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TO:	**CHAIR AND MEMBERS PLANNING AND ENVIRONMENT COMMITTEE**
FROM:	**GEORGE KOTSIFAS, P. Eng. MANAGING DIRECTOR, DEVELOPMENT & COMPLIANCE SERVICES AND CHIEF BUILDING OFFICIAL**
SUBJECT:	**PROPOSED AMENDMENTS TO THE SITE PLAN BY-LAW PUBLIC PARTICIPATION MEETING ON NOVEMBER 18, 2014**

RECOMMENDATION

That on the recommendation of the Manager of Development Services & Engineering Liaison, the proposed changes to Schedule 1 of the Site Plan Control Area By-law C.P.-1455-541 attached as **Appendix B BE INTRODUCED** at the Municipal Council meeting on November 25, 2014 to amend the Site Plan Control Area By-law C.P.-1455-541.

BACKGROUND

Over the past several years, staff in Development Services have continued to study sections of the Site Plan Manual with a goal to provide improvements and updates to sections of the Manual. As part of this round of updates, staff have reviewed the following Sections to implement updates and associated policy changes: Section 11 - Easements, Section 12 - Grading and Disposal of Storm, Surface and Waste Water, and New Section 15 - Water Servicing.

Development Services staff have worked closely with Geomatics, the SWM Unit and the Water Engineering Division of Environmental & Engineering Services (EES) to develop the proposed revisions to Schedule 1 of the Site Plan Manual.

Attached as Appendix A are the sections being amended showing the deletions (line through the text) and the additions (highlights). In addition to this, the proposed by-law for the technical changes is attached as Appendix B.

DISCUSSION

Section 11: Easements

The Planning Act makes provision for “Easements conveyed to the municipality for the construction, maintenance or improvement of water courses, ditches, land drainage works, sanitary sewage facilities and other public utilities of the municipality or local board thereof on the land”. Periodically municipal easements are required. In terms of developing a site, it is important that any registered private or public easements are shown on the plan to ensure the development will be compliant with any existing easements and not result in property disputes.

Section 12: Grading and Disposal of Storm, Surface and Waste Water

The Council approved policy for private permanent stormwater management which came into effect January 1, 2012. The policy calls for implementation of private permanent stormwater management requirements on Medium & High Density Residential developments, as well as institutional, commercial & industrial applications. These systems help to maximize the capacity for permanent regional SWM facilities. It is appropriate to reflect this in the site plan manual.

Where private permanent storm systems trigger the requirement for an Environmental Certificate of Approval (ECA) from the Ministry of the Environment (MOE), receipt of the ECA is required before site plan approval can be granted for the project.

Additional minor updates have been made to reflect requests form the Stormwater Management Unit.

New Section 15: Water Servicing

The Water Engineering Division and Building Division requested a number of changes to reflect operational needs of the City as well as increasing legislation and Ministry regulation regarding water quality. The proposed revisions/additions relate to existing water services, new water services, fire flow calculations, plan drawings of water servicing on private property, domestic water demand, calculation for water quality based on domestic demand, sizing of water meter, lead time to ensure larger size meters are in stock, building permits, and conflicting designs for water service size and location. In view of the sensitivities of water servicing, we are creating a new section to deal with water servicing requirements under Site Plan.

Provincial Policy Statement and Official Plan

The Provincial Policy Statement (2014) which includes "Wise Use and Management of Resources" that promotes 2.2.1 h) ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces.

OP Policy 17.6 "Stormwater Management" indicates the "effective control of stormwater run-off is required to adequately protect property from flooding damage and to protect the environment. The proper conveyance of stormwater flows and reduction of peak stormwater flows through various measures provides considerable protection against such occurrences, and can reduce capital costs for trunk storm sewers and other flood control structures." In particular, Policy 17.6.5 "Stormwater Facility Design Standards" states that "the Site Plan Control By-law may contain standards and requirements for the provision of stormwater management measures and facilities as part of the site plan approval process."

OP Policy 17.7 "Water Servicing" indicates that "the City is responsible for distribution of water services through much of the City; however, many rural residents are serviced by private wells. In urban areas of the City, water servicing is available through the municipal water distribution grid. In particular, policy 17.7.4 "Servicing Requirements" states "with respect to water servicing, all new development in the City shall comply with the requirements of the Ministry of Environment, the Environmental Protection Act and other provincial and municipal requirements, as applicable."

Notice & Consultation

On August 6, 2014, the proposal was circulated for comments and on September 4, 2014, Notice of Application was placed in the Londoner. The proposal was also circulated to the local engineering group and local planning group for comments.

Engineering Consultants raised concerns regarding situations where Site Plan Approval would not be granted where an E.C.A is required from the Ministry of Environment. They have indicated in many cases E.C.A. applications can take six to eight months' time before the Certificate is issued.

Staff have considered this aspect and can provide some flexibility as the C.B.O may consider issuing a "conditional no connect" permit for underground servicing once Development Services staff and Building staff have "accepted" the servicing plans. No infrastructure subject to an ECA can be installed until the certificate is issued and full building permit would not be granted until the Engineering Consultant provided a copy of the E.C.A. to the City Staff. By doing this, aspects of site construction can potentially commence while waiting for the E.C.A. Once the E.C.A. has been received, site plan staff can execute the finalized the development agreement and register on title.

To date there has been no other comments or concerns received in response to the Notice of Public Meeting that was placed in the Londoner on October 30, 2014.

CONCLUSION

Over the past several years, staff have been reviewing the sections in the Site Plan Control Area By-law to provide updates to reflect changes in the new Official Plan policies and new Council Policies. This current update reviewed Sections pertaining to easements, private SWM facilities and water servicing. These changes are consistent with the Provincial Policy Statement, the Official Plan and represent sound planning.

PREPARED BY:	**REVIEWED BY:**
B. HENRY **MANAGER, DEVELOPMENT PLANNING**	**TERRY GRAWEY, MCIP, RPP** **MANAGER, DEVELOPMENT SERVICES & PLANNING LIAISON**
RECOMMENDED BY:	**SUBMITTED:**
JENNIE RAMSAY, P. Eng **MANAGER, DEVELOPMENT SERVICES & ENGINEERING LIAISON**	**GEORGE KOTSIFAS, P. Eng** **MANAGING DIRECTOR, DEVELOPMENT & COMPLIANCE SERVICES AND CHIEF BUILDING OFFICIAL**

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c: John Braam, Managing Director - Environmental & Engineering Services & City Engineer, EES - Administration/ Administration

Appendix A

11. EASEMENTS

~~11.1. **Objectives**~~

~~To ensure that the municipal services and utilities traversing the site can be properly installed and maintained by the appropriate authority.~~

~~11.2. **Definition**~~

~~An easement provides the right to use private land for a purposed which is in the public interest. A title search prior to developing plans will identify existing easements, use, size and location. There are generally two types of public easements as follows.~~

~~a) Municipal Service Easements – are required for watermains, sanitary sewers and storm sewers, drains or channels which are maintained by the City and that traverse the site.~~

~~b) Utility Easements – are required for telephone, hydro, gas and cable television services. Each utility company should be consulted for their specific requirements.~~

~~11.3. **Site Plan**~~

~~(a) The site plan shall show both existing easements and any easements to be conveyed.~~

~~(b) The easements shall be free of structures.~~

~~(c) The treatment of the easement, including the placing of fill, vehicular access and landscaping, shall be with the approval of the municipality or utility company the easement is conveyed to (see Table 11.1 for the treatment of easements).~~

~~**TABLE 11.1**~~

~~**TREATMENT OF EASEMENTS**~~		
	~~**Municipal Service Easements**~~	~~**Utility Easements**~~
~~Jurisdiction~~	~~General Manager of Environmental Services and City Engineer's Department for sewers/watercourses P.U.C. for watermains~~	~~P.U.C. for hydro, Maclean Hunter or London Cable for cable TV, Bell Canada for telephone~~
~~General~~	~~Varies~~	~~around perimeter of site~~
~~Width~~	~~approximately two times the depth of the sewer/watermain~~	~~approximately 3.1 m (10 feet)~~
~~Surface Material and Planting~~	~~sod, shrubs and hard surfaces~~	~~sod, shrubs and hard surfaces~~
~~Buildings and Structures~~	~~not permitted~~	~~not permitted~~

11.1. *Objective*

To ensure that all easements on a site are properly identified by both extent and nature of the easement, including rights-of-way in favour of others, municipal services easements and private utility easements all of which can materially impact the site and its usage.

11.2. *Definition*

An easement can be defined as the right of one party to use the property of another party. As it applies to City services and private utilities, an easement provides the City or private utility company with a right to access, install and maintain specific infrastructure located on private property, usually within a defined area or corridor. Municipal services easements are often required for watermains, sewers, drains and channels that are owned and maintained by the City. Private utility easements are often required for hydro, gas and telecommunication services, which are not owned by the City. Rights-of-way provide third party(s) with surface rights to travel over the property of the owner.

11.3. *Effect*

The effect of easement rights depends upon the specific wording in the easement agreement, but most easements prohibit the erection of buildings or structures within the easement unless authorized by way of an Encroachment Agreement or Engineers Consent in the case of Municipal Easements. It may be permissible to construct hard surfaces over or landscape easements with sod and small shrubs, subject to the specific wording in the easement agreement.

Due to their nature, easements and rights-of-ways must remain completely unobstructed at all times.

11.4. *Site Plan*

The site plan shall show both existing easements and rights-of-way and any easements being created for conveyance. In the case of Municipal Easements, the City Engineer shall determine the nature and extent of newly created easements, or whether the City Engineer's Consent authorizing a proposed encroachment can be provided.

Easements maybe required to be conveyed to the City for the construction, maintenance or improvement of water courses, ditches, land drainage works, sanitary sewage facilities and other public utilities.

12. GRADING AND DISPOSAL OF STORM, SURFACE AND WASTE WATER

12.1. Objectives

The objectives of proper grading and disposal of storm, surface and waste waters are to optimize:

(a) safe convenient and functional access for pedestrians and vehicles to all areas of the site;

(b) preservation of the natural features of the site where feasible;

(c) balanced cut and fill;

(d) proper site drainage such that storm water is generally contained within the site and directed to an internal storm drainage system, thereby generally preventing drainage onto adjacent properties; ~~and~~

(e) the prevention of storm water from entering sanitary sewer system by any means, including weeping tiles;

(f) where subdivisions have been designed with overland flow routes across a number of block/lots, the grading designs will accommodate and maintain these flows across the blocks/lots;

(g) use of infiltration systems;

(h) recharging ground water; where possible; and

(i) implement permanent private storm systems;

(See Council Policies on dry wells, weeping tile, subsurface drainage, the Drainage By-law, PPS's and Official Plan Policy 17.6.2, 17.6.3, 17.6.4, 17.6.5).

12.2. Grading Specifications

Area of Site	Grades
(a) Area Immediately Adjacent To Building	
(i) - unpaved	2% minimum
(ii) - paved	5.8% max. (1% min. for drainage)
(b) Landscaped Areas[1]	
(i) - turfed or sodded	33% max. (2% min. for drainage)
(ii) - planting areas and private yards	5% maximum
(c) Parking Areas	3% maximum
(d) Internal Driveways[2]	5% maximum
(e) Access Driveways[3]	2% maximum

(f) Bicycle-Pedestrian Ways 10% maximum

(g) Barrier free pathways 8% maximum

[1]See Part 9 "Landscaping" for further details.

[2]Internal driveway grades may exceed 5% in order to maintain topographic amenities.

[3]Refers to portion of Internal Driveways that are 6 m (20 feet) into site measured from the street line, as widened.

12.3. **Storm Retention Systems**

(a) The flows from a ~~development~~ site **being developed** are to be restricted to those flows which were allowed for the site in the design of the **receiving** storm sewer.

(b) If, in the opinion of the ~~General Manager of Environmental Services and~~ City Engineer, a storm water retention system is required as a method of temporary on-site storage of storm water, then the developer will be required to have a professional engineer submit to and have approved by the ~~General Manager of Environmental Services and~~ City Engineer the design of a storm water retention system. The approved method is to be displayed on the site plan submitted for site plan approval.

(c) Upon completion of construction the developer will be required to have the professional engineer certify that the retention system was constructed in accordance with the approved design.

(d) In certain circumstances, a separate application and fee for an Environmental Certificate of Approval (ECA) is required from the Ministry of the Environment.

(e) Site plan approval cannot be granted until the ECA has been received.

12.4. **Dry Well Storm Water Disposal Systems**

(a) If no storm sewer is available or if a storm sewer cannot be extended, the ~~General Manager of Environmental Services and~~ City Engineer will consider the use of a dry well system as an interim method of storm water disposal. The following will then apply:

(i) The developer will be required to have a professional geotechnical engineer conduct soils tests to determine if the soils are suitable for a dry well system.

(ii) If existing soils are suitable, the geotechnical engineer will be required to submit to and have approved by the ~~General Manager of Environmental Services and~~ City Engineer the design of a dry well system. The following criteria is to be included in the design:

- a drain, adequately sized and graded, extending from the dry well system to the street line, for future connection to a storm sewer (unless this requirement is specifically waived by the ~~General Manager of Environmental Services and~~ City Engineer);

- roof water flows being directed to the dry well system;

- dry wells being located at such distances from buildings as is required to prevent seepage to the weeping tile system and sanitary sewer system.

(iii) If existing soils are unsuitable for a dry well system, then the design is to include such measures as will be required to provide a functional storm water disposal system, failing which, site plan approval will not be given.

(iv) A separate application and fee for an Environmental Certificate of Approval (ECA) is required.

(b) The site services plan submitted for site plan approval is to display all relevant dry well design criteria.

(c) Upon completion of construction, the Developer will be required to have the geotechnical engineer certify that all work was carried out in accordance with the approved design.

12.5. **Roof Water Leaders**

(a) The flows from all roof water leaders are to be directed to the internal storm drainage system.

(b) For conversions of existing buildings, the following will apply, when connections are found to the sanitary sewer system:

(i) down spouts are to be disconnected above ground level; and

(ii) the remaining portions of downspouts below ground level are to be sealed off with concrete.

(c) Separation of existing internal combined storm and sanitary drains may be required, as requested by the ~~General Manager of Environmental Services and~~ City Engineer.

12.6. **Sampling Manholes**

Sanitary flows, other than domestic sewage and storm flows containing effluents, such as cooling water require special provisions, including sampling manholes for monitoring by the City.

Any such manholes shall be displayed specifically on the site plan and shall be located on the private drain connection(s) within the development site at the street line.

12.7. **Abandoned Private Drain Connections**

Private drains which are to be abandoned are to be shown on the site **servicing** plan. ~~These drains~~ **D**rains will be excavated at the street line, inspected and sealed to the satisfaction of the ~~General Manager of Environmental Services and~~ City Engineer.

12.8. **Existing Private Drain Connections**

Any existing private drain connections are to be shown on the site **servicing** plan. If it is proposed that they be re-used in connection with the proposed development, they are to be excavated at the street line and approved for such use only if they are found to be acceptable to the ~~General Manager of Environmental Services and~~ City Engineer after inspection of same.

12.9. **New Private Drain Connections**

The developer is responsible for the construction of new private drain connections. The contractor must first obtain a ~~Work Approval Permit~~ **Permit for Approved Works** from the ~~General Manager of Environmental Services and City Engineer (Maintenance Division)~~ **Development & Compliance Services**. The new private drain connection is to be shown on the site plan.

12.10. **Sewer Rental Charges**

The developer may be subjected to a sewer rental charge, in accordance with the Sewer Rental By-law. Details are available from the ~~General Manager of Environmental Services and~~ Engineering & Environmental Services.

12.11 **Grading Certificates**

(a) Plans showing grading of the property shall be accompanied by;

(i) in the case of land in respect of which an accepted area or subdivision grading plan has been filed with the ~~General Manager of Environmental Services and~~ City Engineer, a lot grading plan bearing the signature and seal of the subdivision owner's professional engineer who is responsible for the overall subdivision grading certifying thereon that the lot grading ~~plan~~ **of the land generally** conforms with the accepted subdivision grading plan filed with the ~~General Manager of Environmental Services and~~ City Engineer;

(ii) in the case of land in respect of which no accepted subdivision grading plan has been filed with the ~~General Manager of Environmental Services and~~ City Engineer, a lot grading plan bearing the signature and seal of a profession engineer, or a Landscape Architect who is a member of the Ontario Association of Landscape Architects, or an Ontario Land Surveyor who certifies thereon that the drainage scheme depicted by the plan will be compatible with the existing drainage patterns.

(b) Shall provide a final lot grading certificate within seven (7) months of occupancy of the building,

(i) bearing the signature and seal of the subdivision owner's professional engineer certifying that the finished elevations and grading of the land generally confirms with the accepted area or subdivision grading plans and the lot grading plan specified in clauses 12.11(a)(i) and (ii) of this By-law; or

(ii) where no accepted area or subdivision grading plan exists, bearing the signature and seal of a professional engineer, or a Landscape Architect who is a member of the Ontario Association of Landscape Architects, or an Ontario Land Survey certifying that the finished elevations and grading of the land generally conforms to the lot grading plan specified in clauses 12.11(a)(i) and (ii) of this By-law.

(c) (i) The Owner is required to provide a lot grading and drainage plan that includes, but is not limited to, minor, major storm/drainage flows that are generally contained within the subject site boundaries and safely conveys all minor and major flows up to the 250 year storm event that is stamped by a Professional Engineer, all to the satisfaction of the City Engineer.

(d) **The Owner and their Consulting Professional Engineer shall ensure the storm/drainage conveyance from the existing external drainage through the subject lands are preserved, all to the satisfaction of the City Engineer.**

Section 15 Water Services

15.1 *Existing Water Services*

Any existing water services are to be shown on the site servicing plan. An existing water service is not permitted to be reused where an existing building is to be demolished and replaced by a new building. In this case, the water service is to be abandoned by disconnecting the water service at the main, in accordance with the City of London Requirements. An existing water service can continue to be used where the development does not involve demolition of the existing building. The owner's engineering consultant should verify the capacity required for the proposed use in order to determine whether the existing service is adequate or not Owners should exercise caution when reusing an existing water service and should verify its condition prior to constructing new surface works on top of it.

15.2 *New Water Services*

New Water services are to be shown on the site servicing plan. Water services shall not be taken from transmission mains 600 mm (24") in diameter and larger where an alternate source is available.

If the results of hydrant flow tests are to be used in the design of fire sprinkler systems or domestic water supply, the Water Engineering or Water Operations Divisions should be consulted to confirm available pressures and flows at the watermain under the design conditions of the water distribution system. Adjustments should be made since flow tests are not usually done at design conditions. Designers should also be aware of losses/pressure drops in the private water systems due to the use of backflow prevention devices or friction losses in the service.

The designer shall consider water quality in the design of the private water servicing. Where there is a potential for an adverse impact to the City of London water distribution system from a private water system, the City of London reserves the right to require isolation of the site from the municipal water supply system. This will involve construction of appropriate backflow prevention devices immediately inside the property line at the owner's cost. This may be above and beyond the requirements of the Ontario Building Code which addresses backflow requirements for the building.

15.3 *Fire Flow Calculations*

The consultant shall indicate whether fire protection is being provided by hydrants located within the municipal right of way, or by servicing on site. Where fire protection is to be provided by on site servicing (fire sprinkler system or private hydrants), fire flow calculations are to be included in the submission for site plan approval. This should include assessment of the impact of backflow preventers, which are required on fire sprinkler systems, and may have significant headlosses. The designer is advised to obtain information for the device proposed for use in order to confirm that adequate pressures and flows will be available.

15.4 ***Plan Drawings of Water Servicing on Private property***

Site servicing drawings indicating onsite water servicing are to be included with all applications. The drawings shall indicate the connection to the municipal system, the size of the watermain and the location and routing of the private water main, valving, locations of water meters, hydrants, fire sprinkler systems, and backflow preventers and all other information required to meet the City of London standards.

The drawings should also indicate fire flow and domestic water demand requirements.

15.5 ***Domestic Water Demand***

The designer shall indicate domestic water demand for the site. This, together with the layout and sizing of the watermain is needed to confirm water quality and is also needed to size the water meter properly. This shall be provided for all buildings except single detached dwellings, semi-detached dwellings and duplex dwellings that are directly serviced from a public street.

15.6 ***Calculation for Water Quality based on Domestic Demand***

The water system design shall be confirmation that there will be no water quality issues resulting from the new system being proposed. As such, it is a requirement to provide water quality analysis for all sites with the exception of single detached dwellings, semi-detached dwellings and duplex dwellings that are serviced directly from a public street.

Where applicable, these water quality calculations are required for complete application for site plan approval so that the appropriate staff can review the calculations. If this is missing, the application may not be considered complete.

15.7 ***Water Meter Sizing***

Water meter sizes shall be determined based on flows. The sizing of the water meter may vary significantly from the service size. The designer shall provide information with the application which addresses any flows that go through the meter including domestic flows and fire flows, if applicable, for review of meter sizing by the City of London Water Meter Department. This is applicable for all buildings except single detached dwellings, semi-detached dwellings and duplex dwellings that are directly serviced from a public street.

15.8 ***Lead Time to Ensure Larger Size Meters are in Stock***

The City of London Water Meter Department stocks smaller sized meters which are used frequently. However water meters which are 75 mm (3”) in size or greater are typically a special order item. Allow for a lead time of up to eight weeks.

15.9 ***Conflicting Designs for Water Service Size and Location***

Where applicable, the design of site services shall be coordinated with the building plumbing design in an effort to reduce re-submissions and conflicts. The building plumbing design and site plan design should agree on the location and size of the water service.

15.10 *Abandoned Water Services*

Water services which are to be abandoned are to be shown on the site servicing plan. Water services are to be disconnected at the watermain to the satisfaction of the City Engineer.

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Appendix B

Bill No.
2014

By-law No. C.P. – _____

A by-law to amend By-law C.P.-1455-541 entitled “A by-law to amend By-law C.P.-1455-541 entitled, “A By-law to designate site plan control area and delegate Council’s power under Section 41 of the *Planning Act*”

WHEREAS Section 41 of the *Planning Act*, R.S.O. 1990, c.P.13 provides in part that, where in an official plan an area is shown or described as a proposed site plan control area, the council of the local municipality in which the proposed area is situated may, by by-law, either a committee of the council or to an appointed officer of the municipality any of the council’s power or authority under that section;

AND WHEREAS Clause 5(2) (b) of the *Building Code Act* authorizes the council of a municipality to pass by-laws requiring applications for building construction permits to be accompanied by such plans, specifications, documents and other information as is prescribed;

AND WHEREAS in the Official Plan for the City of London Planning Area the whole of the City of London is shown or described as a proposed site plan control area and the Council of The Corporation of the City of London considers it appropriate to designate the whole of the City of London as a site plan control area, to delegate its powers or authority under Section 41 of the *Planning Act*, R.S.O. 1990, c.P.13, to certain appointed officials of the Corporation, and to require applications for building construction permits to be accompanied by plans and drawings referred to in Subsection 41(4) and by one or more agreements with the Corporation that deal with or ensure the provision and maintenance of any of the facilities, works or matters to be provided in conjunction with all buildings and structures to be erected and any of the facilities, works or matters mentioned in Subsection 41(7) of that *Act*.

AND WHEREAS Municipal Council of The Corporation of the City of London passed By-law C.P.-1455-541 being a by-law to designate a Site Plan Control Area and to delegate Council’s power under Section 41 of the *Planning Act*, R.S.O. 1990 c.P.13;

AND WHEREAS it is deemed expedient to amend the said By-law;

Now THEREFORE the Municipal Council of The Corporation of the City of London hereby enact as follows:

1. Bylaw No. C.P.-1455-541 is hereby being amended by adding a Table of Contents to Schedule 1 attached as Schedule “A”

2. Bylaw No. C.P.-1455-541 is hereby being amended by deleting section 11 of Schedule 1 and by replacing it with a new Section 11 attached as Schedule “B”

3. Bylaw No. C.P. -1455-541 is hereby being amended by deleting section 12 of Schedule 1 and replacing it with a new Section 12 attached as Schedule “C”

4. Bylaw No. C.P.-1455-541 is hereby being amended by adding a new Section as Section 15 of Schedule 1 attached as Schedule “D”

5. This by-law comes into force and effect on December 1, 2014

Passed in Open Council on November 25, 2014

J. Baechler
Mayor

Catharine Saunders
City Clerk

First Reading – November 25, 2014
Second Reading – November 25, 2014
Third Reading – November 25, 2014

Schedule ‘A

“Schedule 1 to Bylaw No. C.P.-1455-541

Table of Contents

Schedule 'B'

"11. EASEMENTS

11.1. *Objective*

To ensure that all easements on a site are properly identified by both extent and nature of the easement, including rights-of-way in favour of others, municipal services easements and private utility easements all of which can materially impact the site and its usage.

11.2. *Definition*

An easement can be defined as the right of one party to use the property of another party. As it applies to City services and private utilities, an easement provides the City or private utility company with a right to access, install and maintain specific infrastructure located on private property, usually within a defined area or corridor. Municipal services easements are often required for watermains, sewers, drains and channels that are owned and maintained by the City. Private utility easements are often required for hydro, gas and telecommunication services, which are not owned by the City. Rights-of-way provide third party(s) with surface rights to travel over the property of the owner.

11.3. *Effect*

The effect of easement rights depends upon the specific wording in the easement agreement, but most easements prohibit the erection of buildings or structures within the easement unless authorized by way of an Encroachment Agreement or Engineers Consent in the case of Municipal Easements. It may be permissible to construct hard surfaces over or landscape easements with sod and small shrubs, subject to the specific wording in the easement agreement.

Due to their nature, easements and rights-of-ways must remain completely unobstructed at all times.

11.4. *Site Plan*

The site plan shall show both existing easements and rights-of-way and any easements being created for conveyance. In the case of Municipal Easements, the City Engineer shall determine the nature and extent of newly created easements, or whether the City Engineer's Consent authorizing a proposed encroachment can be provided.

Easements maybe required to be conveyed to the City for the construction, maintenance or improvement of water courses, ditches, land drainage works, sanitary sewage facilities and other public utilities."

Schedule 'C'

"12. GRADING AND DISPOSAL OF STORM, SURFACE AND WASTE WATER

12.1. Objectives

The objectives of proper grading and disposal of storm, surface and waste waters are to optimize:

(d) safe convenient and functional access for pedestrians and vehicles to all areas of the site;

(e) preservation of the natural features of the site where feasible;

(f) balanced cut and fill;

(d) proper site drainage such that storm water is generally contained within the site and directed to an internal storm drainage system, thereby generally preventing drainage onto adjacent properties;

(e) the prevention of storm water from entering sanitary sewer system by any means, including weeping tiles;

(f) where subdivisions have been designed with overland flow routes across a number of block/lots, the grading designs will accommodate and maintain these flows across the blocks/lots;

(j) use of infiltration systems;

(k) recharging ground water; where possible; and

(l) implement permanent private storm systems;

(See Council Policies on dry wells, weeping tile, subsurface drainage, the Drainage By-law, PPS's and Official Plan Policy 17.6.2, 17.6.3, 17.6.4, 17.6.5).

12.2. Grading Specifications

Area of Site	Grades
(a) Area Immediately Adjacent To Building	
(i) - unpaved	2% minimum
(ii) - paved	5.8% max. (1% min. for drainage)
(b) Landscaped Areas[1]	
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(d) Internal Driveways[2]	5% maximum
(e) Access Driveways[3]	2% maximum

(f) Bicycle-Pedestrian Ways	10% maximum
(g) Barrier free pathways	8% maximum

[1]See Part 9 "Landscaping" for further details.
[2]Internal driveway grades may exceed 5% in order to maintain topographic amenities.
[3]Refers to portion of Internal Driveways that are 6 m (20 feet) into site measured from the street line, as widened.

12.3. **Storm Retention Systems**

(a) The flows from a site being developed are to be restricted to those flows which were allowed for the site in the design of the receiving storm sewer.

(b) If, in the opinion of the City Engineer, a storm water retention system is required as a method of temporary on-site storage of storm water, then the developer will be required to have a professional engineer submit to and have approved by the City Engineer the design of a storm water retention system. The approved method is to be displayed on the site plan submitted for site plan approval.

(c) Upon completion of construction the developer will be required to have the professional engineer certify that the retention system was constructed in accordance with the approved design.

(d) In certain circumstances, a separate application and fee for an Environmental Certificate of Approval (ECA) is required from the Ministry of the Environment.

(e) Site plan approval cannot be granted until the ECA has been received.

12.4. **Dry Well Storm Water Disposal Systems**

(a) If no storm sewer is available or if a storm sewer cannot be extended, the City Engineer will consider the use of a dry well system as an interim method of storm water disposal. The following will then apply:

(i) The developer will be required to have a professional geotechnical engineer conduct soils tests to determine if the soils are suitable for a dry well system.

(ii) If existing soils are suitable, the geotechnical engineer will be required to submit to and have approved by the City Engineer the design of a dry well system. The following criteria is to be included in the design:

- a drain, adequately sized and graded, extending from the dry well system to the street line, for future connection to a storm sewer (unless this requirement is specifically waived by the City Engineer);

- roof water flows being directed to the dry well system;

- dry wells being located at such distances from buildings as is required to prevent seepage to the weeping tile system and sanitary sewer system.

(iii) If existing soils are unsuitable for a dry well system, then the design is to include such measures as will be required to provide a functional storm water disposal system, failing which, site plan approval will not be given.

(iv) A separate application and fee for an Environmental Certificate of Approval (ECA) is required.

(b) The site services plan submitted for site plan approval is to display all relevant dry well design criteria.

(c) Upon completion of construction, the Developer will be required to have the geotechnical engineer certify that all work was carried out in accordance with the approved design.

12.5. **Roof Water Leaders**

(a) The flows from all roof water leaders are to be directed to the internal storm drainage system.

(b) For conversions of existing buildings, the following will apply, when connections are found to the sanitary sewer system:

(i) down spouts are to be disconnected above ground level; and

(ii) the remaining portions of downspouts below ground level are to be sealed off with concrete.

(c) Separation of existing internal combined storm and sanitary drains may be required, as requested by the City Engineer.

12.6. **Sampling Manholes**

Sanitary flows, other than domestic sewage and storm flows containing effluents, such as cooling water require special provisions, including sampling manholes for monitoring by the City.

Any such manholes shall be displayed specifically on the site plan and shall be located on the private drain connection(s) within the development site at the street line.

12.7. **Abandoned Private Drain Connections**

Private drains which are to be abandoned are to be shown on the site servicing plan. Drains will be excavated at the street line, inspected and sealed to the satisfaction of the City Engineer.

12.8. **Existing Private Drain Connections**

Any existing private drain connections are to be shown on the site servicing plan. If it is proposed that they be re-used in connection with the proposed development, they are to be excavated at the street line and approved for such use only if they are found to be acceptable to the City Engineer after inspection of same.

12.9. **New Private Drain Connections**

The developer is responsible for the construction of new private drain connections. The contractor must first obtain a Permit for Approved Works from the Development & Compliance Services. The new private drain connection is to be shown on the site plan.

12.10. **Sewer Rental Charges**

The developer may be subjected to a sewer rental charge, in accordance with the Sewer Rental By-law. Details are available from the Engineering & Environmental Services.

12.11 **Grading Certificates**

(a) Plans showing grading of the property shall be accompanied by;

(i) in the case of land in respect of which an accepted area or subdivision grading plan has been filed with the City Engineer, a lot grading plan bearing the signature and seal of the subdivision owner's professional engineer who is responsible for the overall subdivision grading certifying thereon that the lot grading of the land generally conforms with the accepted subdivision grading plan filed with the City Engineer;

(ii) in the case of land in respect of which no accepted subdivision grading plan has been filed with the City Engineer, a lot grading plan bearing the signature and seal of a profession engineer, or a Landscape Architect who is a member of the Ontario Association of Landscape Architects, or an Ontario Land Surveyor who certifies thereon that the drainage scheme depicted by the plan will be compatible with the existing drainage patterns.

(b) Shall provide a final lot grading certificate within seven (7) months of occupancy of the building,

(i) bearing the signature and seal of the subdivision owner's professional engineer certifying that the finished elevations and grading of the land generally confirms with the accepted area or subdivision grading plans and the lot grading plan specified in clauses 12.11(a)(i) and (ii) of this By-law; or

(ii) where no accepted area or subdivision grading plan exists, bearing the signature and seal of a professional engineer, or a Landscape Architect who is a member of the Ontario Association of Landscape Architects, or an Ontario Land Survey certifying that the finished elevations and grading of the land generally conforms to the lot grading plan specified in clauses 12.11(a)(i) and (ii) of this By-law.

(c) The Owner is required to provide a lot grading and drainage plan that includes, but is not limited to, minor, major storm/drainage flows that are generally contained within the subject site boundaries and safely conveys all minor and major flows up to the 250 year storm event that is stamped by a Professional Engineer, all to the satisfaction of the City Engineer.

(d) The Owner and their Consulting Professional Engineer shall ensure the storm/drainage conveyance from the existing external drainage through the subject lands are preserved, all to the satisfaction of the City Engineer."

Schedule 'D'

"Section 15 Water Services"

15.1 *Existing Water Services*

Any existing water services are to be shown on the site servicing plan. An existing water service is not permitted to be reused where an existing building is to be demolished and replaced by a new building. In this case, the water service is to be abandoned by disconnecting the water service at the main, in accordance with the City of London Requirements. An existing water service can continue to be used where the development does not involve demolition of the existing building. The owner's engineering consultant should verify the capacity required for the proposed use in order to determine whether the existing service is adequate or not Owners should exercise caution when reusing an existing water service and should verify its condition prior to constructing new surface works on top of it.

15.2 *New Water Services*

New Water services are to be shown on the site servicing plan. Water services shall not be taken from transmission mains 600 mm (24") in diameter and larger where an alternate source is available.

If the results of hydrant flow tests are to be used in the design of fire sprinkler systems or domestic water supply, the Water Engineering or Water Operations Divisions should be consulted to confirm available pressures and flows at the watermain under the design conditions of the water distribution system. Adjustments should be made since flow tests are not usually done at design conditions. Designers should also be aware of losses/pressure drops in the private water systems due to the use of backflow prevention devices or friction losses in the service.

The designer shall consider water quality in the design of the private water servicing. Where there is a potential for an adverse impact to the City of London water distribution system from a private water system, the City of London reserves the right to require isolation of the site from the municipal water supply system. This will involve construction of appropriate backflow prevention devices immediately inside the property line at the owner's cost. This may be above and beyond the requirements of the Ontario Building Code which addresses backflow requirements for the building.

15.3 *Fire Flow Calculations*

The consultant shall indicate whether fire protection is being provided by hydrants located within the municipal right of way, or by servicing on site. Where fire protection is to be provided by on site servicing (fire sprinkler system or private hydrants), fire flow calculations are to be included in the submission for site plan approval. This should include assessment of the impact of backflow preventers, which are required on fire sprinkler systems, and may have significant headlosses. The designer is advised to obtain information for the device proposed for use in order to confirm that adequate pressures and flows will be available.

15.4 *Plan Drawings of Water Servicing on Private property*

Site servicing drawings indicating onsite water servicing are to be included with all applications. The drawings shall indicate the connection to the municipal system, the size of the watermain and the location and routing of the private water main, valving, locations of water meters, hydrants, fire sprinkler systems,

and backflow preventers and all other information required to meet the City of London standards.

The drawings should also indicate fire flow and domestic water demand requirements.

15.5 ***Domestic Water Demand***

The designer shall indicate domestic water demand for the site. This, together with the layout and sizing of the watermain is needed to confirm water quality and is also needed to size the water meter properly. This shall be provided for all buildings except single detached dwellings, semi-detached dwellings and duplex dwellings that are directly serviced from a public street.

15.6 ***Calculation for Water Quality based on Domestic Demand***

The water system design shall be confirmation that there will be no water quality issues resulting from the new system being proposed. As such, it is a requirement to provide water quality analysis for all sites with the exception of single detached dwellings, semi-detached dwellings and duplex dwellings that are serviced directly from a public street.

Where applicable, these water quality calculations are required for complete application for site plan approval so that the appropriate staff can review the calculations. If this is missing, the application may not be considered complete.

15.7 ***Water Meter Sizing***

Water meter sizes shall be determined based on flows. The sizing of the water meter may vary significantly from the service size. The designer shall provide information with the application which addresses any flows that go through the meter including domestic flows and fire flows, if applicable, for review of meter sizing by the City of London Water Meter Department. This is applicable for all buildings except single detached dwellings, semi-detached dwellings and duplex dwellings that are directly serviced from a public street.

15.8 ***Lead Time to Ensure Larger Size Meters are in Stock***

The City of London Water Meter Department stocks smaller sized meters which are used frequently. However water meters which are 75 mm (3”) in size or greater are typically a special order item. Allow for a lead time of up to eight weeks.

15.9 ***Conflicting Designs for Water Service Size and Location***

Where applicable, the design of site services shall be coordinated with the building plumbing design in an effort to reduce re-submissions and conflicts. The building plumbing design and site plan design should agree on the location and size of the water service.

15.10 ***Abandoned Water Services***

Water services which are to be abandoned are to be shown on the site servicing plan. Water services are to be disconnected at the watermain to the satisfaction of the City Engineer.”