenderer for any such work.
- 2.12 All material to be incorporated into the Works shall be tested by Owner from time to time as may be required by Lakeshore and in accordance with the material testing requirements identified in the Specifications.
- 2.13 The Owner shall employ the services of a certified material testing company qualified in the fields of concrete, compaction and asphalt testing to carry out the testing referred to in paragraph 2.12. Prior to the commencement of the installation of the Works, the Owner shall submit for Lakeshore's approval, the name of the proposed testing company and its recommended material testing program.

Right-of-Way Damage

- 2.14 The Owner agrees to reconstruct any services damaged in front of each individual building lot on the Subject Lands to Lakeshore's satisfaction. These include, but are not limited to, curb and gutter, pavement, and manholes. Finalization of any building permit shall be contingent on compliance with this section.

Damage to Pavement

- 2.15 The Owner covenants and agrees that any pavement or landscaped areas on the public right of way that are damaged during construction on the Subject Lands shall be restored by the Owner at its entire expense, and to Lakeshore's satisfaction. All driveway approaches that become redundant following the development of the Subject Lands shall be closed and this area restored to Lakeshore's satisfaction.

Dirt and Debris

- 2.16 (a) The Owner further covenants and agrees to keep the public highways and other Lakeshore lands adjacent to the Subject Lands free from dirt and debris caused by the construction of the Works on the Subject Lands.
- (b) The Owner shall deposit, with Lakeshore, cash in the amount of \$5,000 as security for the Owner's compliance with section 2.16(a), above. Should the Owner fail to comply with the requirements of section 2.16(a), above, Lakeshore may take such actions as it may deem necessary to correct such non-compliance and shall be entitled to draw upon the aforementioned security to cover any costs so incurred. The aforementioned security, or any portion thereof left unused, shall be returned to the Owner upon expiry of the maintenance period as provided for in this Agreement.

Topsoil

- 2.17 Any topsoil removed from the Subject Lands during grading operations shall be stockpiled on the Subject Lands in areas compatible for the reception of same and the Owner covenants and agrees that it will not remove or permit any other person to remove such topsoil from the Subject Lands prior to the end of the maintenance period without Lakeshore's approval.

Specific Requirements

- 2.18 The Owner agrees to fulfill all of the specific requirements contained in Schedule "C".

Taxes Etc.

- 2.19 The Owner agrees that forthwith upon the execution of this agreement it shall commute all arrears of taxes, local improvement charges, and drainage assessments chargeable upon the Subject Lands.

Municipal Street Numbers

- 2.20 The Owner shall request from Lakeshore allocation of municipal street numbers and hereby agrees to inform any purchaser of a serviced lot, from the Owner, of the correct municipal street number as so allocated. The Owner further covenants and agrees to inform, in writing, any purchaser of a serviced lot of the obligation of such purchaser to obtain allocation of a municipal street number as aforesaid.

School Board Issues

- 2.21 The Owner agrees to include the following clause in all offers to purchase, agreements of sale and purchase or lease and in the title, deed or lease of each lot:

“There may not be an elementary and/or secondary school available in the area and students may be bussed to the next available school. The present existence of such a school is not a guarantee of its future availability and bussing may be required due to future circumstances.”

Development Charges

- 2.22 The Owner hereby acknowledges that the Corporation has a valid by-law(s) pursuant to the *Development Charges Act, 1997*, S.O. 1997, c.27, as amended, that applies to the Subject Lands. The Owner hereby agrees to pay the development charges imposed by Lakeshore's Development Charges By-law and to insert the following clause into all agreements of purchase and sale dealing with any portion of the Subject Lands and shall, upon request, provide Lakeshore with copies of any or all such agreements of purchase and sale:

NOTE: The Corporation of the Town of Lakeshore has passed a by-law under the *Development Charges Act, 1997* that applies to the Subject Lands and requires the calculation and payment of development charges at the time of building permit issuance. Lakeshore's development charges by-law is not registered on title but may be viewed at their offices located at 419 Notre Dame Street, Belle River, Ontario, during regular business hours or on line at www.lakeshore.ca.

Costs

2.23 The Owner shall pay to Lakeshore all costs incurred by Lakeshore in connection with the Development and/or the preparation and administration of this Agreement including, but not limited to, costs associated with engineering, planning and legal services. The Owner acknowledges that the application fee submitted by the Owner with its application for the approval of a Plan of Subdivision is a deposit to be applied against the aforementioned costs. Should the said deposit prove to be insufficient to cover the aforementioned costs the Owner agrees to provide such additional deposits, as may reasonably be required by Lakeshore, upon demand.

Applicable Laws

2.24 (a) In constructing, installing or providing the Works, the Owner shall comply with all statutes, laws, by-laws, regulations, ordinances, orders and requirements of governmental or other public authorities having jurisdiction at any time and from time to time in force. Without limiting the foregoing, the Owner agrees to comply with, and cause to be complied with, the provisions of the *Occupational Health and Safety Act*, the *Environmental Protection Act* and the *Ontario Water Resources Act* and any regulations, policies and guidelines relating thereto, including all obligations of the constructor and employer under the *Occupational Health and Safety Act* and regulations, as applicable, and any obligation to obtain any approval or permit required under the *Environmental Protection Act* or the *Ontario Water Resources Act* or any regulations, policies and guidelines relating thereto. The Owner further agrees to handle and dispose of all materials in accordance with the foregoing legislation.

(b) The Owner shall do, cause to be done or refrain from doing any act or thing as directed by Lakeshore if at any time Lakeshore considers that any situation or condition is unsafe, damaging to the environment or contrary to the provisions of any applicable laws, above. If the Owner fails to comply with such direction, Lakeshore may take action to remedy the situation at the expense of the Owner and in this regard Lakeshore shall also be entitled to draw upon any security

filed by the Owner under this Agreement in order to recover its costs incurred in this regard.

- 2.25 The Owner shall immediately advise Lakeshore and the Ministry of the Environment should waste materials or contaminants be discovered during the development of the Subject Lands. If waste materials or contaminants are discovered, the Owner shall obtain any necessary approval pursuant to the *Environmental Protection Act*, as amended from time to time, if required by the Minister of the Environment.

Phasing

- 2.26 Servicing of the Development shall be phased in accordance with the Phasing Plan attached as Schedule "D".

SPECIFIC WORKS

Sewers

- 3.1 The Owner agrees to construct a complete sanitary and storm sewer system or systems, including private sanitary and storm connections to the lot lines as well as catch basins, leads and subdrains to service the Subject Lands and adjacent road allowances all according to the plans approved by the Lakeshore and in compliance with the Specifications. No construction of the above-mentioned systems shall take place without a Certificate of Approval issued by the Ministry of the Environment.
- 3.2 Lakeshore agrees to allocate sanitary sewage treatment capacity for the Plan to a maximum of ***** single unit detached dwellings and as outlined in Schedule "C" of this Agreement. The Owner acknowledges and agrees that Lakeshore may, in its sole discretion, withdraw the aforementioned treatment capacity allocation and redirect it if the Owner fails to complete the Works, in accordance with the terms and conditions of this Agreement, within **(two years)** of the execution of this agreement.

Watermains

- 3.3 The Owner agrees to construct a complete watermain system or systems, including hydrants and water service connections to the lot lines to service all lots on the Plan in accordance to designs approved by Lakeshore and in accordance with the Specifications. No construction of the above-mentioned water mains shall take place without the necessary approvals from the Ministry of the Environment or, if Lakeshore is the approval authority, until Lakeshore has executed the Ministry of the Environment's "Form 1 – Record of Watermains Authorized as a Future Expansion" completed and submitted by the Engineer.

Oversizing

- 3.4 If Lakeshore deems necessary, the Owner agrees to oversize the sanitary sewer, storm sewer and water main systems within the Subject Lands to service additional downstream lands according to the design approved by Lakeshore and the Specifications.

Conservation Authority Requirements

- 3.5 If the Subject Lands are within an area regulated by the Essex Region Conservation Authority, the Owner agrees that no construction or placing of fill on the Subject Lands shall take place prior to obtaining a permit from the said Authority. The Owner shall flood proof the Subject Lands to a minimum elevation satisfactory to the Essex Region Conservation Authority. Specific details regarding the flood proofing required for the Subject Lands are contained in Schedule "C" attached hereto and forming part of this Agreement.

Electrical Services & Utilities

- 3.6 The Owner agrees to construct a complete electrical distribution system including transformers and services to the lots and a street lighting system all in accordance with the design approved by Lakeshore and by ELK or Hydro One, as the case may be. The installation shall include the necessary connections to the existing supply.
- 3.7 The Owner agrees to co-ordinate the underground installation of any telephone cable, television cable, hydro cable, gas mains and connections to and within the limits of the Subject Lands and to provide for easements with respect to such installations in accordance with terms, conditions, standards and specifications set out by the respective utility companies.
- 3.8 The Owner and its Engineer shall provide any information required by any utility company, including construction drawings and schedules, as well as lot and street locations in the field. Prior to the commencement of any construction, the Owner agrees to submit to Lakeshore a comprehensive schedule indicating the timing and co-ordination of all utility installations with the servicing for which the Owner is responsible.

Roadways, Curbs and Gutters

- 3.9 The Owner agrees to construct all roads including concrete curbs and gutters, driveway approaches and the necessary drainage facilities as shown on the plans approved by Lakeshore and in accordance with the Specifications.

Noise and Vibration

- 3.10 The Owner agrees to provide at its expense, all noise and vibration attenuation measures as outlined in the Development Manual and in Schedule "C" attached hereto.

Drainage

- 3.11 The Owner agrees to:
- (a) conduct regular inspections once every two weeks and after each sizeable storm event of all sediment and erosion control measures incorporated into the Development;
 - (b) maintain an inspection log that shall be made available for review by Lakeshore, the Ministry of the Environment and the Essex Region Conservation Authority, upon request. The log shall state the name of the inspector, date of inspections and the rectifications or replacements which were taken to maintain the sediment and erosion control measures. Inspections shall continue until the assumption of services by Lakeshore or until site construction conditions warrant cessation of the visits; and
 - (c) the stormwater management works associated with this plan shall all be certified as functional and must obtain statutory approval under the *Ontario Water Resources Act*, not the *Drainage Act*;
- 3.12 The Owner shall require any Contractors erecting buildings on the Subject Lands to block off any existing agricultural field tiles that could adversely affect any proposed construction.
- 3.13 The Owner further agrees that no natural watercourses shall be blocked, abandoned or otherwise altered during the course of construction on the Subject Lands unless approved by Lakeshore and the Essex Region Conservation Authority. No natural land drainage shall be cut off without adequate provision being made for its interception to Lakeshore's satisfaction.

Tree Planting

- 3.14 The Owner agrees to pay Lakeshore the amount of \$ _____ per tree, being the sum of \$_____ which Lakeshore shall use towards the planting of trees in accordance with typical road cross sections. Lakeshore shall be responsible for planting the trees on the Subject Lands, once the said fees have been paid, in accordance with the Specifications. The number of trees to be planted shall be determined as follows:
- (a) Single Family Residential Lots: 1-60mm caliper tree per lot;

- (b) Semi-detached Residential Lots: 1-60mm caliper tree per unit; and
- (c) Townhouse Residential Lots: 3-60mm caliper trees per 4 units.

Parkland Dedication

- 3.15 The Owner agrees to provide cash on a per unit basis in lieu of parkland as set out in Schedule “C” and “E” attached to and forming part of this Agreement.

Boulevards

- 3.16 The Owner agrees that all unpaved portions of the street allowances shall be fine graded to finished grade and to fill and rough grade the lots prior to the issuance of building permits.

Sediment and Erosion Plan

- 3.17 The Owner agrees to implement the approved Sediment and Erosion Plan entitled ***** prepared by ***** and dated *****.

Landscape Plan

- 3.18 The Owner agrees to implement the approved Landscape Plan entitled ***** prepared by ***** and dated *****.

REQUIRED CONVEYANCES

- 4.1 The Owner shall gratuitously dedicate as public highways all road allowances shown on the Plan and shall name all such road allowances in a manner satisfactory to Lakeshore.
- 4.2 The Owner shall convey, without cost and free of all encumbrances, all 0.3 metre reserves shown on the Plan to Lakeshore.
- 4.3 The Owner agrees to sign local improvement petitions for and agrees not to oppose any municipal works proposed by Lakeshore to be constructed pursuant to the provisions of the *Municipal Ac, 2001* and O.Reg. 119/03, both as amended.
- 4.4 The Owner shall convey to Lakeshore, or the appropriate authority without cost and free of encumbrance, any and all easements as may be required by Lakeshore, the applicable hydro authority, Bell Canada, Cable TV, Union Gas and/or any other applicable utility provider. Such easements may be through, over or under the appropriate portion of the Subject Lands and may be required for drainage purposes, sewers, hydro, water mains, telephone, cable tv, natural gas or any other purpose as deemed necessary by Lakeshore. The Owner acknowledges all existing utility easements and agrees not to interfere with same. In the event that the development of the Plan requires relocation or revisions to existing utility easements or facilities, these

shall be made at the option of the applicable utility provider, and at the expense of the Owner.

- 4.5 The Owner shall convey, without cost and free of all encumbrances, all blocks, shown on the Plan, that contain, or will contain, the storm water management works.
- 4.6 The Owner agrees that all conveyances required by paragraphs 4.1, 4.2, 4.3, 4.4 and 4.5 shall be completed immediately upon Final Approval and registration of the Plan.

ACCEPTANCE OF WORKS

- 5.1 The performance by the Owner of its obligations under this agreement to Lakeshore's satisfaction shall be a condition precedent to Lakeshore's acceptance of the Works.
- 5.2 Prior to Lakeshore's acceptance of the said Works, the Owner shall furnish Lakeshore with a statutory declaration to the effect that the Owner has paid all accounts that are payable in connection with the installation and maintenance of the Works and that there are no outstanding claims relating thereto.
- 5.3 Inspection records, sewer video inspection results referred to in paragraph 2.9 and test results of the material testing company referred to in paragraph 2.12 and 2.13 shall be submitted by the Owner to Lakeshore in conjunction with the Certificate of the Engineer contemplated in paragraph 2.2 as a pre-condition to Lakeshore's acceptance the Works. The Owner further agrees to submit all information and reports reasonably required by Lakeshore to ensure that the Works have been installed in accordance with the Specifications.
- 5.4 Forty-five (45) days after the completion of the Works, Lakeshore may accept the Works and Lakeshore shall thereupon permit such Works to be incorporated with the appropriate existing municipal services. The parties agree that Lakeshore shall be the sole determinant.
- 5.5 The acceptance of the Works shall not require Lakeshore to maintain or in any way be responsible for driveway approaches, private sewer connections or any other private services that may be installed in or on public lands.
- 5.6 The Owner agrees to provide Lakeshore with digital "as constructed" record information in a format suitable to Lakeshore as outlined in the Specifications.
- 5.7 Following notification from the Owner that the Works, for which formal acceptance is requested, are complete, Lakeshore shall inspect the Works to determine whether

they have been completed in a satisfactory fashion and shall review all financial requirements of this agreement to determine whether they have been met. If Lakeshore determines that the requirements of this Agreement have been met, Lakeshore agrees to forthwith furnish to the Owner written confirmation of its acceptance of the Works.

- 5.8 The final coat of asphalt shall be placed no later than five (5) years from the commencement date of the first maintenance period for base asphalt, curbs and underground infrastructure.

MAINTENANCE PERIOD AND SECURITY

- 6.1 The maintenance period shall run for a minimum period of one (1) year following the date of the issuance of written confirmation of Lakeshore's acceptance of the Works but in no case shall the maintenance period expire until the final surface asphalt has been completed. During this time the Owner shall be responsible for all materials, equipment and work necessary to maintain and/or repair the Works. Upon the issuance of the written confirmation of Lakeshore's acceptance of the Works, the Owner shall file with Lakeshore cash, a subdivision bond or an irrevocable letter of credit in a form acceptable to Lakeshore for 25% of the cost of the works as security for the Owner's obligations under this section.
- 6.2 Notwithstanding expiration of the maintenance period, the Owner shall not be relieved of correcting any defects or faults of which notice has been given to the Owner prior to the expiration of the said period.

ASSUMPTION OF PLAN OF SUBDIVISION

- 7.1 Within 30 days prior to the expiration of the maintenance period, the Engineer shall arrange for a field inspection to be conducted by Lakeshore, the contractor and the Engineer. The requirements of section 2.9, above shall have been complied with prior to this inspection.
- 7.2 Within 30 days following the expiration of the maintenance period contemplated by section 6.1 of this agreement, Lakeshore's Department of Engineering and Infrastructure Services shall prepare a written report stating whether the Works were completed in a satisfactory fashion and remain in good working order. In addition, Lakeshore's Finance Department shall prepare a written report stating whether all financial requirements have been met. If the aforementioned reports state that the requirements of this Agreement have been satisfactorily met, Lakeshore's Director of Engineering and Infrastructure Services shall recommend that Lakeshore Council pass a by-law assuming the Works.

- 7.3 The Owner agrees to provide all of the information and reports requested by Lakeshore that are reasonably necessary for the Director of Engineering and Infrastructure Services to complete his report mentioned in section 7.2 above.
- 7.4 The Owner covenants and agrees that the Works shall vest in Lakeshore upon Lakeshore Council's passing of a by-law Assuming of the Works, and the Owner shall thereafter have no claims or rights to the Works other than those accruing to it as an owner of land abutting streets on which services have been installed.

INDEMNITIES AND INSURANCE

- 8.1 The Owner shall indemnify and save Lakeshore harmless from and against all loss or damage, expense, claims, suits and liability on account of any and all damage to, or loss or destruction of, any property or injury to, or death of, any person arising directly or indirectly out of, or in connection with, the negligent performance or unlawful or non-performance of any obligation of the Owner under this agreement.
- 8.2 During the period of construction of the Works, the Owner shall maintain a policy of public liability and property insurance, in the amount of Five Million dollars (\$5,000,000.00) and containing endorsements showing Lakeshore as an additional named insured and having a cross-liability clause, in form satisfactory to Lakeshore. Before commencing construction of any of the Works, the Owner shall provide Lakeshore with a Certificate of Insurance.
- 8.3 The Owner agrees when paying contractors to hold back such sums as are provided by the *Construction Lien Act*, and to indemnify Lakeshore against any claims, actions or costs incurred by Lakeshore respecting Construction Liens or otherwise in connection with the Works. The Owner shall take the necessary action to immediately discharge any liens that arise with respect to the Works.

BUILDING PERMITS

- 9.1 The Owner agrees:
- (a) that no building permit for any lot or block on the Subject Lands will be issued until Lakeshore has accepted the Works in accordance with the requirements of this Agreement;
 - (b) that notwithstanding subsection 9.1(a) above, the Chief Building Official may issue permits for model homes. The maximum number of model home permits that may be issued is for the greater of either four dwellings or ten

percent (rounded upward) of the total dwelling units in any particular phase of the Development as stated in the Development Manual provided:

- i. the base coat of asphalt has been installed, to the satisfaction of the Director of Engineering and Infrastructure Services, in the road allowance in front of and abutting the lot for which the building permit is being sought;
- ii. all works necessary to meet the Railway requirements have been installed if the model home is within 300 metres of a Railway right-of-way;
- iii. there is no conflict between the activity that would result from the building permit being issued and the installation of various utilities;
- iv. a surveyor's certificate has been received by Lakeshore pertaining to the lot for which the building permit is being sought;
- v. it is clearly noted on the building permit that occupancy of the model home will not be permitted until Lakeshore has accepted the Works and that all Agreements to Purchase affecting the model home must contain a notice regarding this occupancy restriction until such time as Lakeshore has accepted the Works; and
- vi. Lakeshore has received a letter received from the Engineer confirming support for the building permit issuance.

PERFORMANCE SECURITIES

- 10.1 Prior to commencing any of the Works, the Owner shall provide Lakeshore with an irrevocable letter of credit or subdivision bond as security for the Owner's performance of its obligations under this agreement. The said letter of credit or subdivision bond shall be in a form acceptable to Lakeshore and shall be in an amount equal to 50 percent (50%) of the value of the said works as determined from the accepted tenders for the said works. If the owner is constructing the said works so that there shall be no tender then the Owner's Consulting Engineer shall provide an estimate of the value of the Works that, subject to the Lakeshore's right to verify and approve the said estimate, shall be used to establish the amount of the securities.
- 10.2 If the Owner fails in the performance of the terms and conditions of this Agreement, Lakeshore shall be entitled to realize on the securities that have been deposited

with respect to this Agreement in order to fulfil those terms and conditions in respect of which the Owner is in default.

- 10.3 No performance security will be released until the Owner has filed maintenance security in accordance with the Development Manual and this Agreement.

ADMINISTRATION

Registration of Plan

- 11.1 The Owner covenants and agrees to register the Plan as soon as possible upon receiving Final Approval.

Inhibiting Order

- 11.2 The Owner covenants and agrees to present an application for an order inhibiting any dealings with the Subject Lands to the applicable Land Registrar immediately following the registration of the Plan. The Owner covenants to do nothing that will affect the registered title of the Subject Lands until the inhibiting order is entered against title to the Lands. The Owner acknowledges that Lakeshore shall not be obligated to register any documents in compliance with the inhibiting order or to apply to have the inhibiting order removed from title until the Owner has supplied all documents in compliance with this agreement in registrable form to Lakeshore and all other documents required to provide discharges, releases and postponements with respect to any charges, mortgages or encumbrances with respect to the Subject Lands have been registered against title to the Subject Lands.

Notices

- 11.3 (a) If any notice is required to be given by Lakeshore to the Owner with respect to this Agreement, such notice shall be mailed prepaid mail, personally delivered or sent by facsimile transmission to:

XYZ Inc.
Attn:

Facsimile:

or such other address or facsimile number of which the Owner has notified Lakeshore's Clerk, in writing, and any such notice mailed or delivered shall be deemed good and sufficient notice under the terms of this Agreement.

- (b) If any notice is required to be given by the Owner to Lakeshore with respect to this Agreement, such notice shall be mailed prepaid mail, personally delivered or sent by facsimile transmission to:

The Corporation of the Town of Lakeshore

Attention: Clerk
419 Notre Dame,
Belle River, ON N0R 1A0

Facsimile: (519) 728-9530

or such other address or facsimile number of which Lakeshore has notified the Owner, in writing, and any such notice mailed or delivered shall be deemed good and sufficient notice under the terms of this Agreement.

Registration of Agreement

- 11.4 The Parties hereby covenant and agree that this Agreement and any schedules attached hereto shall be registered upon title to the Subject Lands. The Owner further agrees to pay, upon demand, all costs associated with the preparation and registration of this Agreement, including but not limited to, any amendments thereto notwithstanding that such registration may have been solely at Lakeshore's instance.

Postponement and Subordination

- 11.5 The Owner covenants and agrees, at its own expense, to obtain and register such documents from its mortgagees or encumbrancers as Lakeshore may deem necessary to postpone and subordinate their interest in the Subject Lands to Lakeshore's interests to the extent that this Agreement shall take effect and have priority as if it had been executed and registered before the execution and registration of the document or documents giving to the Mortgagees and/or other encumbrancers their interest in the Subject Lands.

Enforcement

- 11.6 The Owner acknowledges that Lakeshore, in addition to any other remedy it may have, shall be entitled to enforce this Agreement in accordance with s. 446 of the *Municipal Act, 2001*.
- 11.7 If the Owner fails in the performance of any of the terms and conditions of this Agreement, Lakeshore at its option, may, in addition to any other remedy it may have, refuse to grant to the Owner any permissions, certificates, approvals, building permits or authorities of any kind or nature which the Owner, had the Owner otherwise complied with Lakeshore requirements and this Agreement, may have been entitled to receive. Lakeshore may continue to refuse to grant any permissions, certificates, approvals, building permits or authorities until Lakeshore is satisfied that any default in question shall have been remedied.

11.8 In the event that the Owner fails or neglects to perform any of its obligations under this Agreement, or fails or neglects to proceed with the construction of the Works within one year of the date of execution of this Agreement, or, having commenced the construction of the Works, fails or neglects to proceed with reasonable speed, or in the event that the Works are not being or have not been installed in the manner required by Lakeshore or, having completed installation of the Works, they do not function properly, in addition to any other remedy Lakeshore may have and upon Lakeshore giving seven days written notice by prepaid registered mail to the Owner, Lakeshore may, but need not, without further notice, stop any part of the work for any length of time until it is satisfied that the work will be proceeded with satisfactorily, or stop any part of the work by any contractor and require that another contractor be placed on the job to complete the work or enter upon the Subject Lands and proceed to supply all materials and do all necessary works in connection with the installation of the Works, including the repair or reconstruction of faulty work and the replacement of materials not in accordance with the Specifications and may charge the cost of taking such actions, together with an administrative fee equaling 20% of the cost of taking such actions, to the Owner who shall forthwith pay the same to Lakeshore upon demand. If the Owner shall fail to pay Lakeshore's costs and administrative fee within fifteen (15) days of demand, the Lakeshore shall be at liberty to recoup its costs and administrative fee by realizing on the Performance Securities deposited by the Owner without the consent of the Owner. It is understood and agreed between parties hereto that entry upon the Subject Lands for the purposes of this section shall be as agent for the Owner and shall not be deemed, for any purposes whatsoever, as an acceptance or assumption of the Works by Lakeshore. The rights set forth herein are in addition to any other rights Lakeshore may have in pursuance of this Agreement at law or in equity.

Time Limit for Completion

11.9 If the Works are not completed within three (3) years from the date of execution of this agreement, Lakeshore may, at its option and on sixty (60) days notice to the Owner, declare this agreement null and void and of no further effect and construction of the Works may not proceed thereafter unless a new subdivision agreement is entered into by the parties. The refund of any fees, levies or other charges paid by the Owner pursuant to this agreement shall be at Lakeshore's sole discretion.

Other Applicable Laws

11.10 Nothing in this Agreement shall relieve the Owner from compliance with all applicable municipal by-laws, laws and/or regulations or laws and/or regulations

established by any other governmental body that may have jurisdiction over the Subject Lands.

Interpretation of Agreement

- 11.11 (a) The part numbers and headings, subheadings and section, subsection, clause and paragraph numbers are inserted for convenience of reference only and shall not affect the construction or interpretation of this Agreement.
- (b) This Agreement shall be construed with all changes in number and gender as may be required by the context.
- (c) Every provision of this Agreement by which the Owner is obligated in any way shall be deemed to include the words “at the expense of the Owner” unless the context otherwise requires.
- (d) References herein to any statute or any provision thereof include such statute or provision thereof as amended, revised, re-enacted and/or consolidated from time to time and any successor statute thereto.
- (e) All obligations herein contained, although not expressed to be covenants, shall be deemed to be covenants.
- (f) Whenever a statement or provision in this Agreement is followed by words denoting inclusion or example and then a list of or reference to specific items, such list or reference shall not be read so as to limit the generality of that statement or provision, even if words such as “without limiting the generality of the foregoing” do not precede such list or reference.
- (g) The Parties agree that all covenants and conditions contained in this Agreement shall be severable, and that should any covenant or condition in the Agreement be declared invalid or unenforceable by a court of competent jurisdiction, the remaining covenants and conditions and the remainder of the Agreement shall remain valid and not terminate thereby.

Waiver

- 11.12 Lakeshore’s failure at any time to require the Owner’s performance of any obligation under this Agreement shall in no way affect its right thereafter to enforce such obligation, nor shall Lakeshore’s waiver of the performance of any obligation hereunder be taken or be held to be a waiver of the performance of the same or any other obligation hereunder at any later time. Lakeshore shall specifically retain its rights at law to enforce this Agreement.

Lakeshore as Agent of Owner

- 11.13 Any work done by Lakeshore for or on behalf of the Owner or by reason of the Owner not having done the work in the first instance shall be deemed to be done as agent for the Owner and shall not, for any purpose whatsoever, be deemed as an acceptance or assumption of any works, services or facilities by Lakeshore.

Governing Law

11.14 This Agreement shall be interpreted under and is governed by the laws of the Province of Ontario.

Successors & Assigns

11.15 It is hereby agreed by and between the parties hereto that this Agreement shall be enforceable by and against the parties hereto, their heirs, executors, administrators, successors and assigns and that the Agreement and all the covenants by the Owner herein contained shall run with the Subject Lands.

Recitals

11.16 The parties confirm that the recitals at the beginning of this Agreement are true in fact and are incorporated into this Agreement as though repeated herein.

List of Schedules

12.1 The following schedules are attached hereto and form part of this Agreement:

SCHEDULE "A": Subject Lands

SCHEDULE "B": Plan of Subdivision

SCHEDULE "C": Specific Requirements

SCHEDULE "D" Phasing Plan

SCHEDULE "E": Summary of Required Financial Payments, Guarantees and Insurance

SCHEDULE "F": Summary of Required Conveyances

IN WITNESS WHEREOF the Parties hereto have hereunto affixed their signatures or their corporate seals duly attested by the hands of their proper signing officers in that behalf respectively as the case may be.

SIGNED, SEALED AND DELIVERED

)
)
) **XYZ DEVELOPMENTS INC.**
)
)
) per: _____
)
) I have authority to bind the Corporation
)
)
) **THE CORPORATION OF THE TOWN OF**
) **LAKESHORE**
)
)
) per: _____
) Mayor
)
)
) per: _____
) Clerk
) We have authority to bind the Corporation

SAMPLE

SCHEDULE "A"

to a

SUBDIVISION AGREEMENT dated *****

B E T W E E N:

THE CORPORATION OF THE TOWN OF LAKESHORE

-and-

Subject Lands

SAMPLE

SCHEDULE "B"

to a

SUBDIVISION AGREEMENT dated *****

B E T W E E N:

THE CORPORATION OF THE TOWN OF LAKESHORE

-and-

Plan

SAMPLE

SCHEDULE "C"

to a
SUBDIVISION AGREEMENT dated *****
B E T W E E N:
THE CORPORATION OF THE TOWN OF LAKESHORE
-and-

Specific Requirements

Storm Water Management

- C.1 The Owner agrees to implement the approved Storm Water Management Plan entitled ***** prepared by ***** and dated *****, including any changes to the said plan that are made as a result of the approval process, to the satisfaction of Lakeshore and the Essex Region Conservation Authority.

Grading

- C.2 The Owner agrees to grade all lands including parklands and stormwater management lands in accordance with the approved Grading Plan entitled ***** prepared by ***** and dated *****.

Phasing

- C.3 The Owner agrees that this Agreement pertains only to phases ***** as depicted on the Plan.

Cash-in-Lieu of Parkland

- C.4 The Owner agrees to pay cash-in-lieu of parkland fee for this development in the amount of \$ per lot.

Railway Vibration Mitigation

- C.5 The Owner agrees to mitigate railway vibration impacts on the Development by implementing the recommendations contained in the Railway Vibration Analysis Report prepared by *****, and dated *****.

Railway Noise Mitigation

- C.6 The Owner agrees to mitigate railway noise impacts on the Development by implementing the recommendations contained in the Environmental Noise Assessment prepared by *****, as revised *****.

Easement Conveyance

- C.7 Immediately upon the registration of this Agreement, the Owner agrees to, gratuitously and free of encumbrance, convey an easement across the rear portion of *****, both inclusive, on the Plan to provide access for the inspection of the noise abatement measures.

Sidewalks

- C.8 The Owner agrees to construct sidewalks in the Development in compliance with the criteria contained in the Development Manual and to Lakeshore's satisfaction. The sidewalks shall be constructed at the same time as roads and underground services in accordance with option #1 of section 5.3 of the Development Manual.

SCHEDULE "D"

to a

SUBDIVISION AGREEMENT dated *****

B E T W E E N:

THE CORPORATION OF THE TOWN OF LAKESHORE

-and-

Phasing Plan

SAMPLE

SCHEDULE "E"

to a
 SUBDIVISION AGREEMENT dated *****
 B E T W E E N:
 THE CORPORATION OF THE TOWN OF LAKESHORE
 -and-

Summary of Required Financial Payments, Guarantees and Insurance

OBLIGATION	AMOUNT	METHOD*	DUE DATE
Performance Guarantee	50% of Value of Works	Letter of Credit / Subdivision Bond	Prior to Construction
Tax Arrears	Outstanding Tax Amount	Certified Cheque / Bank Draft	Execution of Agreement
Dirt and Debris Deposit	\$5,000	Certified Cheque / Bank Draft	Prior to Construction
Lakeshore's Costs Including Engineering, Planning, Legal Fees	As per Tarrif of Fees By-law	Certified Cheque / Bank Draft	Due upon Demand
Tree Planting Cost	(Insert total at \$ per lot)	Certified Cheque / Bank Draft	Execution of Agreement
Cash-in-Lieu of Parkland	\$ per dwelling	Certified Cheque / Bank Draft	Execution of Agreement
Maintenance Guarantee	25% of Value of Works	Letter of Credit / Subdivision Bond	Acceptance of Services by Lakeshore
Insurance	\$5,000,000	Certificate of Insurance	Prior to Construction

* Note: Payment may also be made by non-certified cheque however obligation will not be considered satisfied until clearance of non-certified cheque by financial institution.

SCHEDULE "F"

to a

SUBDIVISION AGREEMENT dated December 13, 2011

B E T W E E N:

THE CORPORATION OF THE TOWN OF LAKESHORE

-and-

Summary of Required Conveyances

Lands to be Conveyed:

- 0.3 metre Reserves
- Parks
- Storm Water Facilities

Easements to be Conveyed:

SAMPLE

APPENDIX C
DEVELOPMENT CHARGES AND TARIFF OF FEES

- Development Charges and Tariff of Fees By-Law

CORPORATION OF THE TOWN OF LAKESHORE

BY-LAW NUMBER 93-2015

**TO PRESCRIBE A TARIFF OF FEES FOR
THE CORPORATION OF THE TOWN OF
LAKESHORE**

WHEREAS, the Municipal Act, 2001 S.O. 2001 as amended, allows municipalities to pass By-laws imposing fees or charges on any class of persons for services or activities provided or done by or on behalf of it; for costs payable by it for services or activities provided or done by or on behalf of any other municipality or local board; and for the use of its property including property under its control.

AND WHEREAS, it is now desirous to prescribe a Tariff of Fees for the Corporation of the Town of Lakeshore:


NOW THEREFORE, THE COUNCIL OF THE CORPORATION OF THE TOWN OF LAKESHORE ENACTS AS FOLLOWS:

1. This By-law may be cited as the Town of Lakeshore "Tariff of Fees By-law".
2. Schedules 'A'-'K' to this By-law are hereby adopted as prescribing the fees/charges assessed by the Corporation of the Town of Lakeshore, subject to Consumer Price Index (CPI) adjustments under item 3, and be in effect from January 1, 2016, except as stated otherwise.
3. The fees in Schedules A through H shall be adjusted annually, without amendment to this By-law, on the 1st of January in accordance with the November to November change in the Consumer Price Index (CPI). Fees, including indexing adjustments, will then be rounded up as follows:
 - a. Fees less than \$1 per unit rounded up to the nearest \$0.01 (one cent);
 - b. Fees greater than \$1 but less than \$5 per unit rounded up to the nearest \$0.05 (five cents)
 - c. Fees greater than \$5 per unit rounded up to the nearest \$1.00 (one dollar);

All fees will be charged out plus applicable taxes, unless otherwise noted.

4. The user rates for water, wastewater, marina and arena identified on Schedules I through K of this By-law are not subject to annual CPI indexing; but are as established under this By-law and as amended through Council approval from time to time.
5. Should any section, subsection, clause or provision of this By-law or its Schedules be declared by a court of competent jurisdiction to be invalid, the said section, subsection, clause or provision shall not affect the validity of this By-law or its Schedules as a whole or any part thereof, other than the part so declared to be invalid.
6. All previous By-laws concerning the fees detailed in Schedules A through K passed by the Town of Lakeshore are hereby repealed.

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 10th DAY OF NOVEMBER, 2015.



**TOM BAIN
MAYOR**



**MARY MASSE
CLERK**

BY-LAW NUMBER 93-2015

SCHEDULE A

REVISED WITH CONSUMER PRICE INCREASE AS OF JANUARY 1, 2016

(Applicable taxes will be added to all fees)

COMMUNITY AND DEVELOPMENT SERVICES
BUILDING SERVICES AND ANIMAL CONTROL

Construction - New	
New Residential – per square foot of living area	\$0.99
Modular Homes/Relocated Dwellings – per square foot	\$0.38
New Non-Residential (including Mezzanines) – per square ft	\$0.73
Greenhouses– per square foot	\$0.02
Greenhouse related Structures – per square foot	\$0.28
Construction - All Other	
Permit fees for all other construction not shown will be calculated using \$11.00 per thousand of the construction cost. The construction cost will be reflective of labour and materials and will be as determined by the Chief Building Official where a valuation is not provided in this schedule.	
Detached Garage – per square foot	\$0.22
Pole Barn – per square foot (Agricultural Use)	\$0.15
Construction – Residential Application Fee Deposit (minimum)	\$1,000.00
Flat Fees	
Inspection fee – no show and/or not ready for inspection	\$52.00
Minimum Building Permit fee	\$93.00
Fence Permit	\$56.00
Application for variance to Sign By-law	\$388.00
Swimming Pool Permit – Above Ground	\$56.00
Swimming Pool Permit – In-Ground	\$111.00
Sign Permit	\$72.00
Plumbing Permit – per washroom	\$93.00
Driveway Approach	\$164.00
Demolition Permit	\$93.00
Deck Permit	Minimum \$135.00
Solar Panel Permit	\$12 per panel maximum \$605 minimum \$90
Lawyer letters – per property inquiry	\$56.00
Review for purposes of liquor licence	\$56.00
All 911 Address Signs and Posts	Actual cost
All 911 Address Signs Only	Actual cost
911 Sign for undeveloped properties	\$82.00
Wind Turbines with an output over 1.5 megawatts, per turbine	\$11,108.00
Construction Deposit	
Residential – Permit Application Deposit	\$1,000.00
Indemnity Deposits	
New Construction Indemnity Deposit – refundable up to 3 years from issuance of permit.	
Residential - Within a Plan of Subdivision	\$2,000.00
Residential - Outside a Plan of Subdivision	\$ 1,000.00
Non Residential	\$2,000.00
Site Plan Control Agreement Required	\$5,000.00
Demolition Permit Indemnity Deposit – refundable up to 3 years from issuance of permit.	\$750.00
Part 8 (O.B.C.) Program	
Permit - Class 4 – New or Replacement System	\$784.00
Permit – Class Tertiary System	\$902.00
Permit – Class 4 – Tank Replacement only	\$313.00

Class 5 – Holding Tank	\$784.00
Parkland Fees	
Residential lot in urban area	\$1,200.00
Residential lot in rural area	\$600.00
Non residential lot	2% of appraised value
Fill Permit	
1.5 to 2 acres	\$113 plus \$2,500 deposit
2 to 4 acres	\$113 plus \$5,500 deposit
4 to 5 acres	\$113 plus \$7,500 deposit
Over 5 acres	\$113 plus deposit of \$7,500 plus \$2,500 per acre
Refund Policy	
Application filed, preliminary review of plans performed	80%
Application filed, plans reviewed and permit issued	75%
Additional deduction for each field inspection performed	5%
Permits valued at less than \$100	0%
Application filed, no work done	\$28.00
Property Standards	
Long Grass and Weed Cutting (Single Lot)	\$391.00 per lot
Long Grass and Weed Cutting (Multi-Residential Lots)	
• For the first 5 lots	\$391.00 per lot
• For the next 5 lots (6-10)	\$338.00 per lot
• For the next 10 lots (11-20)	\$281.00 per lot
• For all remaining lots	\$225.00 per lot
Animal Control	
Dog Tags – up to March 31 st	\$20.00
Dog Tags – after March 31 st (\$10.00 penalty)	\$30.00
Replacement of lost dog tag	\$6.00
Lakeshore residents adopts a dog from the dog pound – dog tag is free for the first calendar year of adoption	
Kennel License - In designated zoning areas only	\$60.00
Dog Pound Fees	
First Offence	\$33.00
Second Offence	\$56.00
Third Offence	\$112.00
Impound Fee Per Day	\$11.00

BY-LAW NUMBER 93-2015

SCHEDULE B

Revised with Consumer Price Increase as of January 1, 2016

(Applicable taxes will be added to all fees)

COMMUNITY AND DEVELOPMENT SERVICES
PLANNING & DEVELOPMENT

Description	Minimum Deposit to Accompany Application	Fee (Non Refundable) plus actual costs	Flat Fee
Official Plan amendments			
Major (see below)	\$5,000.00	\$2,200.00	
Minor (see below)	\$3,500.00	\$1,650.00	
Zoning By-law amendments			
Major (see below)	\$4,500.00	\$2,200.00	
Minor (see below)	\$3,500.00	\$1,650.00	
Temporary Use By-law	\$3,500.00	\$1,650.00	
By-law to extend the time limit for a Temporary Use			\$551.00
Combined Official Plan Amendment and Zoning By-law Amendment	\$6,000.00	\$2,971.00	
"H" Removal By-law			\$1,319.00
Deeming By-law			\$1,101.00
Site Plan Approval - Minor			
Site Plan Approval - Minor	\$3,000.00	\$1,650.00	
Amendment (see below)	\$2,500.00	\$1,101.00	
Amendment (No Report to Council)			\$551.00
Request for Security Release			\$221.00
Release of Agreement			\$164.00
Site Plan Approval - Major			
Site Plan Approval - Major	\$5,500.00	\$2,750.00	
Amendment (see below)	\$4,000.00	\$2,200.00	
Request for Security Release			\$221.00
Release of Agreement			\$164.00
Telecommunications Facilities			
Exempt from Public Consultation			\$551.00
Not Exempt from Public Consultation			\$881.00
Subdivision Applications			
Subdivision Application	\$10,000.00	\$4,950.00	
Subsequent Phases of Existing Plans of Subdivision	\$6,000.00	\$2,157.00	

Description	Minimum Deposit to Accompany Application	Fee (Non Refundable) plus actual costs	Flat Fee
Revisions to Draft Approved Plans			
Revisions to a Draft Approved Plan of <u>Subdivision</u> (Red Line Revision)			
Minor Revision (see below)	\$6,000.00	\$2,750.00	
Major Revision (see below)	\$8,000.00	\$4,399.00	
Request to Amend Conditions of Draft Approval	\$3,000.00	\$1,101.00	
Request to Extend Draft Approval			\$551.00
Clearance letter from County			\$331.00
Condominium Application	\$10,000.00	\$4,950.00	
Revisions to a Draft Approved Plan of <u>Condominium</u> (Red Line Revision)			
Minor Revision (see below)	\$6,000.00	\$2,750.00	
Major Revision (see below)	\$8,000.00	\$4,399.00	
Request to Amend Conditions of Draft Approval (no change to layout)	\$3,000.00	\$1,101.00	
Request to Extend Draft Approval			\$551.00
Clearance letter from County			\$331.00
Condominium Conversion	\$3,000.00	\$1,101.00	
Preparation of a subdivision, condominium, site plan or development agreement		Actual Legal Costs	
Lift Part Lot Control			\$1,101.00
Extend Part Lot Control			\$551.00
Minor Variance, Consent and Rezoning Applications			
Minor Variance – Residential	\$800.00	\$661.00	
Minor Variance – All others	\$1,100.00	\$881.00	
Amendment when Recirculation Required			\$221.00
Tabling Fee			\$111.00
Special Hearing			\$551.00
Amendment when Recirculation Required	\$1,500.00	\$1,101.00	
Tabling Fee			\$221.00
Special Hearing			\$111.00
Stamping Fee (Certificate)			\$551.00
For consent, new lot & lot additions			\$111.00
For lease and easement			\$73.00
Combined Minor Variance & Consent	\$1,700.00	\$1,319.00	
Combined Consent & Rezoning	\$2,900.00	\$2,090.00	
Other Fees			
Compliance Letters			\$111.00
Peer Review of all Specialized Reports/Studies	\$3,000.00	Actual Costs	
OMB Costs	\$2,500.00	Actual Costs	
Photocopies – per page			28 cents
Information search (per hour, first hour free)			\$33.00
Advertising fee		Actual Costs	
More than one Open House or Public Meeting Required			\$331.00

Description	Minimum Deposit to Accompany Application	Fee (Non Refundable) plus actual costs	Flat Fee
Notice to Cancel Public Meeting or Open House			\$221.00
Re-circulation of Public Notices			\$221.00
Engineering Review Fee			\$164.00
Legal Review Fee		Actual Costs	
Septic Review Fee			\$164.00
Preconsultation (more than one meeting)			\$84.00
Amendment to Development or Subdivision Agreement			\$633.00
Refunds:			
After file opened but before circulated			90%
After file circulated but before considered at a public meeting			50%
After file considered at a public meeting			0%

Where the application is not complete and the deposit has been totally offset by costs, an additional deposit shall be required until the application is complete.

Revised with consumer Price Increase as of January 1, 2016

Planning Definitions for Major and Minor

Official Plan Amendments

Major

- Proposes a re-designation or change in land use for a property or properties;
- Requires many changes to the policies and schedules of the Official Plan;
- New golf courses or expansion to existing golf courses;
- New waste management facility or expansion to existing waste management facility (including agriculture waste facilities);
- Expansion to urban boundary or re-designation of Urban Reserve Area;
- Commercial Development over 3,000 square metres;
- Deletion or addition of arterial or collector road, and;
- Any application that due to the broader policy implications of the Municipality would require the need to review or manage studies or any application deemed to be major by the Manager of Development Services.

Minor

- Proposes a small-scale exception to a specific Official Plan standard (e.g. minor change to the number of permitted units, building height, gross floor area; or to add a site specific use limited in scale);
- Proposes a minor change to a specific policy that is limited in scope and typically to one property;
- Maintains the intent and purpose of the Official Plan;
- Shall have limited impact or policy implications beyond the subject lands, and;
- Any application deemed to be minor by the Manager of Development Services.

Zoning By-law Amendments

Major

- Zone Category Change;
- Associated with an Official Plan Amendment;
- Associated with a Plan of Subdivision or Condominium;
- Application involving multiple properties, and;

- Any Application that requires the review of technical support documents or studies (e.g. environmental analysis, transportation studies, retail market studies etc.).

Minor

- Changes within current zone category.
- Re-zoning related to a “surplus lot consent” whereby the remnant parcel of farmland must be re-zoned to ensure that new residential dwellings are prohibited on any vacant remnant parcel of farmland created by the severance.

Site Plan Approval

Major

- New buildings of any size or additions greater than 929 square metres (10,000 sq. ft) or greater than 3 storeys in building height or;
- Comprehensive changes to on-site grading/servicing/drainage or parking affecting lands greater than .6 hectare (1.5 acres) in land area.

Minor

- Existing buildings or new additions not exceeding 929 square metres (10,000 sq. ft) or up to 3 storeys in building height or;
- Changes to landscaping, parking, grading or drainage areas up to .6 hectare (1.5 acres) in land area, including revisions to building elevations, patios or additions thereto.

Site Plan Amendment

“Major” and “Minor” categories, as listed above, apply where a previous Site Plan has been approved and/or a Site Plan Agreement has been entered into with the Town.

Revisions to a Draft Approved Plan of Subdivision or Condominium (Red-Line Revision)

Major

- Major changes to the layout or conditions of draft approval of a draft approved plan.

Minor

- Minor changes to the layout or conditions of draft approval of a draft approved plan.

**BY-LAW NUMBER 93-2015
SCHEDULE C**

(Applicable taxes will be added to all fees)

COMMUNITY AND DEVELOPMENT SERVICES PARKS & RECREATION
--

Fees – Rooms and Pavilions	
Cancellation fee - (not refundable if within 48 hours)	\$30.00
Set up and Take Down	\$100.00
Security Deposit (no alcohol function)	\$100.00
Security Deposit (alcohol function)	\$200.00
Rentals - Park Pavilions	
Large Pavilion Rental (Lakeview, GERALYN TELLIER PERDU, Tilbury North, Optimist)	\$156.00/day
All Pavilion Rentals – Alcohol Event	\$572.00/day
Small Pavilion Rental (Woodslee Memorial)	\$79.00/day
Centennial and Pleasant Park Pavilions	\$37.00/day
Lakeview Park Amphitheatre – electrical access	\$81.00
Rentals – Community and Recreation Centres	
Large Room	\$260.00/day
Large Room – Alcohol Event	\$575.00/day
Large Room – Alcohol Event (Non-Profit)	\$561.00 /day
Large Room – with or without kitchen	\$155.00/4-hour block
Large Room – non-profit	\$50.00/hour
Large Room	\$70.00/hour
Small Room – Community/non-profit group (regular business hours, non-fee usage, approved by Manager of Recreation)	Free
Small Room	\$155.00/day
Small Room – Alcohol Event	\$300.00/day
Small Room - non-profit	\$30.00/hour
Small Room	\$50.00/hour
Small Room + hall and servery (Libro Centre)	\$200.00/day
Small Room – Community – Non Profit (ATC/Comber/Libro) regular business hours, non-fee usage	Free
Arena floor (non-ice) - non-profit	\$50.00/hour
Arena floor (non-ice)	\$550.00/day
Gymnasium - full Non-profit	\$50.00/hour
Gymnasium – full – block of 10 hours or more	\$45.00/hour
Gymnasium – Commercial (Regular)	\$134.00
Gymnasium – ½ Commercial (Regular)	\$67.00
Gymnasium – ½ Non-Profit	\$47.00
Gymnasium – Sporting event (non-profit) 12 hours	\$545.00
Projector and Screen (with facility rental, per day)	\$22.12
Sound System (with facility rental, per day)	\$22.12
Recreation Fees	
Drop-in Fees:	
Gymnasium per visit:	
Youth (13-17 years)	\$5.00
Adult (18-54 years)	\$5.08
Senior (55 years and over)	\$3.09
Family rate (up to 6 immediate family members)	\$10.00
Pickleball and Shuffleboard (3 hours) Adult/Senior per visit	\$3.09

Fitness Class – Adult/Senior - hourly – instructor led	\$7.08
Adult Open Gym time	\$4.43

Program Registration:	
Recreation Programs:	
Preschool (0-5 years)	\$6.00/hour
Youth (6-12 years)	\$6.00/hour
Teen (13-17 years)	\$6.00/hour
Adult (18-54 years) (not instructor led fitness)	\$6.20/hour
Senior (55 years and over) (not instructor led fitness)	\$6.20/hour
Fitness:	
Adult Fitness –instructor led fitness class	\$6.00/class
Senior Fitness – instructor led fitness class	\$2.66/class
Adult Fitness – full session registration	\$5.00/class
Senior Fitness – full session registration	\$2.00/class
Recreation Program Discounts:	
Family Program Registration – 3 or more immediate family members register for programs at full rates	10% discount
ODSP Recipient Program Registration – eligible persons	10% discount
Seniors Program Registration (60yrs and up)	10% discount
Individual – Multi-Program – 3 or more programs/session	10% discount
Recreation - Summer Camps and Birthday Parties	
Camps: (fees include activity fees and supplies)	
Summer or March Break Camp	\$35.00/day
Summer or March Break Camp	\$140.00/week
Specialty Camp – includes activity fees and supplies	\$155.00/week
Birthday parties:	
Birthday parties - room plus staff - 2 hours - 15 children	\$175.00
Birthday parties - room plus staff plus pizza - 2 hours - 15 children	\$200.00
Birthday parties – room, staff, pizza, public skating - 2 hours – 20 children	\$235.00
Each additional child	\$7.00
Sports Facilities and Fields	
Soccer or Baseball – Registered league fees, per user	\$12.00 per season
Baseball Diamond –reservation & preparation (non-league)	\$50.00
Tennis Court key – per season	\$26.54
WFCU Pool	
Recreation Swim	
Child under 2 (with paid adult)	Free
Child/Youth (ages 3-17)	\$3.00
Adult/Senior	\$2.66
Swimming Lessons	
Child/Youth (regular ratios)	\$7.00/hour
Adult (regular ratios)	\$6.20/hour
Child/Youth (1:4 ratios)	\$10/hour
Private Lessons - individual	\$25.00/hour
Private Lessons – 2 participants (per person)	\$15.00/hour
Private Lessons – 3 or more participants (per person)	\$12.00/hour
Drop-in Swimming	
Pool Lengths and Leisure swim	\$4.43
Pool – Aquatic Exercise	\$5.31

**BY-LAW NUMBER 93-2015
SCHEDULE D**

Revised with Consumer Price Increase as of January 1, 2016
(Applicable taxes will be added to all fees)

COMMUNITY AND DEVELOPMENT SERVICES

ONTARIO PROVINCIAL POLICE	
(Fees to be as adjusted from time to time by the OPP)	
Motor Vehicle Accident Reports	\$39
Incident Report Confirmation	\$39
Witness Statements	\$39
Criminal Record Checks (CRC)	\$26.00
Criminal Record Checks – students	\$11.00
Criminal Record Checks – volunteers	No Charge
Duplicate Copy of CRC Certificate	\$4.60
Fingerprints	\$25.00
Technical Traffic Collision Reports	\$520.00
Reconstructionist Report	\$1,039.00
Detailed Statistical Requests - Minimum charge 1 hour	\$48.00/hr
Alarm Registration – Annual	\$11.00
FALSE ALARMS	
Unregistered Premises - Any at fault false alarm call	\$112.00
Registered Premises - Third at fault false alarm and each subsequent call thereafter	\$112.00

**BY-LAW NUMBER 93-2015
SCHEDULE E**

**Revised with Consumer Price Increase as of January 1, 2016
(Applicable taxes will be added to all fees)**

COMMUNITY AND DEVELOPMENT SERVICES FIRE SERVICES DIVISION
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Letters of Compliance	
Lawyer Letters – per inquiry	\$56.00
Commercial - includes on site inspection	\$179.00
Residential - includes on site inspection	\$90.00
Fire Reports	\$66.00
Fire Inspections	
New Construction - Under 20,000 square feet	\$223.00
New Construction - Over 20,000 square feet	\$334.00
Determination of Occupancy	\$112.00
Inspection and certification of premises for liquor license approval	\$112.00
Inspection by request (day care facility, retirement homes, group homes etc) - excluding residential homes	\$56.00
Fire Inspections – per visit after standard 3 visits	\$41.00/hour
Special Occasion Permit Inspection	\$33.00
Inspection on apartments and boarding houses	\$223.00
All retrofits	\$334.00
Fire Scene Photographs	\$4.10 each
Assistance for private standby beyond normal fire protection of Commercial and Industrial premises (MTO rates per manned apparatus)	\$442.00/hr
Call for Service – Failure to Locate Utilities – per manned fire apparatus	\$505.00
Fire Investigation Reports	\$223.00
Fire Safety Plan Review – Vulnerable Occupancies: Small Facilities (up to 5 residents)	\$253.00
Large Facilities (over 5 residents)	\$505.00
Inspections for Propane Dispensing Sites: Existing 5,000 USWG or less	\$157.00
New/modified 5,000 USWG or less	\$315.00
Existing greater than 5,000 USWG	\$1,573.00
New/modified greater than 5,000 USWG	\$1,573.00
If necessary to retain 3 rd party engineer or other firm	Actual Costs
False Alarms	
After second false alarm:	
First Hour – per manned apparatus	Current MTO rate
Each additional half hour – per manned apparatus	Current MTO rate
Open Burn By-law Cost Recovery Formula	
Fire Administration only attends location	½ the current MTO rate for a single manned fire apparatus
Camp fire extinguishment only	½ the current MTO rate for a single manned fire apparatus
Fire extinguishment using less than 6 firefighters	Current MTO rate for a single manned fire apparatus
Fire extinguishment using greater than 6 firefighters and less than 12 firefighters	Current MTO rate for 2 manned fire apparatus
Fire extinguishment requiring a 2 station response	Current MTO rate for 4 manned fire apparatus

BY-LAW NUMBER 93-2015

SCHEDULE F

Revised with Consumer Price Increase as of January 1, 2016

(Applicable taxes will be added to all fees)

CORPORATE SERVICES

Permits, Licences and Fees	
Bingo/Raffle Licenses	3% of Proposed Prize
Break Open Lottery Tickets – per box	\$11.00
Burial Permits	\$15.00
Hunting Licences	
Resident – Small Game	\$11.00
Non-Resident – Small Game	\$16.00
Marriage License	\$137.00
Marriage Solemnization - Ceremony fee	\$253.00
Marriage Solemnization-Ceremony fee–offsite/after hours (mileage per CCRA rates)	Basic fee + \$100.00+ Actual mileage cost
Taxi Licences (Annual)	
Company License	\$112.00
Company License Renewal	\$56.00
Driver Permits – OPP Clearance provided by applicant	\$22.00
Photocopying – Per Page	\$0.28
Privacy Act	
Freedom of Information (MFIPPA) Requests:	
Application Fee	\$5.00
Miscellaneous Charges per OReg 823	Per O. Reg 823
Freedom of Info Request – electron document – per 15 minutes	\$15.00
Alley Closing	
Closing, sale and disposition of streets and alleys - Policy AD-284.	\$1,000 non- refundable fee plus applicable costs

**BY-LAW NUMBER 93-2015
SCHEDULE G**

Revised with Consumer Price Increase as of January 1, 2016
(Applicable taxes will be added to all fees)

ENGINEERING AND INFRASTRUCTURE SERVICES
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PUBLIC WORKS DIVISION	
Ditching Policy – Administrative Fee	\$223.00
Encroachment/entrance permit and other miscellaneous works - fee	\$223.00
Indemnity deposit – refundable up to three years from issuance of permit	\$1,300.00
Mini-Cam Inspection	\$112.00

DRAINAGE DIVISION	
Shoreline Loans – Administrative Fee	\$140.00
Tile Loans – Administrative Fee	\$140.00

ENGINEERING DIVISION	
Lawyer Letters - per property inquiry	\$56.00

WATER DIVISION	
Water Shut-Off - nonpayment	\$47.00
Water Shut-Off	\$28.00
Water Shut Off – After Hours	\$142.00
Water Turn-On	\$28.00
Water Turn On – After Hours	\$142.00
Water Disconnect, defined as a complete removal of the water service to corporation stop	Actual cost
Water Reconnect, defined as a installation of the water service to corporation stop. Buy-in fee under Tariff of Fees By-law is not applicable if done within 5 years of disconnect.	Actual cost
New Water Account Set Up Fee	\$28.00
Shut off notice	\$6.00
Relocation of Water Service	Short Service Long Service
	\$2,778.00 \$3,444.00
Inspection Fee – water service when building demolished	\$54.00
Water Service Abandonment Fee <ul style="list-style-type: none"> • Where all buildings have been removed from a building lot and a water service is requested to be abandoned by the property owner, the water service pipe shall be disconnected at the property line. The service box and rod shall be removed by the owner’s contractor or by Town forces, at the owner’s expense, and inspected by the Town; after which the basic charge will no longer be applicable 	
Town performs the work	\$275.00
Inspection Fee when property owner performs the work	\$54.00
Water Service Abandonment Reconnection Fee (at property line) - Town performs the work	\$275.00
Inspection Fee when property owner performs the work In the event that the reconnection is done within 5 years the Water Buy in Fee shall not be applicable.	\$54.00

Water Permit Includes Supplying Water Meter	
All Water Meters	Actual cost plus administration fee of \$28.00
Test of Water Meter	\$152.00 (if meter is found to be in proper working order)
Frozen Meter Repair	\$98.00
Water Buy-In Fees	per By-law 49-2015

BY-LAW NUMBER 93-2015

SCHEDULE H

Revised with Consumer Price Increase as of January 1, 2016

(Applicable taxes will be added to all fees)

FINANCE SERVICES

FINANCE		
Convenience Fee – US currency transactions (per item)		\$3.00
NSF Cheque		\$28.00
Tax Certificate and Water Certificate - per property inquiry		\$68.00
Property Tax Bill Reprint		\$11.00
Refund or Misdirected Payment Charge		\$28.00
Title search on Property that is in Excess of 2 Years in Arrears		\$52.00 per property
Financing Administration Fee		\$105.00 per property
G.I.S. MAPPING		
Standard Map Products		
Available Maps	Size	Fee
Municipal Wide Street Map (Double Sided – Colour)	11 x 17	N/C
Municipal Wide Street Map (Double Sided – Colour)	18 x 34	\$6.00
Municipal Wide Street Map (Double Sided – Colour)	24 x 50	\$11.00
Custom Map Products		
Map Types	Fee	
Custom Mapping Custom Map Products include any plots larger than 11 x 17. The maximum size is 24 x 50.	\$47.00/hour	

BY-LAW NUMBER 93-2015

SCHEDULE I

Revised with Consumer Price Increase as of January 1, 2016

(Applicable taxes will be added to all fees)

COMMUNITY AND DEVELOPMENT SERVICES

Arena – Ice Rates	
	Effective April 1, 2016
Ice Rentals – hourly rates:	
Weekday morning (M-F 7am – 12pm; September – March)	\$101.00
Weekday non-prime time (M-F 12pm – 5pm; 10pm-12am)	\$141.00
Prime Time (M-F 5pm-10:00pm, Sat/Sun 8am-10pm)	\$176.00
Same Day rental	\$123.00
Ice Rental Cancellation Fee – minimum 48 hours notice	\$29.00
Arena Storage Room – registered leagues	free
Public Skating:	
Public Skate session	\$2.00**
Parent and Tot Skate session	Free
Adult/Senior Skate session	Free
Figure Skating practice (Child/Youth)	\$10.00
Drop-in Hockey: (full equipment is required)	
Adult	\$6.20
Child (up to 14)	\$5.00*
Youth (15-17)	\$5.00**

* tax exempt

**includes HST

BY-LAW NUMBER 93-2015

SCHEDULE J

Revised with Consumer Price Increase as of January 1, 2016

(Applicable taxes will be added to all fees)

COMMUNITY AND DEVELOPMENT SERVICES

Belle River Marina Rates	
	Effective January 1, 2016
Slip Rental –Seasonal:	
Fully Serviced - based on size of slip	\$48.00/ft
Un-serviced- based on size of slip	\$38.00/ft
Slip Rental – Monthly:	
Docks A and B – Serviced	\$421.00
Docks C, D, G and F – Serviced	\$368.00
Docks E and F – Un-serviced	\$343.00
Slip Rental - Transient	
Slip Rental	\$1.65/ft
3-night Discount (Sunday through Wednesday)	Buy 2 nights, get 1 free
2-night Club Event Booking	Buy one night, get 1 50% off
Other Fees:	
Electrical Fee -Air Conditioner per unit	\$175.00
Pump Out	\$11.50
Boat Launch Ramp – Day Pass	\$11.50
Boat Launch Ramp - Season Pass	\$166.00
Boat Launch Ramp – 10-pack	10% off pack of 10
Jet Ski Access – Season Pass (must supply Town approved dock)	\$175.00
Chartering Access – Season Pass	\$449.00

BY-LAW NUMBER 93-2015
SCHEDULE K
Revised with Consumer Price Increase as of January 1, 2016

ENGINEERING AND INFRASTRUCTURE SERVICES
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Water Rates	
Consumption - per cubic meter	\$1.44
Basic - per month	\$19.62
Flat rate - per month	\$69.00
Late payment charge on water bill	3% per month

Wastewater Rates	
Consumption - per cubic meter	\$1.30
Basic - per month	\$15.07
Flat rate - per month	\$62.00

APPENDIX D

PARK FEES

- Park Fees

PARK FEE SCHEDULE

Adopted by Resolution of Council on April 06, 1999 (Policy #34 – Policy Manual)

- 1. Residential Lots created in Urban Area \$1 200.00 per lot
- 2. Residential Lots created in Rural Area \$600.00 per lot
- 3. Lot creation for non-residential lots \$ 2% of appraised value

APPENDIX E
BYLAWS, POLICIES AND PROCEDURES

1. Cross Connection By-law 11-2001
2. Policy: Assumption of Private Roads
3. Watermain Procedures, January 3, 2007
4. Sewer Testing

CORPORATION OF THE TOWN OF LAKESHORE

BY-LAW NUMBER 11-2001

CROSS CONNECTION CONTROL BY-LAW

WHEREAS the Public Utilities Act, R.S.O. 1990, Chapter P.52 gives the Town authority to pass by-laws to govern and regulate the supply of water; and

WHEREAS the Town controls, manages, and maintains the water works distribution system in the Town of Lakeshore and deems it expedient to enact this by-law to govern the supply of all water in the Town of Lakeshore; and

WHEREAS the by-law shall take precedence over all existing by-laws and regulations.

NOW THEREFORE, THE TOWN OF LAKESHORE ENACTS AS FOLLOWS:

(D) DEFINITIONS:

In this by-law and in the schedules attached hereto, unless the context otherwise requires, the following words shall have the following meanings:

- D1 APPROVED AUTHORITY** means an authority approved by the Town, to act on behalf of the Town.
- D2 APPROVED DEVICES** means devices designed to protect a potable water system from contamination as indicated in Part 7 of the Ontario Building Code.
- D3 CONSUMER** means the owner or occupant of property, which is serviced by, connected to and takes water from the water works distribution system.
- D4 CROSS CONNECTION** means any temporary, permanent, or potential water connection that may allow backflow of contaminates, pollutants, infectious agents, other material or substance that will change the water quality in the water works distribution system and includes swivel or changeover devices, removable sections, jumper connections and bypass arrangements.
- D5 CURB BOX** means the vertical pipe installed over the shut-off valve on the water service connection.
- D6 METER** means the water meter supplied and owned by the Town to measure the quantity of water used by the consumer.
- D7 OWNER** means the owner of any land or building served by or connected by a water service pipe from the water works distribution system.
- D8 PREMISES** means any house, tenement, building, lot, or part of a lots, or both, in, through, or past which water service pipes run.
- D9 PRIVATE METER** means the meter purchased and installed by the owner or occupant for secondary measurement of water consumption at various units on the premises.

- D10 SHUT-OFF VALVE** means the valve on the water service connection owned and used by the Town to shut-off or turn on the water supply from the Town's water works distribution system to any premises.
- D11 STREET LINE** means a boundary of a property adjoining a road allowance.
- D12 TESTER** means any person who has an active Ontario Plumbing Licence called a Certificate of Qualification, plus the AWWA Back Flow Prevention Certificate or equivalent.
- D13 TOWN** means the Corporation of the Town of Lakeshore.
- D14 VALVE BOX** means the vertical pipe installed over an underground valve in the water works distribution system, which allows the said valve to be operated from ground level.
- D15 VALVE CHAMBER** means the underground structure housing a valve in the water works distribution system, which permits access to, and operation of the said valve from ground level.
- D16 WATER** means potable water that is fit for human consumption.
- D17 WATER SERVICE CONNECTION** means that part of a water service pipe from the municipal water main to the street line, including the shut-off valve, which supplies water from the water works distribution system to any premises.
- D18 WATER SERVICE PIPE** means the pipe and fittings, which convey water from the Town's water service connection to the water meter or, if for fire protection purposes only, then to a point where it terminates outside the building or at a point where it enters the building.
- D19 WATER WORKS DISTRIBUTION SYSTEM** means the watermains and appurtenances, the works, and the equipment under the jurisdiction of the Town for the supply or distribution of water of any part of such system.

(1) CROSS CONNECTIONS AND BACKFLOW PREVENTION:

- 1.1 No consumer or other person shall connect, cause to be connected, or allow to remain connected to the water works distribution system any piping, fixture, fitting, container, or appliance, in a manner which under any circumstances may allow water, waste, or any other liquid, chemical or substance to enter the water works distribution system. No connection shall be made between a potable water system supplied with water from a water works approved under the Ontario Water Resources Act and any other potable water system without the consent of the water purveyor. Every potable water system that supplies a fixture or tank that is not subject to pressures above atmospheric shall be protected against back-siphonage by a backflow preventer. Where a potable water supply is connected to a boiler, tank, cooling jacket, lawn sprinkler system or other device where a non-potable fluid may be under pressure that is above atmospheric or the water outlet may be submerged in the non-potable fluid, the potable water supply shall be

protected against backflow by a backflow preventer.

- 1.2 If a condition is found to exist which is contrary to Section 1.1 of this by-law, the Town or an approved authority shall immediately carry out an inspection and shall issue such order or orders to the consumer or other person, as the case may be, as may be required to obtain compliance with Section 1 of the by-law.
- 1.3 If the consumer or other persons to whom the Town or approved authority has issued an order fails to comply with that order, the Town, at their discretion, may:
 - a) Give notice to the consumer or other person to correct the fault, at his expense, within a specified time period and, if the notice is not complied with, the Town may then shut off the water service or services, or
 - b) Without prior notice, shut off the water service or services.
- 1.4 Notwithstanding Sections 1.1, 1.2 and 1.3 of the by-law where a risk of possible contamination of the water works distribution system exists, in the opinion of the Town or an approved authority, a consumer shall, on notice from the Town or approved authority, install on his water service a premise isolation cross connection control device, approved by the Town or approved authority, in addition to any cross connection control devices installed in the consumer's water system at the source of potential contamination. See Ontario Building Code.
- 1.5 Cross connection control or backflow prevention devices, when required by the Town or approved authority, shall be installed, maintained and tested in accordance with the CSA B64,10.94 Manual for the Selection, Installation, Maintenance and Field Testing of Backflow Prevention Devices.
- 1.6 All cross connection control devices shall be inspected and tested at the expense of the consumer, upon installation, when cleaned, repaired or overhauled, when relocated and thereafter annually, or more often if required by the Town or approved authority, by personnel approved by the Town to carry out such tests to demonstrate that the device is in good working condition. The consumer shall submit a report to the Town on a form approved by the Engineer on any tests performed on a cross connecting control device within 14 days of a test and a record card shall be displayed on or adjacent to the cross connection control device on which the tester shall record the address of the premises, the location, type, manufacturer, serial number and size of the device, and the test date, the tester's initials, the tester's name (if self employed) or the name of his employer and the tester's licence number.
- 1.7 When the results of a test referred to in Section 1.6 of the by-law show that a cross connection control device is not in good working condition, the consumer shall make repairs or replace the device within ninety-six (96) hours.

- 1.8 If a consumer fails to have a cross connection control device tested, the Town or approved authority may notify the consumer that the cross connection control device must be tested within 14 days of the consumer receiving the notice.
- 1.9 If a consumer fails to have a cross connection control device tested within 14 days when requested by the Town or approved authority, the Town may shut off the water service or water services until the cross connection control device has been tested and approved as required by Section 1.6 of this by-law.
- 1.10 The Town or approved authority at their discretion, may also require the consumer to install zone or area protection as required by CSA Standard B64.10 M88 within his plumbing system.
- 1.11 The Town or approved authority shall be allowed access, with reasonable notice, to any premises that are connected to the water works distribution system for the purpose of performing an inspection to locate possible cross connections.
- 1.12 Where the access referred to in Section 1.11 is not provided, a written notice by the Town or approved authority will be issued allowing fourteen (14) days to provide access. If access is not provided within this time frame, the Town may, at their discretion, shut off the supply of water to the premises until such time as the access is provided.
- 1.13 Cross connection control or backflow prevention devices installed at the requirement of provincial legislation shall not be removed if the applicable provincial regulation is rescinded without permission of the Town or approved authority.

(2) REGULATIONS, PENALTIES FOR OFFENSES, CHARGES:

- 2.1 The following section of the Public Utilities Act shall be incorporated in and form an integral part of this article:

Every person who,

- (a) willfully hinders or interrupts, or causes procedures to be hindered or interrupted, the Town or any of its officers, contractors, agents, servants, or workmen, in the exercise of any of the power conferred by this Act;
- (b) willfully lets off or discharges water so that the water runs waste or useless out of the works;
- (c) being a tenant, occupant, or inmate of any house, building or other place supplied with water from the waterworks, improperly wastes the water or, without the consent of the Town, lends, sells, or disposes of the water, gives it away, permits it to be taken or carried away, uses or applies it to the use or benefit or another, or to any use and benefit other than his own or increases the supply of water agreed for;

- (d) without lawful authority willfully opens or closes any valve or hydrant, or obstructs the free access to any hydrant, stopcock, valve, chamber or pipe by placing on it any building material, rubbish or other obstruction;
- (e) throws or deposits any injurious, noisome or offensive matter into the water or waterworks, or upon the ice if the water is frozen, or in any way fouls the water or commits any willful damage or injury to the works, pipes or water, or encourages the same to be done;
- (f) willfully alters any meter placed upon any service pipe or connected therewith, within or without any building or other place, so as to less or alter the amount of water registered or;
- (g) lays or causes to be laid any pipe or main to communicate with any pipe or main of the water works, or in any way obtains or uses the water without the consent of the Corporation, is guilty of an offence.

2.2 Every person who contravenes any of the provisions of this by-law shall, upon conviction thereof, forfeit and pay at the discretion of the Provincial Court Judge, Magistrate, or Justice of the Peace, a penalty not exceeding exclusive of costs, the sum of two thousand dollars (\$2,000.00) and not less than three hundred dollars (\$300.00) for each offence recoverable under the Provincial Offenses Act for the Province of Ontario.

2.3 In addition to all other sanctions and remedies provided in the by-law, the Engineer may turn off or restrict the supply of water to any consumer where each consumer has violated any of the provisions of this by-law and may refuse to restore normal service until the violation complained of has been terminated or remedied. The Town will not be liable for any damages to property or injury to person by reason of shut off of water supply or malfunction of a cross connection control or backflow prevention device.

2.4 The Town may establish rates and charges for the purposes of this by-law, which shall be due, and payable in the same manner as any charge levied within the Public Utilities Act.

This by-law shall come into force and effect upon the final passing thereof.

READ a first, second and third time, and **FINALLY PASSED** this 13 day of February, 2001.

PAT HAYES, MAYOR

ANDREA RIVEST, CLERK

Policy: Assumption of Private Roads	Policy #: EN-115
Department: Engineering and Infrastructure – Public Works	Effective Date: January 21, 2002
	Revision Date: July 26, 2006

1.0 Purpose

1.1 This policy identifies the criteria for the Town of Lakeshore to assume a private road.

2.0. Scope

2.1. This policy applies to all private roads in the Town of Lakeshore.

2.2. This policy does not apply to new developments established pursuant to approvals obtained through the Planning Act or other provincial legislation.

3.0 Policy

3.1 The Town of Lakeshore will normally not expropriate land in order to assume a private road.

3.2 All persons (100%) owning a portion of the private road must agree to dedicate it to the Town of Lakeshore.

3.3 The affected property owners must agree to assume the cost of upgrading the private road to municipal standards pursuant to the Local Improvement Act or otherwise.

3.4 The Town of Lakeshore must attempt to receive a dedication of property 20 metres in width as a proper road allowance.

3.5 Where it is impossible for the residents to convey a 20 meter wide road allowance to the municipality, the municipality is to receive a dedication of the maximum width of property available. This property is to be not less than 10 meters in width in order for the municipality to assume the property for municipal road allowance purposes.

3.6 Prior to conveying the road allowance to the municipality, the residents are required (at the expense of the affected residents) to construct a hard surfaced roadway of sufficient width and capacity to accommodate normal two lane vehicular traffic including fire, municipal and garbage collection vehicles. This would typically include:

3.6.1 A minimum traveled portion of 7 meters of hard surfaced roadway (either of two lifts of surface treatment or 75 mm of hot mix asphalt) over a 300 mm stone base (subject to the results of a soil test on the subject area).

- 3.6.2 A 1.5 meter wide shoulder area, one each side of the roadway for installation of any required road drainage and to accommodate any existing or future services.
- 3.7 Prior to the assumption of the road allowance, proper drainage for the roadway as determined by the Town be constructed and brought to a sufficient outlet at the expense of the affected residents.
- 3.8 Where existing services are not able to be included in the road allowance to be conveyed to the municipality, sufficient easements are to be provided by the residents to allow the municipality access for repair or replacement purposes.
- 3.9 Prior to the assumption of the road allowance by the municipality, the residents are required to maintain the newly constructed road for a period of one year.
- 3.10 Any and all legal, surveying, construction, or other related costs are to be the responsibility of the affected residents.

4.0 Responsibilities

- 4.1 It is the responsibility of the Director of Engineering and Infrastructure to ensure staff is aware of and follows this policy.
- 4.2 It is the responsibility of the Manager of Public Works to ensure property owners comply with this policy.

5.0 Consequences

- 5.1 Failure to follow this policy may result in the municipality assuming additional maintenance costs for roads.

6.0 References

- 6.1 At this time there is no legislation or bylaw affecting this policy.

Engineering and Infrastructure Services

Environmental Services Division

(519) 728-2488
1-877-249-3367
Fax: (519) 728-4577

Notice to Contractors - Town of Lakeshore Water Distribution System

1. At no time shall any person other than a Lakeshore water operator operate any valve on the Lakeshore water distribution system.
2. At no time shall any person other than a Lakeshore water operator operate or use any fire hydrant on the Lakeshore water distribution system.
3. All water samples shall be taken and delivered to an accredited laboratory under the supervision and approval of a Lakeshore water operator. Any samples that have been taken without this procedure being followed shall neither be accepted nor approved by the Public Works Department.
4. No connections to the existing Lakeshore water distribution system shall occur until a Certificate of Approval from the Ministry of the Environment, if required, has been received by the Public Works Department.
5. All regulatory requirements are to be followed when commissioning newly installed watermains, and in addition the following procedures shall be followed and supervised either by a Lakeshore water operator or the Town Engineer:
 - a. All newly installed watermains shall be isolated from the water distribution system and shall continue to be isolated until the completion of all of the outlined procedures;
 - b. Newly installed watermains shall be swabbed and flushed using two swabs until water runs clear;
 - c. Any new sections of watermain are then to be chlorinated and chlorine is to remain in the new section for 24 hours;
 - d. The new section is then to be entirely re-flushed and a sample(s) are to be taken (see Paragraph 3 above);
 - e. After 24 hours the new section is to be flushed again and a second sample is to be taken as per Paragraph 3 above;
 - f. Both the above samples have to pass all necessary requirements before pressure testing can occur. If the first sample fails and the second sample passes, an additional sample must be taken and must pass before pressure testing can occur. If the second sample fails, two new samples must be taken and they must both pass before pressure testing.
 - g. Subject to completion of successful sampling, pressure testing can occur. The new section must be tested to a minimum of 150 pounds per square inch for a minimum period of 2 (two) hours;
 - h. After a successful pressure test occurs, another sample is to be taken (see Paragraph 3). If this sample passes, the new section can be put into service. If the sample does not pass, the new section is to be flushed and sampled until two consecutive samples pass.
 - i. After successful completion of (h) above, the Public Works Department will allow connection to the water distribution system.
 - j. Contractors shall have the option of installing services on new watermain sections either prior to or after commissioning the new section(s);
 - k. The Public Works Department reserves the right to amend any or all of the above procedures at any time should it be deemed necessary in order to ensure the safety of the potable water system.

Dated at Lakeshore this 3rd day of January, 2007

Tony Francisco, C. Tech., C.R.S-S
Manager, Environmental Services

SEWER TESTING

1. SANITARY SEWER TESTING

Sanitary sewers are to be tested to Ontario Provincial Standards (410.07.15 Field Testing.)

2. STORM SEWER TESTING

Field Testing of Storm Sewer Pipe Greater than 900 mm in Diameter

Pipe greater than 900 mm in diameter will not require or be subjected to filtration or air testing, unless specifically provided for in the Special Provisions.

A visual or camera inspection of the installed pipe shall be made from inside after backfill has been completed and the pipes' acceptance will have as a prerequisite the repair off any cracks, leaks and faulty joints in excess of the allowable OPS tolerances.

Air Pressure Test for Concrete Pipe 900 mm in Diameter or Less

When specified by the Engineer, an air test for leakage in lieu of a filtration test may be allowed, and shall be made as follows:

- a) Air control equipment that includes a shut off valve, safety valve, pressure regulating valve, pressure reduction valve and monitoring pressure gauge with pressure range from 0 to 35 kPa with minimum divisions of 0.5 kPa and accuracy of approximately 0.25 kPa shall be provided.
- b) The Contractor shall plug and brace the ends of the sewer lines to be tested as specified above. The test shall include both the sewer main and the laterals, but not the manholes.
- c) The test section shall be filled slowly until a constant pressure of 24 kPa is maintained. If the ground water is above the sewer being tested, the air pressure shall be increased by 3.0 kPa for each 300 mm that the ground water level is above the invert of the pipe.
- d) The air pressure shall be stabilized for five minutes and then regulated to maintain it at 20.5 kPa plus the allowance for ground water, if any. After the stabilization period, the time taken for a pressure loss of 3.5 kPa shall be recorded.

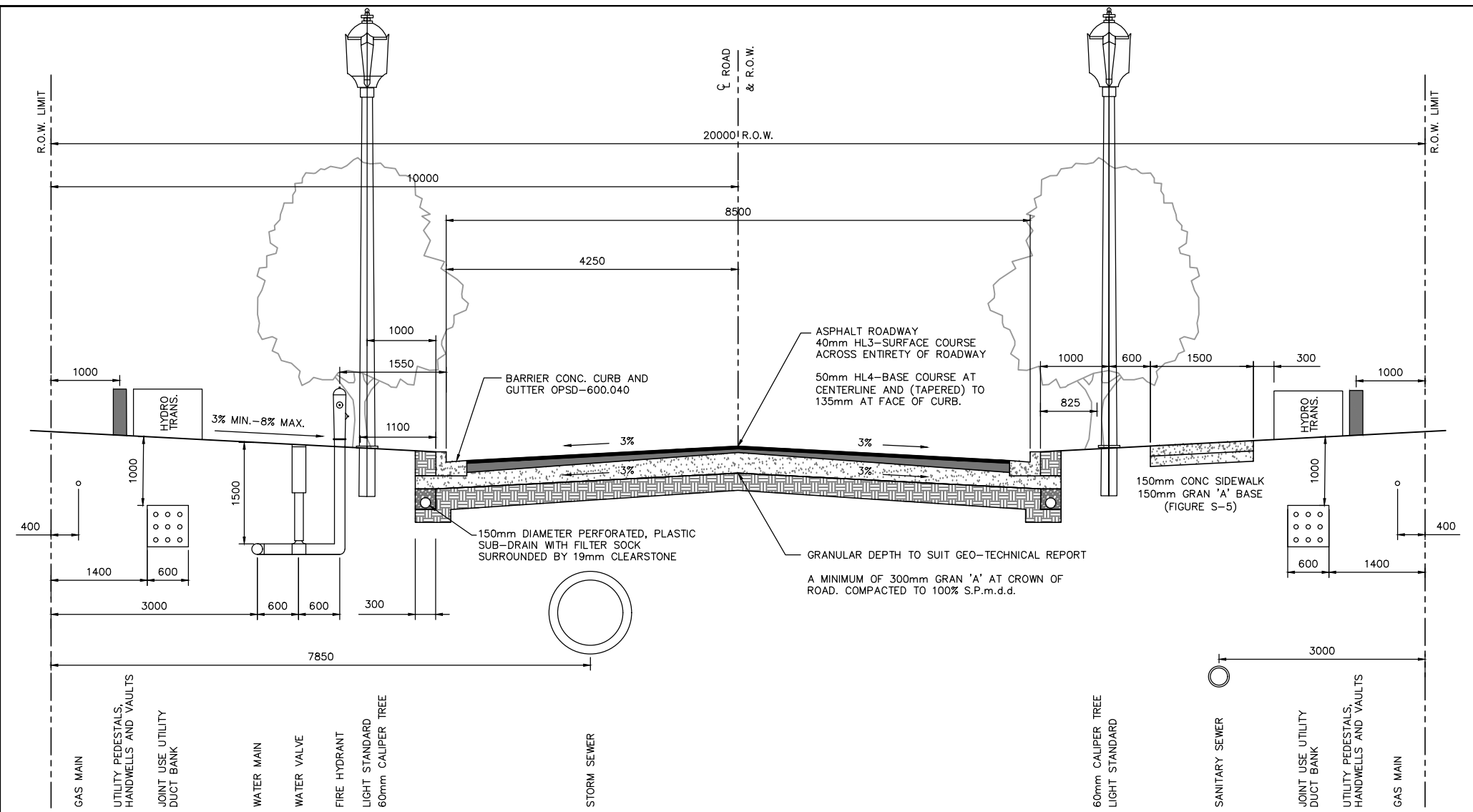
- e) All plastic storm sewer pipe 450 mm diameter or less is to be tested to OPSD 410 unless the Engineer specifies differently in the Special Provisions.
- f) The time loss referred to herein shall be not less than as shown for concrete pipe only on the following table:

Sewer Pipe Diameter (mm)	Minimum Time Loss (minutes)
150 – 350	1
375 – 500	2
525 – 750	3
825 – 900	4

If the time loss is less than listed in the above table, the Contractor shall make necessary repairs to reduce the leakage to acceptable limits.

APPENDIX F – FIGURES

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Figure CS-3	Typical Road Cross Section, 22.0 m R.O.W. – Collector Road
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Figure W-2	Backflow Prevention with Water Meter
Figure W-3	#9800 Automatic Flushing Device
Figure W-4	Fire Hydrant Flow Test Colour Codes



ADDITIONAL NOTES:

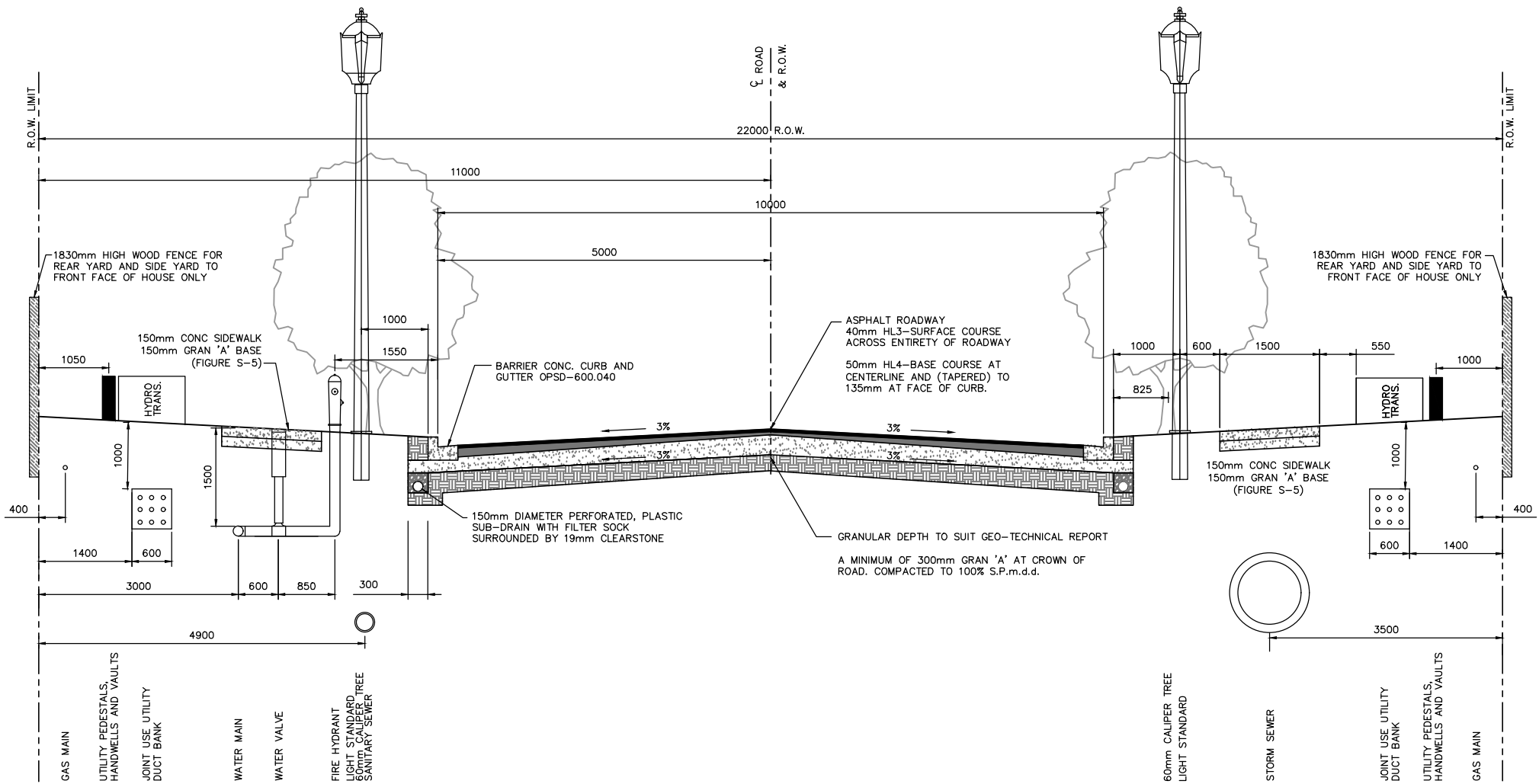
1. FINAL LOCATION OF UTILITIES MAY VARY DEPENDING ON UTILITY COMPANY AND ON SITE SPECIFIC REQUIREMENTS. FINAL POSITIONING OF UTILITY INFRASTRUCTURE SHALL BE VERIFIED BY A REPRESENTATIVE OF THE TOWN OF LAKESHORE.
2. 3.0m MULTI-USE PATHWAYS (75mm ASPHALT THICKNESS ON 250mm GRANULAR 'A') MAY BE REQUESTED IN LIEU OF CONCRETE SIDEWALK. THE BASE IS TO BE 300mm WIDER THAN THE ASPHALT ON EACH SIDE. MINIMUM HL4 BASE COURSE ASPHALT IS TO BE USED.
3. ALL SANITARY AND STORM SERVICES SHALL INCLUDE A TEE AND CLEANOUT AT PROPERTY LINE. ALL CLEANOUTS SHOULD PROJECT 300mm ABOVE FINISHED GRADE FOR INSPECTION. ONCE INSPECTION IS COMPLETE THE CLEANOUT SHOULD BE CUT, CAPPED AND BURIED 150mm-300mm BELOW FINISHED GRADE.
4. WATER SERVICE VALVES TO BE SET AT PROPERTY LINE.
5. EXPOSED SUB-BASE SHALL BE PROOF-ROLLED IN THE PRESENCE OF A GEO-TECHNICAL ENGINEER TO VERIFY SUITABILITY.
6. SPARE CONDUIT SHALL BE INSTALLED WITHIN THE JOINT USE DUCT BANK AS PER TOWN OF LAKESHORE DEVELOPMENT MANUAL.
7. AT LAKESHORE'S DISCRETION, 100mm DIAMETER PERFORATED SUB-DRAIN MAY BE ACCEPTABLE IF INSTALLED WITH GRADE STAKES OR LASER LEVEL.



		7	June 13, 2016
		6	April 30, 2015
		5	November 11, 2014
		4	December 11, 2012
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8	July 6, 2017		
No.	Revision Date	No.	Revision Date

Town of Lakeshore Development Manual

Figure CS-2
 Typical Road Cross Section
 20.0m R.O.W. - LOCAL ROAD



ADDITIONAL NOTES:

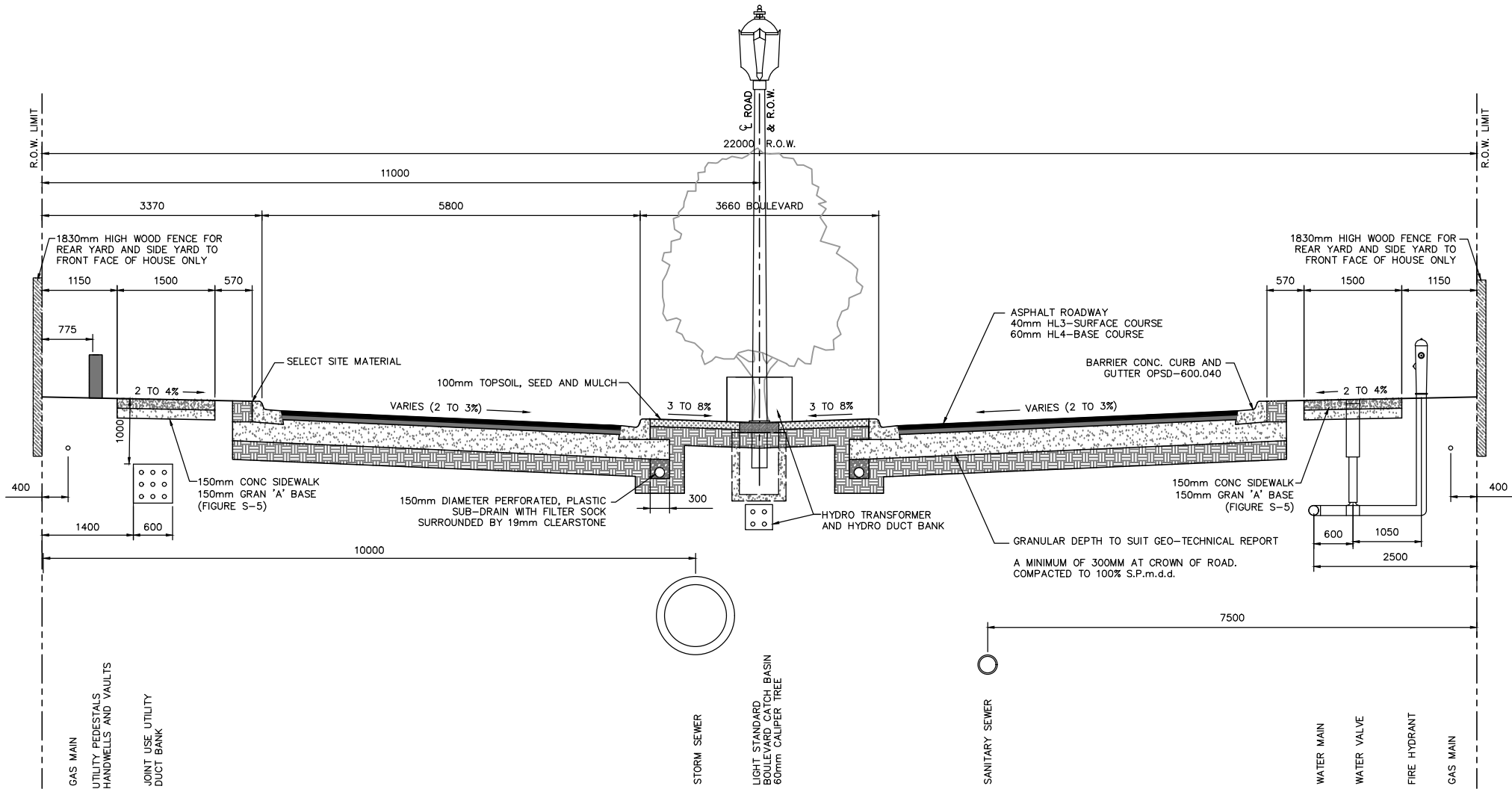
- FINAL LOCATION OF UTILITIES MAY VARY DEPENDING ON UTILITY COMPANY AND ON SITE SPECIFIC REQUIREMENTS. FINAL POSITIONING OF UTILITY INFRASTRUCTURE SHALL BE VERIFIED BY A REPRESENTATIVE OF THE TOWN OF LAKESHORE.
- 3.0m MULTI-USE PATHWAYS (75mm ASPHALT THICKNESS ON 250mm GRANULAR 'A') MAY BE REQUESTED IN LIEU OF CONCRETE SIDEWALK. THE BASE IS TO BE 300mm WIDER THAN THE ASPHALT ON EACH SIDE. MINIMUM HL4 BASE COURSE ASPHALT IS TO BE USED.
- EXPOSED SUB-BASE SHALL BE PROOF-ROLLED IN THE PRESENCE OF A GEO-TECHNICAL ENGINEER TO VERIFY SUITABILITY.
- AT LAKESHORE'S DISCRETION, 100mm DIAMETER PERFORATED SUB-DRAIN MAY BE ACCEPTABLE IF INSTALLED WITH GRADE STAKES OR LASER LEVEL.
- SPARE CONDUIT SHALL BE INSTALLED WITHIN THE JOINT USE DUCT BANK AS PER TOWN OF LAKESHORE DEVELOPMENT MANUAL.



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		5	November 11, 2014
		4	December 11, 2012
		3	April 14, 2009
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8	July 6, 2017	1	October 16, 2006
No.	Revision Date	No.	Revision Date

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Figure CS-3
 Typical Road Cross Section
 22.0m R.O.W. - COLLECTOR ROAD



ADDITIONAL NOTES:

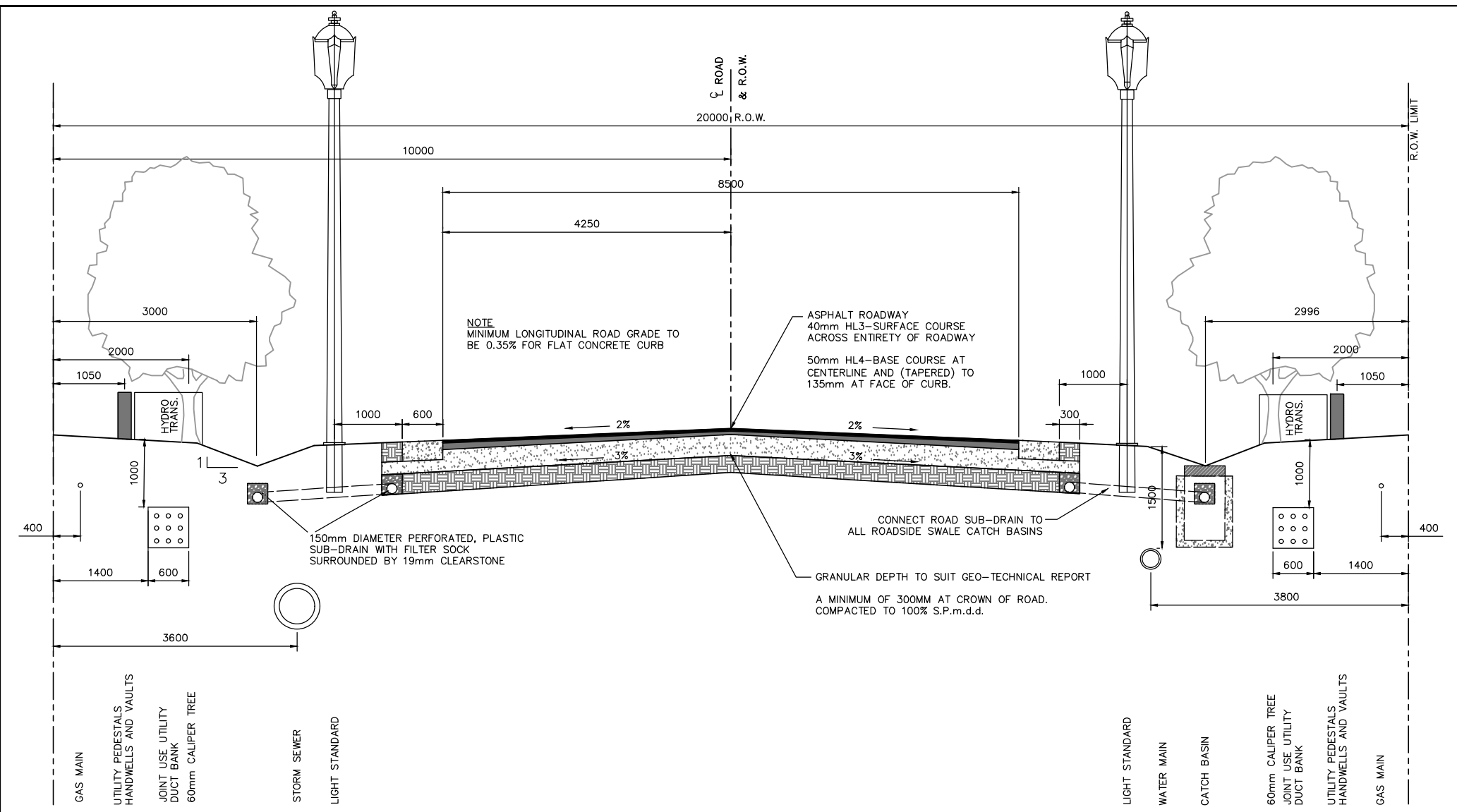
- FINAL LOCATION OF UTILITIES MAY VARY DEPENDING ON UTILITY COMPANY AND ON SITE SPECIFIC REQUIREMENTS. FINAL POSITIONING OF UTILITY INFRASTRUCTURE SHALL BE VERIFIED BY A REPRESENTATIVE OF THE TOWN OF LAKESHORE.
- 3.0m MULTI-USE PATHWAYS (75mm ASPHALT THICKNESS ON 250mm GRANULAR 'A') MAY BE REQUESTED IN LIEU OF CONCRETE SIDEWALK. THE BASE IS TO BE 300mm WIDER THAN THE ASPHALT ON EACH SIDE. MINIMUM HL4 BASE COURSE ASPHALT IS TO BE USED.
- EXPOSED SUB-BASE SHALL BE PROOF-ROLLED IN THE PRESENCE OF A GEO-TECHNICAL ENGINEER TO VERIFY SUITABILITY.
- AT LAKESHORE'S DISCRETION, 100mm DIAMETER PERFORATED SUB-DRAIN MAY BE ACCEPTABLE IF INSTALLED WITH GRADE STAKES OR LASER LEVEL.
- SPARE CONDUIT SHALL BE INSTALLED WITHIN THE JOINT USE DUCT BANK AS PER TOWN OF LAKESHORE DEVELOPMENT MANUAL.



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5	July 6, 2017		
4	April 30, 2015		
3	December 11, 2012		
2	January 14, 2008		
1	October 16, 2006		

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Figure CS-4
 Typical Road Cross Section
 22.0m R.O.W. - COLLECTOR ROAD WITH BOULEVARD



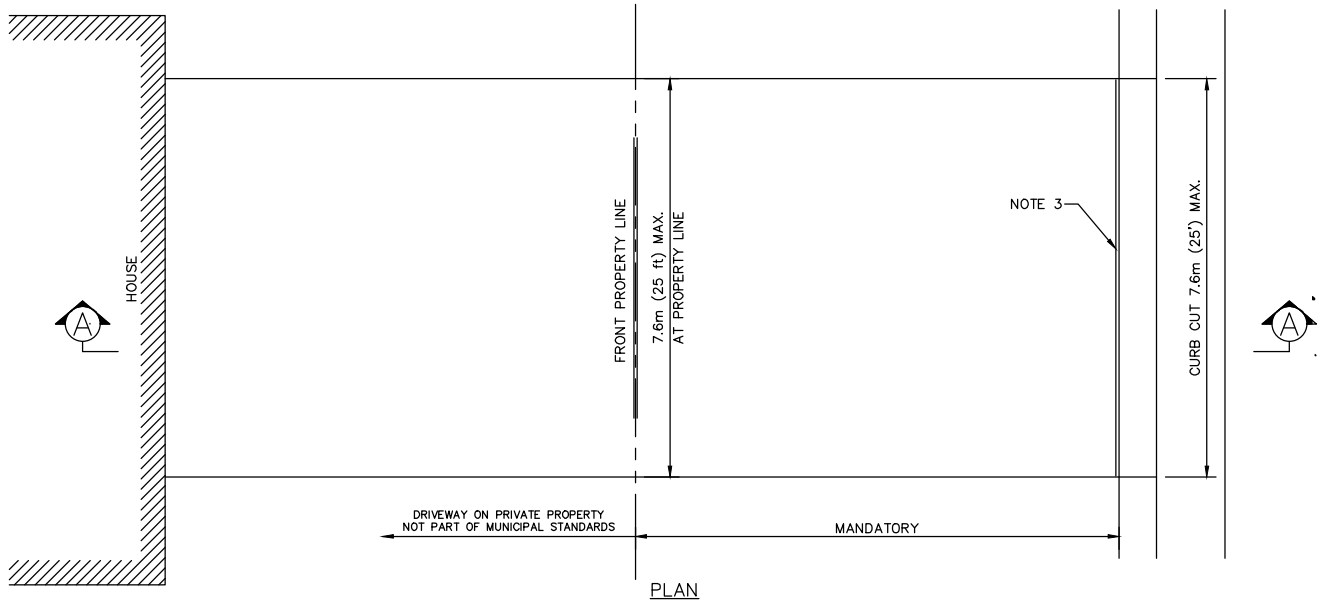
ADDITIONAL NOTES:

- FINAL LOCATION OF UTILITIES MAY VARY DEPENDING ON UTILITY COMPANY AND ON SITE SPECIFIC REQUIREMENTS. FINAL POSITIONING OF UTILITY INFRASTRUCTURE SHALL BE VERIFIED BY A REPRESENTATIVE OF THE TOWN OF LAKESHORE.
- 3.0m MULTI-USE PATHWAYS (75mm ASPHALT THICKNESS ON 250mm GRANULAR 'A') MAY BE REQUESTED IN LIEU OF CONCRETE SIDEWALK. THE BASE IS TO BE 300mm WIDER THAN THE ASPHALT ON EACH SIDE. MINIMUM HL4 BASE COURSE ASPHALT IS TO BE USED.
- ALL SANITARY AND STORM SERVICES SHALL INCLUDE A TEE AND CLEANOUT AT PROPERTY LINE. ALL CLEANOUTS SHOULD PROJECT 300mm ABOVE FINISHED GRADE FOR INSPECTION. ONCE INSPECTION IS COMPLETE THE CLEANOUT SHOULD BE CUT, CAPPED AND BURIED 150mm-300mm BELOW FINISHED GRADE.
- WATER SERVICE VALVES TO BE SET AT PROPERTY LINE AT MIDDLE OF LOT.
- EXPOSED SUB-BASE SHALL BE PROOF-ROLLED IN THE PRESENCE OF A GEO-TECHNICAL ENGINEER TO VERIFY SUITABILITY.
- SPARE CONDUIT SHALL BE INSTALLED WITHIN THE JOINT USE DUCT BANK AS PER TOWN OF LAKESHORE DEVELOPMENT MANUAL.
- SUB-DRAINS IN SWALE CAN BE OVERSIZED AND USED AS A STORM SEWER.
- NO DRIVEWAY CULVERTS ALLOWED IN RIGHT-OF-WAY.

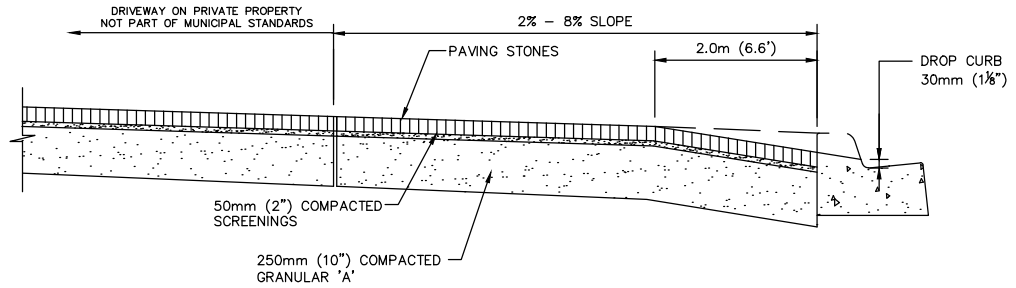
		7	July 6, 2017
		6	May 1, 2014
		5	January 27, 2014
		4	December 11, 2012
		3	April 14, 2009
		2	January 14, 2008
		1	October 16, 2006
No.	Revision Date	No.	Revision Date

NOTES

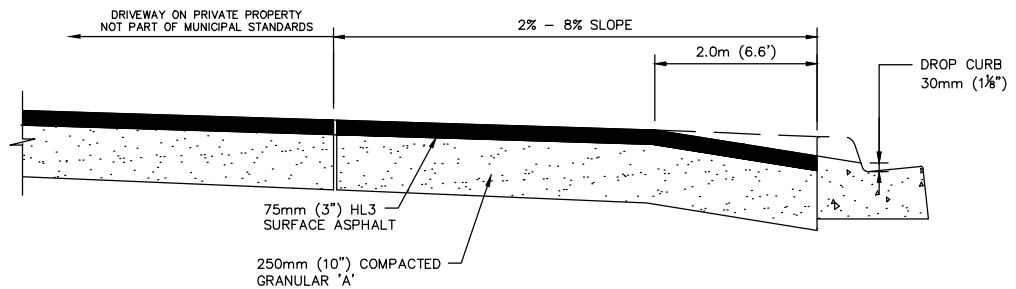
1. RURAL AND SEMI-URBAN DRIVEWAY REQUIREMENTS ARE DETERMINED ON A CASE BY CASE SCENARIO. PLEASE CONTACT THE TOWN OF LAKESHORE BEFORE PROCEEDING WITH HARD SURFACE OR CURB PLACEMENT WITHIN ROAD RIGHT-OF-WAY.
2. 600mm CURB TAPER ON BOTH SIDES OF DRIVEWAY INCLUDED IN 7.6m. (25') CURB CUT.
3. FOR CONCRETE DRIVEWAYS ONLY - 12mm (½") THICK FULL DEPTH PRE MOLD JOINT FILLER AS PER OPSS 1308
4. FOR CONCRETE DRIVEWAYS ONLY - SAWCUT SLAB TO CONTROL CRACKING.



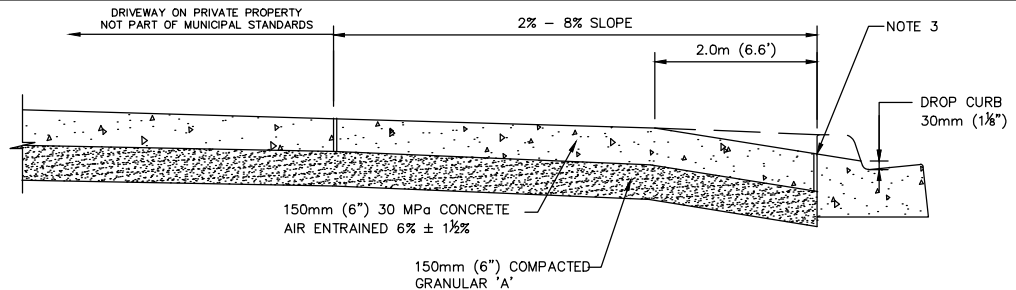
PAVING STONES SECTION A-A



ASPHALT SECTION A-A



CONCRETE SECTION A-A



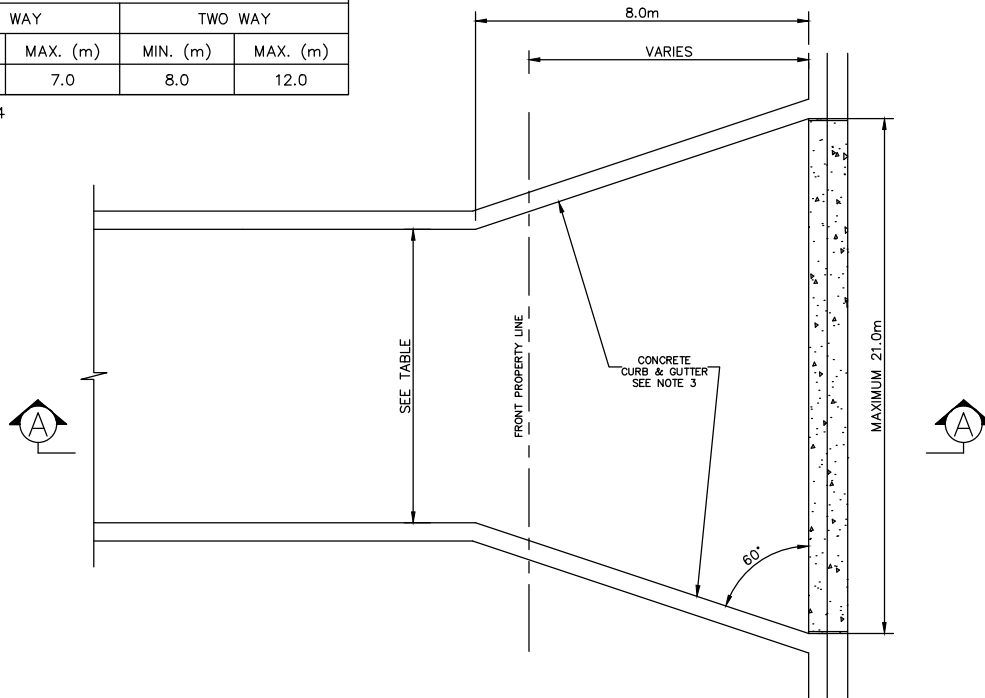
6	July 7, 2017
5	December 18, 2012
4	December 07, 2011
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Figure D-1
URBAN RESIDENTIAL DRIVEWAY ENTRANCE
WITHOUT SIDEWALK

DRIVEWAY DIMENSIONS*			
ONE WAY		TWO WAY	
MIN. (m)	MAX. (m)	MIN. (m)	MAX. (m)
5.0	7.0	8.0	12.0

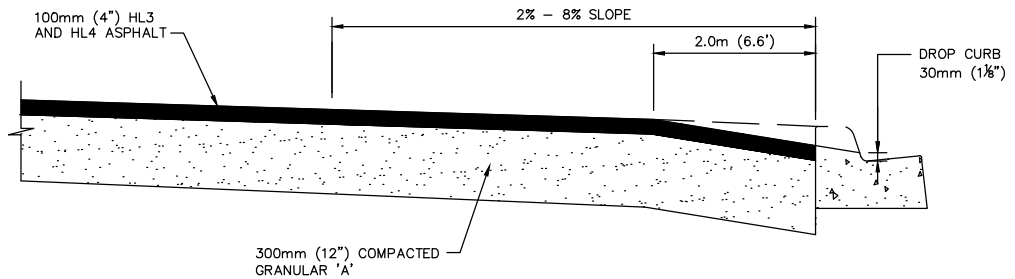
*SEE NOTE 4



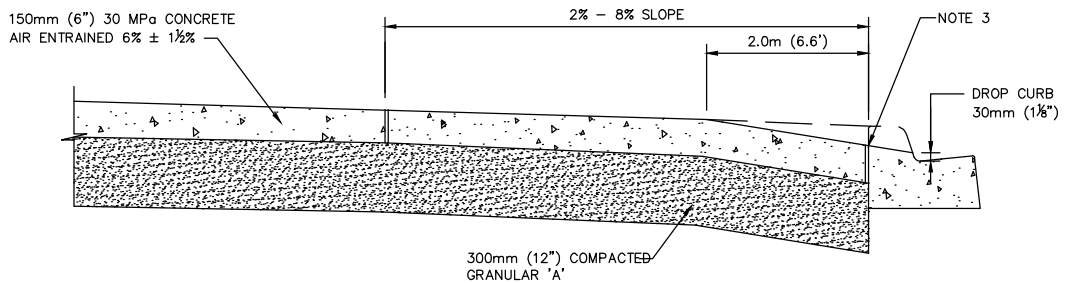
NOTES

1. CURB CUT IF REQUIRED, SHALL BE MADE AS DIRECTED BY THE ENGINEER.
2. APPROACH GRADE SHALL NOT EXCEED 8%.
3. CONCRETE CURBING ON DRIVEWAY APRON IS NOT REQUIRED ON RURAL ROADS.
4. NOTED DIMENSIONS ARE GUIDELINES. DEVELOPER TO CONFIRM THAT DRIVEWAY WIDTHS AND APRON SIZE ARE SUFFICIENT TO FACILITATE TRUCK AND EMERGENCY VEHICLE TURNING MOVEMENTS.
5. FOR CONCRETE DRIVEWAYS ONLY - 12mm (½") THICK FULL DEPTH PRE MOLD JOINT FILLER AS PER OPSS 1308
6. FOR CONCRETE DRIVEWAYS ONLY - SAWCUT SLAB TO CONTROL CRACKING.
7. CONCRETE TO BE AIR ENTRAINED 6% ± 1½%
8. APPROVAL BY A TOWN OF LAKESHORE ENGINEERING MANAGER IS REQUIRED IF APPROACH SLAB EXCEEDS 8% SLOPE.
9. WIRE MESH IS NOT PERMITTED TO BE PLACED WITHIN THE MUNICIPAL SECTIONS OF THE DRIVEWAY, SIDEWALK OR APPROACH.

ASPHALT SECTION A-A



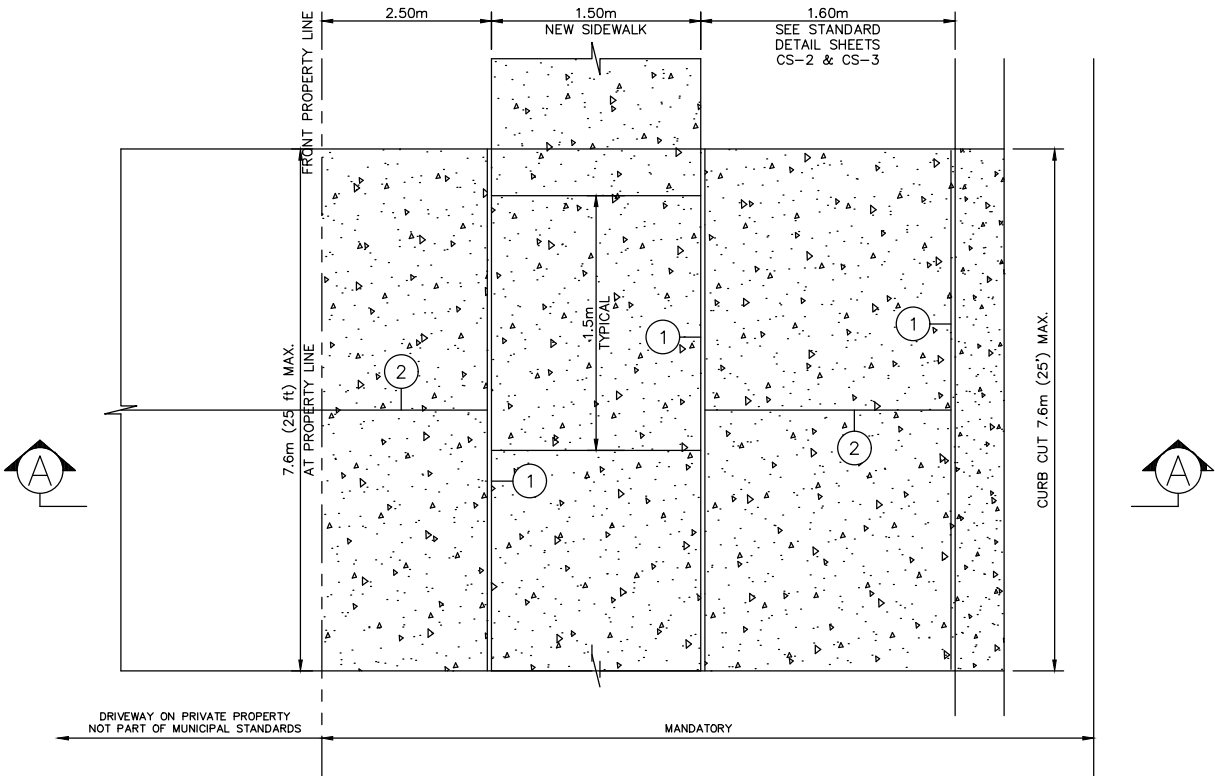
CONCRETE SECTION A-A



No.	Revision Date
5	October 18, 2017
4	July 7, 2017
3	January 27, 2014
2	January 14, 2008
1	October 16, 2006

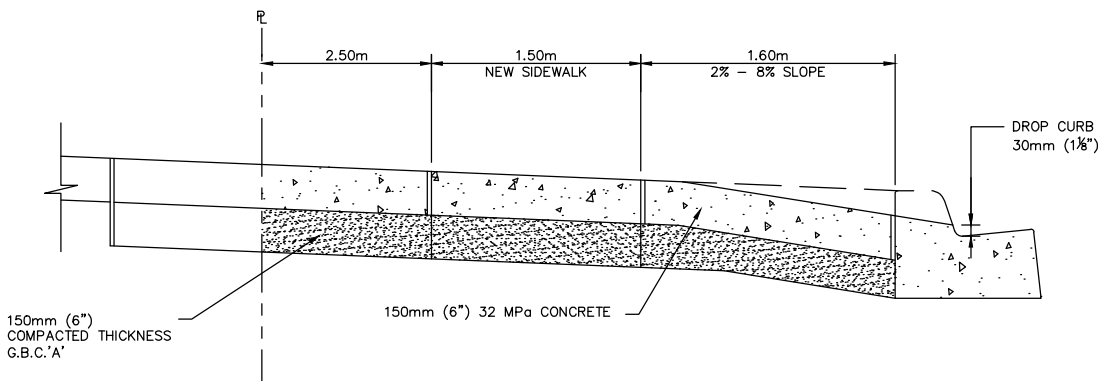
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Figure D-2
INDUSTRIAL DRIVEWAY ENTRANCE



PLAN

Note: Taper included in the 7.6m (25') Curb Cut.



SECTION A-A

NOTES

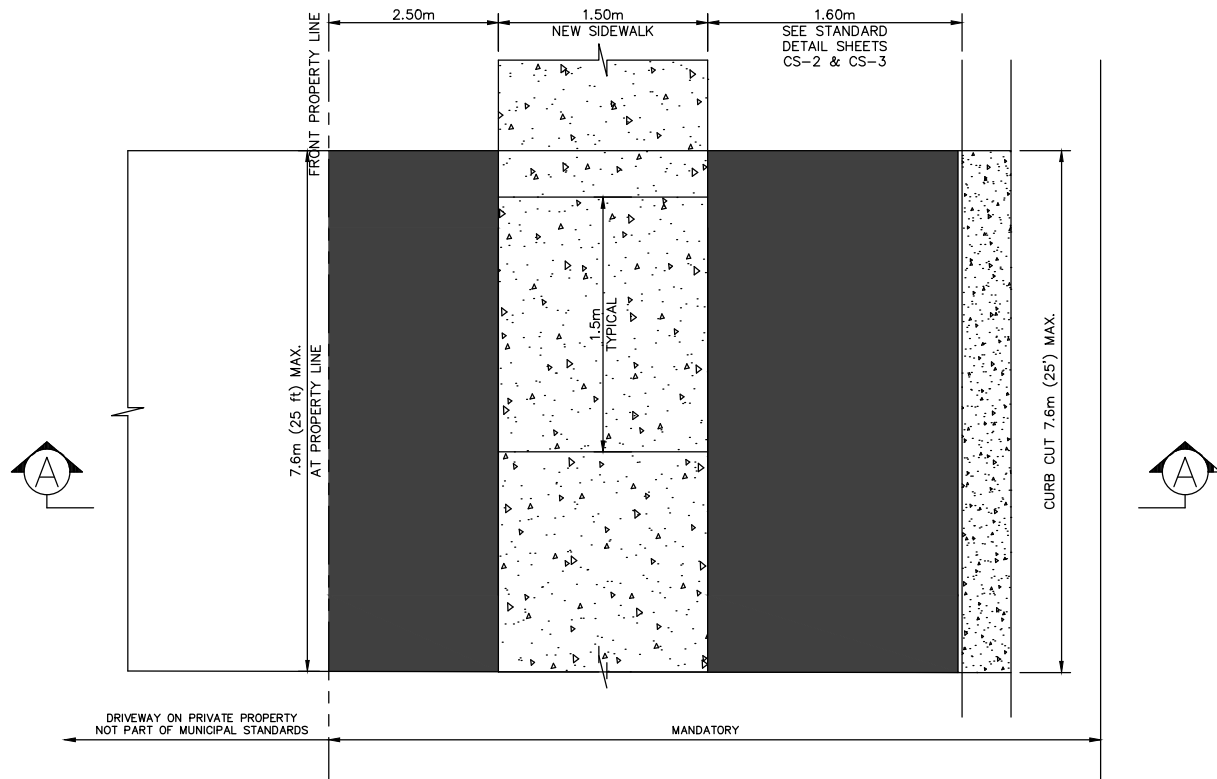
1. 15mm THICK FULL DEPTH PREMOLDED JOINT FILLER AS PER MTO FORM 1308.
2. 6mm THICK, 50mm DEEP PREMOLDED JOINT FILLER OR SAWCUT IF DRIVEWAY WIDTH EXCEEDS 3.65m.
3. CONCRETE TO BE AIR ENTRAINED 6% ± 1½%.
4. APPROVAL BY A TOWN OF LAKESHORE ENGINEERING MANAGER IS REQUIRED IF APPROACH SLAB EXCEEDS 8% SLOPE.
5. WIRE MESH IS NOT PERMITTED TO BE PLACED WITHIN THE MUNICIPAL SECTIONS OF THE DRIVEWAY, SIDEWALK OR APPROACH.
6. RURAL AND SEMI-URBAN DRIVEWAY REQUIREMENTS ARE DETERMINED ON A CASE BY CASE SCENARIO. PLEASE CONTACT THE TOWN OF LAKESHORE BEFORE PROCEEDING WITH HARD SURFACE OR CURB PLACEMENT WITHIN ROAD RIGHT-OF-WAY.



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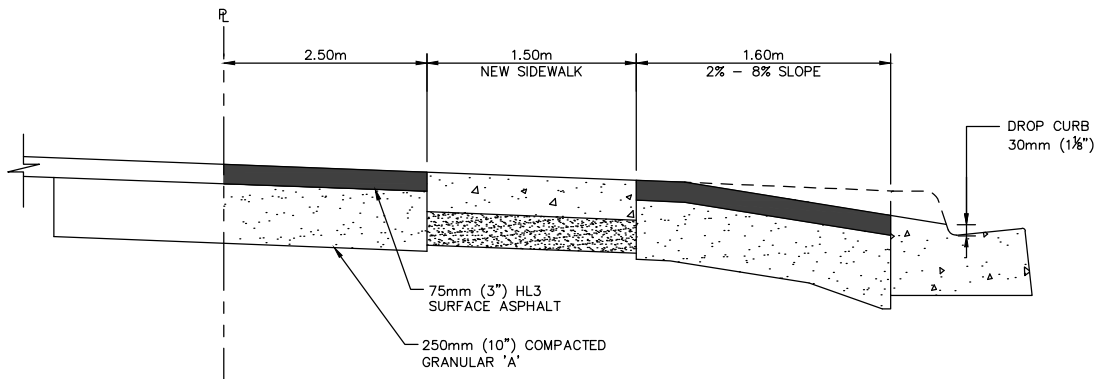
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Figure D-3
URBAN RESIDENTIAL DRIVE
CONCRETE WITH SIDEWALK



PLAN

Note: Taper included in the 7.6m (25') Curb Cut.



SECTION A-A

NOTES

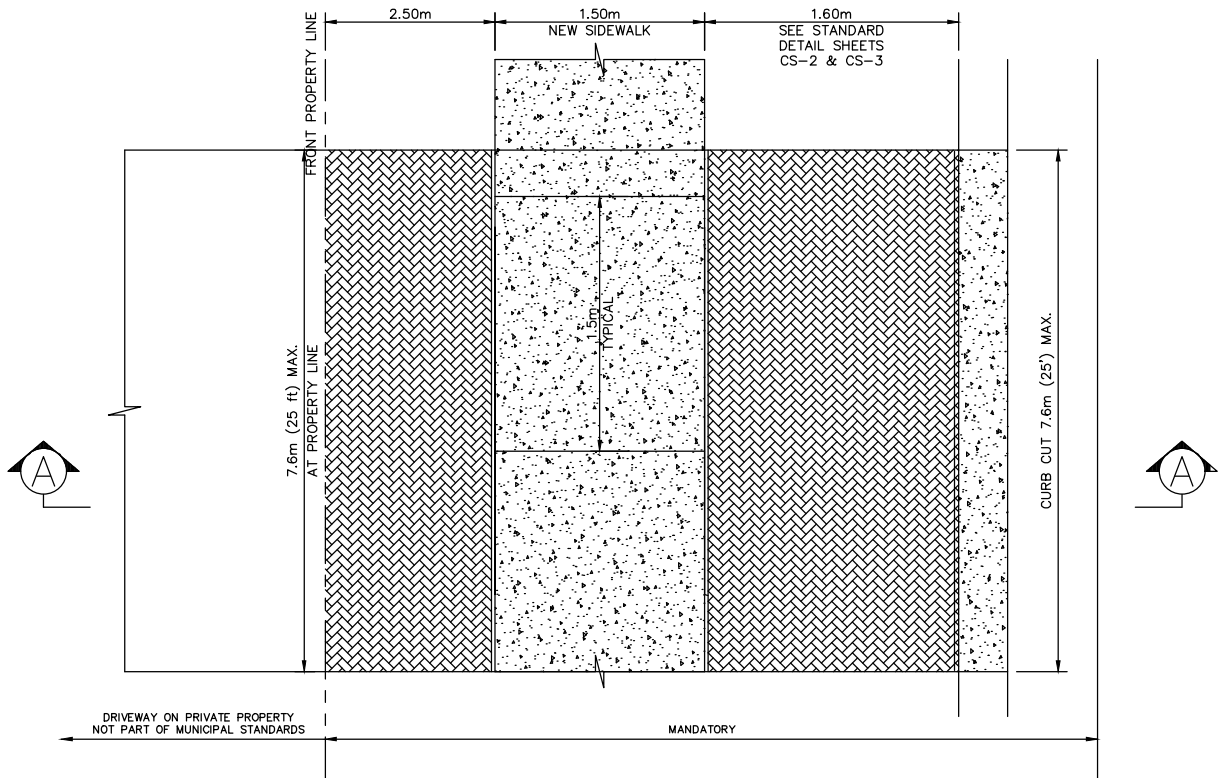
1. APPROVAL BY A TOWN OF LAKESHORE ENGINEERING MANAGER IS REQUIRED IF APPROACH SLAB EXCEEDS 8% SLOPE.
2. RURAL AND SEMI-URBAN DRIVEWAY REQUIREMENTS ARE DETERMINED ON A CASE BY CASE SCENARIO. PLEASE CONTACT THE TOWN OF LAKESHORE BEFORE PROCEEDING WITH HARD SURFACE OR CURB PLACEMENT WITHIN ROAD RIGHT-OF-WAY.



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3	December 07, 2011
2	January 14, 2008
1	October 16, 2006
No.	Revision Date

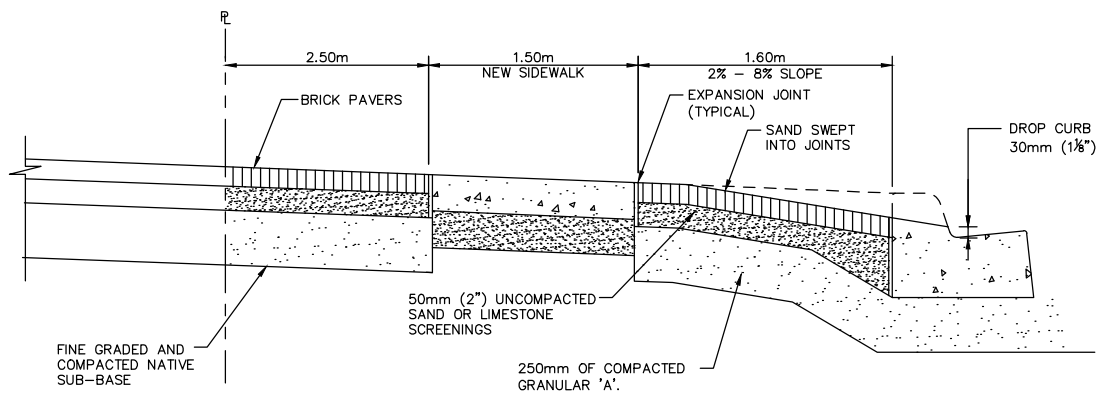
Town of Lakeshore Development Manual

Figure D-4
URBAN RESIDENTIAL DRIVE
ASPHALT WITH SIDEWALK



PLAN

Note: Taper included in the 7.6m (25') Curb Cut.



SECTION A-A

NOTES

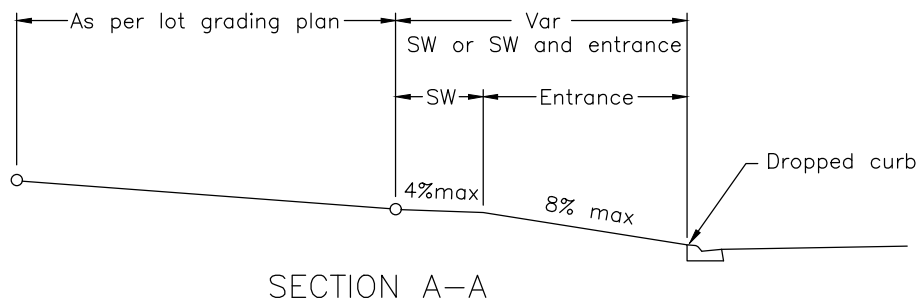
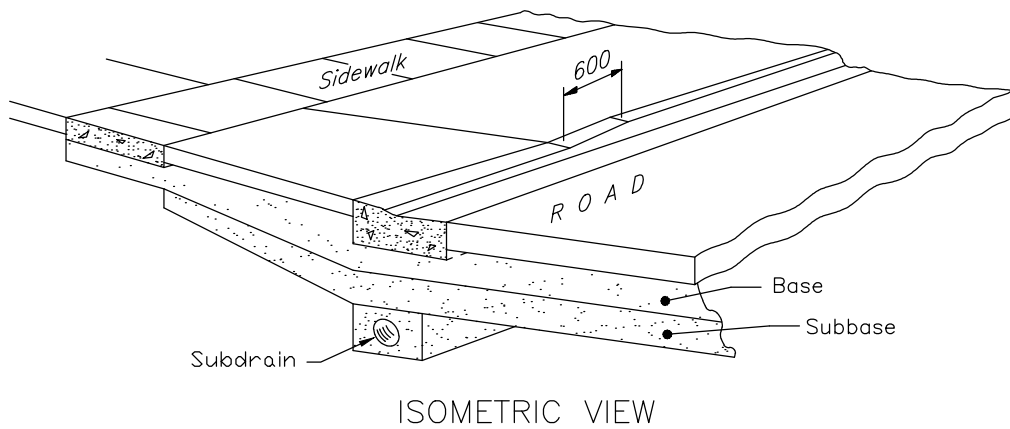
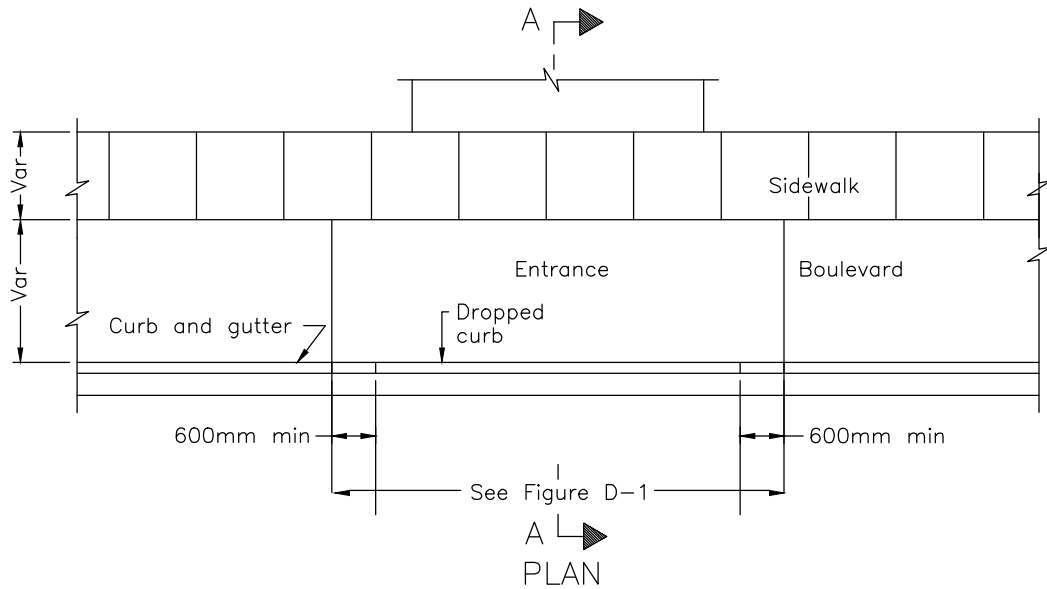
1. BRICK PAVERS SHALL BE INSTALLED AS PER INSTRUCTIONS PROVIDED BY THE BRICK PAVER SUPPLIER.
2. APPROVAL BY A TOWN OF LAKESHORE ENGINEERING MANAGER IS REQUIRED IF APPROACH SLAB EXCEEDS 8% SLOPE.
3. RURAL AND SEMI-URBAN DRIVEWAY REQUIREMENTS ARE DETERMINED ON A CASE BY CASE SCENARIO. PLEASE CONTACT THE TOWN OF LAKESHORE BEFORE PROCEEDING WITH HARD SURFACE OR CURB PLACEMENT WITHIN ROAD RIGHT-OF-WAY.



6	July 7, 2017
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Figure D-5
URBAN RESIDENTIAL DRIVE
BRICK PAVERS WITH SIDEWALK

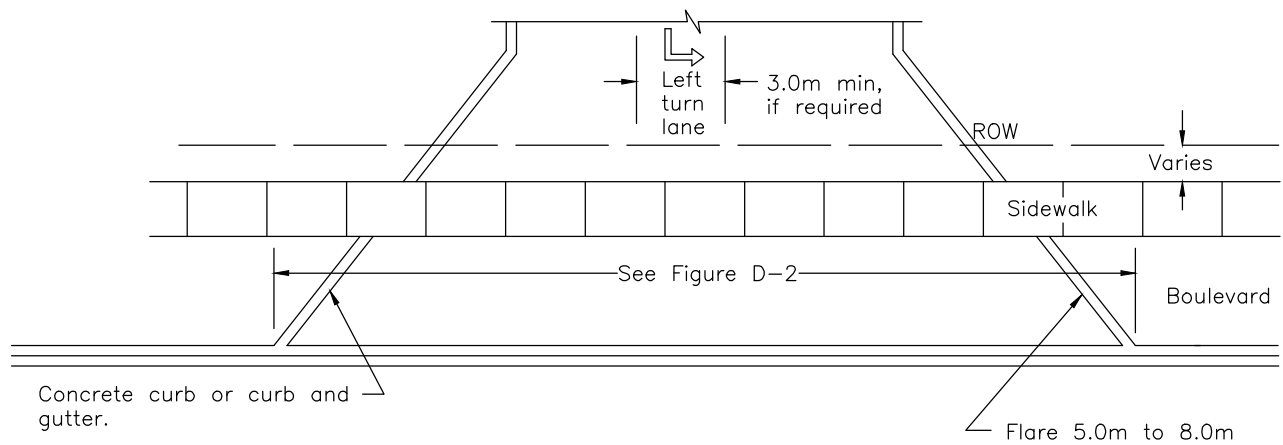


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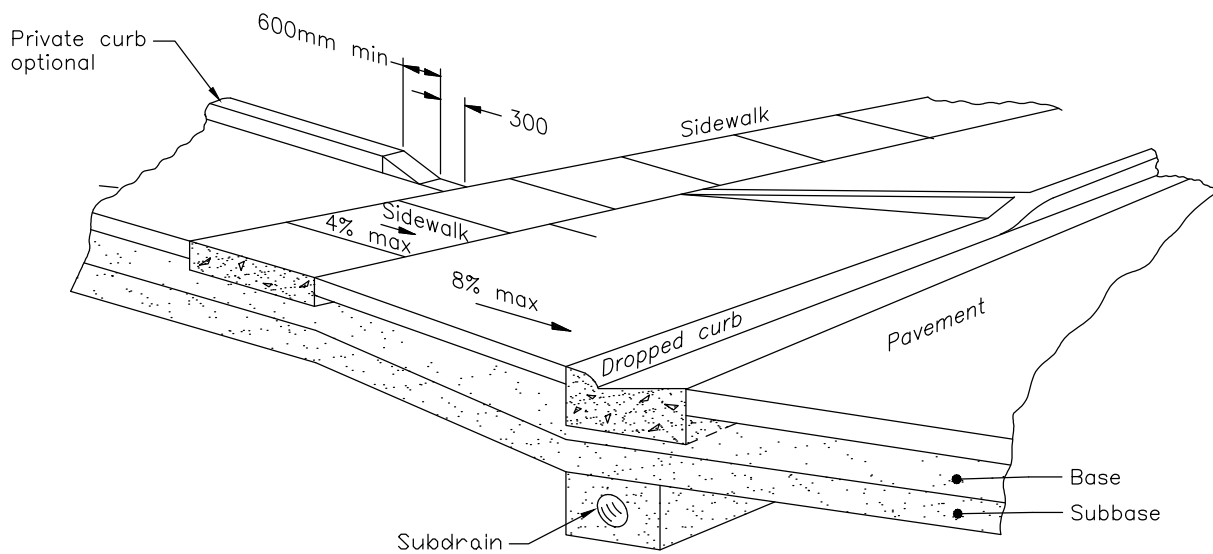
All dimensions are in millimetres unless otherwise shown.



No.	Revision Date
1	October 16, 2006
2	January 14, 2008
3	November 28, 2012



PLAN

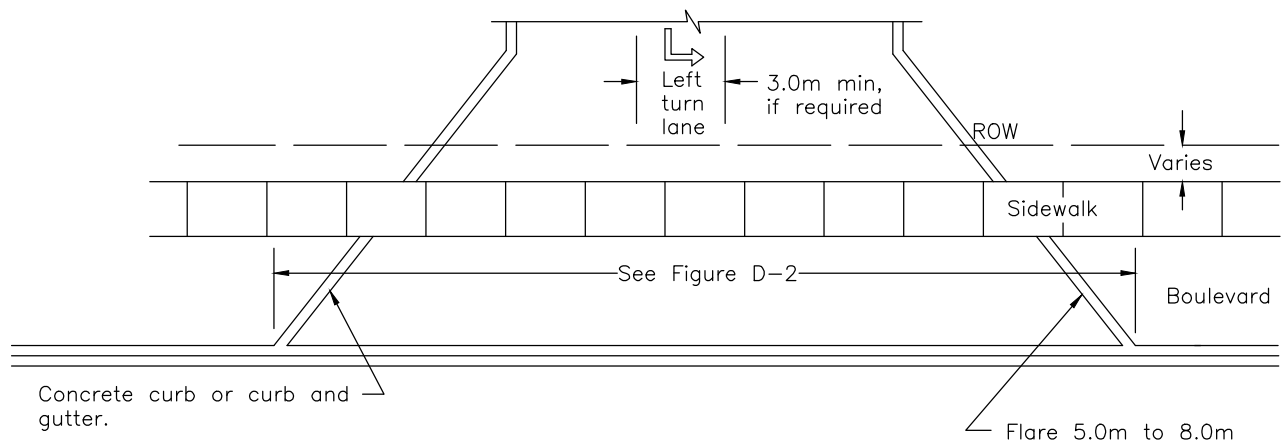


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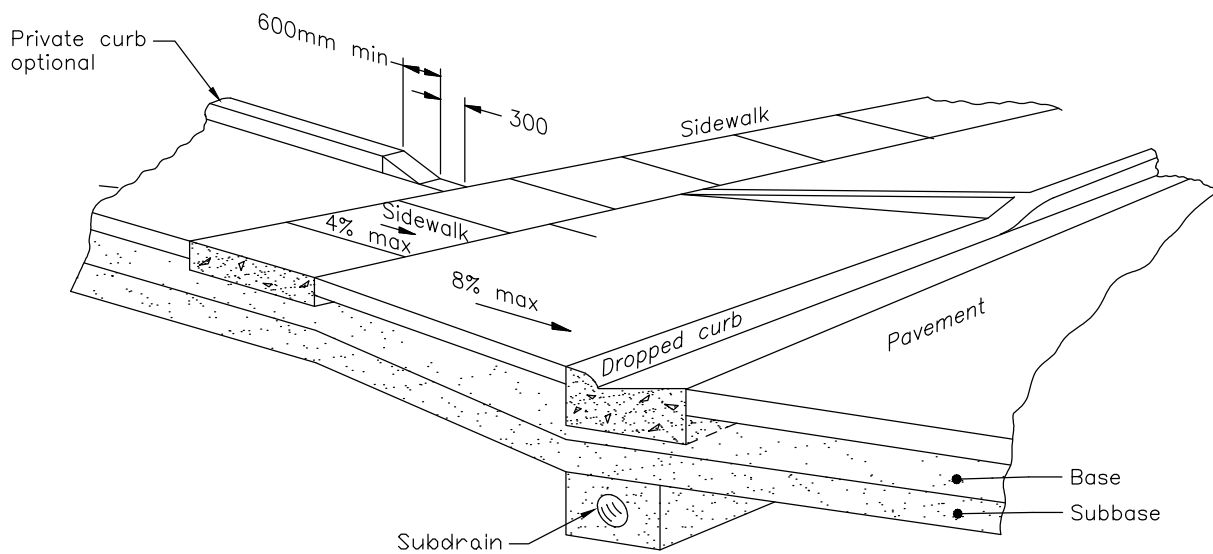
All dimensions are in millimetres unless otherwise shown.



No.	Revision Date
3	December 7, 2011
2	January 14, 2008
1	October 16, 2006



PLAN



NOTES:

All dimensions are in millimetres unless otherwise shown.



No.	Revision Date
3	December 7, 2011
2	January 14, 2008
1	October 16, 2006

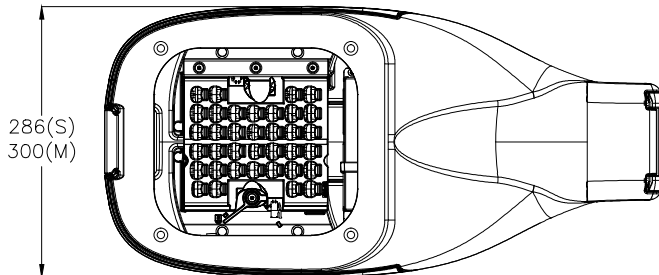
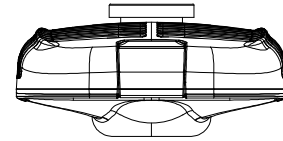
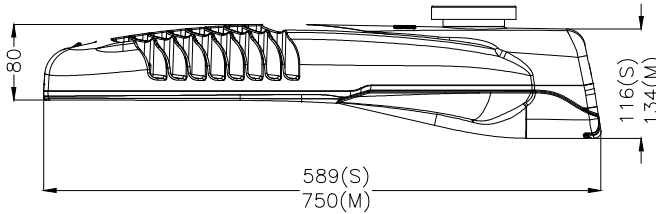
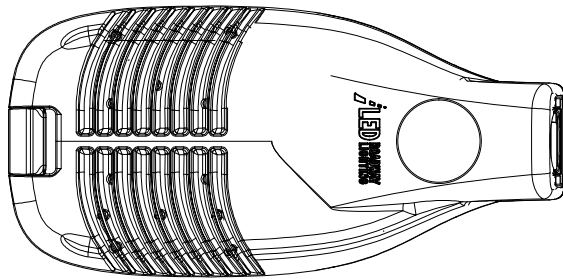
LUMINAIRE SPECIFICATIONS

CATALOGUE NO.: NXT-xxS/M-0-7-2ES/4AH

MANUFACTURER: LED ROADWAY
 IES DESIGNATION: TYPE II STANDARD;
 UNLESS OTHERWISE APPROVED

LIGHT SOURCE: LED
 LINE VOLTAGE: 120V

OPTIONS:
 • NEMA PHOTOCELL RECEPTACLE
 • PHOTOCELL
 PAINT: BLACK
 (TO BE CONFIRMED)



3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013
No.	Revision Date

LUMINAIRE SPECIFICATIONS

CATALOGUE NO.: K118R-xxAR-III-100(SSL)

MANUFACTURER: KING LUMINAIRE, WASHINGTON

POLE ADAPTOR: K14

OPTICAL SYSTEM: REFRACTIVE ARRAY ACRYLIC RIPPLED TYPE III (UNLESS OTHERWISE NOTED)

IES LTG. CLASS.: 100W (UNLESS OTHERWISE NOTED)

INPUT WATTS: SOLID STATE LIGHTING

SERIES: 1063

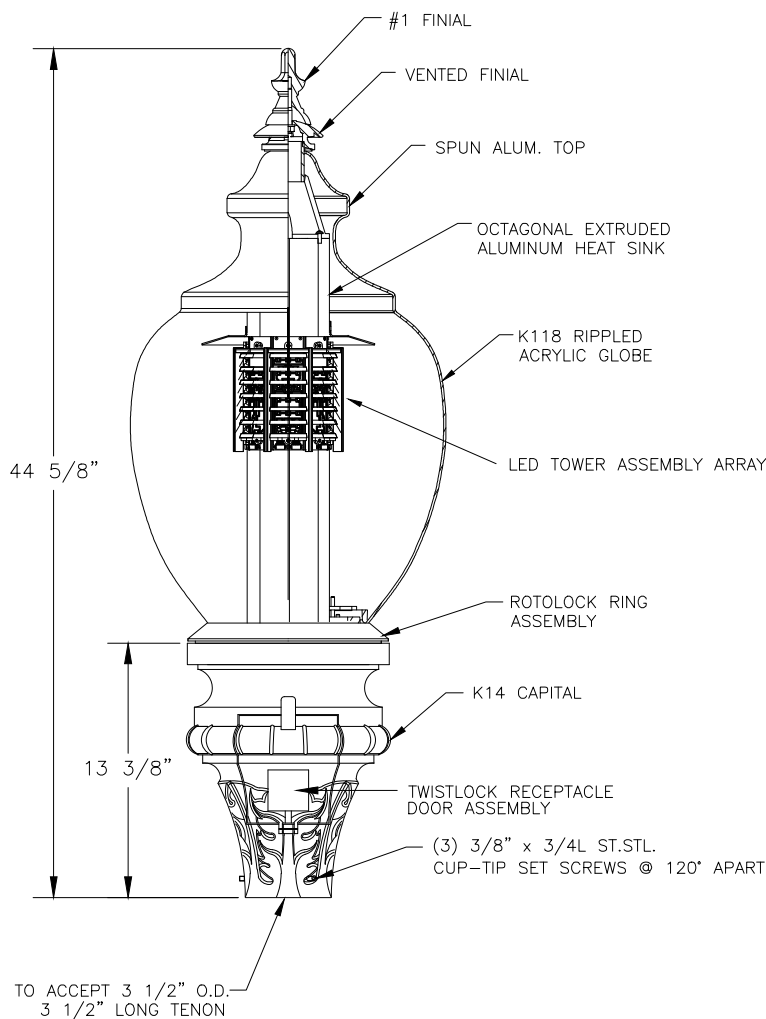
CCT: 4000K

LINE VOLTAGE: 120-277V

PAINT: TEXTURED BLACK (TO BE CONFIRMED)

OPTIONS:

- TWISTLOCK RECEPTACLE
- PHOTO CELL
- SPUN ALUMINUM TOP
- VENTED FINIAL



No.	Revision Date
3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013

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FIGURE E-02
DECORATIVE ACRYLIC STREET LIGHTING
LED SOURCE

LUMINAIRE SPECIFICATIONS

CATALOGUE NO.: AWDE2-P50-40K

MANUFACTURER: HOLOPHANE, WASHINGTON POSTLITE II

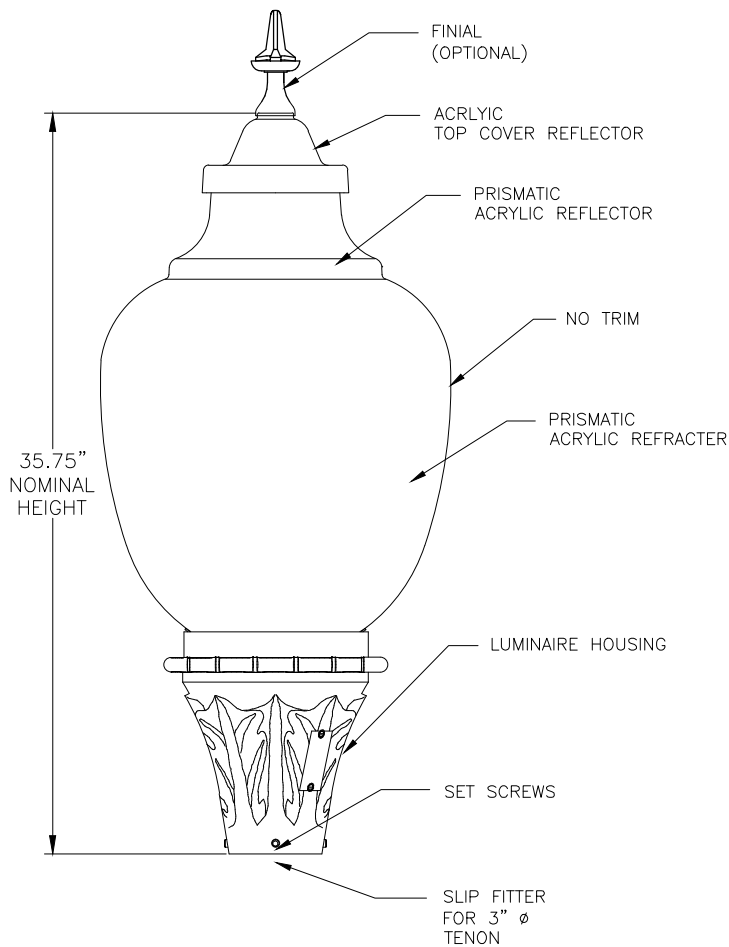
OPTICAL SYSTEM: CLEAR PRISMATIC ACRYLIC
 IES LTG. CLASS: TYPE III
 (UNLESS OTHERWISE APPROVED)

INPUT WATTS: 100W (UNLESS OTHERWISE APPROVED)
 SOLID STATE LIGHTING

SERIES: P50
 CCT: 4000K
 LINE VOLTAGE: AUTO SENSING 120V
 PAINT: TEXTURED BLACK
 (TO BE CONFIRMED)

OPTIONS:

- TWISTLOCK RECEPTACLE
- DTL TWISTLOCK PHOTO CELL
- TOP REFLECTOR & CAP
- STANDARD FINIAL



3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013
No.	Revision Date

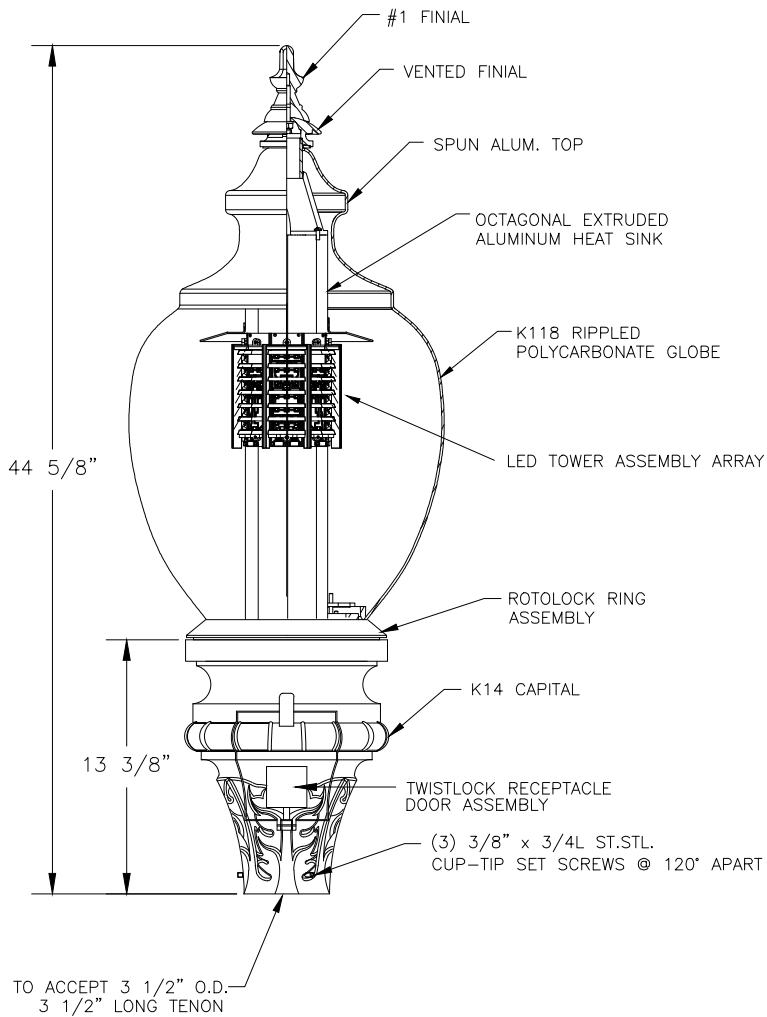
LUMINAIRE SPECIFICATIONS

CATALOGUE NO.: K118-xxPR-III-100(SSL)

MANUFACTURER: KING LUMINAIRE, WASHINGTON
 POLE ADAPTOR: K14
 OPTICAL SYSTEM: REFRACTIVE ARRAY POLYCARBONATE RIPPLED
 IES LTG. CLASS.: TYPE III (UNLESS OTHERWISE APPROVED)
 INPUT WATTS: 100W (UNLESS OTHERWISE NOTED)
 SOLID STATE LIGHTING

SERIES: 1063
 CCT: 4000K
 LINE VOLTAGE: 120-277V
 PAINT: TEXTURED BLACK
 (TO BE CONFIRMED)

- OPTIONS:
- TWISTLOCK RECEPTACLE
 - PHOTO CELL
 - SPUN SPUN TOP
 - POLE CAPITAL



3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013
No.	Revision Date

Town of Lakeshore Development Manual

FIGURE E-04
 DECORATIVE POLYCARBONATE STREET LIGHTING
 LED SOURCE

LUMINAIRE SPECIFICATIONS

CATALOGUE NO.: WAUE2-P50-40K

MANUFACTURER: HOLOPHANE, WASHINGTON POSTLITE

OPTICAL SYSTEM: CLEAR PRISMATIC GLASS
 IES LTG. CLASS: TYPE III
 (UNLESS OTHER APPROVED)

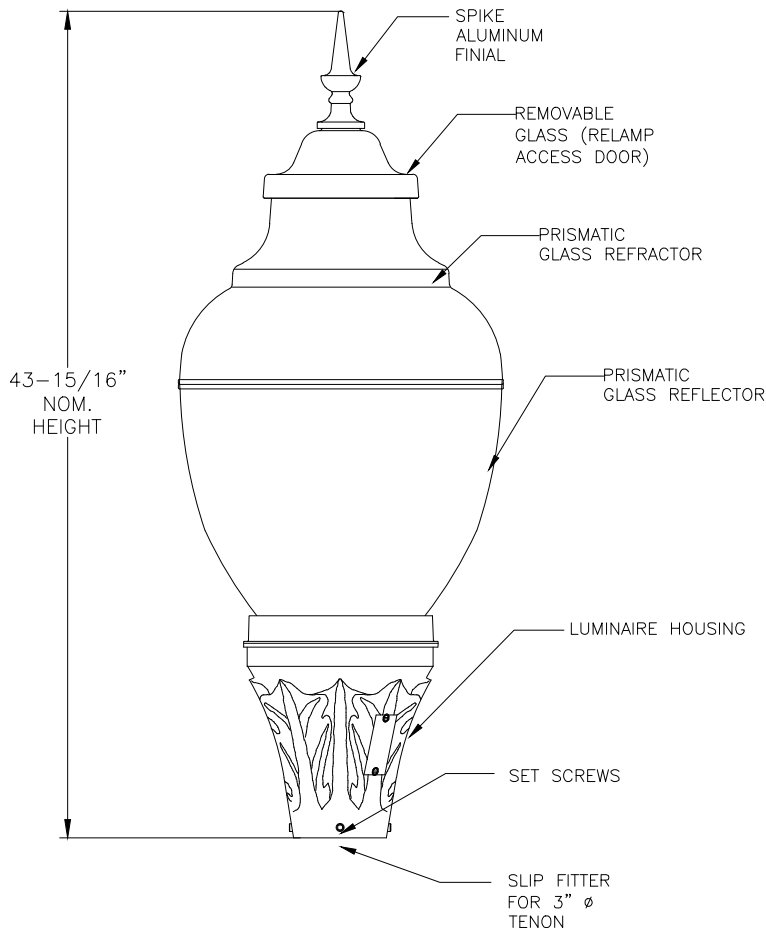
INPUT WATTS: 100W (UNLESS OTHER APPROVED)
 SOLID STATE LIGHTING

SERIES: P50
 CCT: 4000K

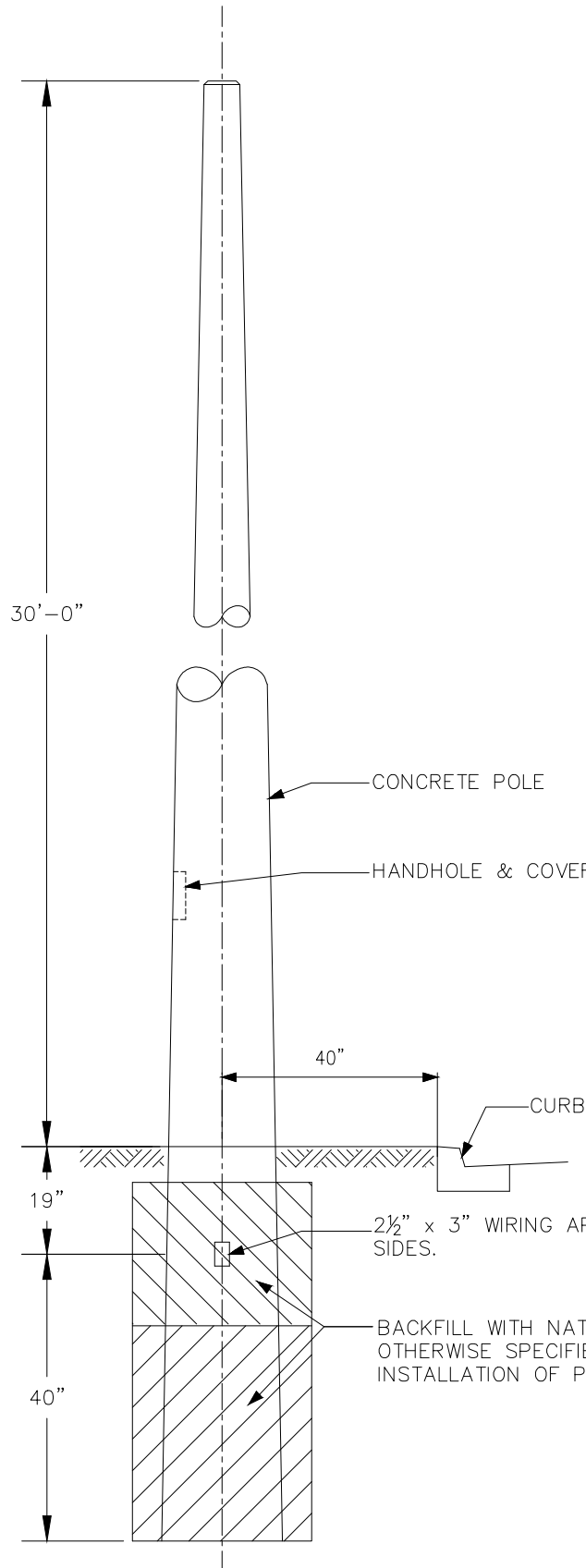
LINE VOLTAGE: AUTO SENSING 120V
 PAINT: TEXTURED BLACK
 (TO BE CONFIRMED)

OPTIONS:

- TWISTLOCK RECEPTACLE
- DTL TWISTLOCK PHOTO CELL
- SPIKE ALUMINUM FINIAL
- SHOREWOOD STYLE COVER



3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013
No.	Revision Date



POLE SPECIFICATIONS

CATALOGUE NO.: E-300-APR-G-MOO
 MANUFACTURER: STRESSCRETE
 SECTION: ROUND
 COLOUR: NATURAL CONCRETE
 FINISH: MOULD
 POLE TOP: 6 3/16" FL/FL
 POLE BUTT: 9 1/2" ø
 POLE LENGTH: 30' 0"
 (ABOVE GROUND)
 APPROX WEIGHT: 1,410 lbs
 MIN. RACEWAY: 1 1/8" ø

POLE SPECIFICATIONS

CATALOGUE NO.: E-300-APR-G-E11
 MANUFACTURER: STRESSCRETE
 SECTION: ROUND
 COLOUR: ECLIPSE
 FINISH: ETCHED
 POLE TOP: 6 3/16" FL/FL
 POLE BUTT: 9 1/2" ø
 POLE LENGTH: 30' 0"
 (ABOVE GROUND)
 APPROX WEIGHT: 1,410 lbs
 MIN. RACEWAY: 1 1/8" ø

COATINGS REQUIRED:

-2 COATS ACRYLIC (JB)
 FULL LENGTH

CONCRETE POLE

HANDHOLE & COVER

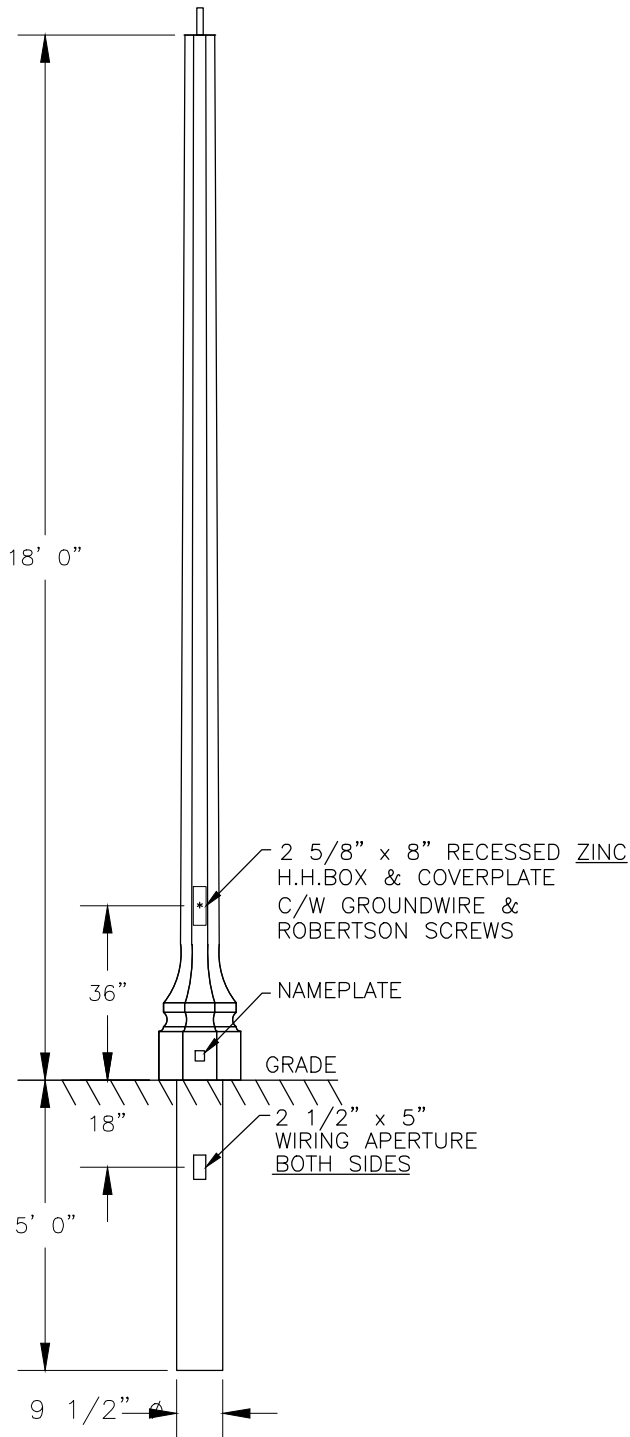
CURB

2 1/2" x 3" WIRING APERTURE IN BOTH SIDES.

BACKFILL WITH NATIVE SOIL UNLESS OTHERWISE SPECIFIED. PLACED AFTER INSTALLATION OF POLYETHYLENE PIPE



No.	Revision Date
3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013



POLE SPECIFICATIONS

CATALOGUE NO.: KBH18-E10
DB 140-35/40
MANUFACTURER: STRESSCRETE
SECTION: OCTAGONAL
COLOUR: MIDNIGHT LACE
FINISH: ETCHED
POLE TOP: 6 3/16" FL/FL
POLE BUTT: 9 1/2" ϕ
POLE LENGTH: 18' 0"
(ABOVE GROUND)
APPROX WEIGHT: 1,410 lbs
MIN. RACEWAY: 1 1/8" ϕ

COATINGS REQUIRED:

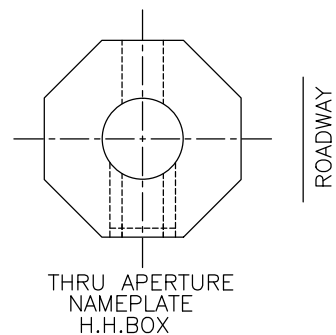
-2 COATS ACRYLIC (JB)
FULL LENGTH

POLE SPECIFICATIONS

CATALOGUE NO.: KBH18-E11
DB 140-35/40
MANUFACTURER: STRESSCRETE
SECTION: OCTAGONAL
COLOUR: ECLIPSE
FINISH: ETCHED
POLE TOP: 6 3/16" FL/FL
POLE BUTT: 9 1/2" ϕ
POLE LENGTH: 18' 0"
(ABOVE GROUND)
APPROX WEIGHT: 1,410 lbs
MIN. RACEWAY: 1 1/8" ϕ

COATINGS REQUIRED:

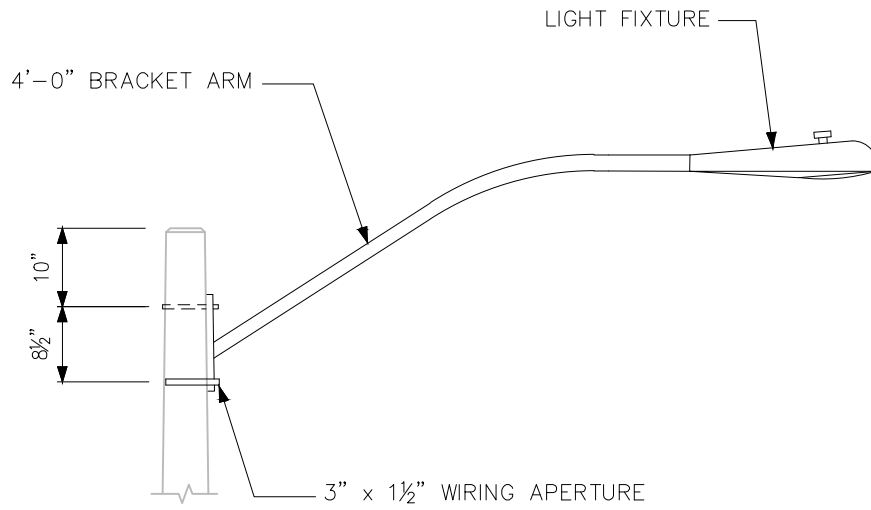
-2 COATS ACRYLIC (JB)
FULL LENGTH



TOP VIEW



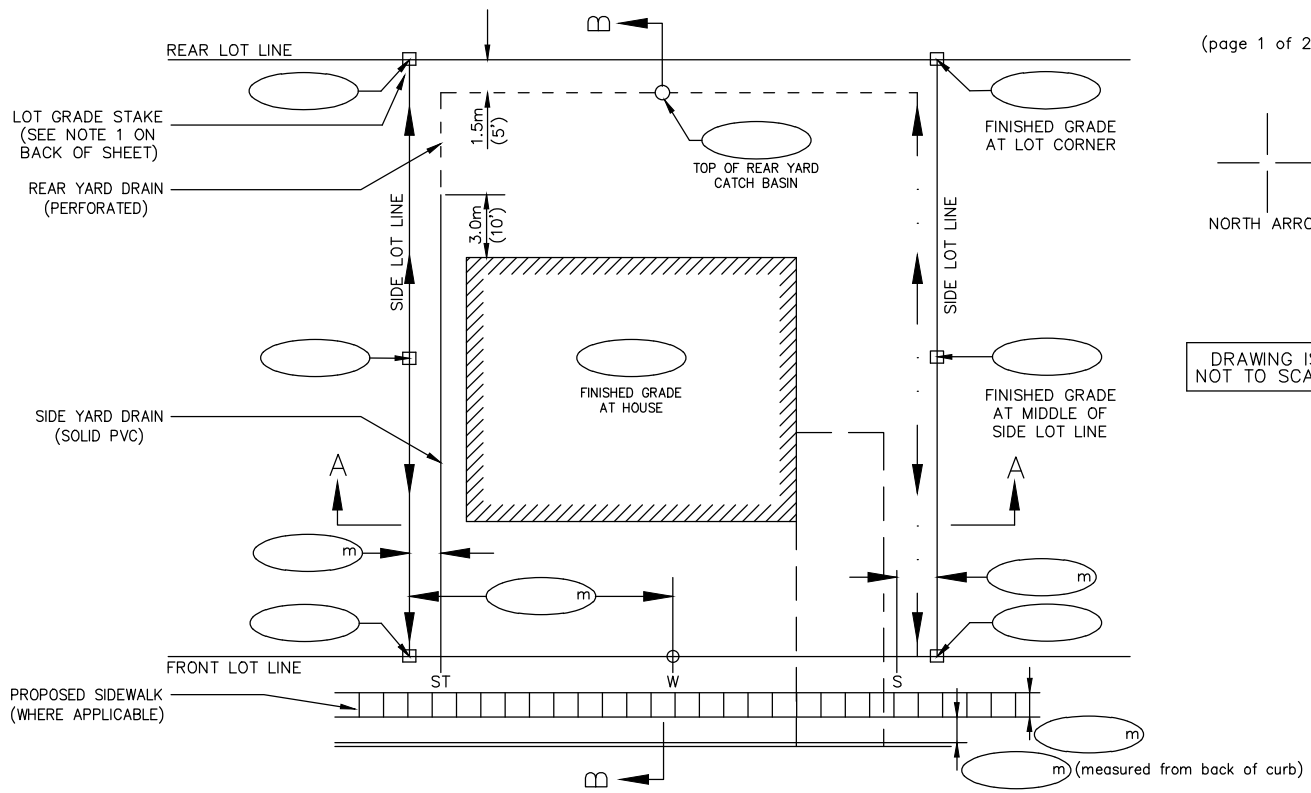
No.	Revision Date
3	JULY 20, 2016
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013



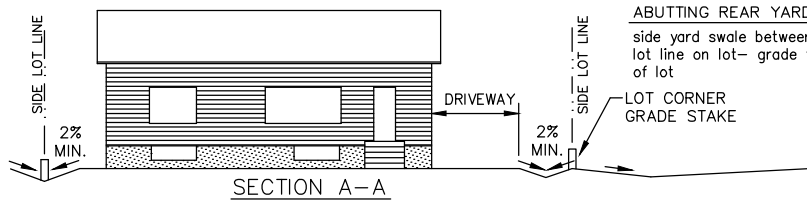
2	FEBRUARY 28, 2014
1	DECEMBER 5, 2013
No.	Revision Date



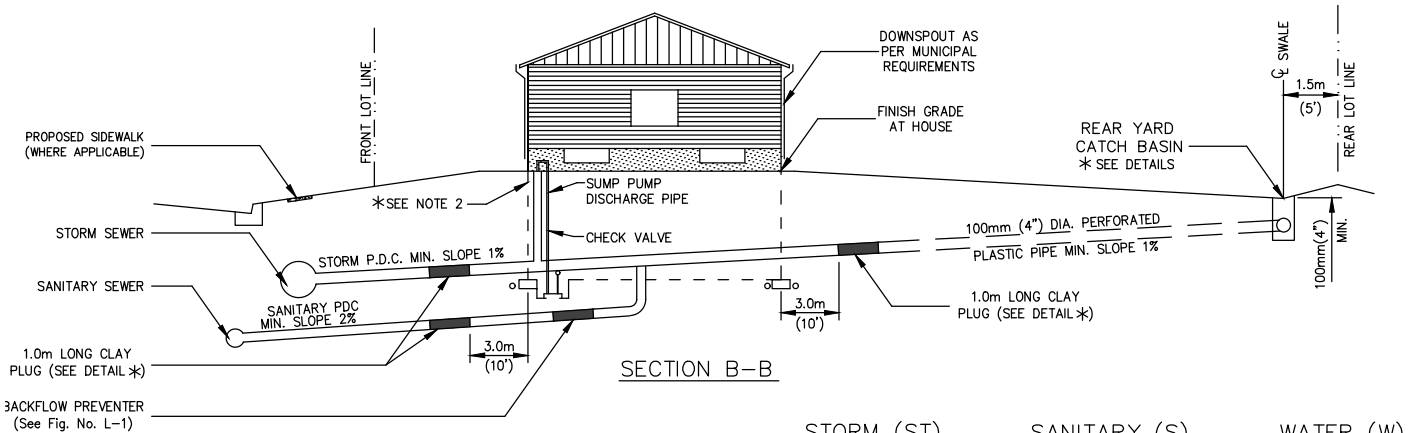
DRAWING IS NOT TO SCALE



ABUTTING SIDE YARD CONDITION
side yard swale on side lot line - grade to front and rear of lot



ABUTTING REAR YARD CONDITION
side yard swale between house and side lot line on lot - grade to front and rear of lot



STORM (ST) SANITARY (S) WATER (W)

SIZE: 150mm (6") DIA. 125mm (5") DIA. 25mm (1") DIA.

MATERIAL: PVC PVC PE

INVERT AT R.O.W. LIMIT: _____

CONSULTANT: _____

INSPECTOR: _____

I hereby certify that, to the best of my knowledge, the grades and elevations of the land within the lot, and locations and inverts of the services are accurate and in accordance with the measurements as shown above.

SIGNED: _____

DATE: _____

Municipal No. _____

LOT _____ Plan 12 _____ Part _____



No.	Revision Date
4	January 27, 2014
3	December 07, 2011
2	January 14, 2008
1	October 16, 2006

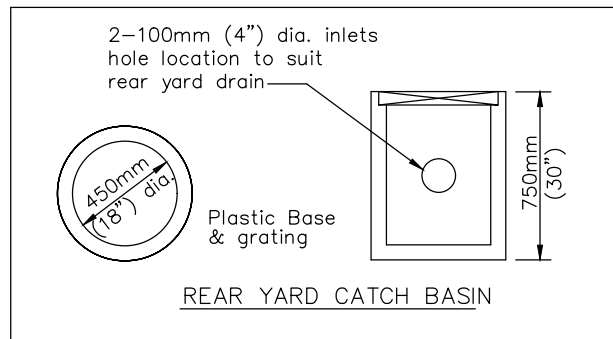
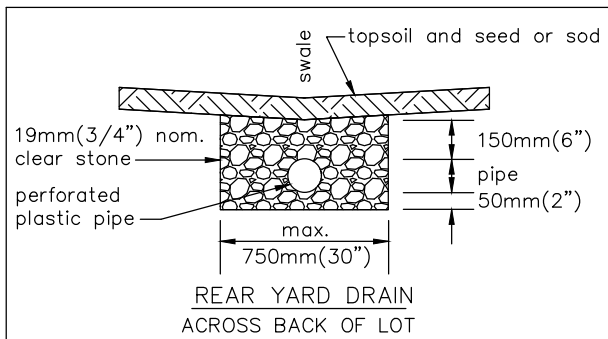
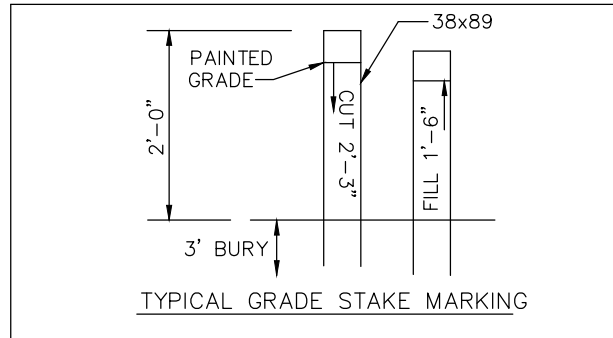
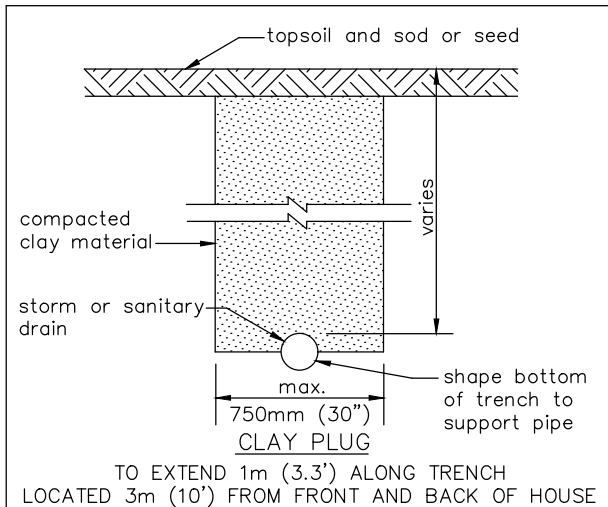
Town of Lakeshore Development Manual

Figure LG-1

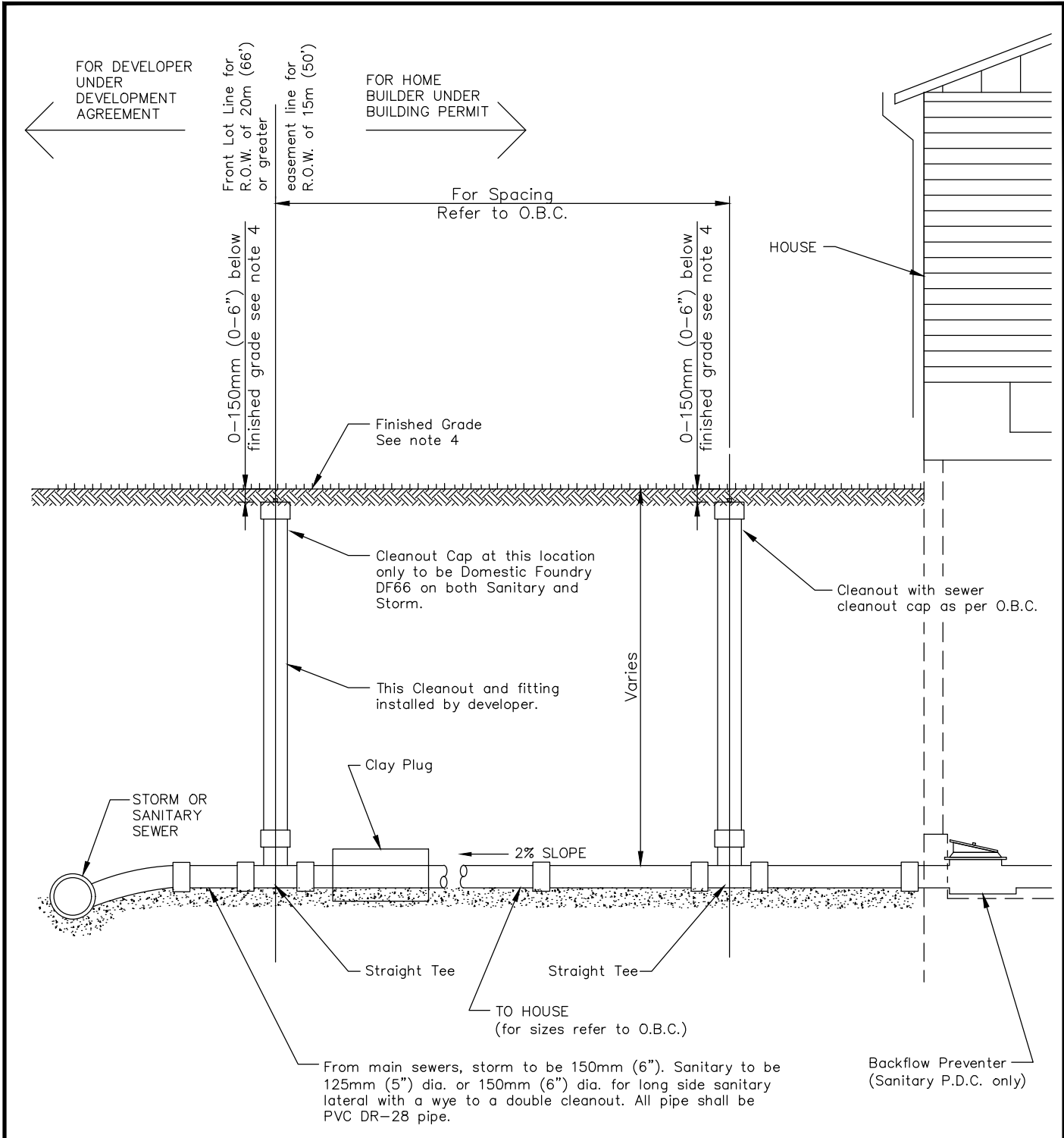
LOT GRADING AND SERVICE SHEET

NOTES:

1. Place a 38x89x1500mm long (2"x4"x5') wood stake at each lot corner and at side yards adjacent to house. Mark the cut or fill to finished grade from top of stake on each stake. All stakes to remain in place until Chief Building Official approves final lot grading.
2. Sump pump discharge pipe shall be connected to the private storm service at an elevation not less than 300mm (12") above finished grade at the house.




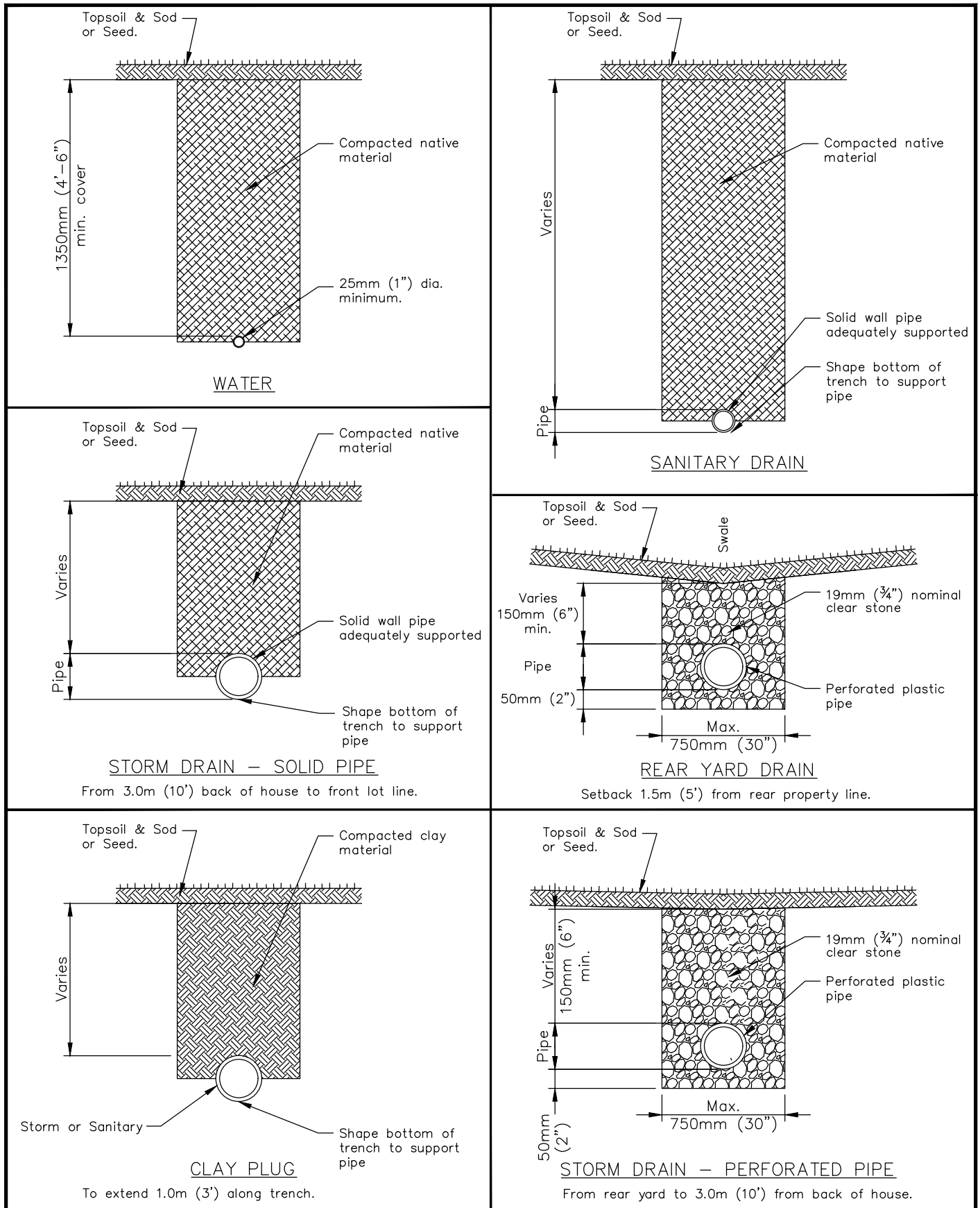
No.	Revision Date
3	December 07, 2011
2	January 14, 2008
1	October 16, 2006



NOTE

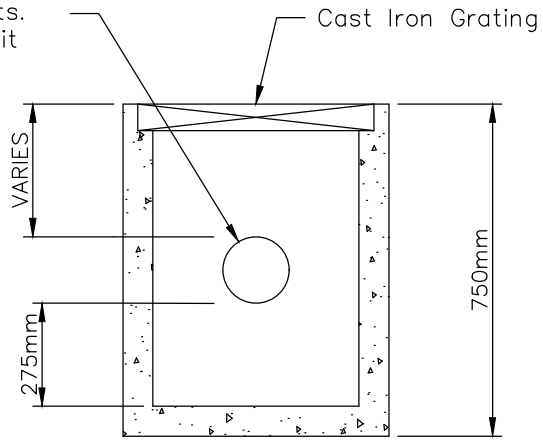
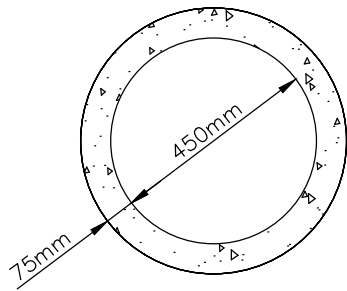
1. All materials to be in compliance with O.B.C. and installed as per manufacturers recommendations.
2. Storm invert at property line to be minimum of 1.2m down from finished grade.
3. Sanitary invert at property line to be minimum of 2.4m down from finished grade.
4. All cleanouts to be visible for inspection. Do NOT bury.
5. Backflow Preventer on Sanitary P.D.C. only.

	No.	Revision Date
	1	October 16, 2006
	2	January 14, 2008
	3	January 27, 2014
	4	July 7, 2017



No.	Revision Date
1	October 16, 2006
2	January 14, 2008
3	January 27, 2014

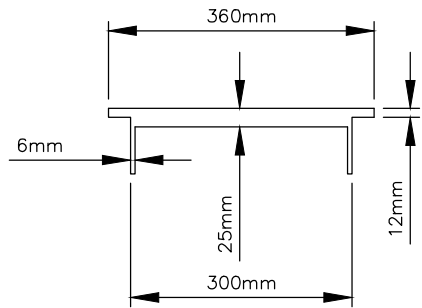
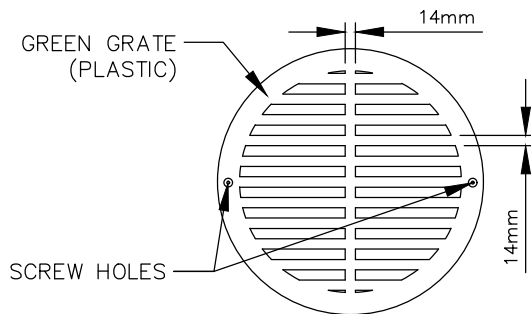
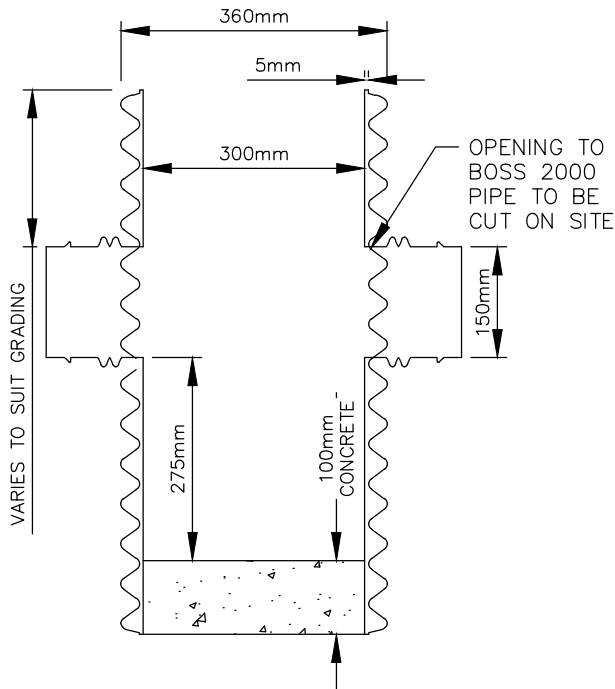
2-150mm dia. inlets.
Hole location to suit
rear yard drain.



NOTE:

1. Concrete to be 30MPa, air entrained 6% ± 1 ½%.
2. Alternate rear yard catch basins may be acceptable. Check with Chief Building Official.

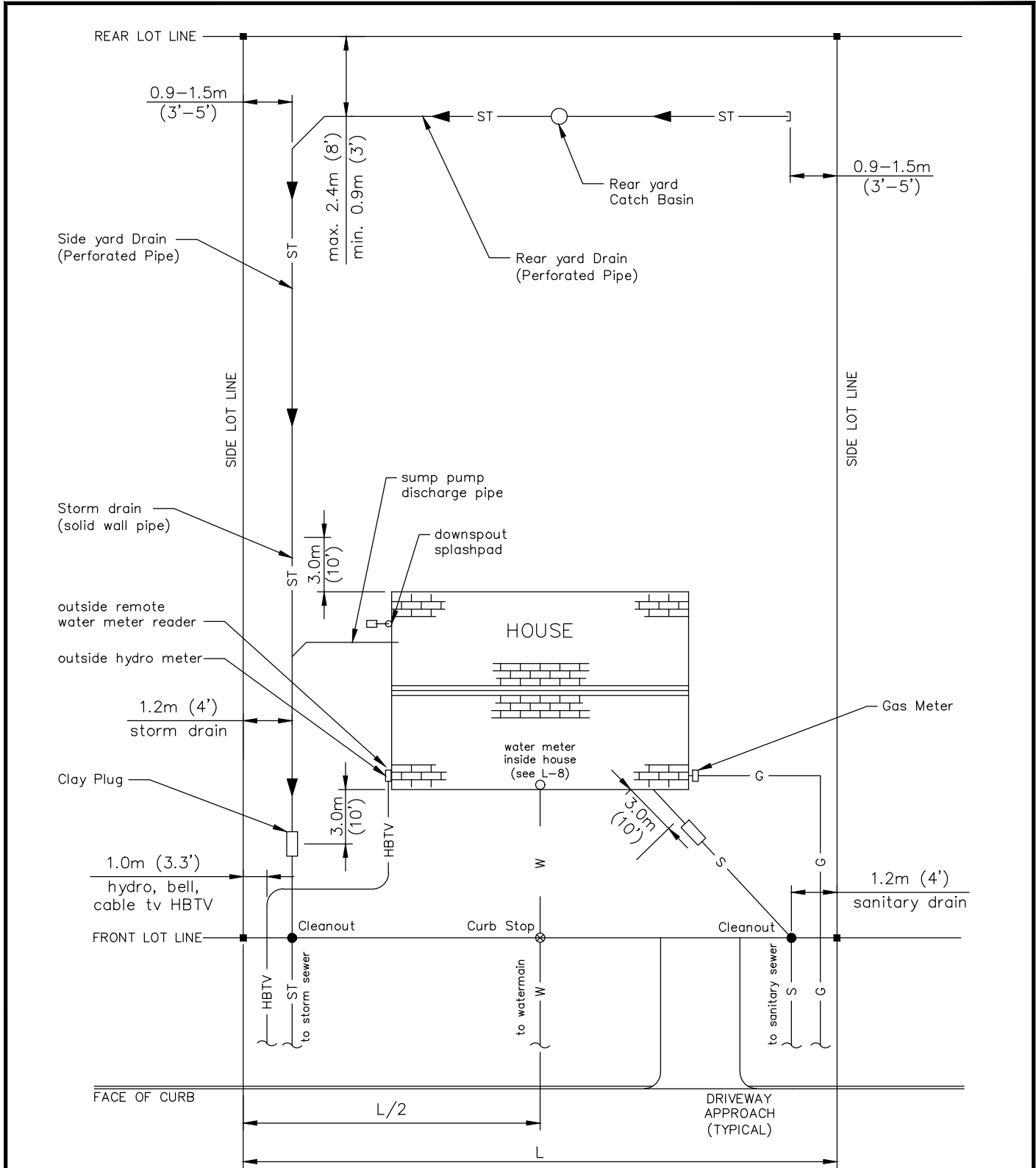
REAR YARD CATCH BASIN
(CONCRETE)



REAR YARD CATCH BASIN
(PLASTIC)



No.	Revision Date
1	October 16, 2006
2	January 14, 2008

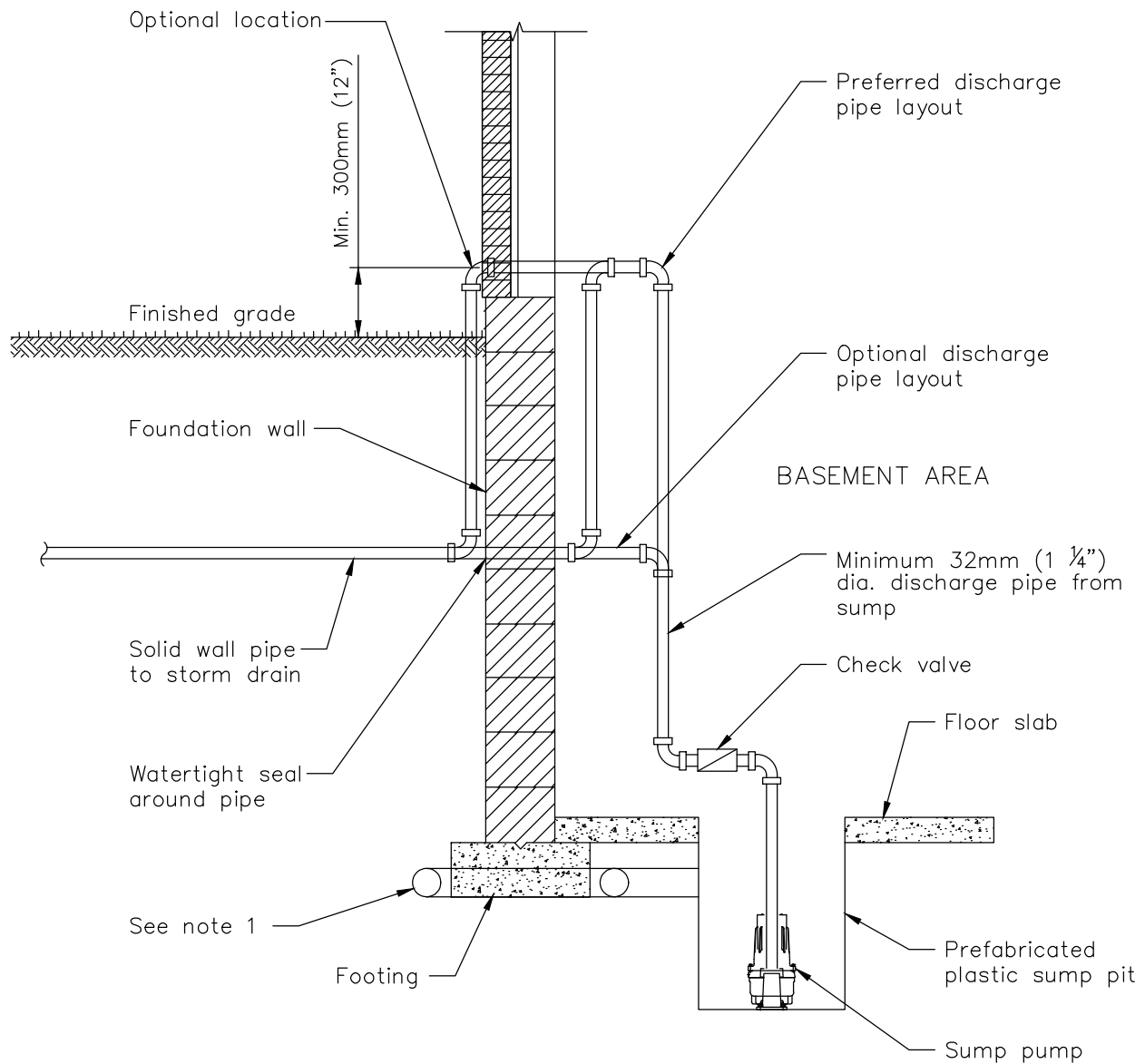


NOTE

1. Offsets shown are typical, they may vary based on servicing drawings.
2. See O.B.C. for cleanout spacing.
3. Rear yard catch basin location to be approved by Town.
4. Services to be position outside of proposed driveways if possible.



No.	Revision Date
3	July 7, 2017
2	January 14, 2008
1	October 16, 2006



NOTE:

1. Perforated footing drain with cross-overs connected to sump pit.
2. Support piping to wall.

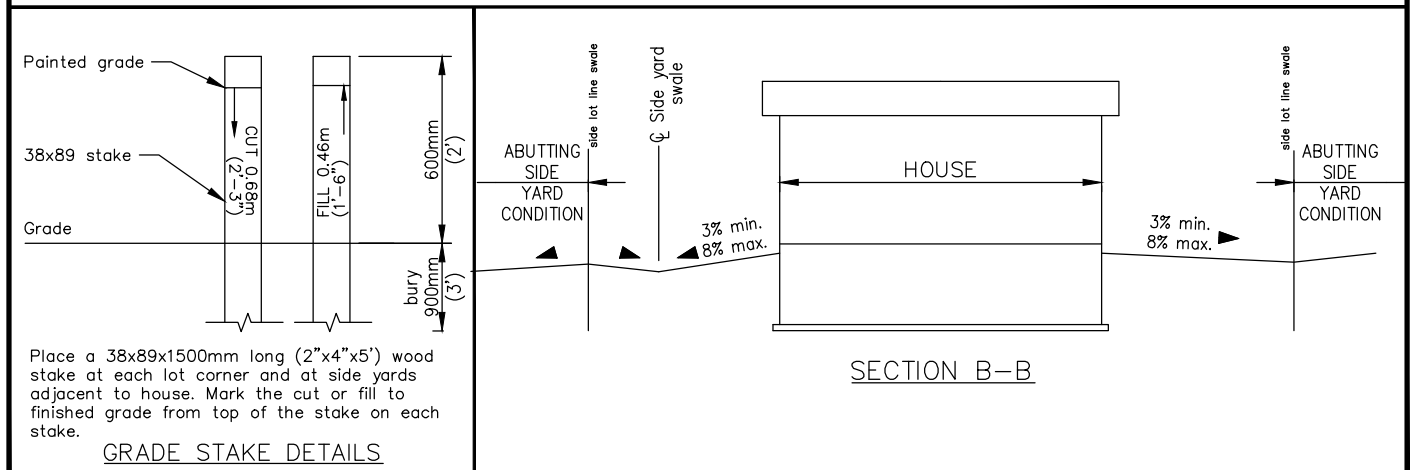
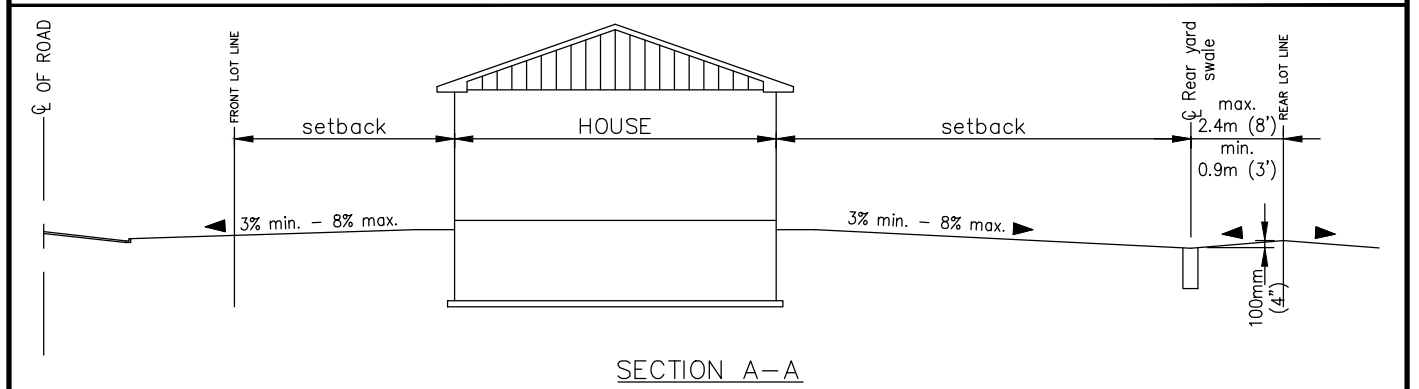
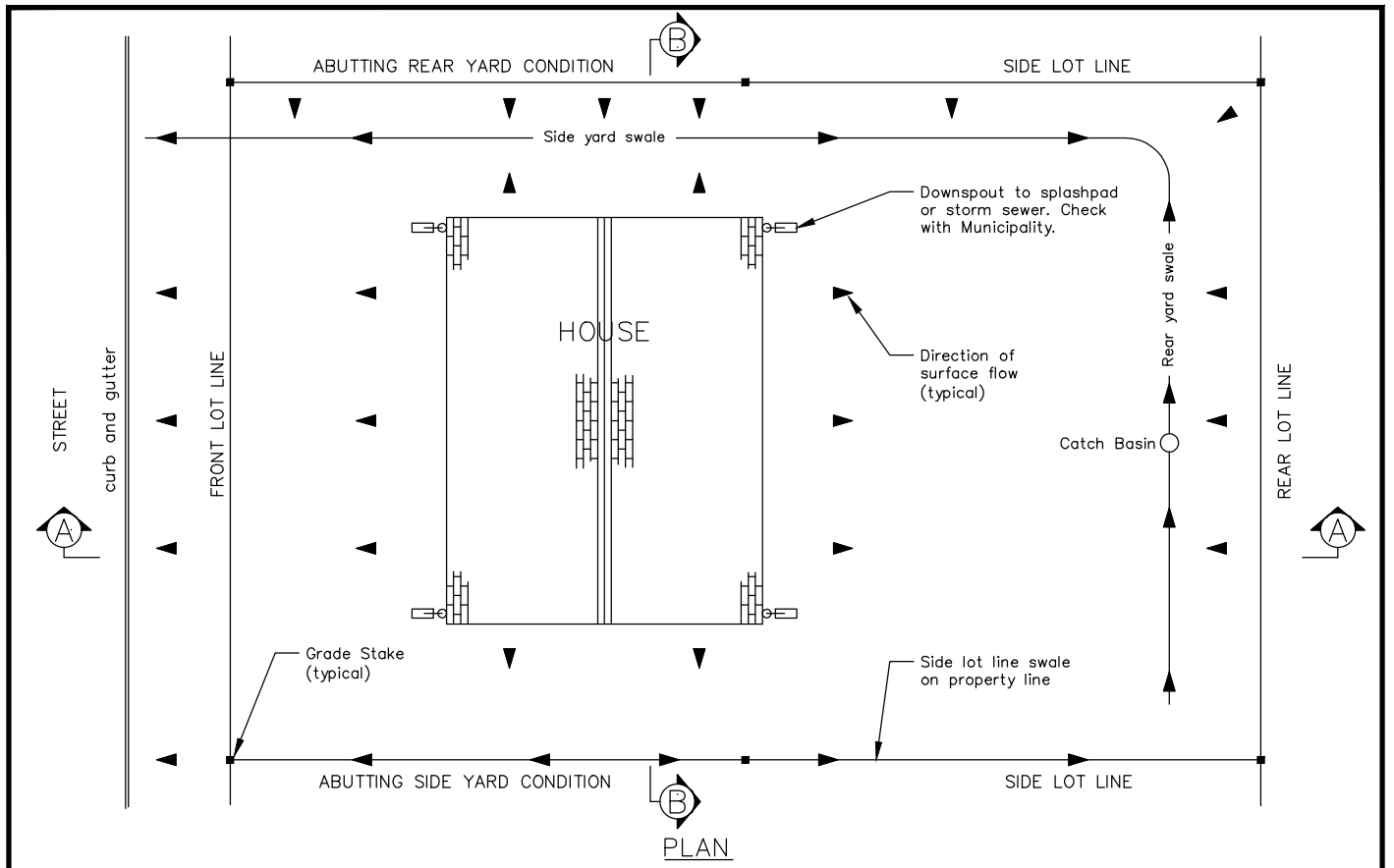
Drawing is for illustration purpose only.

NOTE:

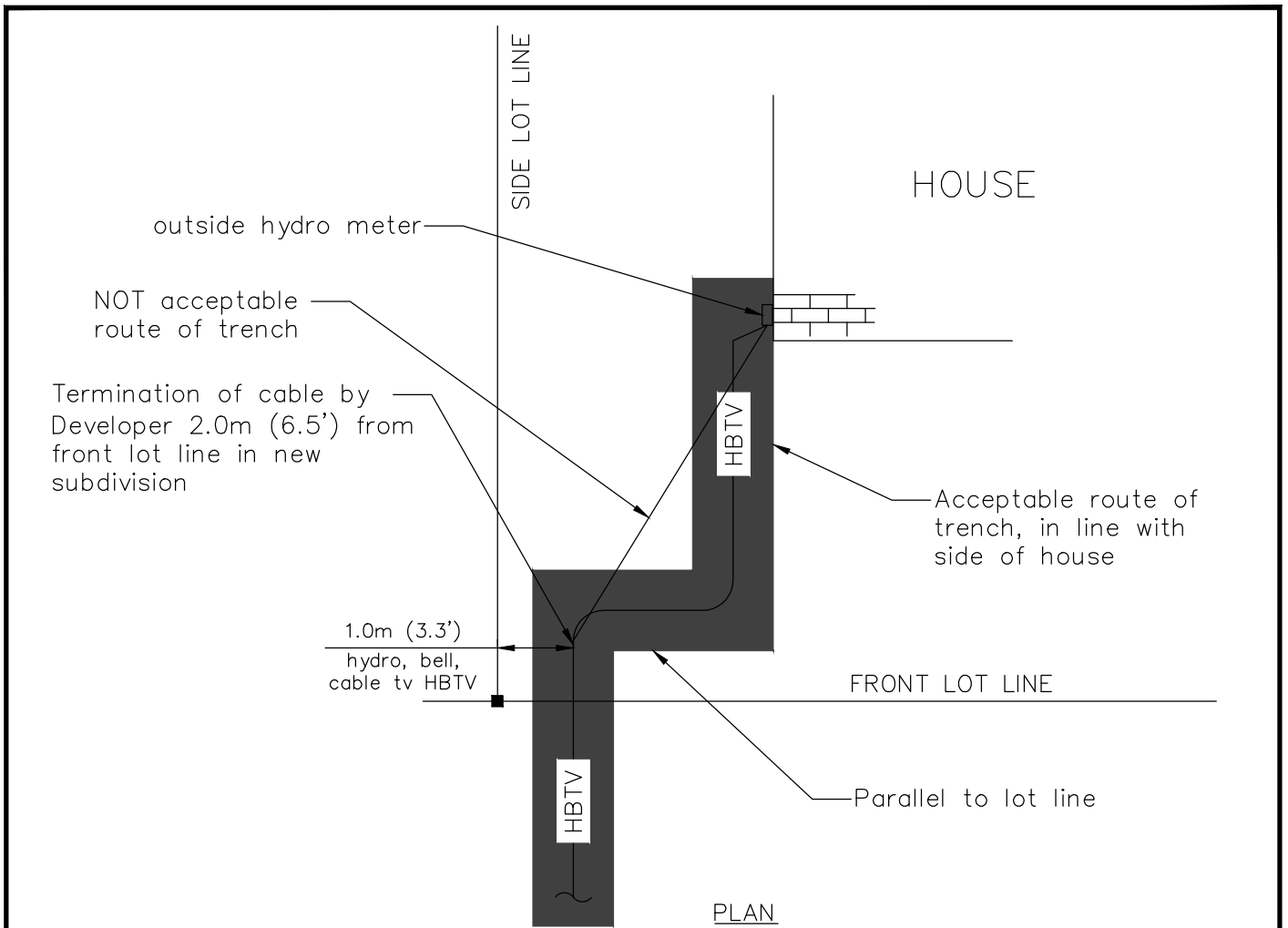
THIS DETAIL APPLIES IF GROUND WATER ELEVATION IS BELOW THE FOOTING. IF NOT, PROVIDE AN ALTERNATE DESIGN PREPARED BY A PROFESSIONAL ENGINEER



No.	Revison Date
1	October 16, 2006
2	January 14, 2008

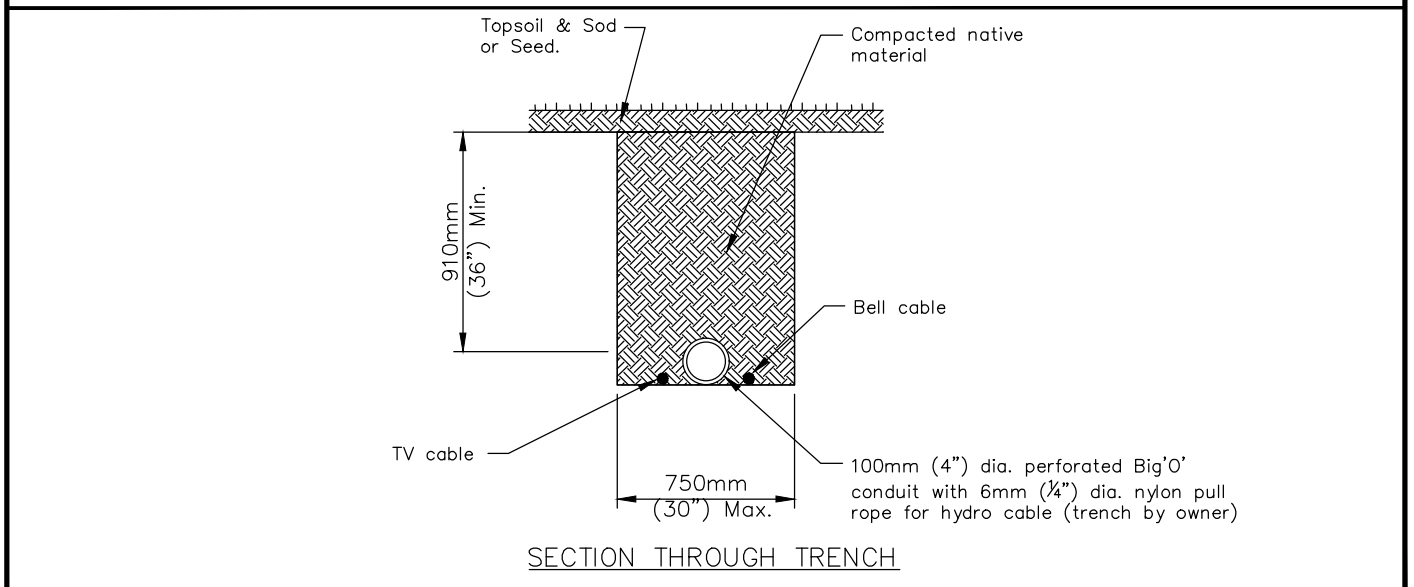


No.	Revision Date
2	January 14, 2008
1	October 16, 2006

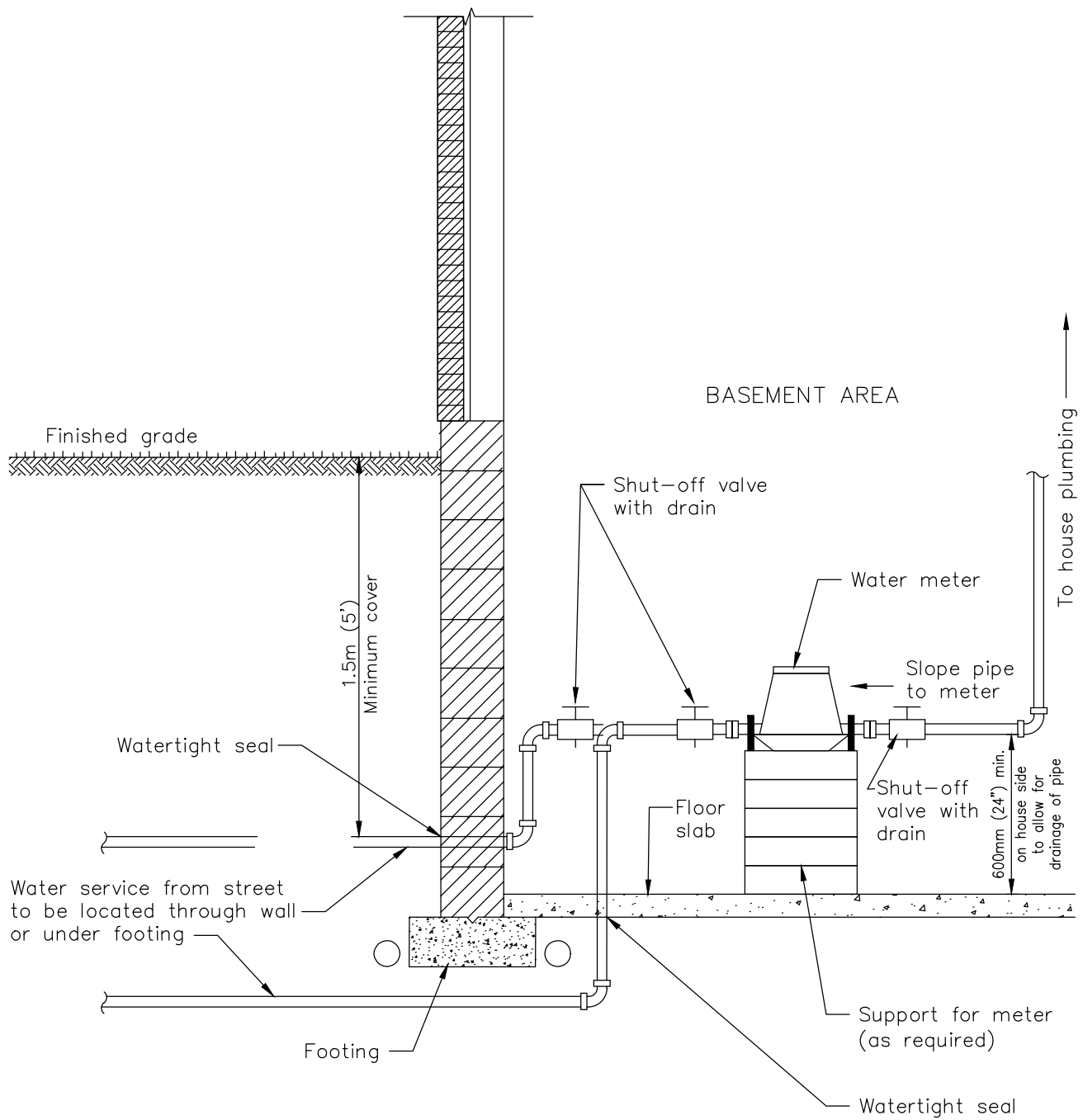


NOTE

1. Obtain approval from ELK/Hydro One office for meter location on house.
2. Do not bury Big'O' conduit until after hydro cable installation and after inspection by ELK/Hydro One.



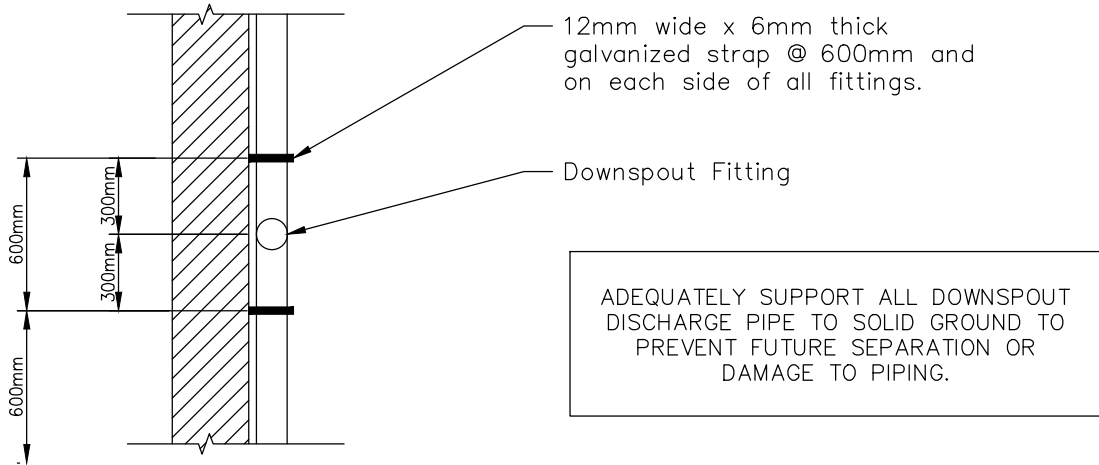
SECTION THROUGH TRENCH



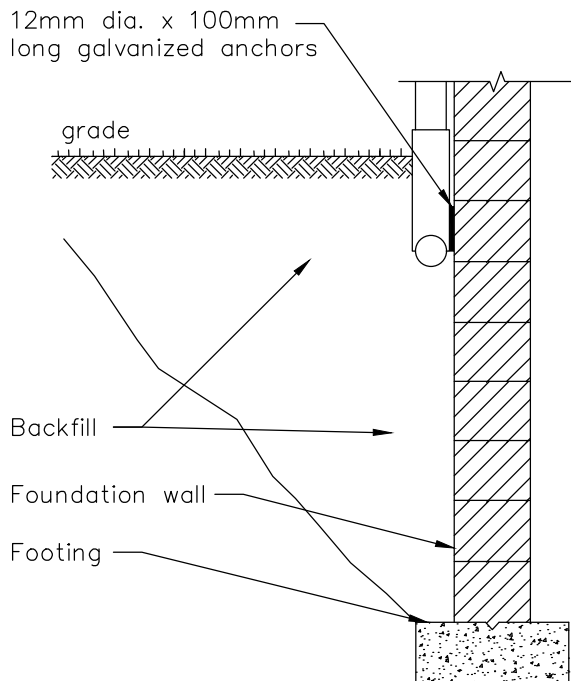
NOTE:
 1. Secure meter and piping to structure.



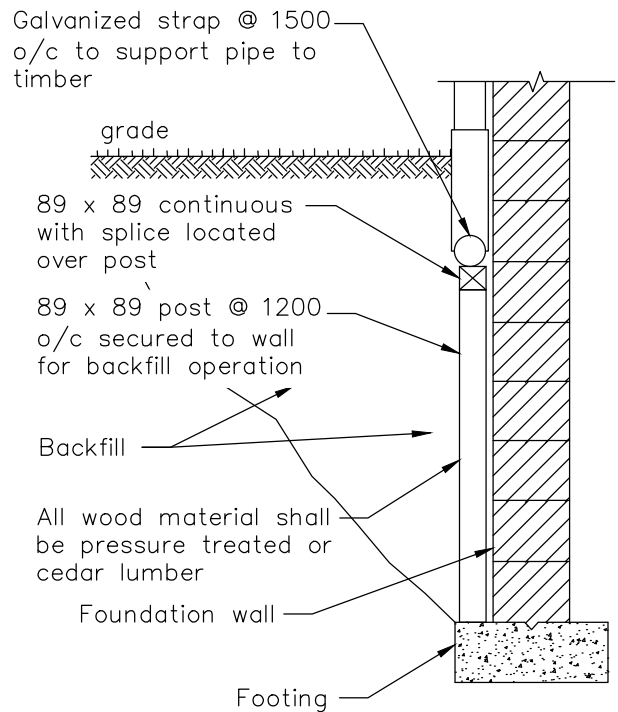
No.	Revision Date
1	October 16, 2006
2	January 14, 2008
3	April 14, 2009



PLAN



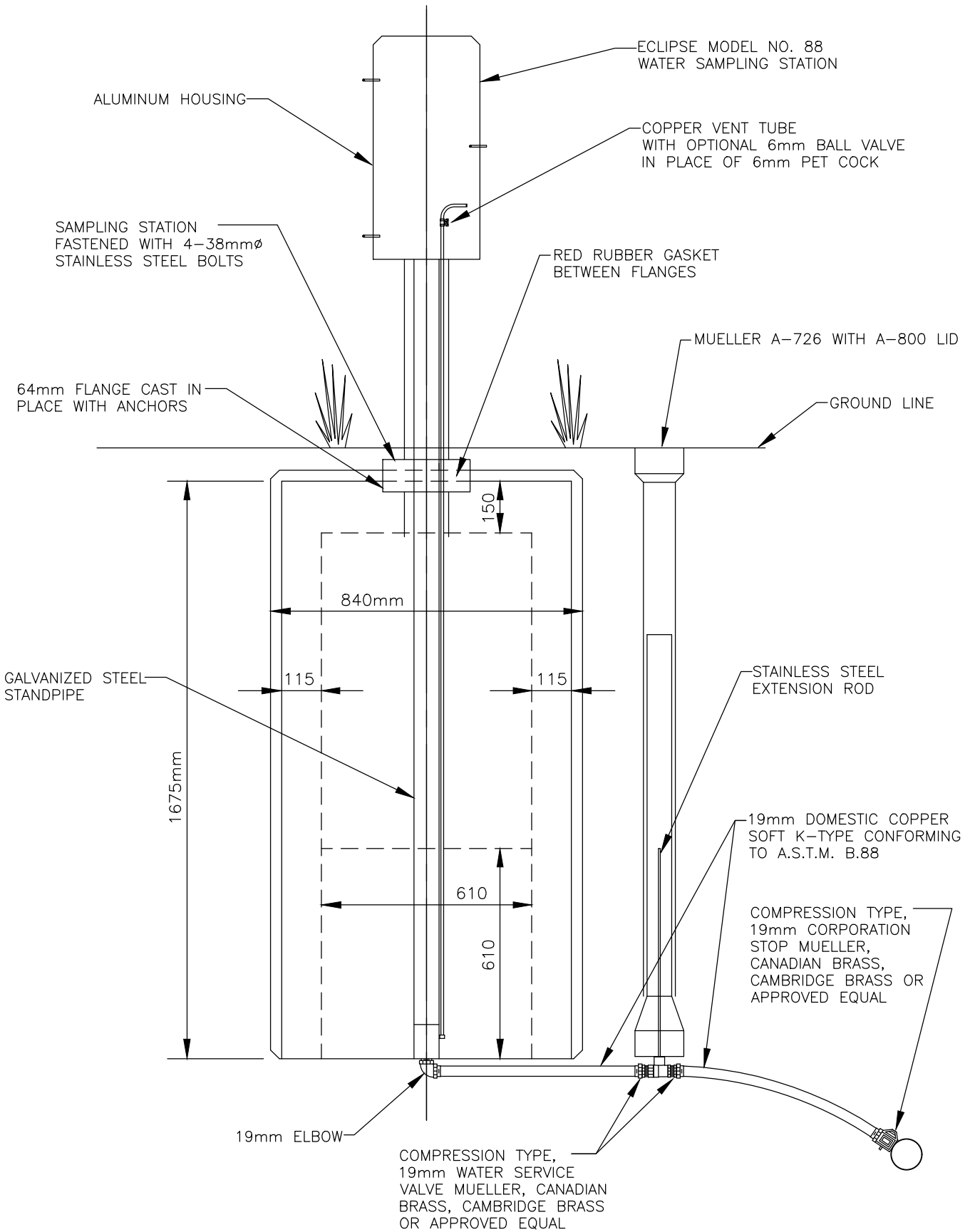
WALL SECTION ALTERNATIVE NO. 1



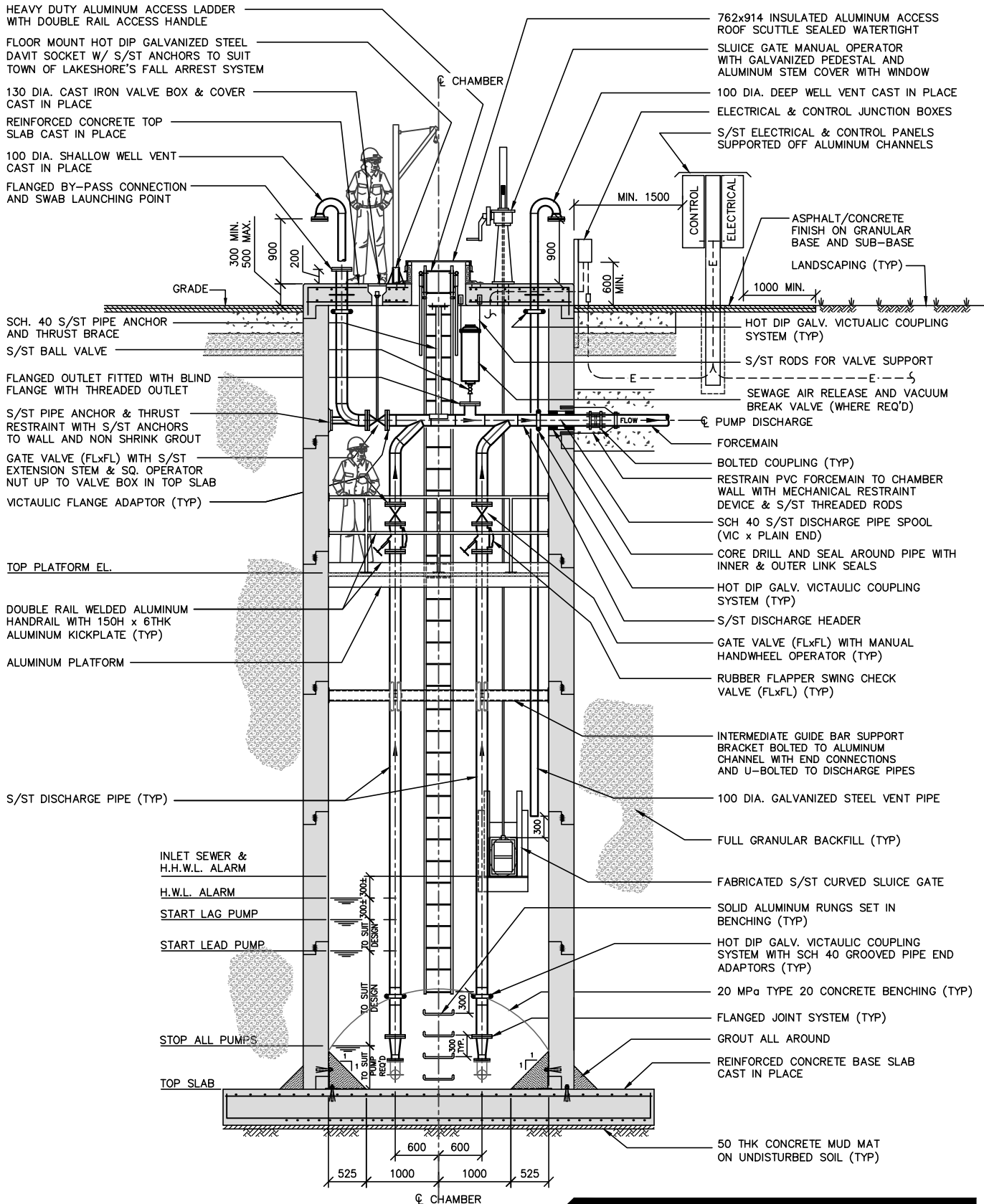
WALL SECTION ALTERNATIVE NO. 2
(PREFERRED)



No.	2	January 14, 2008
	1	October 16, 2006
		Revision Date



1	October 16, 2006
No.	Revision Date

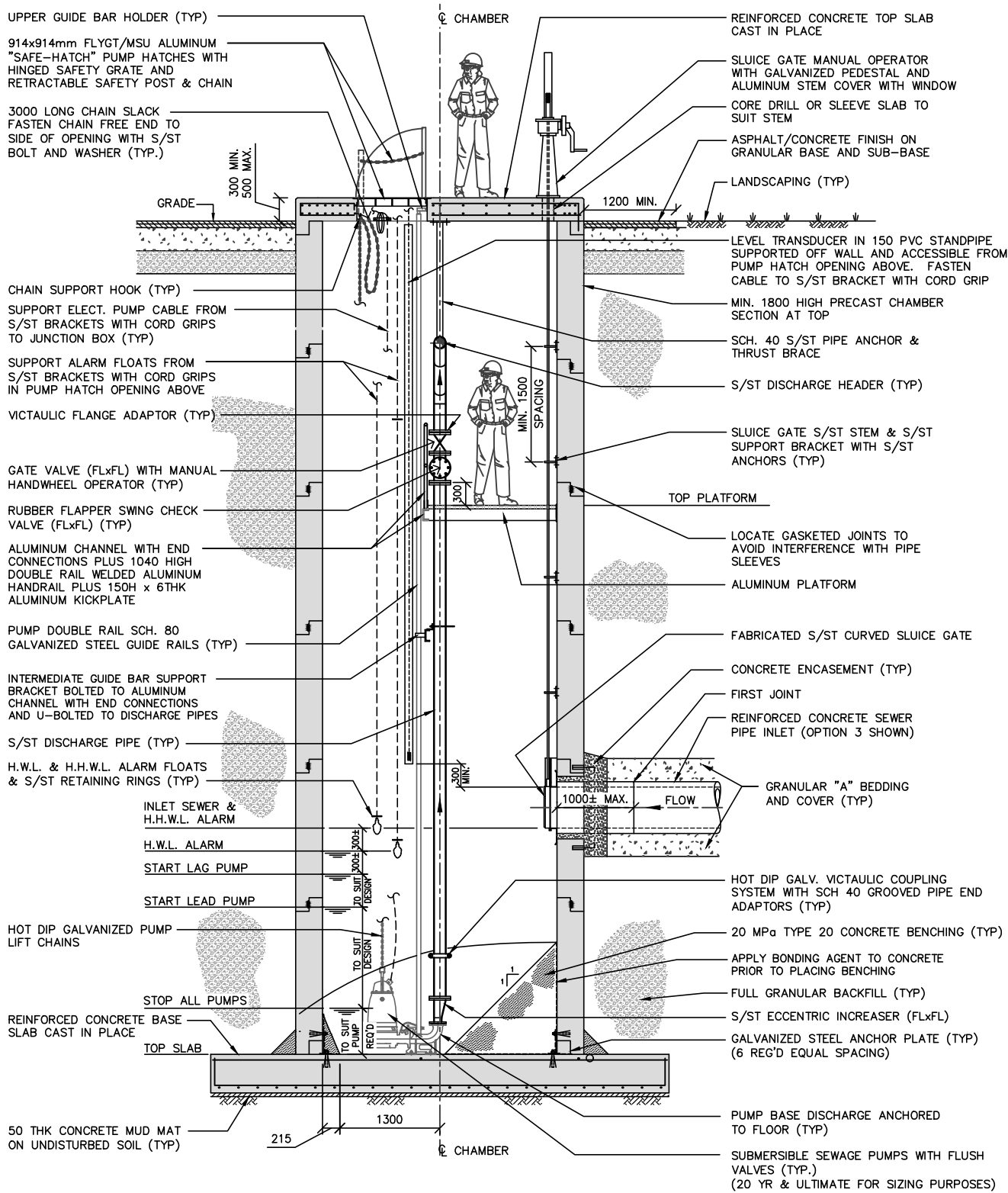


NOTES:
 ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.



2	May 01, 2014
1	May 2009
No.	Revision Date

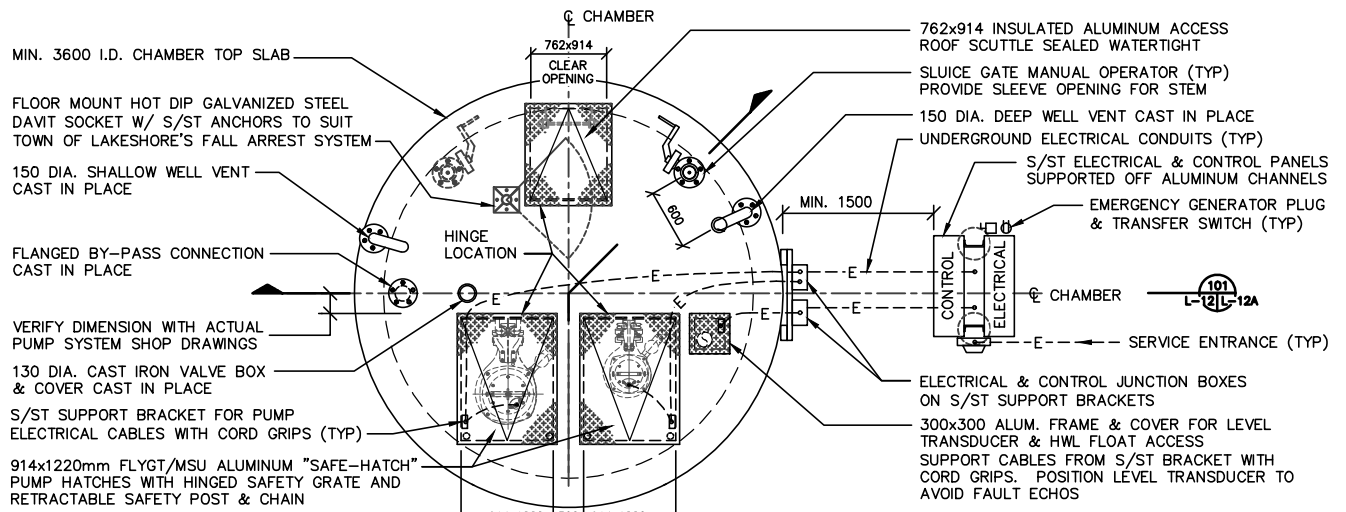


NOTES:
 ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.

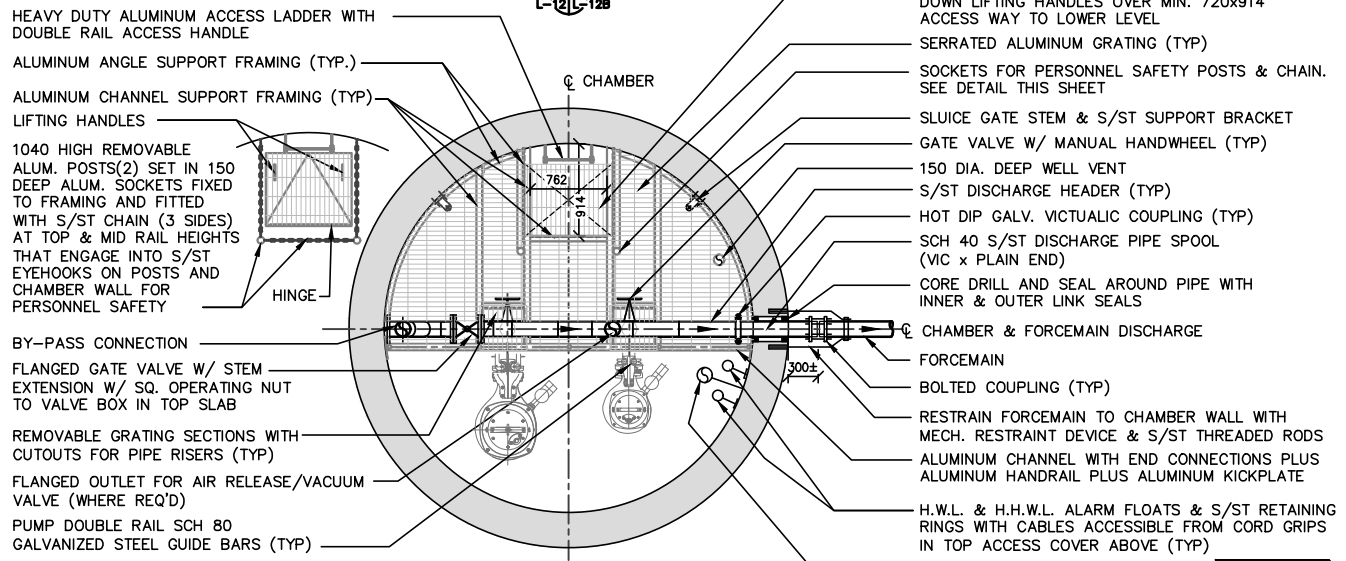


2	May 01, 2014
1	May 2009
No.	Revision Date



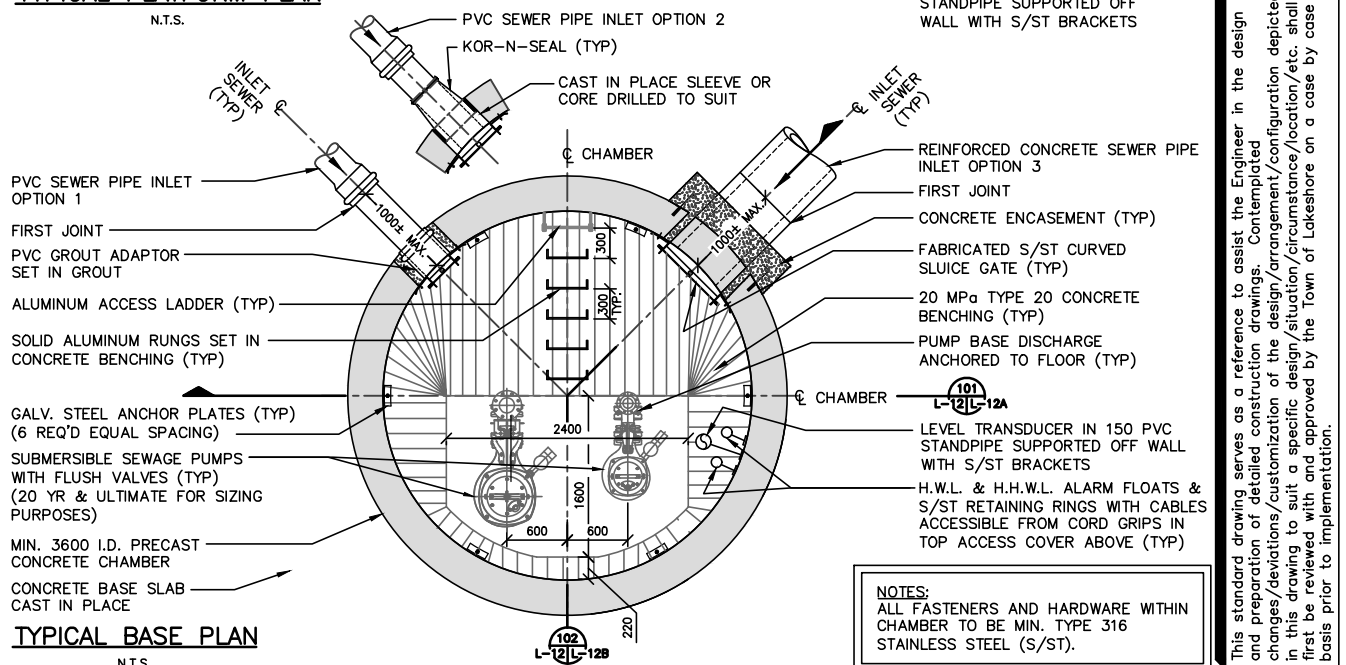
TYPICAL TOP PLAN

N.T.S.



TYPICAL PLATFORM PLAN

N.T.S.

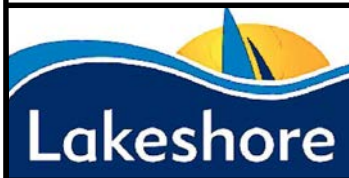


TYPICAL BASE PLAN

N.T.S.

NOTES:
ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

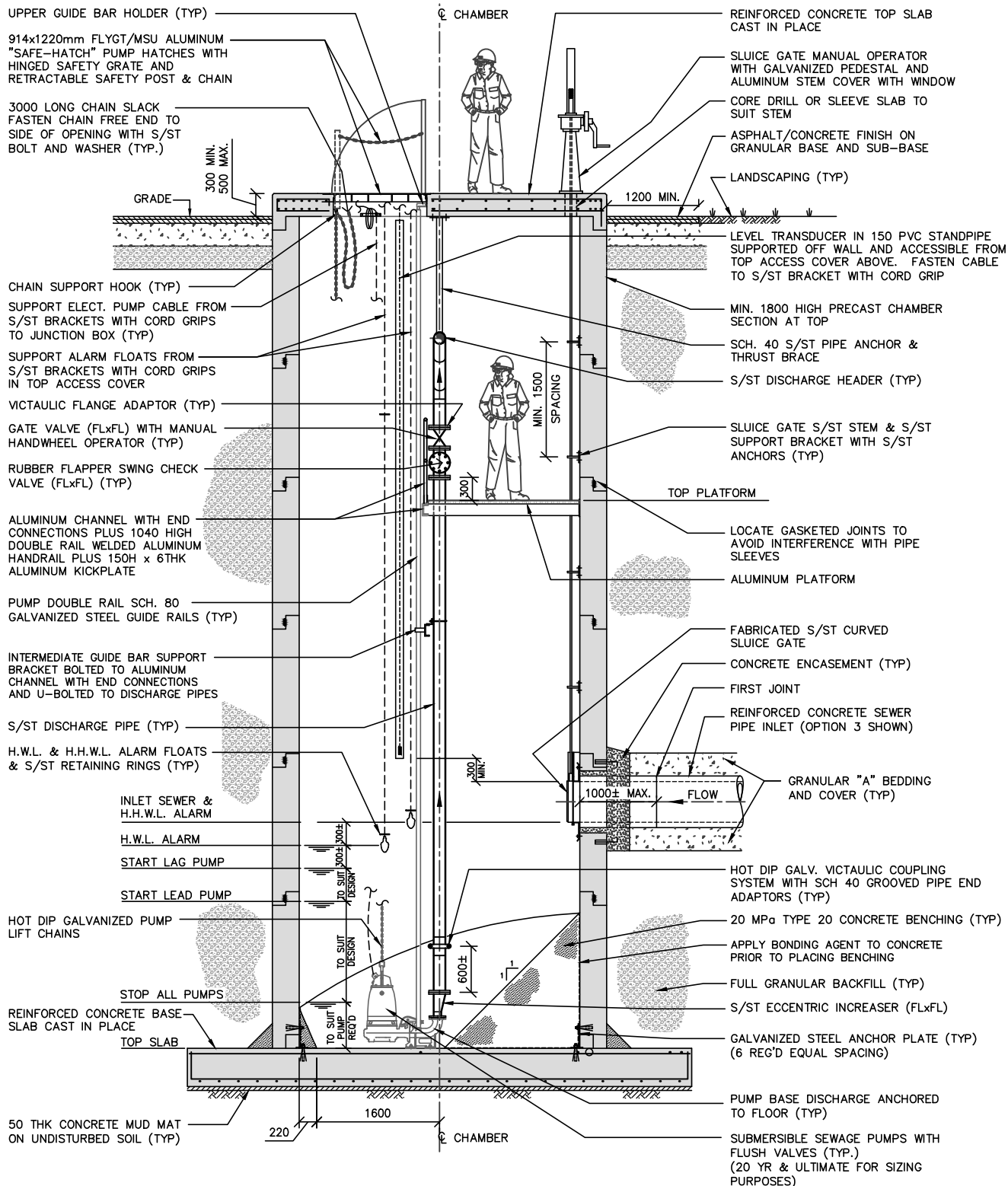
This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.



No.	2	May 01, 2014
	1	May 2009
		Revision Date

Town of Lakeshore Development Manual

Figure L-12
Typical Sanitary Pump Station (3600 DIA.)
Plan Views



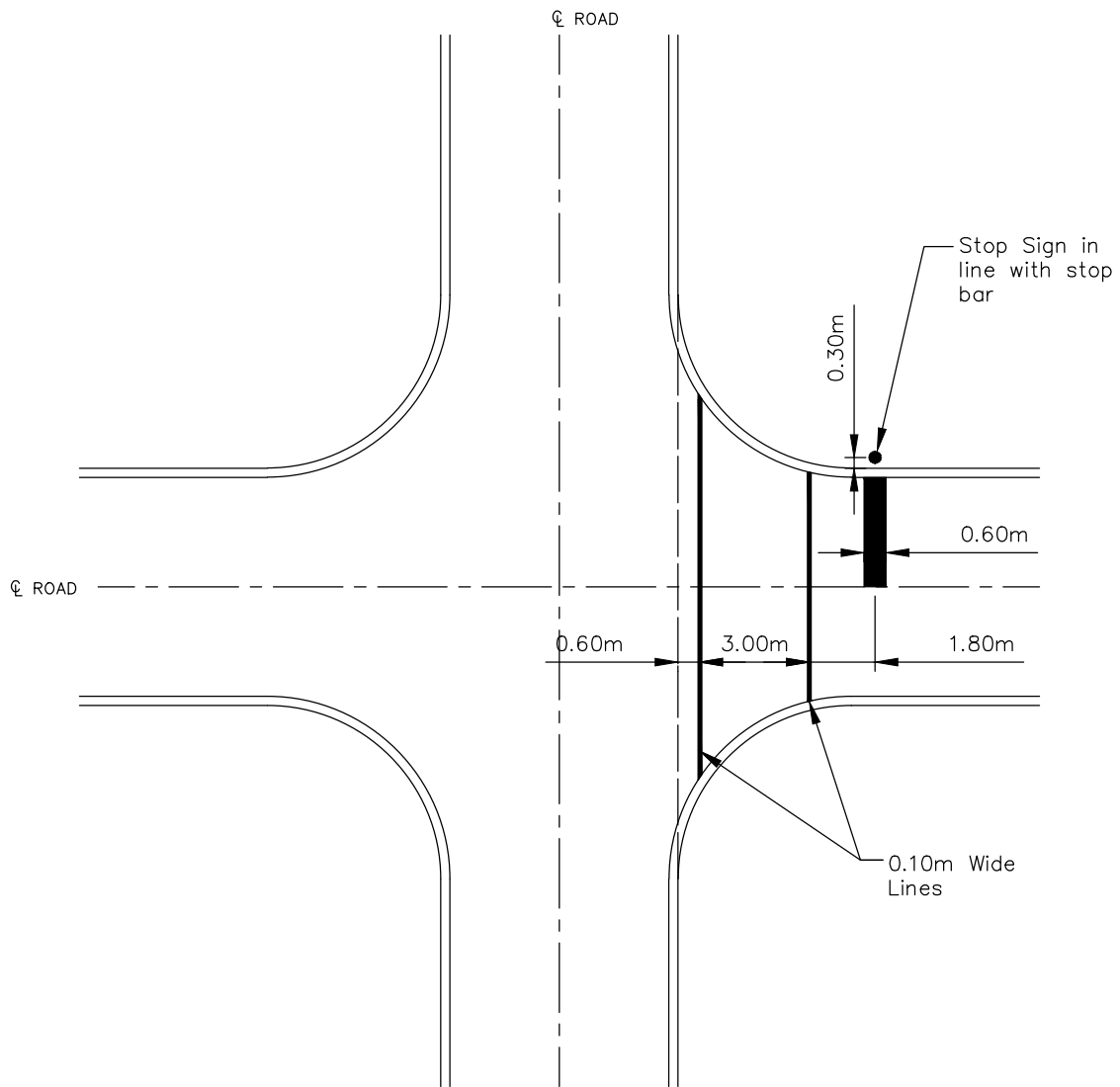
NOTES:
 ALL FASTENERS AND HARDWARE WITHIN CHAMBER TO BE MIN. TYPE 316 STAINLESS STEEL (S/ST).

This standard drawing serves as a reference to assist the Engineer in the design and preparation of detailed construction drawings. Contemplated changes/deviations/customization of the design/arrangement/configuration depicted in this drawing to suit a specific design/situation/circumstance/location/etc. shall first be reviewed with and approved by the Town of Lakeshore on a case by case basis prior to implementation.



2	May 01, 2014
1	May 2009
No.	Revision Date

Town of Lakeshore Development Manual
Figure L-12B
 Typical Sanitary Pump Station (3600 DIA.)
 Cross Section



NOTE

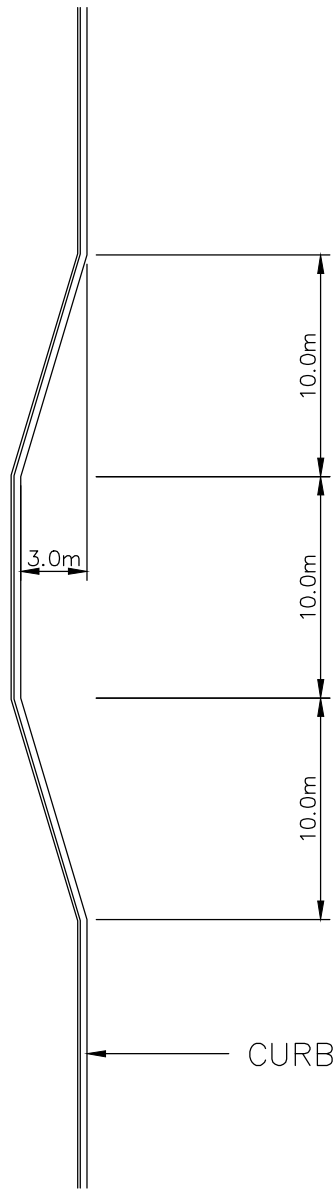
1. All Dimensions are referenced to back of curb.



No.	Revison Date
1	October 16, 2006
2	January 14, 2008

Town of Lakeshore Development Manual

Figure R-1
TYPICAL CROSSWALK LINE PAINTING PLAN



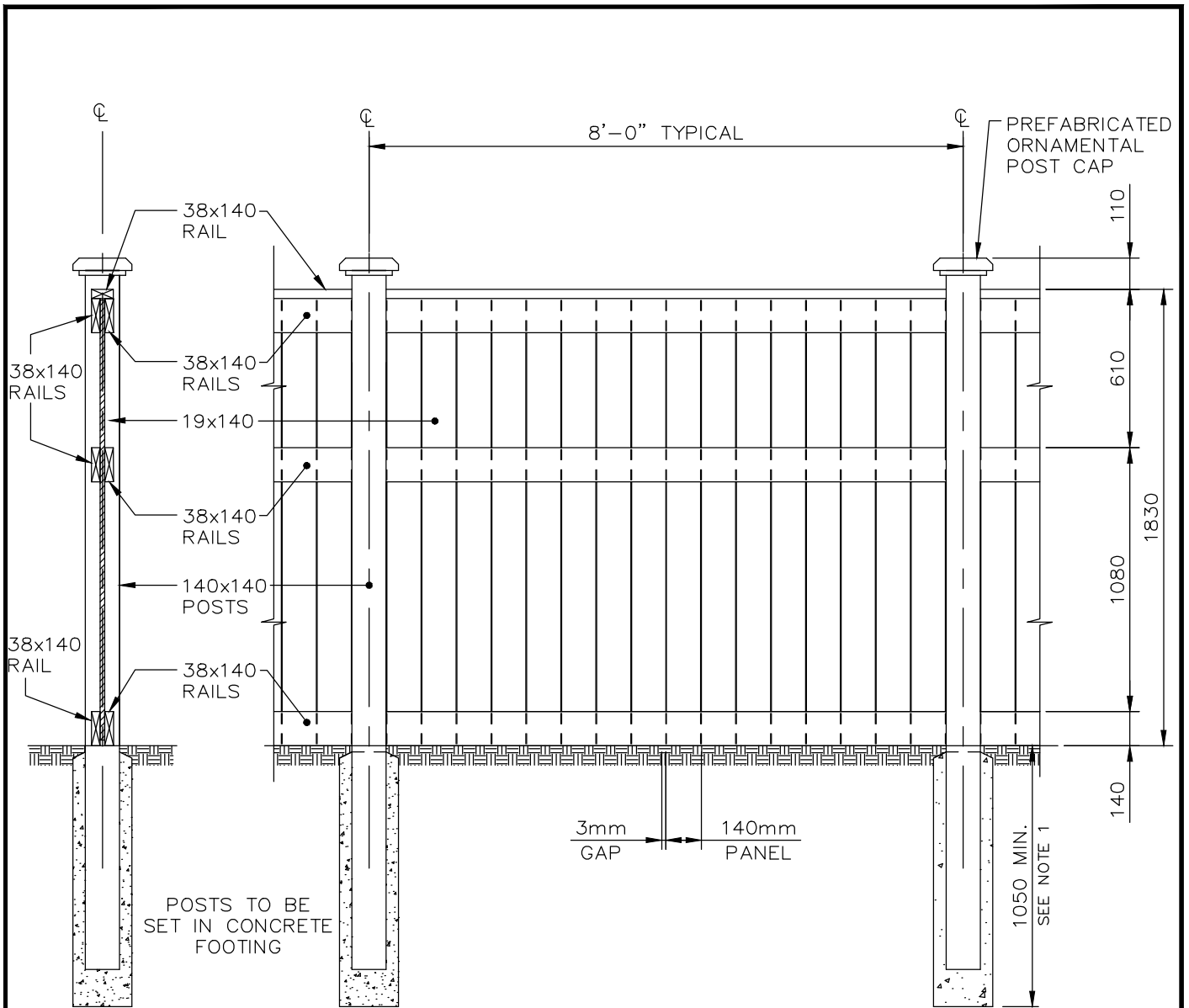
CURB



2	January 14, 2008
1	October 16, 2006
No.	Revision Date

Town of Lakeshore Development Manual

Figure R-2
TYPICAL COMMUNITY MAILBOX CAR BAY



TYPICAL WOOD SCREEN FENCE PANEL
N.T.S.

NOTES

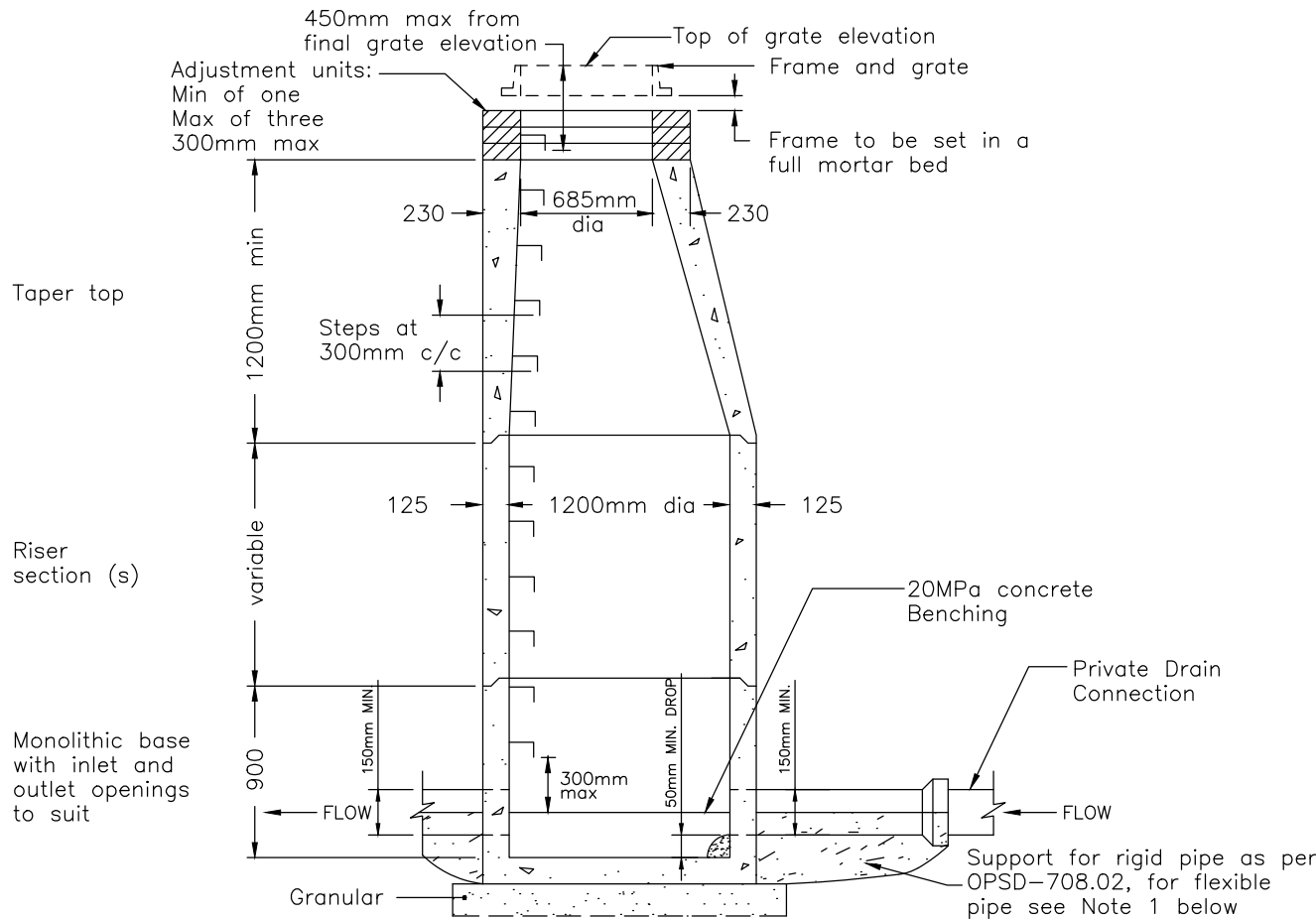
- 1 DESIGN TO BE COMPLETED BY A PROFESSIONAL ENGINEER.
- 2 ALL LUMBER TO BE PRESSURE TREATED WOOD. AFTER ERECTING FENCE, ALL CUT ENDS TO BE TREATED.
- 3 AS SUPPLIED BY CREATIVE HOMESCAPES OR APPROVED EQUAL.



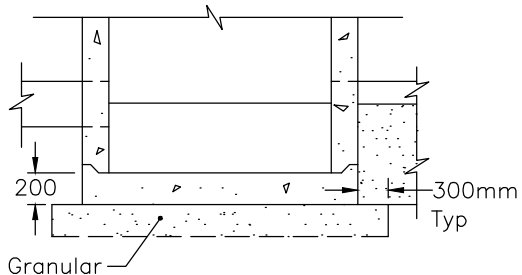
No.	Revision Date
5	January 27, 2014
4	November 28, 2012
3	January 14, 2008
2	March 5, 2007
1	October 16, 2006

Town of Lakeshore Development Manual

Figure R-3
1830mm HIGH WOOD FENCE DETAIL

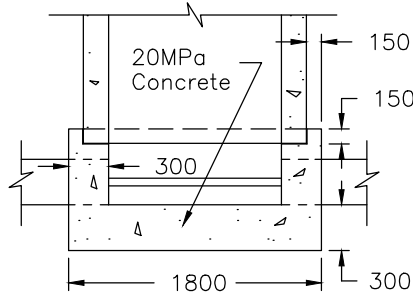


Bottom riser section with inlet and outlet openings to suit

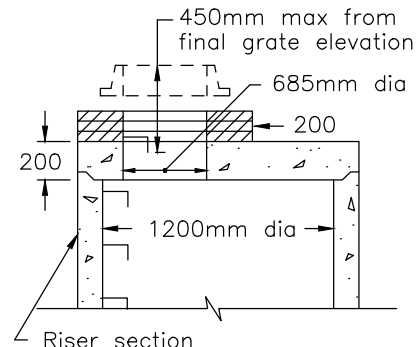


TYPE A
PRECAST SLAB BASE

ALTERNATIVES



TYPE B
CAST IN PLACE BASE



TYPE C
PRECAST FLAT TOP

Flexible joint 300mm max. from Manhole wall, in lieu of concrete cradle.

TYPE D

Approved flexible watertight pipe connector in MH opening in lieu of concrete cradle.

TYPE E

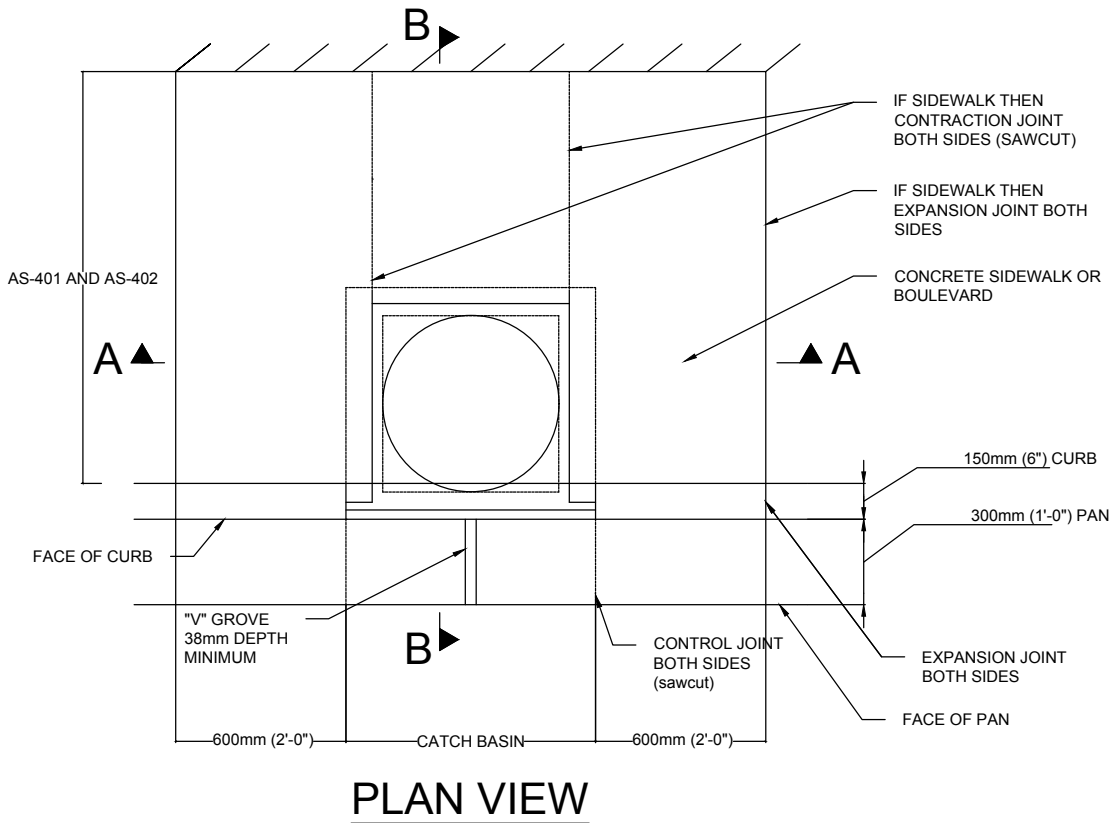
PIPE SUPPORT AT MANHOLE

NOTES:

- 1 For flexible pipe use types 'D' or 'E' pipe support only.
- 2 Granular backfill to be placed to a minimum thickness of 300mm all around.
- 3 Special base design required for depths greater than 10.0m.
- 4 Fill lifting holes and pipe connections and purge adjustment units on outside 15mm thick with 1:3 non-shrink mortar mix.
- 5 Precast concrete components as per OPSD-701.03.
- 6 Use alternative base, top, pipe support or connector, steps, frame and cover and/or benching where specified.
- 7 Structures exceeding 5.0m in depth to include safety grate as per OPSD-404.02.
- 8 All dimensions are in millimetres unless otherwise shown.



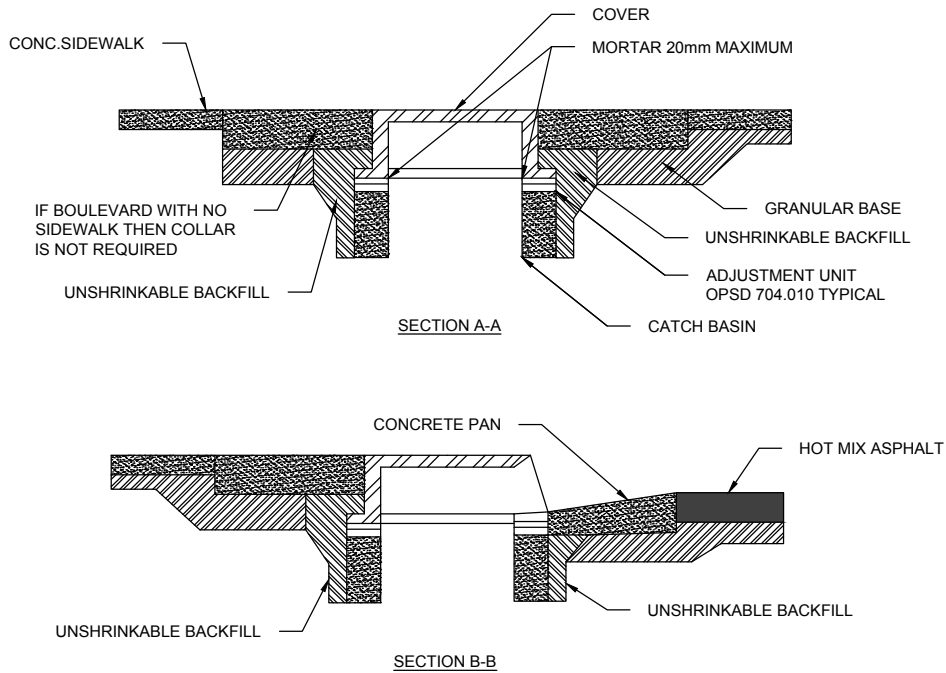
No.	Revision Date
2	January 14, 2008
1	October 16, 2006



PLAN VIEW

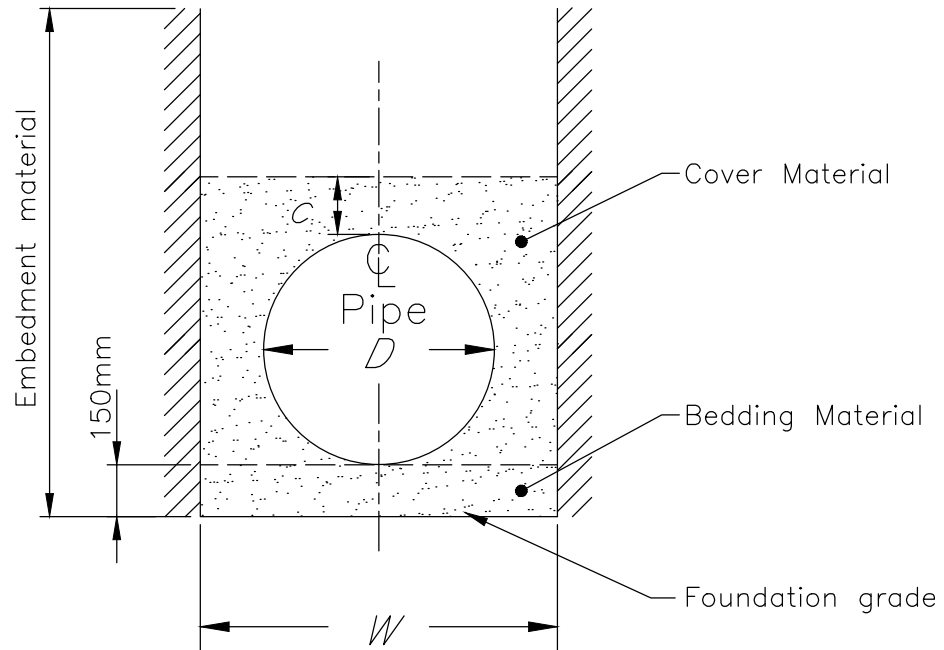
CATCH BASIN:

1. CATCH BASIN TO BE CENTERED WITHIN THE SIDEWALK BAY IF PLACED WITH SIDEWALK.
2. CONCRETE SIDEWALK THICKNESS SHALL BE 150mm FOR SIDEWALK BAY WITH CATCH BASIN.
3. FOR EXPANSION AND CONTRACTION JOINT DETAIL SEE OPSD 310.010.
4. CAST IRON CURB INLET FRAME ACCORDING TO OPSD 400.082.
5. "V" GROVE IN PAN TO ALLOW DRAINAGE DURING MAINTENANCE PERIOD PRIOR TO SURFACE ASPHALT COURSE BEING PLACED.
6. UNSHRINKABLE BACKFILL REQUIRED IN CATCH BASIN EXCAVATION.



2	July 7, 2017						
1	December 2012						
No.	Revision Date						

PIPE IN TRENCH



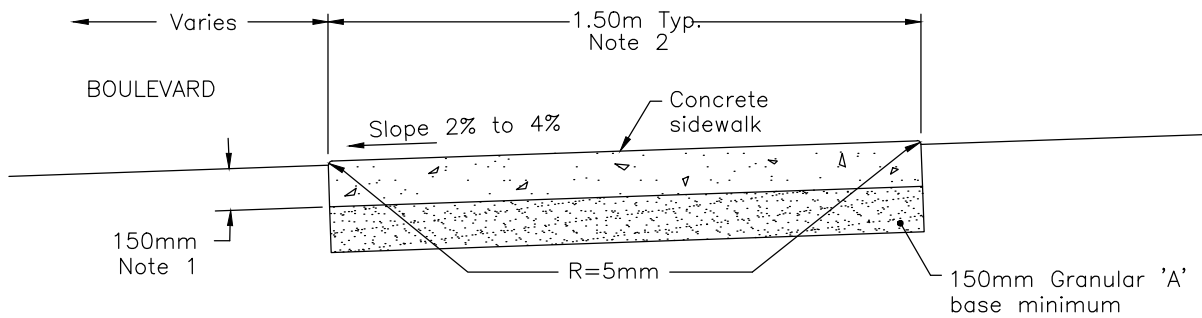
EARTH AND ROCK EXCAVATION

NOTES:

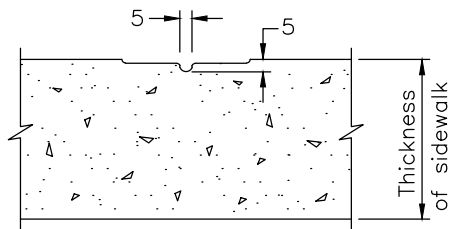
- 1 Backfill according to OPSD-803.04
- 2 All dimensions are in millimetres or metres unless otherwise shown.
- 3 Bedding material to be in accordance with the Ontario Building Code

LEGEND:

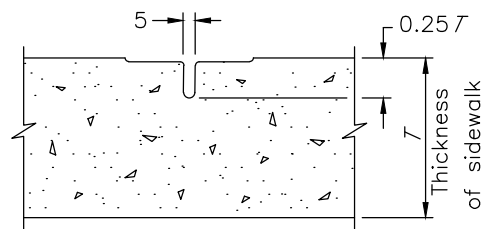
- D - Inside diameter
- W - Minimum width of bedding:
 $D + 800\text{mm}$ for $D \leq 1000\text{mm}$
 $1.67D$ for $1000\text{mm} < D < 1800\text{mm}$
 $D + 1200\text{mm}$ for $D \geq 1800\text{mm}$.
- c - Pipe Diameter $< 600\text{mm}$ $c = 300\text{mm}$,
 - Pipe Diameter $\geq 600\text{mm}$ $c = \frac{\text{Dia.}}{4} + 300$



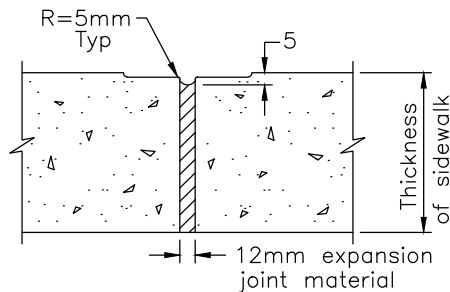
TYPICAL SECTION



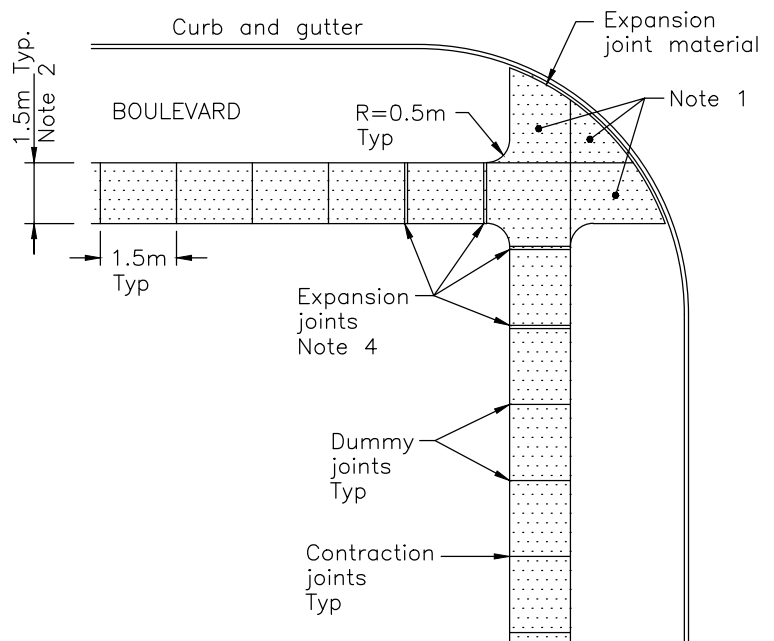
DUMMY JOINT



CONTRACTION JOINT



EXPANSION JOINT



JOINT LAYOUT

NOTES:

- 1 Sidewalk thickness in residential areas shall be 150mm.
At commercial and industrial driveways, the thickness shall be 200mm.
- 2 Sidewalk width shall be increased at school areas, bus stops and other high pedestrian areas.

- 3 All dimensions are in millimetres or metres unless otherwise shown.
- 4 Expansion joints shall be spaced no more than 15m apart.

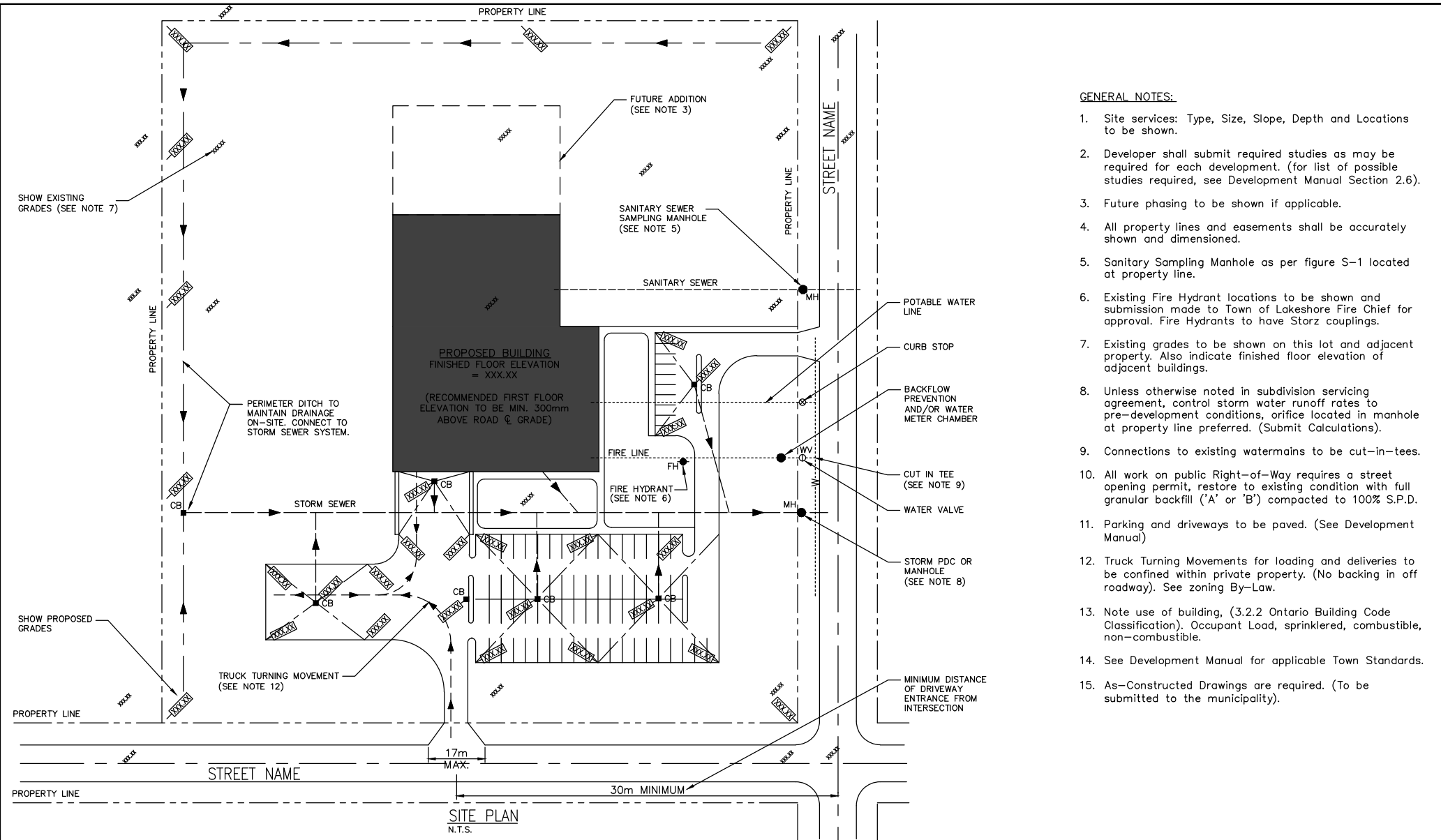
STANDARD BASED ON ONTARIO PROVINCIAL STANDARD DRAWING OPSD-310.010



No.	Revision Date
4	July 7, 2017
3	April 12, 2011
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

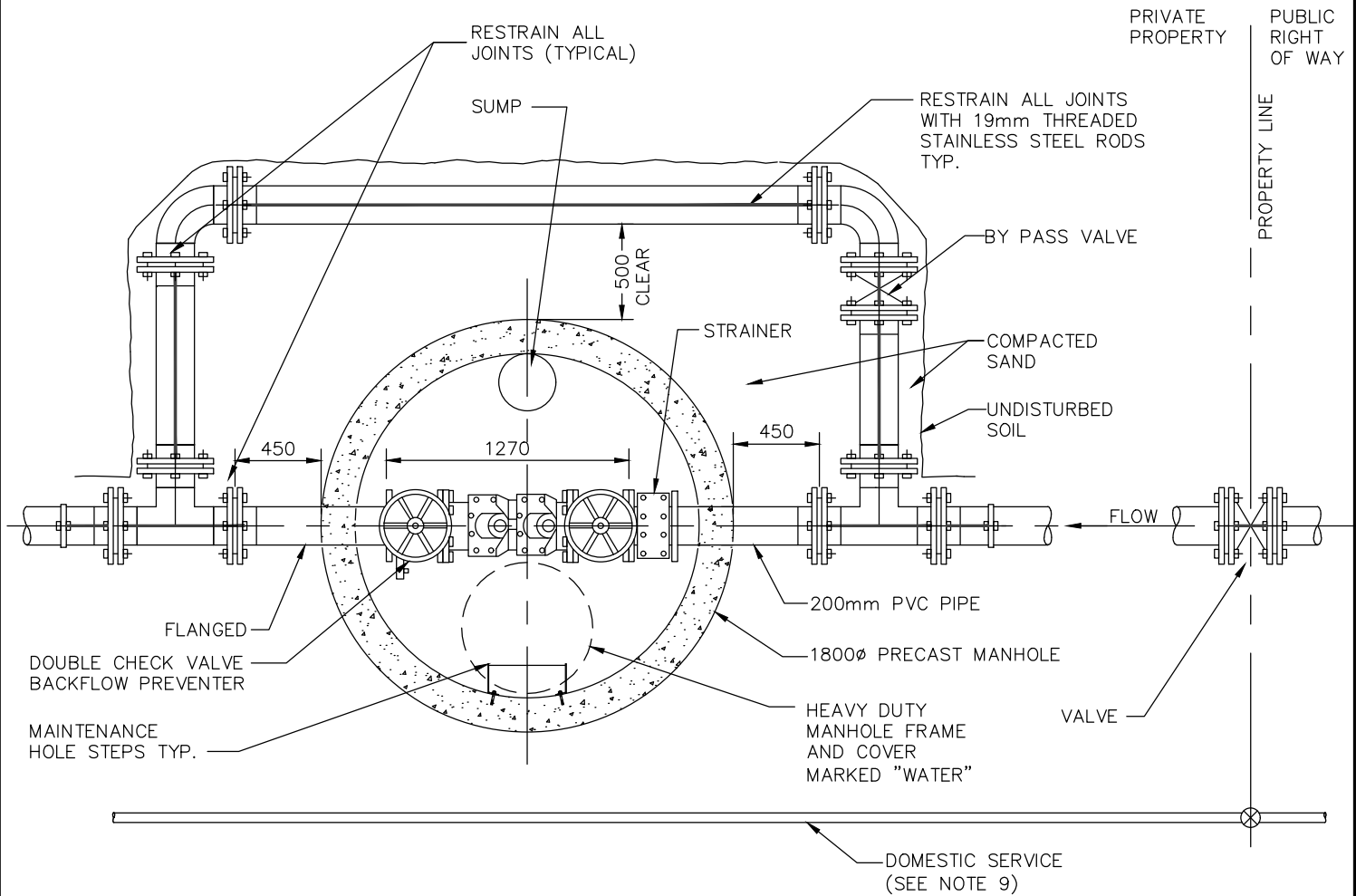
Figure S-5
CONCRETE SIDEWALK



- GENERAL NOTES:**
1. Site services: Type, Size, Slope, Depth and Locations to be shown.
 2. Developer shall submit required studies as may be required for each development. (for list of possible studies required, see Development Manual Section 2.6).
 3. Future phasing to be shown if applicable.
 4. All property lines and easements shall be accurately shown and dimensioned.
 5. Sanitary Sampling Manhole as per figure S-1 located at property line.
 6. Existing Fire Hydrant locations to be shown and submission made to Town of Lakeshore Fire Chief for approval. Fire Hydrants to have Storz couplings.
 7. Existing grades to be shown on this lot and adjacent property. Also indicate finished floor elevation of adjacent buildings.
 8. Unless otherwise noted in subdivision servicing agreement, control storm water runoff rates to pre-development conditions, orifice located in manhole at property line preferred. (Submit Calculations).
 9. Connections to existing watermains to be cut-in-tees.
 10. All work on public Right-of-Way requires a street opening permit, restore to existing condition with full granular backfill ('A' or 'B') compacted to 100% S.P.D.
 11. Parking and driveways to be paved. (See Development Manual)
 12. Truck Turning Movements for loading and deliveries to be confined within private property. (No backing in off roadway). See zoning By-Law.
 13. Note use of building, (3.2.2 Ontario Building Code Classification). Occupant Load, sprinklered, combustible, non-combustible.
 14. See Development Manual for applicable Town Standards.
 15. As-Constructed Drawings are required. (To be submitted to the municipality).



No.	2	January 14, 2008
	1	October 16, 2006
		Revision Date



SECTION PLAN

GENERAL NOTES

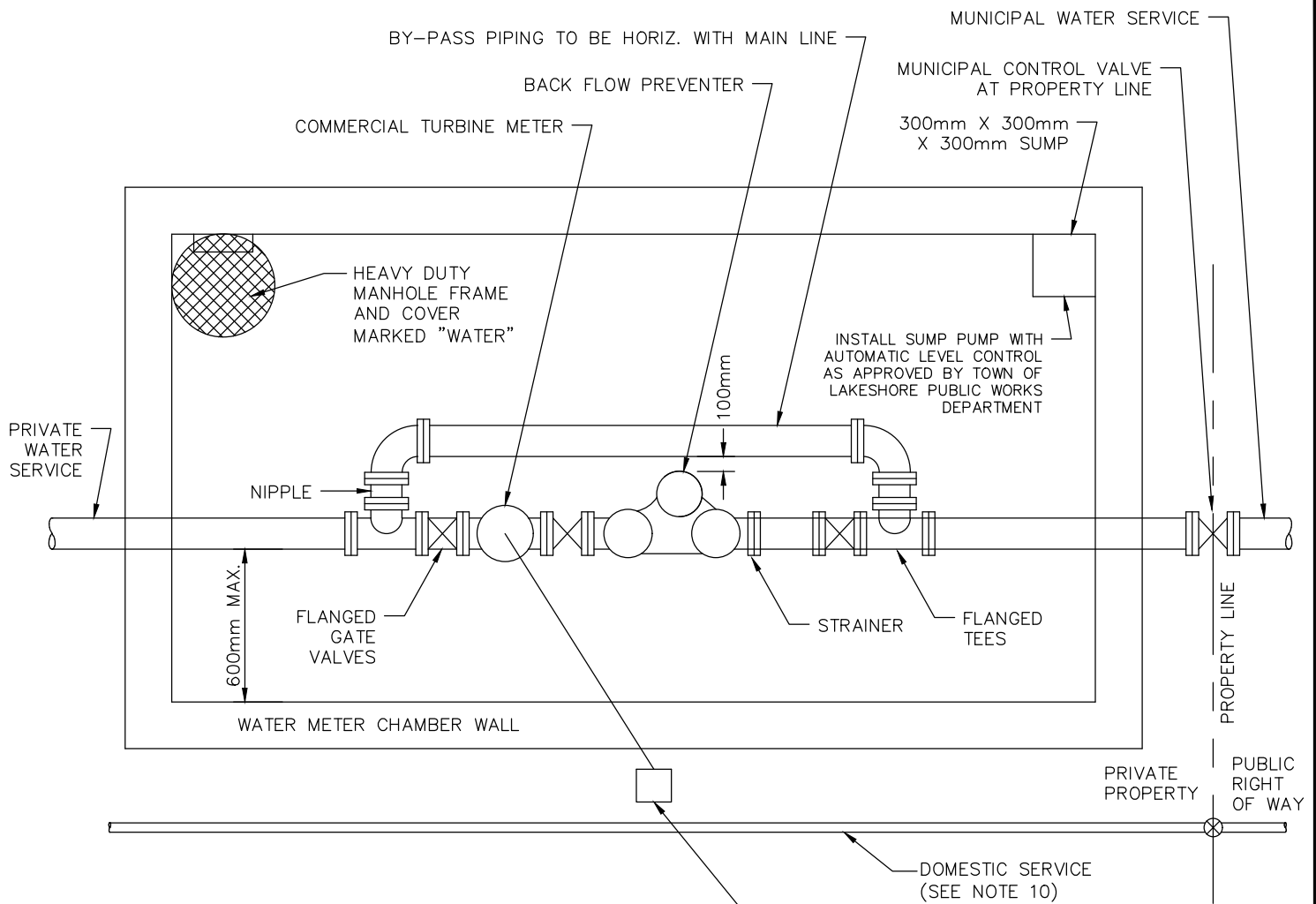
1. PRECAST CHAMBERS SHALL HAVE 600mm CLEARANCE AROUND ALL PIPING FOR MAINTENANCE PURPOSES.
2. BACKFLOW PREVENTERS SHALL BE AS MANUFACTURED BY WATTS OR APPROVED EQUAL.
3. STRAINER DEVICE SHALL BE AS MANUFACTURED BY NEPTUNE OR APPROVED EQUAL.
4. PROPERTY LINE VALVES SHALL BE AS MANUFACTURED BY MUELLER OR APPROVED EQUAL.
5. REMOTE READER SHALL BE APPROVED BY TOWN OF LAKESHORE
6. MANHOLES DESIGNED TO CARRY CL-625-ONT TRUCK TO CANADIAN HIGHWAY BRIDGE DESIGN CODE, CAN/CSA-S6-00
7. MANHOLE RUNGS TO BE AS PER OPSD 405-020
8. STAMPED SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER OF ONTARIO TO BE SUBMITTED
9. DOMESTIC WATER SERVICE TO BE CONNECTED SEPARATELY TO WATERMAIN ON PUBLIC RIGHT-OF-WAY.



No.	Revision Date
3	November 28, 2012
2	January 14, 2008
1	October 16, 2006

Town of Lakeshore Development Manual

Figure W-1
BACKFLOW PREVENTION



GENERAL NOTES

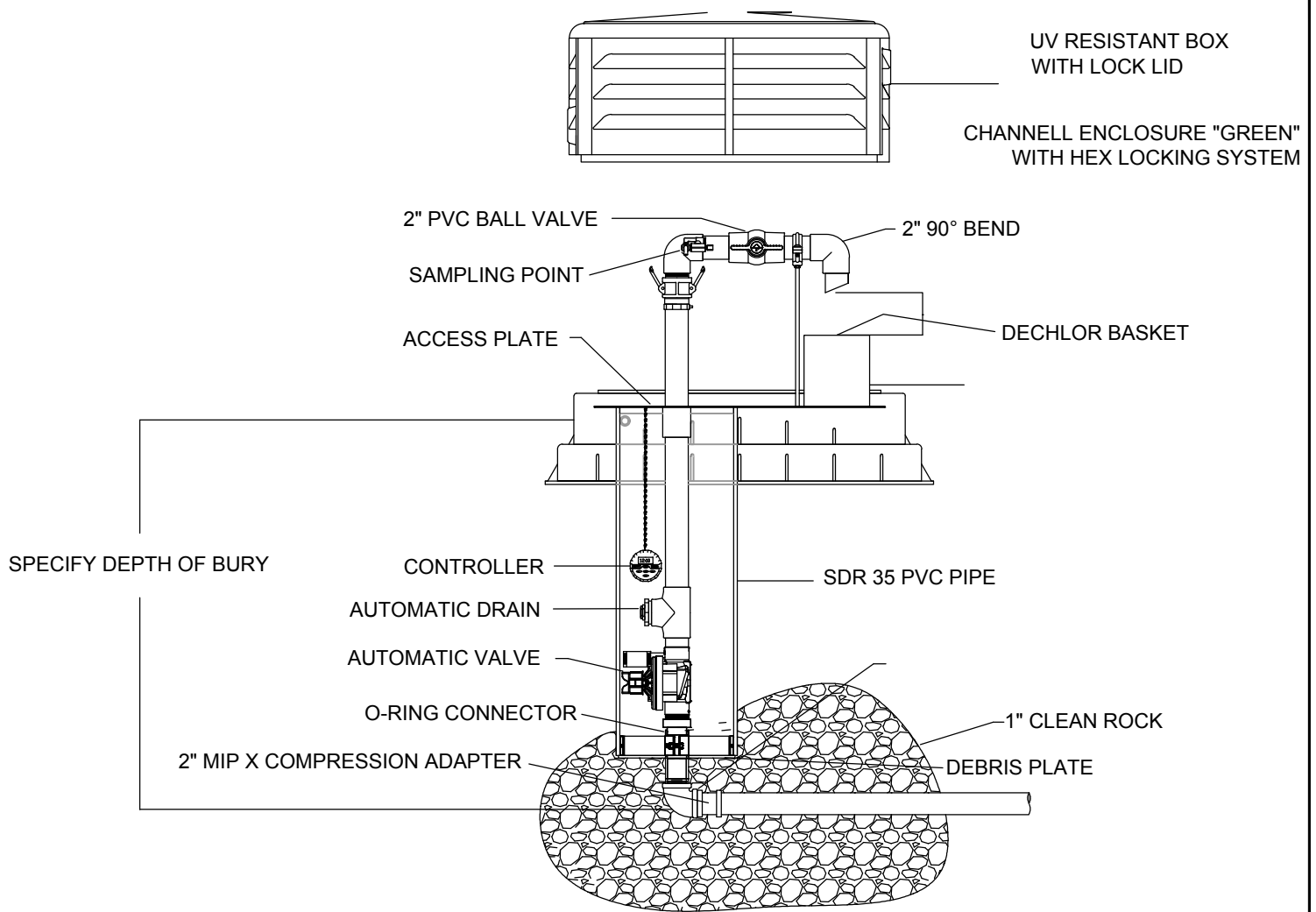
1. PRECAST CHAMBERS SHALL HAVE 600mm CLEARANCE AROUND ALL PIPING FOR MAINTENANCE PURPOSES.
2. METERS SHALL BE AS MANUFACTURED BY NEPTUNE OR APPROVED EQUAL.
3. BACKFLOW PREVENTERS SHALL BE AS MANUFACTURED BY WATTS OR APPROVED EQUAL.
4. STRAINER DEVICE SHALL BE AS MANUFACTURED BY NEPTUNE OR APPROVED EQUAL.
5. PROPERTY LINE VALVES SHALL BE AS MANUFACTURED BY MUELLER OR APPROVED EQUAL.
6. REMOTE READER SHALL BE APPROVED BY TOWN OF LAKESHORE PUBLIC WORKS DEPARTMENT.
7. MANHOLES DESIGNED TO CARRY CL-625-ONT TRUCK TO CANADIAN HIGHWAY BRIDGE DESIGN CODE, CAN/CSA-S6-00
8. MANHOLE RUNGS TO BE AS PER OPSD 405-020
9. STAMPED SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER OF ONTARIO TO BE SUBMITTED
10. DOMESTIC WATER SERVICE TO BE CONNECTED SEPARATELY TO WATERMAIN ON PUBLIC RIGHT-OF-WAY.

100mm x 100mm x 2500mm LONG PRESSURE TREATED POST FOR REMOTE METER READING MIN. EMBEDMENT 1200mm BELOW GRADE

<u>MINIMUM CHAMBER SIZES</u>	<u>WIDTH</u>	<u>LENGTH</u>	<u>HEIGHT</u>
50mm DIA. WATER SERVICE	1.7m	3.0m	2.4m
100mm DIA. WATER SERVICE	2.1m	4.5m	2.4m
150mm DIA. WATER SERVICE	2.4m	5.1m	2.4m



1	October 16, 2006
No.	Revision Date



AUTOMATIC FLUSHING DEVICE SHALL HAVE A 2" BRASS FIP INLET, LEADING VERTICALLY INTO A 2" AUTOMATIC SOLENOID VALVE. AUTOMATIC SOLENOID VALVE SHALL HAVE A 150 PSI RATING. EACH UNIT SHALL BE FURNISHED WITH A STAND-ALONE VALVE CONTROLLER. VALVE CONTROLLER WILL NOT REQUIRE A SECOND HAND-HELD DEVICE FOR PROGRAMMING. CONTROLLER MUST HAVE MINIMUM OF 12 POSSIBLE FLUSHING CYCLES PER DAY, UP TO 6 HOURS PER FLUSH CYCLE AND SHALL BE SUBMERSIBLE TO 12 FEET, OPERATE WITH 9 VOLT BATTERY (COMPARTMENT HOLDS TWO BATTERS) AND HAVE RESIN-SEALED ELECTRICAL COMPONENTS. SOLENOID SHALL HAVE NO LOOSE PARTS WHEN REMOVED FROM VALVE. EACH UNIT SHALL HAVE A DOUBLE-VALVE, ALL BRASS, SAMPLING POINT. REMOVAL OF 2" SOLENOID VALVE SHALL BE POSSIBLE VIA AN O-RING CONNECTOR LOCATED UNDER THE VALVE. AFTER REMOVAL OF STAINLESS STEEL ACCESS PLATE. VALVE ASSEMBLY SHALL BE HOUSED IN A PVC ENCLOSURE AND EACH UNIT SHALL BE SELF-DRAINING, NON-FREEZING, ALL ABOVE-GROUND COMPONENTS SHALL BE CONTAINED WITHIN A UV-RESISTANT LOCKING COVER, AS MANUFACTURED BY KUPFERLE FOUNDRY COMPANY. MODEL #9800 ST. LOUIS, MO. 1-800-231-3990, OR APPROVED EQUAL.

Note: Flush water lines free of debris before installation



1	May 29, 2016
No.	Revision Date

Town of Lakeshore Development Manual

Figure W-3
#9800 AUTOMATIC FLUSHING DEVICE

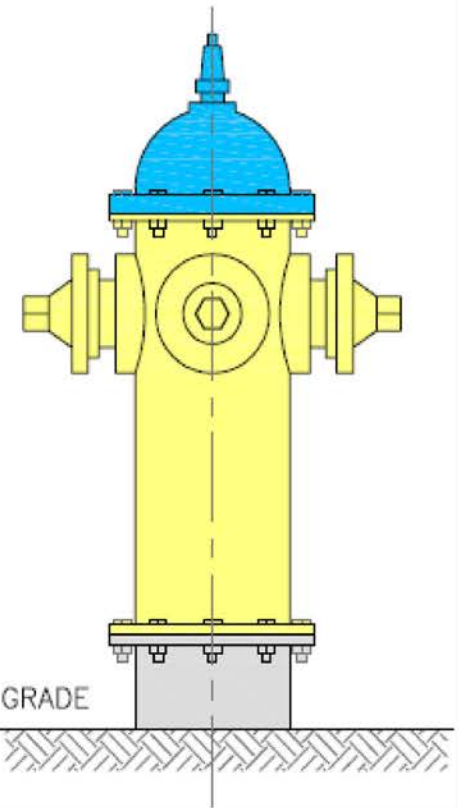
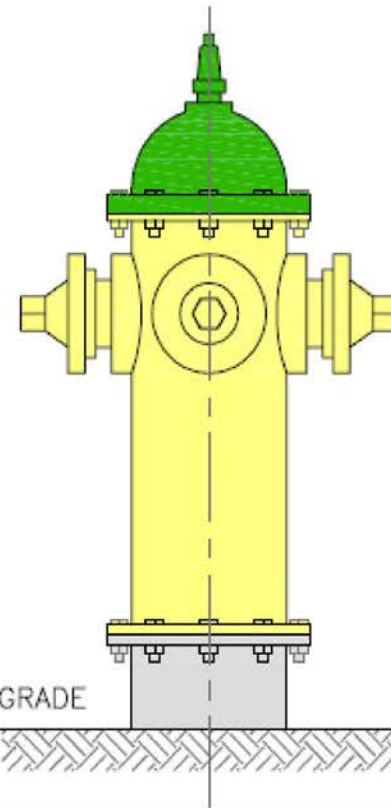
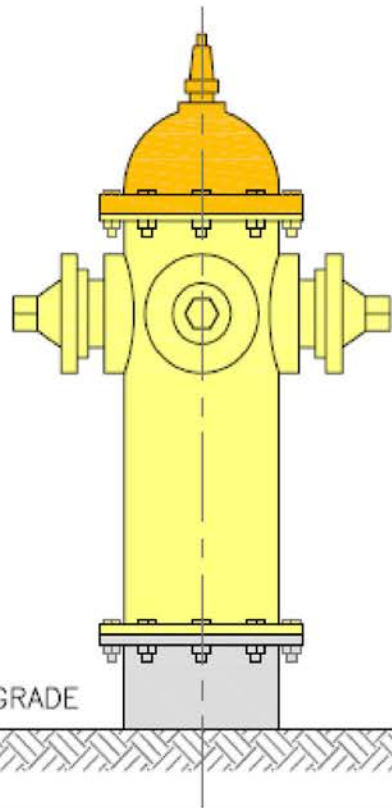
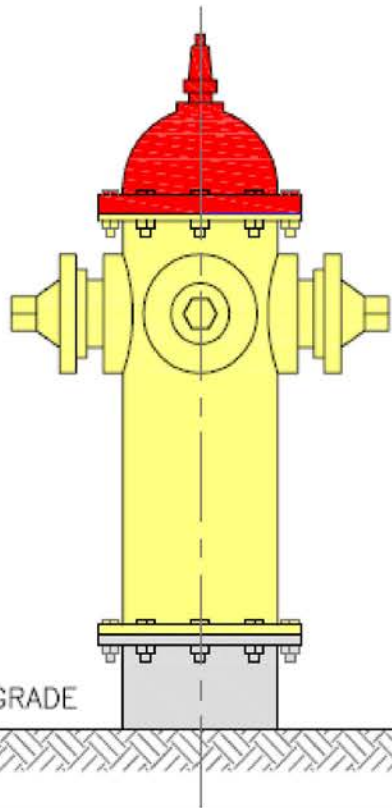
HYDRANT COLOUR CODE

499 G.P.M (US)
OR LESS
(RED)

500–999
G.P.M.(US)
(ORANGE)

1000–1499
G.P.M. (US)
(GREEN)

1500 G.P.M. (US)
OR GREATER
(LIGHT BLUE)



CLASS 'C'

CLASS 'B'

CLASS 'A'

CLASS 'A-A'

* Hydrant Colour Coding is as per NFPA 291



No.	Revision Date	No.	Revision Date
		1	July 6, 2017

Town of Lakeshore Development Manual

Figure W-4
Fire Hydrant Flow Test Colour Codes

APPENDIX G

CHECKLISTS

1. Construction Checklist
2. Site Plan Checklist
3. Subdivision Development Checklist



Lakeshore
TOWN of LAKESHORE
CONSTRUCTION CHECKLIST

Last Revised August 25, 2010

Project Name: _____

Project Location: _____

Date Submitted: _____

	Name	Phone Number	E-mail Address
Owner:	_____	(____) _____	_____
Contractor/ Engineer:	_____	(____) _____	_____
Applicant: (If different than the Owner)	_____	(____) _____	_____

Section 1 of the following checklist shall be completed and submitted to the Town prior to construction. Section 2 shall be completed immediately after construction. Incomplete submittals will be returned to the applicant. The checklist is to be used in conjunction with the latest edition of the Town of Lakeshore Development Manual. Checklist Section numbers correspond to those of the Development Manual.

To obtain or view the online copy visit:

http://www.lakeshore.ca/businessresources/engineering_dev.asp

Please check the website prior to completion of the checklist to ensure that the current version of the Development Manual is being used.

Review the Development Manual and complete each section below answering if the submitted plans meet the Manual criteria by checking "Yes", "No", or "N/A". Any "No" answers must be accompanied by a narrative detailing the rationale (see Section 3).

1. Pre-Construction

The following items shall be addressed:

Development Requirements Prior to Construction	Yes	No	N/A
2.13 Pre-construction Meeting <i>Consulting Engineer to chair a preconstruction meeting a minimum of seven (7) days prior to the start of construction.</i> The following items shall be addressed:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Status of Contract Documents: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insurance Certificates/Bonding submitted to Town	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WSIB Clearance submitted to Town	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MOL Notification submitted to Town	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
List of Supervisory Staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency and Home Telephone Numbers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Construction Access Route	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise and Dust Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Municipal Inspection Notification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers and Subcontractors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specific Project Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pre-Construction Survey / Photos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Traffic Control / Detouring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gen. Requirements During and Immediately After Construction	Yes	No	N/A
3.1 Public and Agency Notification			
Ambulance Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Canadian Coast Guard (re: Navigable Waters)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
County Engineer (re: County Roads)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Essex Region Conservation Authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire Department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower Thames Valley Conservation Authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ministry of Labour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ministry of Transportation (re: Provincial Roads)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police Department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
School Boards (Transportation Services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sewage Treatment Plant Operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Treatment Plant Operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2 Job Meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Meeting Date: _____			
Meeting Frequency: _____			
3.3 Consultants Inspection and Quality Assurance Testing Services			
Inspector Name: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Company: _____			
Assurance Testing Company: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Gen. Requirements During and Immediately After Construction (Continued)	Yes	No	N/A
3.4 Municipal Inspection Developer / Consultant Contact: Name: _____ Company: _____ Phone Number: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Municipal Inspector: _____ (To be completed by Town)			

2. Post-Construction

Gen. Requirements During and Immediately After Construction	Yes	No	N/A
3.5 Municipal Acceptance of Services and Assumption of Development Date of Acceptance: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5.1 Delay in Accepting Surface Asphalt Surface asphalt will be delayed _____ years	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6 Maintenance Period Start Date: _____ End Date: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7 Clean-Up Construction site and adjacent roadways are neat and tidy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8 Lot Servicing Sheets/Registered Lot Creation Drawings Submitted to the Municipality on _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.9 Record Drawings Submitted to the Municipality on _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10 Building Permit Issuance Issue Date: _____ (To be completed by Town)			
3.11 Model Homes Model home(s) permit has been requested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Additional Comments

Use the space below to provide explanations and comments for any "No" answers, as well as any site specific information that may be of use. Attach additional copies of this page if necessary.

Item No.	Explanation
<i>Example</i>	
3.3	<i>Quality Assurance Testing firm to be determined. Name of company to be sent to the Town prior to the start of construction.</i>



Last Revised January 31, 2014

Project Name: _____

Project Location: _____

Date Submitted: _____

	Name	Phone Number	E-mail Address
Owner:	_____	(____) _____	_____
Contractor/ Engineer:	_____	(____) _____	_____
Applicant: (If different than the Owner)	_____	(____) _____	_____

The following checklist shall be completed and submitted to the Town as a part of the Site Plan package. Incomplete submittals will be returned to the applicant. The checklist is to be used in conjunction with the latest edition of the Town of Lakeshore Development Manual. Checklist Section numbers correspond to those of the Development Manual.

To obtain or view the online copy visit:

http://www.lakeshore.ca/businessresources/engineering_dev.asp

Please check the website prior to completion of the checklist to ensure that the current version of the Development Manual is being used.

Review the Development Manual and complete each section below answering if the submitted plans meet the Manual criteria by checking "Yes", "No, or "N/A". Any "No" answers must be accompanied by a narrative detailing the rationale (see Section 9).

1. Introduction

Please ensure the submission complies with the requirements in the Introduction.

2. Development Requirements Prior to Construction

Development Requirements Prior to Construction		Yes	No	N/A
2.1	<i>Not applicable to Site Plan Applications</i>			
2.2	Approvals			
	Fish Habitat, Essex Region Conservation Authority (ERCA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Shorelines, Fill and Floodlines, ERCA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	County Road Connections and Setbacks, County of Essex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Provincial Road Connections and Setbacks, County of Essex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Development in Close Proximity to Railways, MOE in consultation with Railway Companies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other, List on separate sheet of paper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Plans			
	Plans are Drawn to Scale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Lot Legal Boundaries have been Staked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Plans are drawn in AutoCAD (AutoCAD 2007 or earlier)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Plans show ground elevations (referenced to geodetic elevations) to show drainage patterns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Physical features of lot (drainage ditches, swales, municipal drains, trees, poles, roads, shorelines, buildings, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Physical features of abutting lot (drainage ditches, swales, municipal drains, trees, poles, roads, shorelines, buildings, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Design Drawings Include:			
	Benchmark Location and Description	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Key Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Existing Conditions and Removals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Utility Cross-Sections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Grading Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Specifications and Contract Documents			
	Specifications and Contract Drawings have been supplied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Studies and Reports (are any completed)			
	If "Yes", list required Studies: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Development Requirements Prior to Construction (Cont.)				
2.7	Consulting Engineer Consulting Engineer Name and Contact Information: Company Name: _____ Address: _____ _____ Phone Number: (_____) _____ Contact Name: _____ E-mail Address: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.8	Insurance and Indemnification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Minimum \$5,000,000 Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Municipality is named as additional insured	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Municipality's consultants are named as additional insured	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Insurance shall not be terminated until the Municipality has accepted all the required works	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.9	<i>Not applicable to Site Plan Applications</i>			
2.10	<i>Not applicable to Site Plan Applications</i>			
2.11	<i>Not applicable to Site Plan Applications</i>			
2.12	Phasing Will project be constructed in phases Developer to submit Phasing Plan for approval prior to construction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. General Requirements

Refer to the Town of Lakeshore Construction Checklist.

4. Specific Site Development Requirements

Specific Site Development Requirements	Yes	No	N/A
4.1 General			
4.1.1 Right-of-Ways, Cul-de-sacs Local Roads, 20m R.O.W. Provided: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.5 Driveways Is there more than one driveway proposed per Lot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.6 Development in Close Proximity to Railways Comments from Railway Company Attached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety Issues Addressed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trespass Issues Addressed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise and Vibration Study Attached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type of Noise Abatement Proposed: _____			
4.1.7 Multi Lot Creating by Consent Number of Lots Proposed by Consent: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.8 Potable Water Supply Protection Backflow Prevention Device on Fire Main	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.9 Setback & Elevation Certificate <i>Required if main building is within 1.8m of property line</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.10 Indemnity Deposits <i>To be Determined by Municipality</i>			
4.1.11 Site Servicing Record Drawings <i>To be submitted to Municipality after Construction</i>			
4.2 Residential Site			
4.2.1 General The general requirements of Subsection 4.1 shall apply and govern except as may be extended or amended herein	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2.2 Semi-Urban Developments Has special relief been granted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2.4 Driveways <i>To be hard surfaced one year form the date the services have been accepted on maintenance</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4 Industrial Sites			
4.4.1 General The general requirements of Subsection 4.1 shall apply and govern except as may be extended or amended herein	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4.2 Roads			
Road Width, 10m (min) Provided: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intersections, 15m Radius (min) Provided: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cul-de-Sac, 15m Radius (min) Provided: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geotechnical Report submitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.7 Transportation Policy Guidelines are met	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Design Criteria

Design Criteria	Yes	No	N/A
5.1 Roads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum Grade: _____%			
Maximum Grade: _____%			
Typical Pavement Section,			
Asphalt Surface Course: _____mm			
Asphalt Base Course: _____mm			
Granular Base: _____mm			
Curb and Gutter Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subdrains are Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2 Sidewalks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sidewalk width: _____m			
5.2.1 Multi-Use Pathway width: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3 Sanitary Sewers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sanitary Sewer Design Sheets Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Manhole Spacing: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sanitary Sewer Pipe Material: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum Sanitary Pipe Size: _____m Diameter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Sanitary Pipe Size: _____m Diameter			
Minimum Sewer Velocity: _____m/s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Sewer Velocity: _____m/s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum Pipe Cover: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Pipe Cover: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service Connection Size: _____m Diameter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sampling Manhole Provided at the Property Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Raincatchers installed in Sanitary Manholes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there conflicts with other utilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
List: _____			
5.3.1 Private On-Site Wastewater Treatment Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4 Storm Sewers/Drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm Sewer Design Sheets Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Manhole Spacing: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm Sewer Pipe Material: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum Storm Pipe Size: _____m Diameter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Storm Pipe Size: _____m Diameter			
Minimum Sewer Velocity: _____m/s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Sewer Velocity: _____m/s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum Pipe Cover: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Pipe Cover: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service Connection Size: _____m Diameter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Precast Concrete Catch Basins with Cast Iron Frame and Grates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Precast Concrete Manholes with Cast Iron Frame and Covers, Safety Landing (where necessary), and Aluminum Ladder Rungs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there conflicts with other utilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
List: _____			

Design Criteria (Cont.)				
5.5	Watermains			
	Maximum Valve Spacing: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Watermain Pipe Material: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Type of Fittings Proposed: _____			
	Minimum Watermain Size: _____m Diameter			
	Maximum Watermain Size: _____m Diameter			
	Minimum Pipe Cover: _____m			
	Maximum Pipe Cover: _____m			
	Service Connection Size: _____mm Diameter			
	Water Valve Proposed at Property Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fire Hydrants with Storz Couplings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Are there conflicts with other utilities List: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5.1	Water Sampling Station Are locations shown on plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Storm Water Management Facilities			
	Storm Water Calculations Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Building Finish Floor Elevation: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Max. 1:2 Year Storm Storage Depth: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Max. 1:100 Year Storm Storage Depth: _____m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1:100 Year Storm Required Storage: _____m ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1:100 Year Storm Provided Storage: _____m ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Water Quality Chamber Required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7	Pumping Stations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Wetwell Size: _____			
	Maximum Flow Rate: _____m ³ /s			
	Pump Horsepower: _____H.P.			
	Pump Curve Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Backup Pump(s) Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Alarms Proposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.9	Light Intensity Standards			
	Lighting Level Plan Submitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Full Cut Off Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.10	Backfill and Compaction Meet OPSS and/or Municipal Specifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.11	Restoration and Landscaping Landscape Plan Submitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.12	Recycled Material Proposed <i>Material specifications to be submitted to the Town for review</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.13	Other Utilities			
	Telephone Service Proposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Cable Television Service Proposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Natural Gas Service Proposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Specifications

Specifications	Yes	No	N/A
6.1/6.2 General - Ontario Provincial Standard Specifications Are Ontario Provincial Standard Specifications referenced on the drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3 Municipal Standard Specifications Are Municipal Standard Specifications referenced on the drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Drawings

All site or subdivision plans and record drawings and/or specifications to be submitted within 60 days of the acceptance of services.

8. Miscellaneous

Miscellaneous	Yes	No	N/A
8.5 Tree Planting Tree Location Plan is Provided <i>The Developer will pay the Town \$250 per tree to be planted, and the Town will plant.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9 Additional Comments

Use the space below to provide explanations and comments for any “No” answers, as well as any site specific information that may be of use. Attach additional copies of this page if necessary.

Item No.	Explanation
<i>Example</i>	
2.2	<i>Certificate of Approval pending from MOE, copy to be sent to Town upon receipt.</i>



**TOWN of LAKESHORE
SUBDIVISION DEVELOPMENT PLAN CHECKLIST**

Last Revised January 31, 2014

Project Name: _____

Project Location: _____

Date Submitted: _____

	Name	Phone Number	E-mail Address
Owner:	_____	(____) _____	_____
Contractor/ Engineer:	_____	(____) _____	_____
Applicant: (If different than the Owner)	_____	(____) _____	_____

The following checklist shall be completed and submitted to the Town as a part of the Development Plan package. Incomplete submittals will be returned to the applicant. The checklist is to be used in conjunction with the latest edition of the Town of Lakeshore Development Manual. Checklist Section numbers correspond to those of the Development Manual.

To obtain or view the online copy visit:

http://www.lakeshore.ca/businessresources/engineering_dev.asp

Please check the website prior to completion of the checklist to ensure that the current version of the Development Manual is being used.

Review the Development Manual and complete each section below answering if the submitted plans meet the Manual criteria by checking "Yes", "No, or "N/A". Any "No" answers must be accompanied by a narrative detailing the rationale (see Section 9).

1. Introduction

Please ensure the submission complies with the requirements in the Introduction.

2. Development Requirements Prior to Construction

Development Requirements Prior to Construction		Yes	No	N/A
2.1	Subdivision Agreement is in place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Approvals			
	Draft Plan of Subdivision, County of Essex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Final Plan of Subdivision, County of Essex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fish Habitat, Essex Region Conservation Authority (ERCA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Shorelines, Fill and Floodlines, ERCA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Storm Water Management, Province, MOE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Watermains, Province, MOE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	County Road Connections and Setbacks, County of Essex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Provincial Road Connections and Setbacks, County of Essex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Development in Close Proximity to Railways, MOE in consultation with Railway Companies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other, List on separate sheet of paper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Plans			
	Plans are Drawn to Scale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Lot Legal Boundaries have been staked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Plans are drawn in AutoCAD (AutoCAD 2007 or earlier)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Plans show ground elevations (referenced to geodetic elevations) to show drainage patterns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Physical features of lot (drainage ditches, swales, municipal drains, trees, poles, roads, shorelines, buildings, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Physical features of abutting lot (drainage ditches, swales, municipal drains, trees, poles, roads, shorelines, buildings, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Design Drawings			
	Benchmark Location and Description	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Key Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Legend and Index	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Existing Conditions and Removals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Road Alignment, Road Elevation, Pavement Widths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Plan and Profile Sheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Utility Cross-Sections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Grading Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Power Distribution and Lighting Plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Miscellaneous Details (including bedding and backfill)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Town of Lakeshore
 Subdivision Development Plan Checklist

Development Requirements Prior to Construction (Cont.)		Yes	No	N/A
2.5	Specifications and Contract Documents Specifications and Contract Drawings have been supplied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Studies and Reports (are any completed) If "Yes", list required Studies: _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	Consulting Engineer Consulting Engineer Name and Contact Information: Company Name: _____ Address: _____ _____ Phone Number: (_____) _____ Contact Name: _____ E-mail Address: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.8	Insurance and Indemnification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Minimum \$5,000,000 Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Municipality is named as additional insured	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Municipality's consultants are named as additional insured	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Insurance shall not be terminated until the Municipality has accepted all the required works	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.9	Sureties <i>To be coordinated with Municipality prior to Plan approval</i>			
2.10	Development Charges <i>To be paid to Municipality prior to issuance of Building Permits</i>			
2.11	Park Fees <i>To be paid to Municipality prior to issuance of Building Permits</i>			
2.12	Phasing Will project be constructed in phases <i>Developer to submit Phasing Plan for approval prior to construction.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. General Requirements

Refer to the Town of Lakeshore Construction Checklist.

4. Specific Site Development Requirements

Specific Site Development Requirements	Yes	No	N/A
4.1 General			
4.1.1 Right-of-Ways, Cul-de-sacs			
Local Roads, 20m R.O.W. Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collector Roads, 22m R.O.W. (min) Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arterial Roads, Contact Municipality Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.2 Pavement Widths			
Local Roads, 8.5m Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collector Roads, 10m Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arterial Roads, Contact Municipality Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.3 Minimum Turning Radius			
Intersections, 9m Radius (min) Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cul-de-Sac, 12m Radius (min) Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.4 Sidewalks, Bikeways, Walking Trails, Multi-use Pathways			
Sidewalks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bikeways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walking Trails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Use Pathways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.5 Driveways			
Is there more than one driveway proposed per Lot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.6 Development in Close Proximity to Railways			
Comments from Railway Company Attached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety Issues Addressed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trespass Issues Addressed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise and Vibration Study Attached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type of Noise Abatement Proposed: _____			
4.1.7 Multi Lot Creating by Consent			
Number of Lots Proposed by Consent: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.8 Potable Water Supply Protection			
Backflow Prevention Device on Fire Main	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.9 Setback & Elevation Certificate			
<i>Required if main building is within 1.8m of property line</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1.10 Indemnity Deposits			
<i>To be Determined by Municipality</i>			
4.1.11 Site Servicing Record Drawings			
<i>To be submitted to Municipality after Construction</i>			
4.2 Residential Site			
4.2.1 General	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The general requirements of Subsection 4.1 shall apply and govern except as may be extended or amended herein			

Specific Site Development Requirements (Cont.)	Yes	No	N/A
4.2.2 Semi-Urban Developments Has special relief been granted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2.3 Road Classification List Arterial Streets and AADT: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

List Collector Streets and AADT: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2.4 Driveways <i>To be hard surfaced one year form the date the services have been accepted on maintenance</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4 Industrial Sites			
4.4.1 General The general requirements of Subsection 4.1 shall apply and govern except as may be extended or amended herein	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4.2 Roads			
Road Width, 10m (min) Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intersections, 15m Radius (min) Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cul-de-Sac, 15m Radius (min) Provided: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geotechnical Report submitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.7 Transportation Policy Guidelines are met	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Design Criteria

Design Criteria	Yes	No	N/A
5.1 Roads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum Road Longitudinal Grade: _____%			
Maximum Road Longitudinal Grade: _____%			
Typical Road Crossfall: _____%			
Typical Pavement Section,			
Asphalt Surface Course: _____ mm			
Asphalt Base Course: _____ mm			
Granular Base: _____ mm			
Curb and Gutter Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road Subdrains are Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2 Sidewalks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sidewalk width: _____ m			
5.2.1 Multi-Use Pathway width: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3 Sanitary Sewers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sanitary Sewer Design Sheets Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Manhole Spacing: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sanitary Sewer Pipe Material: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum Sanitary Pipe Size: _____ m Diameter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Sanitary Pipe Size: _____ m Diameter			
Minimum Sewer Velocity: _____ m/s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maximum Sewer Velocity: _____ m/s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum Pipe Cover: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Town of Lakeshore
 Subdivision Development Plan Checklist

Design Criteria (Cont'd)		Yes	No	N/A
	Maximum Pipe Cover: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Service Connection Size: _____ m Diameter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Sampling Manhole Provided at the Property Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Raincatchers installed on Sanitary Manholes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Are there conflicts with other utilities List: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3.1	Private On-Site Wastewater Treatment Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Storm Sewers/Drainage			
	Storm Sewer Design Sheets Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Maximum Manhole Spacing: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Storm Sewer Pipe Material: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Minimum Storm Pipe Size: _____ m Diameter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Maximum Storm Pipe Size: _____ m Diameter			
	Minimum Sewer Velocity: _____ m/s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Maximum Sewer Velocity: _____ m/s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Minimum Pipe Cover: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Maximum Pipe Cover: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Service Connection Size: _____ m Diameter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Precast Concrete Catch Basins with Cast Iron Frame and Grates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Precast Concrete Manholes with Cast Iron Frame and Covers, Safety Landing (where necessary), and Aluminum Ladder Rungs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Are there conflicts with other utilities List: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Watermains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Maximum Valve Spacing: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Watermain Pipe Material: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Type of Fittings Proposed: _____			
	Minimum Watermain Size: _____ m Diameter			
	Maximum Watermain Size: _____ m Diameter			
	Minimum Pipe Cover: _____ m			
	Maximum Pipe Cover: _____ m			
	Service Connection Size: _____ mm Diameter			
	Water Valve Proposed at Property Line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fire Hydrants with Storz Couplings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Are there conflicts with other utilities List: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5.1	Water Sampling Station Are locations shown on plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Storm Water Management Facilities			
	Storm Water Calculations Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Building Finish Floor Elevation: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Max. 1:2 Year Storm Storage Depth: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Max. 1:100 Year Storm Storage Depth: _____ m	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1:100 Year Storm Required Storage: _____ m ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1:100 Year Storm Provided Storage: _____ m ³	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Water Quality Chamber Required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Design Criteria (Cont.)	Yes	No	N/A
5.7 Pumping Stations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wetwell Size: _____			
Maximum Flow Rate: _____ m ³ /s			
Pump Horsepower: _____ H.P.			
Pump Curve Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Backup Pump(s) Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alarms Proposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.8 Street Lighting and Power Distribution			
Street Lighting Plan Submitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Underground Power Distribution with Pad Mounted Transformer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.9 Light Intensity Standards			
Lighting Level Plan Submitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Full Cut Off Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.10 Backfill and Compaction			
Meet OPSS and/or Municipal Specifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.11 Restoration and Landscaping			
Landscape Plan Submitted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.12 Recycled Material Proposed			
<i>Material specifications to be submitted to the Town for review</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.13 Other Utilities			
Telephone Service Proposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cable Television Service Proposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Natural Gas Service Proposed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Specifications

Specifications	Yes	No	N/A
6.1/6.2 General - Ontario Provincial Standard Specifications			
Are Ontario Provincial Standard Specifications referenced on the drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3 Municipal Standard Specifications			
Are Municipal Standard Specifications referenced on the drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Drawings

All site or subdivision plans and record drawings and/or specifications to be submitted within 60 days of the acceptance of services.

8. Miscellaneous

Miscellaneous		Yes	No	N/A
8.1	Signs Sign Layout Plan Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	Barriers and Guard Rails Dead End Streets and Cul-de-sacs have proper barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3	Pavement Markings Pavement Marking Plan Provided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.4	Community Mailboxes Coordinate with Canada Post and Municipality for Locations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.5	Tree Planting Tree Location Plan is Provided <i>The Developer will pay the Town \$250 per tree to be planted, and the Town will plant.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6	Extra Conduit for Future Use Coordinate with the Municipality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Additional Comments

Use the space below to provide explanations and comments for any “No” answers, as well as any site specific information that may be of use. Attach additional copies of this page if necessary.

Item No.	Explanation
<i>Example</i> 2.2	<i>Certificate of Approval pending from MOE, copy to be sent to Town upon receipt.</i>

