



Subdivision and  
Site Development Bylaw SS-19  
Rev. 2008  
And  
Development Standards SS-19-01

Approved May 8, 2008



This document, is an office consolidation of this Bylaw

Current to June 1, 2008

It is intended for information and reference purposes only.

This document is *not* the official version of the Bylaw.

We have tried to ensure these versions of the bylaws are as accurate as possible;

however, where accuracy is critical, please consult official sources.

If you find any errors or omissions in this consolidation, please contact -  
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## **GENERAL PROVISIONS**

**Section 1 INTRODUCTION****1.1 Title**

- a. This Bylaw may be referred to as the Summerside Subdivision and Site Development Bylaw.
- b. The main body of this Bylaw may be referred to as the *general provisions* and can be amended in accordance with Planning Act. The following regulations can be amended by simple resolution of Council:
  - The City of Summerside Development Standards Document
  - Street Naming Policy
  - Parkland Dedication Fees
  - Application Fees

**1.2 Scope**

The scope of this Bylaw includes all subdivisions and major developments within the City of Summerside. This Bylaw updates and consolidates Bylaw SS-19 (2008) to reflect changes made by the City's Official Plan (2018), Zoning Bylaw SS-15 (Rev.2018) and current development standards and practices.

**1.3 Purposes**

The purposes of this Bylaw are to:

- a. Promote patterns of streets, lots and services in the City which are economically efficient and sustainable, and which contribute to community liveability.
- b. Promote smart growth for making effective use of land and infrastructure over the short and long terms, including applying the principle of "orderly and following" development.
- c. Ensure adequate infrastructure standards to protect public health and safety, environmental quality, and City obligations for infrastructure transferred to its ownership.
- d. Allocate street and servicing costs.
- e. Enable City acquisition of necessary street ROW's and easements, and the legal subdivision and transfer of land.
- f. Ensure that major developments meet municipal standards as defined in Section 3.6.



### **1.4 Authority**

This Bylaw is enacted under the authority of the Planning Act, R.S.P.E.I. 1988, Cap. P-8 and the Municipal Government Act.

### **1.5 Effective Date**

The effective date of this Bylaw shall be the date of its approval by the Minister responsible for administering the *Planning Act*.

### **1.6 Consolidation**

The City of Summerside Subdivision and Site Development Bylaw SS-19 (2008) is hereby consolidated and updated as the City of Summerside Subdivision and Site Development Bylaw SS-19 (Rev. 2018).

### **1.7 Validity**

- a. The intent of provisions of this Bylaw is not invalidated by any errors in its drafting.
- b. Should any provision of this Bylaw be held by a court of competent jurisdiction to be invalid, the validity of the remainder of the Bylaw shall not be affected.
- c. A change of property owner or development applicant does not affect the rights or obligations attached to any development approval or agreement under this Bylaw.

## **Section 2 INTERPRETATION**

### **2.1 Certain Words**

In this Bylaw: words used in the present tense includes the future; words in the singular number include the plural and words in the plural number include the singular, as the context requires; the word 'used' includes presently used or intended to be used; and the word 'shall' is mandatory and is not permissive.

### **2.2 Use of Headings**

The headings of sections, subsections, and tables of this Bylaw have been inserted for convenient reference and in no way define, limit or enlarge the scope of any provisions of this Bylaw.

### **2.3 Definitions**

For purposes of this Bylaw all words carry their customary meaning except those defined below. Cross-references between definitions are shown by use of italics.

**Applicant** means any *person* responsible for completing an application for *development approval* and for fulfilling any required condition of such approval under this Bylaw. Where the applicant is acting on behalf of a property owner, then the property owner is deemed to carry such responsibilities of an applicant' as appropriate to the context of provisions of this Bylaw.

**Assessed Property Owner** means for the purposes of sending notices under this Bylaw, the person listed as the owner of the property in the latest Assessment Roll made available to the City as compiled by the Provincial Treasurer under the Real Property Assessment Act, R.S.P.E.I. 1988, Cap. R-4.

**Buildable Area** means that area of a property which is capable of being developed for residential purposes and ancillary uses, including for buildings, supporting properties and access streets.

**Building Bylaw** means the City of Summerside *Building Bylaw SS-09*.

**Chief Administrative Officer** means the chief administrative officer appointed by Council.

**City** means the City of Summerside as established by the *Municipal Government Act*.

**City of Summerside Development Standards** means The City of Summerside Development Standards Document, attached as Schedule A

**Communication system** means a system for the distribution of telephone, cable or other communication services, including overhead or underground lines, poles, and appurtenances.

**Construction Agreement:** see section 3.8 for meaning.

**Consultant** means a Professional Engineer or Architect licensed to practise in Prince Edward Island pursuant to the Engineering Profession Act or Architects Act.

**Council** means the duly elected Council of the City.

**Development** means any or all of the following: See zoning bylaw defn't

1. the construction, erection or placing of any building and/or other structure on lands;
2. excavation, filling and regarding of soils for buildings or other land uses;
3. changes in the nature, scale or intensity of uses of any buildings or lands;
4. subdivision of lands; or
5. installation of streets or *services*.

**Development Agreement:** see section 3.9 for meaning.

**Development Approval** means any approval for *development* granted under the authority of this Bylaw by *Council* or the *Development Officer*, as applicable.

**Development Officer** means any City staff ~~person~~ designated by the *Chief Administrative Officer* to administer and enforce parts of this Bylaw, as specified.

**Drainage Greenway** means a multi-tier drainage channel conveyed to the City with a lower channel for normal water flow and an upper channel for overflow, which also allows for a *walkway*.

**Electric System** means a system for the distribution of electric power, including overhead or underground lines, transformers, poles, and appurtenances.

**Engineering Drawings and Specifications** means plans and specifications stamped and signed by a *consultant* showing the layout and design of streets or services.

**Internal Site Service** means a *service* within a property required solely for a *development* on the same property and which remains under private ownership, including any water, sewer and storm water laterals from the development to the lot line, storm water retention facilities, service roads, and parking lots.

**Letter of Agreement:** see section 3.8 for meaning.

**Lot** means a parcel of land shown on a registered plan of subdivision, or described in a deed or other document legally capable of conveying an interest in land in compliance with this Bylaw.

**Major Development:** see section 9.1 for meaning.

**Major Subdivision:** see section 8.1 for meaning.

**Minor Subdivision:** see section 7.1 for meaning.

**Municipal Engineer** means any City staff ~~person~~ designated by the *Chief Administrative Officer* to administer and enforce a part of this Bylaw, as specified.

**Municipal Service** means any *service* which is conveyed to a *Utility*.

**Official Plan** means the current City of Summerside Official Plan as approved by Council.

**Off-site Cost** means the cost of any new or improved *street* or *municipal service* required because of the incremental load imposed by a *development*, and which may be sited some distance away from said development.

**On-site Cost** means the cost of any new or improved *street* or *municipal service* which is required primarily and directly for accessing or serving a *development*, and/or for connecting to other properties beyond said development.

**Orderly and Following Development** means a proposed development which is contiguous to existing *streets* and *municipal services* to which it can be connected in an economically efficient manner.

**Oversizing Cost** means the cost of enlarging or improving a *street* or *service* to a higher standard required to accommodate community needs over and above the needs of a *development*.

**Parcel** means a portion of the earth defined by a boundary inside of which certain assigned rights apply regarding occupancy and/or use of land, air, or water.

**Person** means any individual, association, corporation, contractor, commission, public utility, firm, partnership, or organization of any kind, and includes both principal and agent in an agency situation.

**Planning Act** means the *Planning Act*, R.S.P.E.I. 1988, Cap P-8.

**Property** means an existing or proposed *lot(s)* on which a *development* is located or proposed.

**Province** means the Province of Prince Edward Island.

**Sanitary Sewer System** means a system which receives, carries, and purifies water borne wastes, including sewer laterals and mains, pumping stations and treatment facilities.

**Service** means all, or any of a communication system, electric system, sanitary sewer system, storm drainage system, or water system, including any municipal service or internal site service.

**Storm Drainage System** means a system which receives, carries, and controls storm water and surface runoff, including storm water laterals, mains, streets and catch basins, culverts, drainage greenways, *ditches*, watercourses, retention ponds and rooftop retention facilities.

**Street** means the paved portion of the *street ROW* and any curb, sidewalk, street furniture, signs and traffic signals within the street ROW.

**Street ROW** means the right-of-way conveyed to the City for the passage of persons and vehicles and which may contain a *street* or *municipal service*.

**Stub Road** means a *street ROW* and any associated *street* or *municipal service* leading up to the perimeter of a subdivision and which does not directly access adjoining lots, but may be required to connect to other development sometime in the future.

**Subdivide** means to divide or consolidate a parcel of land into a *lot(s)*.

**Subdivision** means a parcel of land that has been or will be *subdivided*.

**Urban Growth Boundary (UGB)** means the line designated in the Official Plan and Zoning Bylaw.

**Utility** means the Electric, Sewer, or Water Utilities of the *City*, or the Maritime Electric Utility Company, as applicable.

**Walkway** means land conveyed to the City for public pedestrian traffic other than that forming part of a *street*.

**Watercourse** means the full width and length, including the bed, shore, bank, and adjacent land, within 10 metres of the high water mark of every stream, river, estuary, lake, pond, creek, spring, ravine, and gulch, or any part thereof, whether the same contains water or not.

**Water and Sewer Bylaw** means the City of Summerside *Water and Sewer Bylaw SS-01*.

**Water System** means a system for collecting, purifying, and distributing water, including water laterals and mains, fire hydrants, wells, pumping stations and treatment facilities.

**Zoning Bylaw** means the City of Summerside *Zoning Bylaw SS-15*.

**Section 3 ADMINISTRATION****3.1 Development Officer**

This Bylaw shall be administered by the Development Officer and the Municipal Engineer for the City of Summerside, as specified.

**3.2 Development Applications**

- a. Application shall be made for the following types of development approvals under this Bylaw:
  - i. preliminary and final approvals for a *minor subdivision*;
  - ii. preliminary and final approvals for a *major subdivision*; and
  - iii. preliminary and final site plan approvals for a *major development*.
- b. Each development application shall be completed when:
  - i. submitted to the Development Officer in the format required by the City;
  - ii. signed and dated by the applicant;
  - iii. also signed by the property owner if they are not the applicant, duly authorizing the applicant to act as their agent;
  - iv. accompanied with all permit fees as required under the City of Summerside Development Standards -Schedule "A"; and
  - v. accompanied with all supporting information and documentation as required under this Bylaw.

**3.3 Currency of Application**

- a. A development application shall only be considered for approval when completed in accordance with section 3.2 (b).
- b. A development application which is not completed in accordance with section 3.2 (b) within 12 months of the date on the original application shall lapse.
- c. A development application shall not be considered within one year of a similar application being denied, except when the Development Officer considers it justified because of valid new evidence or a change in conditions or as the result of an appeal or review procedure allowed under this Bylaw.
- d. A development application shall be considered with respect to Bylaw and Development Standards provisions existing at the date the application is completed, or substantially completed following section 3.2 (b), regardless of any subsequent amendments to the Bylaw.

### **3.4 City as Initiator**

The City may initiate a development application, but all in accordance with this Bylaw.

### **3.5 Compliance with Other Regulations**

Nothing in this Bylaw shall exempt any person from complying with the requirements of other City or Provincial regulations. Where the requirements of this Bylaw conflict with any other requirements, the more stringent requirements shall prevail.

### **3.6 Review of Development Applications**

Council, Planning Board, and the Development Officer shall consider the following general criteria when reviewing development applications under this Bylaw, as applicable:

- a. Conformity with this Bylaw.
- b. Conformity with the Official Plan.
- c. Conformity with the Zoning Bylaw.
- d. The “orderly and following” nature of the development.
- e. Physical suitability of the site for the proposed development, including avoidance of natural hazards, undue water run-off, or environmental damage.
- f. Compatibility of the proposed development with present and future surrounding patterns of streets, lots, and services, including conformity with any City concept plans.
- g. Adequacy of the applicant’s proposals for traffic circulation, parking, pedestrian access, water supply, sewage disposal, and storm drainage, including the adequacy of City streets and services to handle increased loads.
- h. Suitability of parkland provisions.
- i. Impact on City finances and budgets.
- j. Proof of conformity with any applicable Provincial legislation and regulations.
- k. Other matters as considered relevant.

### **3.7 Subdivision Approval Notification**

- a. The Development Officer shall notify **preliminary subdivision approval** by affixing the



City of Summerside seal, and completing and signing the following stamp on the subdivision plan:

This subdivision plan no. \_\_\_\_\_ has received preliminary subdivision approval. Additional City approvals are required to convey property and to start any construction work.

\_\_\_\_\_ Development Officer for the City of Summerside, dated \_\_\_\_\_

- b. The Development Officer shall notify **final subdivision approval** by affixing the City of Summerside seal, and completing and signing the following stamp on the legal plan:

This legal plan no. \_\_\_\_\_ has received final subdivision approval and is forwarded to be registered in the Prince County Registry Office.

\_\_\_\_\_ Development Officer for the City of Summerside, dated \_\_\_\_\_

OR as applicable:

This legal plan no. \_\_\_\_\_ has received final subdivision approval and is forwarded to be registered in the Prince County Registry Office. Final subdivision approval is granted conditional to development agreement no. \_\_\_\_\_

\_\_\_\_\_, Development Officer for the City of Summerside, dated \_\_\_\_\_

- c. The Development Officer shall provide written notification of preliminary or final subdivision approval to the applicant, and shall provide them with two (2) sealed and stamped plan copies.

**3.8 Construction Agreement / Letter of Agreement**

- a. A construction agreement or letter of agreement is a legally binding contract between a property owner and the City describing their respective responsibilities for constructing streets or municipal services.
- b. The City may require applicants to sign a construction agreement with the City

following the model in *The City of Summerside Development Standards - Schedule "C"* and applying the municipal servicing standards set out in *The City of Summerside Development Standards - Schedule "D"*, or any alternative standards that may be specifically agreed to by the City for the development in question.

- c. The City may require an applicant to enter a letter of agreement with the City for work not meriting the complex provisions and safeguards of a construction agreement.
- d. Each construction agreement or letter of agreement shall be signed by the applicant, and by the Mayor and the Chief Administration Officer for the City.

### **3.9 Development Agreement**

- a. A development agreement is a legally binding contract between a property owner, the City and any third party setting out any special conditions attached to a development approval, and which must be registered against the property which is the subject of the approval in the Prince County Registry Office.
- b. Council may require a property owner to enter into a development agreement with the City to fulfill any special conditions attached to a development approval under this Bylaw, including for:
  - i. deferral of an applicant's responsibilities to provide a street ROW, street, municipal service, or parkland;
  - ii. cost-sharing arrangements for a street or municipal service; or
  - iii. other Bylaw matters as deemed appropriate by Council.
- c. Development agreements will be administered in accordance with section 4.14 of the Zoning Bylaw.

**Section 4 STREET AND SERVICING REQUIREMENTS****4.1 General**

- a. The provisions of this section allocate responsibilities between applicants and the City for providing street ROW's, streets, services, and easements.
- b. All City contributions for streets and municipal services are subject to Council approval and available budget resources at the time of application.
- c. All streets and services will be designed and constructed to City approved standards, and all cost responsibilities of the applicant and the City will be predicated on those standards.
- d. Notwithstanding any other provision of this Bylaw, if development is not "orderly and following" then the applicant is responsible for ensuring street and servicing access to their development across any intervening property and for paying all costs to extend any street or municipal service to their development, including any "oversizing cost" as may be required by the City.

**4.2 Streets**

- a. The applicant provides all 'internal site services,' including service roads or driveways, parking lots and connections to City streets.
- b. The applicant dedicates all new or widened street ROW's from their property as required by the City.
- c. Streets shall be designed to the following standards:
  - i. "collector streets" as designated by the City will be designed according to the municipal standards for such streets in The City of Summerside Development Standards -Schedule "D";
  - ii. "intermediate streets" for carrying heavy trucks in commercial and industrial areas, or high-volume traffic in residential areas, will be individually designed by the applicant to serve their development at standards satisfactory to the City; and
  - iii. all other streets will be "local streets" and will be designed according to the municipal standards for such streets in The City of Summerside Development Standards - Schedule "D".
- d. The applicant pays all "on-site costs" for new or improved streets required by the

City, whether to a local street standard or higher standard, and including sidewalks for commercial properties as required by the City.

- e. The City pays any “over sizing costs” for a higher street standard, subject to section 4.1 (d) above.
- f. Council may require the applicant to sign a development agreement with the City to share in any “off-site costs” for street improvements.
- g. The City may agree to assume some of an applicant’s costs for a collector street through their property, if the applicant can demonstrate that the street will cause significant loss of development values for their property.

### **4.3 Water and Sewer Services**

- a. The applicant provides all >internal site services’ including water and sanitary sewer laterals from the development to the lot boundary.
- b. The applicant dedicates all service easements on their property as required by the City.
- c. The applicant pays all “on-site costs” for municipal water and sewer services required by the City, including lateral connections to municipal mains, except as exempted under the Water and Sewer Bylaw SS-01.
- d. The City pays any “over sizing costs” for increasing municipal water and sewer services to a higher standard to serve community needs, subject to section 4.1 (d) above.
- e. Council may require the applicant to sign a development agreement with the City to share in any “off-site costs” for municipal water or sewer service improvements.
- f. The City may negotiate bridge financing with groups of property owners to enable joint servicing of their properties with sewer pump stations, force mains and gravity mains, subject to:
  - i. each property owner dedicates street ROW’s and easements as required by the City; and
  - ii. each property owner signs a development agreement for cost-sharing and any repayment to the City based on the respective service loads generated by full development of their property.

- iii. It should be noted that latecomer charges will apply to unsigned property owners.

#### **4.4 Storm Drainage**

- a. The applicant provides their own internal storm drainage system sized to serve the entire drainage basin in which their development is located, from the development to the public storm drainage system.
- b. The applicant dedicates all service easements or drainage greenways required by the City. Pursuant to section 5.1(b), Council may allow a drainage greenway to be included as part of a parkland dedication.

#### **4.5 Stub Roads and Street Ends**

- a. For any stub road directly abutting the Urban Growth Boundary (UGB), the applicant dedicates the street ROW; whenever needed, the City pays the street and servicing costs for connecting the stub road to other development.
- b. For any stub road not abutting the UGB, the applicant dedicates the street ROW and pays all street and servicing costs. Pursuant to section 8.8, Council may agree to the applicant installing servicing connections to the outside of the pavement on the street leading to the stub road and deferring all other work until needed.
- c. For any street end which is not a stub road, the applicant pays street and servicing costs for the full length of the street ROW, and also installs a paved cul-de-sac if adjoining the UGB, or a temporary gravel cul-de-sac if not adjoining the UGB.

#### **4.6 Electrical Services**

The provision of electrical services shall comply with the current, *City of Summerside Electrical Utilities Rates and Schedule Policy Manual or Maritime Electric Rate Schedule and Policies*, as applicable in different areas of the City.

#### **4.7 Latecomer Charges**

- a. Under this section:
  - i. a “benefiting property” is a property served by a new street or municipal service constructed after March 31, 2003 within a street ROW on which the property fronts, to which the property owner at the time was not required by the City to contribute any construction costs;
  - ii. a “cost share” is that portion of the construction costs of a new street or municipal service which the City identifies as serving a >benefiting property;’ and

- iii. a “latecomer charge” is a lien charged against a benefiting property by the City or a Utility, as applicable, with the intention of eventually recovering any cost share which it originally financed and any additional interest owing on that amount.
  - iv. in the case of lift stations, latecomer charges will be based on estimated loads and current zoning for that station.
- b. Subject to Council approval, the City or Utility may:
    - i. finance a cost share as part of an applicant’s major subdivision or major development; or
    - ii. finance a cost share as part of its own construction projects.
  - c. The City will apportion a cost share to each benefiting property on a pro rata basis, according to its respective frontage on the street ROW containing the new street or municipal service in question.
  - d. Subject to Council approval, the City or Utility may assess latecomer charges on a benefiting property for its cost share.
  - e. The Development Officer shall record the particulars of each latecomer charge in a register attached to this Bylaw for that purpose.
  - f. Until discharged entirely by the property owner, latecomer charges shall apply to a benefiting property for:
    - i. a period of up to twenty (20) years for its cost share; and
    - ii. a period of up to five (5) years for interest on its cost share, calculated annually at a rate of two percentage points above a rate based on the nearest one-half percent of the bank’s prime lending rate as of the first banking day of each year.
  - g. Any development approval under this Bylaw, or building permit under the Building Bylaw shall only be issued for a benefiting property contingent upon the owner discharging all applicable latecomer charges.
  - h. For greater certainty, nothing in this section shall relieve an applicant of any responsibilities under this Bylaw, including for:
    - i. laying out their development according to sound planning and engineering principles;
    - ii. providing streets and services to the outside perimeter of their development; and
    - iii. paying additional costs associated with a development which is not “orderly and following.”

**Section 5    PARKLAND REQUIREMENTS****5.1 Parkland Dedications**

- a. An applicant for subdividing more than one acre of land to enable residential development shall dedicate parklands within the 'buildable area' of their property, as assessed for the entire area of their subdivision according to the following formulae:
  - i. 5% of all land designated for low-density residential in the Official Plan;
  - ii. 7.5% of all land designated for medium-density residential in the Official Plan;  
and
  - iii. 10% of all land designated for high-density residential in the Official Plan.
- b. Council may consider a proposal to make up some or all of their parkland assessment under section (a) with a pro rata dedication of at least twice as much parkland outside of the 'buildable area' of their property, including any such lands reserved for conservation or drainage greenway purposes.
- c. The location, size, and configuration of all parkland dedications shall be approved by Council and shown on the subdivision plan and legal plan for the property.
- d. All parkland dedications shown on a preliminary approved subdivision plan shall be conveyed to the City as a requirement of final subdivision approval being granted for the entire subdivision, or, if it is developed in phases, for its first phase.

**5.2 Monetary Park Contributions**

- a. At Council's discretion, all or part of an assessed parkland dedication under section 5.1 (a) may be substituted by an equivalent monetary park contribution as set out in *The City of Summerside Development Standards* -Schedule >A. These contributions shall be put into a fund reserved solely for acquiring or expanding public parks in the City.
- b. Full payment of monetary park contributions shall be made for the entire area encompassed by a legal plan in one of the following ways:
  - i. as a requirement of final subdivision approval;or:
  - ii. at the applicant's election, within one-month of selling their first subdivided lot subject to them signing a development agreement with the City as a condition of final subdivision approval. In unusual cases of proven hardship Council may agree to further defer payment, but in no circumstance shall the total amount of the contribution be reduced;

or:

- iii. Council may defer a parkland dedication or deferral of payment pursuant to section 8.8.



## **Section 6 PLAN INFORMATION REQUIREMENTS**

### **6.1 General**

- a. Subdivision plans are required for preliminary approval of minor and major subdivisions. Site plans are required for preliminary site plan approval of major developments.
- b. Major subdivision plans and site plans may also be required for appending to construction agreements.
- c. Legal plans are required for final subdivision approval of minor and major subdivisions, and for the legal conveyancing of property.

### **6.2 Plan Requirements**

- a. The information provided on all plans shall be sufficient for the City to adequately review the proposed development against all applicable criteria set out in section 3.6.
- b. All plans shall be drawn to a minimum scale or scales sufficient for clarity of all their particulars, and shall include a location map drawn to a scale of no smaller than 1:50,000. All plans shall be drawn in metric units unless otherwise required by Provincial statute.
- c. Each legal plan shall be stamped by a land surveyor registered to practise in the Province, certifying that the lots for which approval is requested have been surveyed in manner required by the *P.E.I. Land Surveyors Act*.
- d. The Development Officer may modify plan requirements as necessary.
- e. Plans required under this Bylaw shall also include all the applicable information set out in Table 6-1 below:

Table 6-1. Plan Requirements

Information Required	Subdivision Plan		Legal Plan	Site Plan
	Minor	Major		
1. Provincial property identification number (PID) for the parent lot	✓	✓	✓	✓
2. location of permanent survey monuments and pins for each change in direction of lot lines, and line bearings			✓	

Information Required	Subdivision Plan		Legal Plan	Site Plan
	Minor	Major		
3. boundary lines of all new lots shown by solid lines, and the vanishing boundaries of all existing lots shown by broken lines	✓	✓	✓	
4. dimensions, area, alpha-numeric indicator and proposed use of each lot, and any lot phasing	✓	✓	✓	
5. siting of existing and proposed buildings within the development and of nearby buildings that may be affected	✓	✓	✓	✓
6. elevations and detailed footprints of all buildings on site				✓
7. location, dimensions and nature of existing or proposed restrictive covenants, easements or street ROWs	✓	✓	✓	✓
8. existing and proposed driveway accesses	✓	✓		✓
9. parking stalls and aisles, service roads and connections to City streets				✓
10. centre line of existing and proposed streets, including the beginning, end, point of intersection, and radius of any curve		✓		✓
11. beginning, end, point of intersection and radius of any street ROW curve			✓	
12. street names in accordance with the City's "street naming policy" as set out in The City of Summerside Development Standards -Schedule >B				
13. existing and proposed sidewalks and walkways				
14. contours at 2 m or smaller intervals, and grading elevations, all at sufficient detail for the site and development				
15. existing and proposed water and sewer laterals, and connections to City systems				
16. existing and proposed water, sanitary		✓		✓

Information Required	Subdivision Plan		Legal Plan	Site Plan
	Minor	Major		
sewer, storm drainage, and electric systems, and connections to City systems				
17. perimeters of any watercourse, area subject to flooding, environmentally sensitive area, or other natural feature which might affect the provision of streets and services or use of the property		✓	✓	✓
18. location, dimensions and area of any parkland dedication		✓	✓	✓
19. landscaping, signage, fencing and screening				✓
20. any other pertinent information required by the Development Officer.	✓	✓	✓	✓

**Section 7 MINOR SUBDIVISIONS****7.1 General**

- a. A “minor subdivision” is a subdivision which is less than an acre and requires no municipal servicing other than lateral connections and is not subject to a parkland assessment.
- b. The Development Officer may grant preliminary, and then final approval for a minor subdivision.

**7.2 Application and Review**

- a. Application for a minor subdivision must be made in accordance with section 3.2 (b), and include five (5) copies of a minor subdivision plan in accordance with section 6.
- b. The Development Officer will review the subdivision plan together with any other necessary municipal authorities, and will forward any requirements for revisions to the applicant. The applicant shall revise the plan accordingly.

**7.3 Preliminary Subdivision Approval**

- a. The Development Officer shall grant preliminary approval for a minor subdivision if it accords with all standards under this Bylaw and any other applicable bylaws.
- b. If preliminary subdivision approval lapses under any provision of section 7.4 below, the Development Officer may renew approval on a one-time basis, if there is no significant change in circumstances compared to when approval was originally granted and subject to receipt of fees under *The City of Summerside Development Standards - Schedule “A.”*

**7.4 Final Subdivision Approval**

- a. If no installation of water or sewer laterals are required:

The Development Officer shall grant final approval for a minor subdivision upon receipt of a satisfactory legal plan within 12 months of the date of preliminary approval, or otherwise preliminary approval will lapse.
- b. If installation of water or sewer laterals are required:

The Development Officer shall grant final subdivision approval for a minor subdivision upon receipt of a satisfactory legal plan and proof that laterals are satisfactorily installed within 12 months of the date of preliminary approval, or otherwise preliminary approval will lapse.

- c. If immediate conveyancing of properties is required as well as installation of water or sewer laterals:

The Development Officer shall grant final approval for a minor subdivision, subject to:

- i. receipt of a satisfactory legal plan;
- the applicant signs a letter of agreement with the City undertaking to install the laterals within 12 months of the date of preliminary approval; and
  - in accordance with the letter of agreement, the applicant provides a security deposit sufficient to complete the work based on a contractor's estimate approved by the City, and which will be drawn upon by the City to have the work completed in case of default by the applicant.

### **7.5 Notification of Approval**

The Development Officer shall notify preliminary and final subdivision approval in accordance with Section 3.8.

**Section 8 MAJOR SUBDIVISIONS****8.1 General**

- a. A “major subdivision” is a subdivision which requires municipal servicing over and above lateral connections, and/or is subject to a parkland assessment.
- b. Council may grant preliminary approval for a major subdivision, after which the Development Officer may grant final approval.

**8.2 Draft Review**

An applicant may request the City to undertake a draft review of their proposed major subdivision to determine the feasibility of proceeding with an application, or to prepare an application.

**8.3 Subdivision Application**

Application for a major subdivision must be made in accordance with section 3.2 (b), and include five (5) copies of a major subdivision plan in accordance with section 6.

**8.4 Subdivision Review**

- a. The Development Officer will review the major subdivision plan, together with the Municipal Engineer, affected electric utility and any interested Provincial agency, and will forward any requirements for revisions to the applicant. The applicant shall revise the plan accordingly. In areas not serviced by the Summerside Electric Utility, the developer will be required to submit plans directly to that utility.
- b. The Development Officer may require the applicant to present their proposed subdivision to a public information session for the sole purpose of inviting neighbours’ comments on how it may impact on any future subdivision of their lands, and so that Council has full information for reviewing the plan under section 3.6 (f). At least 7 working days prior to the meeting, the Development Officer will send written notification to all assessed property owners within 60 metres of the proposed subdivision.

**8.5 Preliminary Subdivision Approval**

- a. The Development Officer will submit the major subdivision plan with any required revisions for recommendation by Planning Board, and then for consideration by Council for preliminary approval.
- b. Council may grant preliminary subdivision approval subject to the applicant signing a

construction agreement or letter of agreement, and/or development agreement with the City.

- c. The Development Officer will notify the applicant of preliminary subdivision approval in accordance with section 3.8.
- d. Preliminary subdivision approval will be valid for a period of 12 months from the date of approval, after which it shall lapse if work has not commenced.
- e. Council may renew a lapsed preliminary approval for a major subdivision on a one-time basis, if there is no significant change in circumstances compared to when approval was originally granted and subject to payment of fees under *The City of Summerside Development Standards - Schedule "A."*
- f. The Development Officer may allow minor revisions to an approved subdivision plan, provided that there is no additional cost to the City or reduction of any parkland dedication. Any other revisions must be re-submitted for Council approval.

### **8.6 Construction Agreement Process**

- a. Preparatory to signing a construction agreement with the City, the applicant shall submit the following information to the Municipal Engineer's satisfaction:
  - i. approved preliminary subdivision (or site) plan;
  - ii. description of work;
  - iii. engineering drawings and specifications prepared by a consultant;
  - iv. project cost estimate; and
  - v. project time line.
- b. No construction shall commence until the Municipal Engineer grants *authorization to start construction* after satisfactory receipt of the following in accordance with a signed construction agreement:
  - i. letters from the contractor and consultant accepting their responsibilities under the agreement;
  - ii. a security deposit in the amount of 10% of the estimated project cost to be
  - iii. held by the City for correcting any construction deficiencies;
  - iv. proof of insurance; and
  - v. all necessary federal and provincial approvals.
- c. The Municipal Engineer shall grant *provisional construction acceptance* upon satisfactory completion of all construction work and receipt of the following in accordance with a signed construction agreement:

- i. a letter from the Consultant advising that the work is satisfactorily completed; and
  - ii. as-built drawings, test results and other required documentation for completed construction work.
- d. The Municipal Engineer shall grant *final construction acceptance* at the end of a 1-year maintenance period and upon satisfactory correction of any deficiencies identified by the Municipal Engineer. The City will return the applicant's 10% security deposit less any amount paid by the City to correct deficiencies in accordance with a signed construction agreement.

### **8.7 Final Subdivision Approval**

- a. The Development Officer shall grant final subdivision approval for a major subdivision after the following is in place, as applicable:
  - i. *provisional construction acceptance* in accordance with any signed construction agreement;
  - ii. discharge of the terms and conditions of any letter of agreement or development agreement to the City's satisfaction;
  - iii. satisfactory receipt of a legal plan;
  - iv. deeding of any parkland dedications and/or receipt of any monetary park contributions that are a requirement of final subdivision approval; and
  - v. deeding of any required street ROW's or easements.
- b. The Development Officer will notify the applicant of final subdivision approval in accordance with Section 3.8.

### **8.8 Deferment of Subdivision Responsibilities**

- a. With Council's concurrence, the Development Officer may grant final approval for a subdivision application while deferring all, or some of an applicant's responsibilities for street ROW's, parklands, streets or municipal services until they are needed, or the City's exact requirements can be determined. Examples of such applications are as follows:
  - i. a large property is being subdivided which will be re-subdivided in the future;
  - ii. City requirements will be finalized through subsequent consideration of site plan approval for a major development;
  - iii. a property is being subdivided into final lots for purposes of conveying ownership but not for any other immediate development; or
  - iv. street and municipal services are not yet required for a stub road under section 4.5(b).



- b. The conditions of deferring subdivision responsibilities are:
  - i. the applicant fulfills any immediate subdivision requirements of the City which are not being deferred;
  - ii. as required by Council, the applicant signs a development agreement with the City to meet their deferred subdivision responsibilities;
  - iii. no buildings or uses are permitted on any lot without proper street access or services, as required under this Bylaw or the Zoning Bylaw; and
  - iv. no large lots are developed in such a way as to obstruct potential re-subdivision.

### **8.9 Early Building Starts in Residential Subdivisions**

The same applicant who has been granted preliminary approval for a residential subdivision may construct buildings and internal site services at the same time as installing streets and municipal services, subject to signing an appendix to a construction agreement with the City dealing with the following matters:

- i. each building is constructed in compliance with an approved grading plan, approved design elevations of roads and services, and a building permit approved under the Building Bylaw;
- ii. the applicant is fully responsible for correcting any deficiencies arising from the respective design or construction of buildings, streets and services;
- iii. in addition to a 10% security deposit under section 8.6 (b) ii., the applicant provides a construction deposit to the City for 90% of the value of all work identified in the construction agreement, to be drawn upon by the City in the event they have to complete construction. The City will return to the applicant a percentage equivalent to the percentage of the work that was completed less any amount paid by the City to complete work; and
- iv. in accordance with this Bylaw, no transfer of ownership of any lot shall occur without final subdivision approval.

**Section 9 MAJOR DEVELOPMENTS****9.1 General**

- a. A “major development” is any development of a new or expanded building, building renovation resulting in a substantial change of use, or a substantial change in site use associated with the following types of buildings:
  - i. all commercial buildings; or
  - ii. buildings or group of related buildings for any other use with a total floor area exceeding 600 m<sup>2</sup>, but excluding ‘general agricultural uses’ as defined under the Zoning Bylaw.
- b. Subject to prior Council approval for any commitment of public funds, the Development Officer may grant preliminary site plan approval for a major development and then may issue final site plan approval.
- c. Preliminary site plan approval must:
  - i. be preceded by preliminary approval for any subdivision which is part of a major development; and
  - ii. precede building permit approval under the Building Bylaw for any new building work which is part of a major development.
- d. Final site plan approval must precede issue of an occupancy permit under the Building Bylaw for any new building work which is part of a major development.

**9.2 Draft Review**

An applicant may request the City to undertake a draft review of their proposed major development to determine the feasibility of proceeding with an application, or to prepare an application.

**9.3 Application and Review**

- a. Application for a major development must be made in accordance with section 3.2 (b), and include five (5) copies of a site plan in accordance with section 6.
- b. The Development Officer will review the site plan together with the Municipal Engineer, affected electric utility and any interested Provincial agency, and will forward any requirements for revisions to the applicant. The applicant shall revise the plan accordingly.

#### **9.4 Preliminary Site Plan Approval**

- a. The Development Officer may grant preliminary approval subject to the applicant signing a construction agreement or a letter of agreement with the City, and/or at Council's requirement, a development agreement with the City.
- b. The Development Officer will notify preliminary site plan approval by signing and dating all plans and providing written notice to the applicant.
- c. The Development Officer may allow minor revisions to an approved site plan, subject to Council approval of any changes to the commitment of public funds.
- d. Preliminary approval for a site plan will lapse if substantial construction work has not commenced within 12 months from the date of its approval.
- e. The Development Officer may renew a lapsed preliminary approval for a site plan on a one-time basis, if there is no significant change in circumstances compared to when approval was originally granted and subject to receipt of fees under *The City of Summerside Development Standards - Schedule "A."*

#### **9.5 Construction Approval Process**

- a. An applicant who has received preliminary site plan approval and is required by the City to install any street or municipal service must sign a construction agreement or a letter of agreement with the City for such work, in accordance with section 3.8.
- b. The construction approval process described in section 8.6 will apply for all major developments subject to a construction agreement.
- c. An applicant who has received preliminary site plan approval may construct buildings and internal site services at the same time, and may also install any required streets and municipal services at the same time.

#### **9.6 Final Site Plan Approval**

- a. The Development Officer shall grant final site plan approval for a major development after the following are in place, as applicable:
  - i. granting of *provisional construction acceptance* in accordance with any signed construction agreement;
  - ii. discharge of all applicable terms and conditions of any letter of agreement or development agreement to the City's satisfaction; and
  - iii. receipt of completion reports confirming to the City's satisfaction that all internal site services have been completed in substantial accordance with the approved preliminary site plan.

- b. The Development Officer shall notify final site plan approval by providing written notice to the applicant.

**Section 10 IMPLEMENTATION****10.1 Compliance**

- a. No development shall be undertaken, no plan shall be approved, and no agreement shall be signed except in conformity with this Bylaw.
- b. No changes shall be made to any plan approved under this Bylaw, or to any agreement signed under this Bylaw without City approval.
- c. No person shall subdivide any parcel of land without final subdivision approval from the City in accordance with the requirements of this Bylaw.
- d. No lot registered at the Registry of Deeds will be recognized by the City if it did not receive final subdivision approval pursuant to this Bylaw, or lawfully existed prior to the effective date of this Bylaw.
- e. No person shall sell, convey interest in, or transfer title to a lot, or undertake development on a lot that is not recognized by the City.
- f. No work on streets, municipal services, or internal site services shall be undertaken except in accordance with all applicable plans, agreements, and standards under this Bylaw.
- g. No installation of streets or services approved under this Bylaw shall be subsequently altered or improperly maintained by an applicant or property owner in such a way as to depreciate its utility for its intended purpose.

**10.2 Enforcement**

- a. If a subdivision or major development does not comply with the requirements of this Bylaw, the Development Officer or Municipal Engineer shall issue a written notice to the applicant to:
  - i. stop work in whole or in part within a specified time period as directed by the notice; and/or
  - ii. undertake corrective work within a specified time period as directed by the notice.

**10.3 Offences**

- a. Any person who violates any provision of this Bylaw or who fails to perform any act required hereunder, or does any prohibited act, shall be guilty of an offence and liable on summary conviction to a fine not exceeding \$1000. Each day the offence

continues shall constitute a separate offence.

- b. Any violation of this Bylaw is hereby declared to be a public nuisance.

#### **10.4 Authority to Enter Land**

The Development Officer or Municipal Engineer may enter upon land at any time to inspect property or construction under the scope of this Bylaw.

#### **10.5 Repairs to Public Property**

Any applicant who damages public property or works during any construction is responsible for their full costs of repair or for full restitution of damages if repairs are impossible.

#### **10.6 Appeals**

- a. Any applicant who is dissatisfied with a decision of City staff under this Bylaw may apply to Council for a review within 21 days of said decision.
- b. Any person who is dissatisfied with a decision of Council or City staff under this Bylaw may appeal to the Island Regulatory and Appeals Commission within 21 days of said decision, in accordance with the Planning Act.
- c. The City is not liable for any damage suffered by any person resulting from development undertaken during a review or appeal period, or while a decision is under review or appeal.



# **DEVELOPMENT STANDARDS**

**Schedule A Permit Fees and Monetary Park Contributions**



**Section 1 Permit Fees**

Pursuant to section 3.2 (b) iv of the Summerside Subdivision and Site Development Bylaw, the permit fees for subdivision or major development applications effective August 20, 2001 are as follows:

<b>Application</b>	<b>Fee</b>
Minor Subdivision	\$25
Major Subdivision	\$300
Major Development	\$300
Renewal for Preliminary Subdivision Approval or Site Plan Approval	\$25

**Section 2 Monetary Park Contributions**

Pursuant to Section 5.2 of the Subdivision and Site Development Bylaw, the monetary park contributions effective August 20, 2001 are as follows:

- \$1,750 per acre of all land designated for low density residential in the Official Plan.
- \$2,625 per acre of all land designated for medium density residential in the Official Plan.
- \$3,500 per acre of all land designated for high density residential in the Official Plan.

**Schedule B Street Naming Policy**

**Section 3 Street Name List**

Council shall, by simple resolution, approve as Appendix A to this policy a street name list which is based on:

- The recommendation of the Street Naming Committee.
- The conformance of the proposed names with this policy.
- Any other considerations that Council considers relevant.

**Section 4 Street Naming**

The names for new public or private streets or streets that are being re-named in the city shall be selected from the approved street name list.

- a. Any person who wishes to use a name that is not on the approved street name list shall make application to Council therefore and Council shall approve or deny the application by simple resolution based on:
  - i. The recommendation of the Street Naming Committee.
  - ii. The conformance of the proposed name with this policy.
  - iii. Any other considerations that Council considers relevant.

**Section 5 Street Naming Committee**

A Street Naming Committee is hereby established to review and recommend street names in accordance with this policy and the committee shall have the following representation:

- a. Director of Police Services (or designate).
- b. Director of Fire Services (or designate).
- c. Development Officer.

### 5.1 Street Naming Guidelines

All names for new public or private streets or streets that are being re-named in the city shall conform to the following guidelines:

- a. Street names shall be selected so as to avoid street name duplication on a city wide basis and with abutting municipalities. Duplication is defined as:
  1. Streets having the same name;
  2. Streets having the same parent name and different suffixes and are not located in the same geographical area or physically connected;
  3. Street names are homonyms
- b. Generally, a street name which is continual shall have one name only throughout its entire length. However, if a street name change is inevitable the change must occur at an intersection and must not occur in mid block.
- c. Street suffix is the street configuration designation and is as follows:
  - i. Any road which runs east-west shall be designated as an **Avenue**.
  - ii. Any road which runs north-south shall be designated as a **Street**.
  - iii. Any road which runs north-south and changes direction to east-west or vice versa shall be designated as a **Drive**.
  - iv. Any road which is a cul-de-sac shall be designated as a **Court**.
- d. The names shall be derived based on themes relevant to Summerside's history or other relevant themes as Council may determine.

### 5.2 Official Street Index

The development officer shall create and maintain an Official Street Index which will be made available to other Departments and outside agencies as a formal publication and/or in computer digital format.

- a. The Official Street Index shall consist of existing public and private street names in the city.
- b. The development officer shall regularly exchange up-to-date street indices with abutting municipalities and encourage street name continuity and discourage street name duplication with abutting municipalities.
- c. The development officer shall document street name history with regards to renaming and street name origins.

**Appendix A - Street Name List (Council approved Aug 19, 2019)**

<b>Family Names of those from Summerside who lost their lives serving our Country</b>			<b>Traditional Industries</b>	
	Connors		<b>Agriculture</b>	
	Crossman			Brown
	Mann			Lea
	Richards			Loggie
				Pauptit
				Yeo
<b>Former Mayors/Chairpersons and Councilors</b>			<b>Fox Farming</b>	
	Key			International
	Miles			Muirhead
	Mollins			Tuplin
<b>Heritage Names</b>			<b>Hotels</b>	
<b>Culture</b>				Clifton
	Colony			Empress
	Loyalist			Strathcona
	Merchant			Terrace
<b>Family Names</b>			<b>Mercantile</b>	
	Ellis			Brace
	Gourlie			Capitol
	Grady			Chans
	Hall			Crockett
	MacKinnon			Crue
	Dalton			Enman
<b>Sport</b>				Flicker
	Cahill			Foley
	Callbeck			Happyland
	Connors			Hewitt
	Hogan			MacKay
	Hogg			McInnis
				Meikle
<b>Landscapes/Seascapes/Marine</b>				Nicholson
	Seaview			Olympia
	Sunrise			Plaza
				Ponys
<b>Outstanding Citizen, Good Neighbour and Volunteers</b>				Sears
	Simmons			Smallman
				Starlite
				Tessies
				Victory
				Whitestar
			<b>Ship Building</b>	
				Cargo
				Elliot
				Jennie
				Schooner
				Shipwright
				Stanley
				Venture
				Walsh
				Wellington

## **Schedule 'C' Construction Agreement**

**CONSTRUCTION AGREEMENT**

THIS AGREEMENT made in duplicate this \_\_\_\_ day of \_\_\_\_\_ , \_\_\_\_

BETWEEN: City of Summerside

(Hereinafter referred to as the 'City')

OF THE FIRST PART

AND:

(Hereinafter referred to as the 'Developer')

OF THE SECOND PART

FOR THE PROJECT ENTITLED: \_\_\_\_\_

**WHEREAS** the Developer is desirous of [subdividing land] in the City of Summerside, in the County of Prince, Prince Edward Island and claims to be the beneficial owner of the lands indicated in Appendix 'A' hereinafter referred to as the 'Property plan'.

**NOW THEREFORE** the parties to this Agreement covenant and agree as follows:

**Appendices and Annexures**

The Appendices hereto annexed, and all plans, sketches or other annexures referenced and initialled and attached hereto, shall be incorporated into and made part of this agreement to the same extent, effect and as fully as if each of them was set out and specifically repeated herein.

The Appendices forming part of this agreement are as follows:

- Appendix 'A' - Property Plan
- Appendix 'B' - Description of Work
- Appendix 'C' - Engineering Drawings and Specifications
- Appendix 'D' - Detailed Estimate of Value of Work
- Appendix 'E' - Schedule for Completing Work

**Property Plan**

The attached Appendix 'A' shall be a Property plan for [the overall subdivision] which has been granted [*Preliminary Subdivision Approval*] and may only be substantively changed through re-application for [*Preliminary Subdivision Approval*.]

### **Description of Work**

The attached Appendix 'B' describes 'the work' that will be undertaken respectively at the cost of the Developer and/or the City.

### **Engineering Drawings and Specifications**

The attached Appendix 'C' describes the design and specifications for completing all water and sewer servicing, storm drainage, streets and other work, which may only be substantially changed upon mutual agreement of the Developer and the City.

### **Detailed Estimate of Value of Work**

The attached Appendix 'D' shows the Developer's best, detailed cost estimate for all the work that will be undertaken, including engineering costs. In the event of any significant change to their estimate, the Developer shall immediately notify the City.

### **Schedule for Completing Work**

The attached Appendix 'E' shows the Developer's best estimate of the dates when construction will commence, and when Construction will be completed. The dates may only be substantially changed upon mutual agreement of the Developer and the City.

### **Arrangements for Developer's Contractor and Consultant**

- a. Prior to signing of this Agreement, the Developer will notify the City of the name of their consultant, herein referred to as the 'Consultant'.
- b. Prior to issuance of *Authorization to Start Construction*, the Developer will notify the City of the name of their contractor, herein referred to as the 'Contractor'.
- c. Prior to issuance of *Authorization to Start Construction*, the Developer will furnish their Contractor and Consultant with a copy of this agreement and, as a condition of signing of this Agreement, will ensure that the Contractor and Consultant each provide a letter to the City indicating acceptance of the conditions therein as they relate to their responsibilities.

### **Authorization to Start Construction**

The Developer shall not commence construction until all pre-construction requirements under this Agreement have been satisfied and the City has issued *Authorization to Start Construction*. The City will not issue *Authorization to Start Construction* until it is satisfied that all submissions are in accordance with the *City of Summerside Development Standards*.

### **Security for Work**

- a. As partial guarantee of proper performance of the work listed in Appendix 'B' of this Agreement, the Developer shall provide the following securities as appropriate and



the City will return all or portions of these securities as appropriate:

**Security Deposit:**

- i. Prior to issuance of Authorization to Start Construction, the Developer will furnish a certified cheque, or letter of credit with automatic renewal, or other negotiable security acceptable to the City as a Security Deposit, equal to 10% of the total estimated value of the work including engineering;
  - ii. Upon issuance of Provisional Construction Acceptance the 10% security deposit will be considered a maintenance deposit and will be held by the City for a one year maintenance period after issuance of Provisional Construction Acceptance. The maintenance deposit will be returned by the City after issuance of Final Construction Acceptance, less any amount paid by the City in accordance with Section 9.c.;
  - iii. At the sole option of the City, the security deposit amount may be increased or decreased upon issuance of Provisional Construction Acceptance based on the actual construction cost.
- b. Where it deems it necessary to do so, the City may cash the certified cheque, make demand for the monies which are the subject of the letter of credit, or negotiate the security as the case may be.
- c. If the Developer fails or refuses to:
- fully and properly complete the work in accordance with Appendix 'E',
  - pay for the work within 30 days after the completion date, or
  - make corrections in accordance with Sections 15, 16, 17 or 18.
- then following 7 days notice to the Developer the City may cause the work or corrections to be done or payment to be made and the cost of such work or payment shall be paid out of the security deposit or construction deposit, and shall be at the expense of the Developer.

**Insurance**

- a. Proof of insurance with certified copies of the required insurance described below, must be presented to the City prior to *Authorization to Start Construction* and shall be subject to the City's approval for adequacy of protection, but such approval shall in no way relieve the Developer's Contractor of its obligations to provide the insurance referred to in the contract, or imply that the policies are in accord with the terms of the Agreement.
- b. The Contractor shall, without limiting its obligations or liabilities herein and at its own expense, provide and maintain the following insurance policies in forms and amounts acceptable to the City:

- i Comprehensive General Liability Policy

The Policy shall specify an amount not less than \$3,000,000 inclusive per occurrence against bodily injury and property damage, and add the City of Summerside as an insured under the policy. The policy shall include, but not be limited to:

1. Products and Completed Operations Liability;
2. Owner's and Contractor's Protective Liability;
3. Blanket Written Contractual Liability;
4. Contingent Employer's Liability;
5. Personal Injury Liability;
6. Non-owned Automobile Liability;
7. Cross Liability;
8. Employees as Additional Insureds;
9. Broad Form Property Damage; and
10. Operation of Attached Machinery.

- ii Contractor's Automobile Liability Policy:

The Policy shall include automobile liability on all vehicles owned, leased, operated, or licensed in the name of the Contractor in an amount not less than \$1,000,000 per occurrence.
- c. All the foregoing insurance shall be primary and not require the sharing of any loss by any insurer of the City and shall preclude subrogation by the insurer against the City of Summerside.
- d. The following conditions shall apply to all insurance by the Contractor under this agreement:
  - i All required insurance shall be endorsed to provide the City 60 days advance written notice of cancellation or material change.
  - ii All insurances shall be in effect until issuance of *Final Construction Acceptance*.
  - iii The Contractor hereby waives all rights of recourse against the City with regard to damage to the Contractor's property.
  - iv The Contractor shall require and ensure that each subcontractor maintain liability insurances comparable to their own requirements under this Agreement.

### **Survey Plans and Deeds**

- a. Prior to Provisional Construction Acceptance, the Developer shall submit to the City:
  - i Unregistered signed deeds of conveyance (original and one copy), acceptable to the City, conveying required street or other rights-of-way, parkland dedications and other necessary properties to the City of Summerside.

- ii Unregistered signed easement agreements (original and one copy), acceptable to the City, providing required easement(s) to the City of Summerside.

### **Federal and Provincial Approval Requirements**

Prior to *Authorization to Start Construction*, the Developer must identify all applicable federal and provincial approval requirements and provide a copy of each received to the City. Approvals that may be required include, but are not limited to the following:

- a. From P.E.I. Department of Environment, Energy and Forestry:
  - i Project Certificate of Approval;
  - ii Watercourse Alteration Permit;
  - iii Environmental Impact Assessment Approval.
- b. From P.E.I. Department of Transportation and Public Works:
  - i Highway Access Permit

### **Performance of the Work**

- a. The Developer will perform, provide, and install upon the lands mentioned and shown on Appendix 'A' and associated lands, the work as listed in Appendix 'B' according to the engineering drawings and specifications as shown in Appendix 'C', and under the direction of the Consultant, who shall ensure that the work complies with the Appendices.
- b. During construction all underground services must be installed and all testing completed, except for water quality testing, prior to the placing of sandstone and gravel for the street.

### **Engineering Supervision**

- a. The Developer will ensure necessary supervision is provided by the Consultant when construction is in progress. Supervision shall be at a level sufficient for the Consultant to verify all work is conducted in accordance with the plans and specifications and to carry out the following:
  - i. Inspection
    - 1. All pipes and fittings shall be inspected in place prior to backfill;
    - 2. Verification will be made that all material meets specifications and that work is completed using consistent methods;
    - 3. Obtain invert elevations for all sanitary and storm (if applicable) laterals at the property line.
  - ii. Testing
    - Soil and geotechnical testing shall be performed on the site if determined necessary by the Consultant or the City;
    - Streets, sidewalks and curbs shall be tested in accordance with the

*City of Summerside Development Standards;*

All water, sanitary sewer and storm drainage systems shall be tested in accordance with the *City of Summerside Development Standards;*

iii. Reports

1. A daily log shall be maintained indicating work completed by the Contractor, and tests and inspections conducted;
  2. At completion of Construction, a letter from the consultant stating that the work has been completed in accordance with this agreement;
  3. Reports shall be prepared on all test results.
- b. The Developer shall bear the cost of all inspections and testing required by the City in order to determine the acceptability of the work. Results of all tests shall be forwarded to the City as the tests are conducted and reports prepared.

### **Inspection**

The City may from time to time inspect the work being performed and in the event that the work is deficient or unacceptable, or is not being performed or constructed satisfactorily, the City will have the authority to stop the work and the Developer shall cause immediate corrective action to be taken.

### **Provisional Construction Acceptance**

- a. When all construction work has been completed, the Developer shall advise the City in writing that the work is complete and an inspection is to be carried out with the Developer, Contractor, Consultant, and appropriate City staff to determine the acceptability of the work.
- b. The following information must be submitted before *Provisional Construction Acceptance* will be granted:
  - i. as-built drawings;
  - ii. lot servicing information sheets;
  - iii. the consultants letter stating that the work has been completed in accordance with this agreement;
  - iv. a report containing the daily inspection logs and test results; and
  - v. operating and maintenance manuals.
- c. In the event that the work or the drawings are found to be deficient or unacceptable, the City shall provide the Developer with 'a deficiency report' identifying corrections to be made and the Developer shall make all such corrections immediately.
- d. The Consultant shall submit a document to the City verifying all work was performed in accordance with the *City of Summerside Development Standards* and the Engineering Drawings and Specifications and that the corrections to the

work have been made in accordance with the City's 'deficiency report'.

- e. The Consultant shall submit final as-built drawings and a final subdivision grading plan to the City which satisfy any requirements in the 'deficiency report', including two (2) copies on paper and two (2) copies on disk in the version of AutoCAD currently used by the City.
- f. The Consultant shall submit, where required, copies of other drawings or information that has been revised including:
  - i. operating and maintenance manuals;
  - ii. lot servicing information sheets;
  - iii. inspection and test reports; and
  - iv. other drawings and information required in the *City of Summerside Development Standards*
- g. When all deficiencies identified by the inspection have been satisfactorily corrected and other provisions of this section and the *City of Summerside Development Standards* are met the City shall declare the work acceptable and shall issue *Provisional Construction Acceptance*.
- h. *Provisional Construction Acceptance* may be issued subject to deficiencies if such deficiencies cannot reasonably be corrected due to weather conditions. The seal coat of asphalt, if it is to be placed the following year, is to be considered a deficiency. The Developer is to provide a deposit in an amount of the value of the deficiencies, in addition to the regular maintenance deposit, prior to receiving *Provisional Construction Acceptance*.

### **Maintenance Period**

- a. The 'Maintenance Period' shall commence on the first day of construction and remain in effect until the issuance of *Final Construction Acceptance*. During the Maintenance Period, the Developer, at his/her own cost, shall maintain and uphold the work in a condition satisfactory to the City and shall remedy any omissions or defects discovered or appearing in the work during such time.
- b. The Developer must complete remedial work of a non-emergency nature within one (1) week after receipt of instructions in writing from the City to do so.
- c. The Developer must complete remedial work of an urgent or emergency nature immediately upon receipt of either verbal or written notification from the City. Failure to do so, due to lack of equipment, material, labour, or reasons whatsoever, will result in the City causing the work to be done at the expense of the Developer.

**Final Construction Acceptance**

- a. Eleven (11) months after the date of issuance of *Provisional Construction Acceptance*, the Developer shall advise the City in writing that the work is ready for final inspection. The Developer shall make arrangements for the final inspection to be carried out with the Developer, Consultant, Contractor, and appropriate City staff.
- b. In the event that the work is found to be deficient or unacceptable, the City shall provide the Developer with a deficiency report identifying corrections to be made and the Developer shall make all such corrections immediately.
- c. Upon satisfactory completion of all requirements of this agreement, including receipt of all necessary declarations, forms, correspondence, etc., the City shall issue *Final Construction Acceptance*.
- d. The City shall take over and maintain all works constructed under this agreement on the date stated on *Final Construction Acceptance*.

**Statutory Lien**

Nothing in this agreement is intended to affect any statutory lien which the City may have against the land of the owner by virtue of any law giving to the City the right of a lien against any property of the owner arising out of the installation and performance of the work.

**Assignment of Agreement**

No assignment of this Agreement in whole or in part, or any of the rights and duties of the Developer shall be made or will be valid unless the written consent of the City is first obtained.

**Amendment**

If at any time during the continuance of this Agreement the parties shall deem it necessary or expedient to make any alteration or addition to this Agreement they may do so by means of a written agreement between them which shall be supplemental and form part of this Agreement.

**Binding Agreement**

This agreement shall ensure to the benefit of and be binding upon the parties, their heirs, executors, successors and assigns respectively.

In witness whereof the parties have hereunto affixed their respective seals, attested to by the hands of their respective proper officers in that behalf duly authorized.

SIGNED, SEALED AND DELIVERED

City of Summerside

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Chief Administrative Officer

(Developer)

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Per:

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Per:

**Appendix 'A' Property Plan**

This is Appendix 'A' forming part of the Construction Agreement dated \_\_\_\_\_  
between the City of Summerside and \_\_\_\_\_

Project Name: \_\_\_\_\_

Drawing Title: \_\_\_\_\_

Drawing Number: \_\_\_\_\_

Survey Company: \_\_\_\_\_

Surveyor: \_\_\_\_\_, P.E.I.L.S.

Date: \_\_\_\_\_

Revision: \_\_\_\_\_

\_\_\_\_\_



**Appendix 'B' Description of Work**

This is Appendix 'B' forming part of the Construction Agreement dated \_\_\_\_\_ made between the City of Summerside and \_\_\_\_\_.

The Consultant for this project is \_\_\_\_\_

The following services shall constitute 'the work' to be performed and provided at the expense of the Developer and at the expense of the City, as hereinbefore described under this Subdivision Construction Agreement:

Location \_\_\_\_\_ As shown on Appendix 'A'  
[Creating \_\_\_\_\_ building lots]

- Work: \_\_\_\_\_ To be performed at the expense of the Developer:
- Clear and Grub and strip topsoil on entire street ROW;
  - Install and test sanitary sewers and lot service laterals;
  - Install and test water mains and lot service laterals;
  - Install and test storm drainage system;
  - Construct street base of 150 mm of Class 'B' aggregate over 300 mm of sandstone;
  - Construct 8.5 meter wide finished street surface - asphalt concrete pavement (base 75 mm-seal 40 mm);
  - Construct concrete curb;
  - Landscape street right-of-way.

To be performed at the expense of the City:

1. Over sizing of water and sewer if required;
2. Upgrade of local street to Collector standard.

All designs, materials, work, equipment methods, etc. must be in strict compliance with the *City of Summerside Development Standards* and receive prior approval in writing from the City and all other authorities, agencies, departments, etc. that are in any way affected by or have jurisdiction over the "the work".

The total estimated cost, including engineering, of the work: \$ \_\_\_\_\_

City Contribution: \$ \_\_\_\_\_  
 Developer Contribution \$ \_\_\_\_\_

**Appendix 'C' Engineering Drawings and Specifications**

This is Appendix 'C' forming part of the Construction Agreement dated \_\_\_\_\_  
between the City of Summerside and \_\_\_\_\_.

Company Name: \_\_\_\_\_

Project Title: \_\_\_\_\_

Project Number: \_\_\_\_\_

Specification Title: \_\_\_\_\_

Specification Date: \_\_\_\_\_

Drawings:

Drawing Title	Drawing Number	Last Revised	Stamped by	Date Stamped

**Appendix 'D' Detailed Estimate of Value of Work**

This is Appendix 'D' forming part of the Construction Agreement dated \_\_\_\_\_  
between the City of Summerside and \_\_\_\_\_ .

Estimate Provided by: \_\_\_\_\_

Date: \_\_\_\_\_

Estimate Details:

**Appendix 'E' Schedule for Completing Work**

This is Appendix 'E' forming part of the Construction Agreement dated \_\_\_\_\_  
between the City of Summerside and \_\_\_\_\_ .

Schedule Provided by: \_\_\_\_\_

Date Provided: \_\_\_\_\_  
Schedule

Commence Work: \_\_\_\_\_

Completion of Construction: \_\_\_\_\_

Schedule Details:

**Schedule 'D'**  
**Development Standards**

**Section 1 INTRODUCTION****1.1 General**

The servicing standards and guidelines presented herein have been prepared for use as a guideline of minimum standards to be met in the design and construction of Municipal Services Systems within the City of Summerside; to list and suggest limiting values for items upon which an evaluation of such designs will be made by the reviewing authority; and to establish, as far as practicable, uniformity of practice in the City. A complete documentation of all parameters relating to the design and construction of municipal services is beyond the scope of this manual, however, an attempt has been made to touch upon the parameters of greatest importance and to present the policies and accepted procedures of the City.

Municipal services systems shall include sanitary sewerage systems, water systems, storm drainage systems, streets, walkways and sidewalks which are owned, operated, and maintained by the City.

The purpose of this document is to provide guidance for Consultants in the provision of municipal service systems offering acceptable service which is consistent with the lowest possible installation, operation, and maintenance costs. The design of municipal services, when submitted to the City, must be over the seal of a Professional Engineer in accordance with the Engineering Profession Act.

This document is not intended to eliminate the necessity for detailed design; rather it is intended to standardize the materials, design standards, and method of construction to be utilized in the installation of municipal services. Further, it is not the intention of the City to stifle innovation. Where, in the judgement of the Consultant, variations from this document are justified or required and where the Consultant can show that alternate approaches can produce the desired results, such approaches will be considered for approval. In considering requests for variations from these design standards, the Municipal Engineer shall take into consideration such factors as safety, nuisance, system maintenance, operational costs, life cycle costs, environmental issues, natural topography, configuration of the bulk land, etc. Designs will be accompanied by statements of certification by the Consultant to the effect that designs have been completed in accordance with these standards. Where the Consultant uses standards other than those outlined in this document, he/she shall clearly indicate in all appropriate documents and plans those areas of difference. The acceptance by the City of the design of proposed municipal services systems shall not relieve the Consultant of the responsibility of proper design, he/she retains full responsibility, and liabilities for his/her work as a Professional Engineer.

In any case where these standards require expansion or clarification, the latest revisions

of the following documents may be used for reference:

- i 'Standard Specification for Municipal Services' prepared by the Nova Scotia Road Builders Association and the Nova Scotia Consulting Municipal Engineers Association;
- ii American Water Works Association Standards;
- iii 'Atlantic Canada Standards and Guidelines Manual for the Collection, Treatment, and Disposal of Sanitary Sewage' prepared by the four Environment Departments;
- iv 'General Provisions and Contract Specifications for Highway Construction' prepared by the Department of Transportation and Public Works;
- v 'Geometric Design Guide for Canadian Roads' prepared by the Transportation Association of Canada;
- vi 'Urban Supplement to the Geometric Design Guide for Canadian Roads' prepared by the Transportation Association of Canada.
  
- vii Atlantic Canada Guidelines for the Supply, Treatment, Storage, Distribution, and Operation of Drinking Water Supply Systems.
  
- viii Manual of Uniform Traffic Control Devices for Canada (latest edition).

All contract documents prepared for municipal service system works in the City shall contain a clause requiring the contractor to carry out all work in compliance with all applicable municipal, provincial, and federal regulations including, but not limited to, the Occupational Health and Safety Act for the Province of Prince Edward Island.

In addition to these standards and guidelines all work must be designed and constructed in accordance with all provincial and federal regulations, standards, and guidelines.

### **1.2 Review of Submissions**

All drawings, calculations and other submissions will be reviewed by the City for conformity with these standards and the City may request changes as required. Acceptance by the City does not eliminate the Consultant's or the Developer's responsibilities with regards to compliance with these standards.

### **1.3 Revisions to Development Standards**

These standards are subject to change without notice and the onus lies with the Consultant to ensure that they are in possession of the latest revision.

### **1.4 Standard Specifications**

City of Summerside Standard Specifications For Municipal Services may be amended from time to time by the Municipal Engineer. Consultants shall use the City of Summerside Standard Specification unless permission is received in the writing from the

Municipal Engineer to use another specification for all or a portion of the work.

### **1.5 Other Utilities**

Other work including electrical and communication services shall meet those utility standards and are to be coordinated with the work herein.

## ***Section 2 SUBMISSION REQUIREMENTS***

### **2.1 General Requirements**

This section summarizes some of the information that must be submitted in order for the City to properly evaluate and approve the construction drawings and specifications. Any application for approval of the installation of municipal service systems must conform to the following submission requirements:

#### **Storm Drainage System**

1. A separate drainage plan (or may be on the same sheet as street system) indicating the total tributary area, the area tributary to each inlet, the existing and proposed storm sewerage system, including the location of ditches, swales, drainage greenways, retention ponds, pipes, manholes and catch basins, the size of pipes, and the direction of flow. Drawing to be to an appropriate scale to include the development and tributary areas on one sheet, according to the Standard Drawing section.
2. Specifications and contract documents.
3. Plan and Profile drawings including existing and proposed storm sewerage system, including the location of ditches, swales, drainage greenways, retention ponds, pipes, manholes and catch basins, the size of pipes, and the direction of flow.
4. Cross-Section and Detail drawings.
5. Design calculations including a tabulation of runoff to each inlet, design flow, additional capacity available, pipe or channel size, flow velocity (minimum and maximum), depth of flow or percent full for each pipe, and energy losses at manholes during peak flow conditions. Where a computer model has been used, the design calculations shall include a summary output which gives the main steps of the simulation and the main results (peak discharge, time to peak and volumetric runoff coefficient) at key points of the system. This information shall be provided complete with a map indicating sub-watersheds and schematization of the system for pre-development conditions, post-development conditions and all storm water management alternatives.



6. Where installation of services is to be carried out in phases, a plan shall be submitted indicating a method to deal with runoff from the later phases onto or through areas being developed earlier.
7. Subdivision Grading Plan indicating drainage patterns and finish elevations of lot corners and any other critical points within the development.

### **Street System**

1. A separate plan (or may be on the same sheet as storm system) indicating the existing and proposed street system. Drawing to be at an appropriate scale to include all surrounding streets giving a clear indication of the future traffic patterns and be on one sheet, according to the Standard Drawing section.
2. Specifications and contract documents.
3. Plan and Profile drawings showing the location, dimensions and centre line profiles of existing and proposed public streets or highways or proposed private roads.
4. Cross-Section and Detail drawings. A typical cross section shall be provided. Additional cross sections shall be provided as required by the Municipal Engineer.
5. Design calculations including horizontal and vertical curve information.

### **Water System**

1. A separate plan (or may be on the same sheet as sanitary sewer system) indicating the existing and proposed water distribution system, including the location of valves, and fire hydrants, and the size of pipes. Drawing to be to an appropriate scale to include the development and neighbouring areas on one sheet, according to the Standard Drawing section.
2. Specifications and contract documents.
3. Plan and Profile drawings indicating the existing and proposed water distribution system, including the location of valves, lot laterals, and fire hydrants, and the size of pipes.
4. Cross-Section and Detail drawings.
5. Design information including a tabulation of population density, domestic

demand, and fire flow rate requirements must be provided if requested by the City.

## **Sanitary Sewerage System**

### General Information

- A separate plan (or may be on the same sheet as water system) indicating tributary service areas, the existing and proposed sanitary sewerage system, including the location of manholes and the size of pipes and direction of flow. The drawing shall be to an appropriate scale and include the development and tributary areas on one sheet, according to the Standard Drawing section.
- Specifications and contract documents.
- Plan and Profile drawings for the existing and proposed sanitary sewerage system including the location of manholes and lot laterals and the size of pipes and direction of flow.
- Cross-Section and Detail drawings.

### Gravity Systems

The designer shall provide design calculations including a tabulation of calculations for population density, peak flow, design flow, additional capacity available, pipe size, flow velocity (minimum and maximum), and depth of flow or percent full for each pipe unless in the opinion of the Municipal Engineer, such information is not necessary.

### Pumping Station and Forcemain

- design calculations;
- minimum, average, peak flow rates and additional capacity available;
- on a plan, indicate the total drainage area of a lift station and the portion of the area the proposed system capacity will service;
- pipe size and flow velocity in forcemain;
- capacity of selected pumps with flow rates and pump curves;
- motor horsepower;
- pump cycle time;
- wet well size and capacity;
- detail of auxiliary power supply unit and building, if provided;
- detailed drawings and identification of materials to be used.

## **Erosion and Sediment Control**

Construction drawings and specifications must indicate the erosion and sedimentation control strategy for the development.

## **Construction Specifications**

Each submission shall include a copy of the construction specification which shall

include the City of Summerside Standard Specifications For Municipal Services and any supplementary specifications specific to the particular project. The City may accept an alternate specification provided it can be shown to be no less stringent than the City's specification.

## 2.2 Drawing Requirements

The complete engineering drawings and design shall be signed and stamped by a Professional Engineer. All Engineering drawings shall use PEI Double Stereographic Projection NAD 83 (CSRS) datum and NEMR (Northings and Easterlings in metric) coordinate system.. A sufficient number of drawings shall be provided so that each drawing is clear and easy to follow. If a separate plan is provided for one service, the other services shall be shown on the plan in a lighter colour (no text) to the satisfaction of the Municipal Engineer.

### Plan and Profile

1. The plan and profile drawings shall be drawn to:
  - plan - a horizontal scale of 1:500;
  - profile - a horizontal scale of 1:500, and- a vertical scale of 1:50;
  
2. The plan portion of the engineering drawings shall include for existing and proposed development:
  - the location and dimensions of all existing and proposed public streets or highways and private roads, and shall have the name of each;
  - existing and proposed lot lines;
  - the chainage at 20 metre intervals, street horizontal alignment information including but not limited to BC, EC, PI, curve radius and intersection radii;
  - the control monuments and bench marks that are within the area of the plan or those used for this subdivision;
  - the sanitary sewer system including laterals to lots and manholes, including pipe inlets and outlets, and showing the lengths, sizes and types of all pipes and the direction of flows;
  - the storm drainage system including laterals to lots (if required) swales, greenways, natural waterways, drainage structures, ditches, catch basins, manholes including pipe inlets and outlets, showing the lengths, sizes and types of all pipes and the direction of flows;
  - the water distribution system including laterals to lots, all valves, hydrants, tees, bends, and all other fittings, showing the lengths, sizes, and types of all pipes;
  - the surface drainage and any related structures;
  - any other services and appurtenances;
  - any curbs, gutters and sidewalks;
  - any other existing structures within the public street, highway or private road including telephone and power poles;

- any other information deemed necessary by the Municipal Engineer.
3. The profile portion of the engineering drawings shall include, for the existing and proposed development, the location, vertical alignment and slope of:
    - the existing and designed centre line of any public street, highway, private road or easement;
    - the complete sanitary sewerage system and storm drainage system including all appurtenances, and pipe lengths, sizes, materials;
    - the complete water distribution system including all appurtenances, and pipe lengths, sizes, and materials;
    - any other underground services and appurtenances;

### **Cross-Section and Details**

1. The cross-section and detail portions shall fully illustrate the subject matter.
2. The cross-section portion of the engineering drawings shall include any existing and proposed:
  - ground conditions;
  - public street, highway or private roads;
  - service systems.

### **Subdivision Grading Plan**

1. The subdivision grading plan shall be drawn to a scale of 1 cm = 500 cm and shall include:
  - existing contours;
  - proposed elevations at the corner of each lot and the direction of surface water flow;
  - lot lines and lot numbers;
  - driveway locations, if applicable;
  - easements;
  - proposed minimum foundation elevations;
  - centerline of street elevation at the centre of each lot;
  - street names.

### **Standard Drawing**

1. All drawings shall conform to the City of Summerside Drawing Standards (*City of Summerside Development Standards Schedule 'E'*).
2. An appropriate Title Block shall be used indicating the following:
  - subdivision name and phase;
  - owner/developer;

- consultant name;
  - project number;
  - lot numbers included in present phase;
  - drawn by;
  - approved by;
  - Consultant's stamp;
  - scale;
  - date (original and revisions);
  - revision table including revision number, description, date and checked by;
  - north arrow;
  - legend;
  - sheet number;
  - appropriate notes;
  - indicate 'As-built' when appropriate.
3. The cover sheet for each drawing set shall contain the following information:
- subdivision name;
  - overview plan of entire development, indicating present phase and showing match lines for plan drawings. May be on separate page following cover sheet if cannot fit on cover sheet;
  - name of consultant and sub-consultants;
  - name of developer;
  - list of drawing names and numbers;
  - date of issue;
  - indicate 'As-built' when appropriate.

### ***Section 3 ACCEPTANCE REQUIREMENTS***

Following completion of the construction of any municipal service systems and prior to acceptance of ownership of any of those systems by the City, the following information and/or documentation shall be provided:

#### **3.1 General**

- a. Record Drawings - Two paper copies and two digital copies in the version of AutoCAD currently used by the City, of the as-built engineering drawings. The Subdivision Grading Plan shall be included in the record drawing submission. The information shown on the record drawings shall be certified by a Professional Engineer.
- b. As-built drawings shall include the following information:
  - i. all information included on the plan and profile drawings indicating the actual location and elevation;

- ii. inverts of all sanitary and storm laterals to the lot line;
  - iii. tie-ins and coordinates for all valves, tees, bends, and other fittings, manholes, catch basins, laterals at the main and property line and stubs for future extensions;
  - iv. location and elevation of any water, sewer, drainage, electrical, telephone or other services encountered;
  - v. rock elevations if applicable,
  - vi. any additional information as deemed necessary by the Municipal Engineer.
- c. Lot Servicing Information sheets indicating the minimum elevation of house foundation, sewer invert elevation, water and sewer lateral location, street name, lot number, civic address and driveway location if applicable (see Drawing Number D3-1 in Appendix D2).
- d. Professional Engineer's certification of project completion.
- e. Summary of municipal service systems installation costs.
- f. Operation and maintenance manuals.
- g. List of materials used indicating manufacturer and model number.

### **3.2 Testing and Inspection**

Testing and inspection shall be carried out and reports submitted for each service system in accordance with the Testing and Inspection portion of each section.

## ***Section 4 STORM DRAINAGE SYSTEM***

### **4.1 General**

#### **Scope**

A storm drainage system is a complete and properly functioning system receiving, carrying, and controlling discharges in response to rain and snow. Such a system consists of ditches, swales, greenways, retention ponds, roadways, curbs, catch basins, manholes, pipes or conduits, watercourses, etc.

The development standards contained in this section are included to illustrate the more common aspects encountered in the design of storm drainage systems. In addition to these development standards, all storm drainage systems shall conform to any requirements established by the Province. No system shall be constructed until the design has been approved by the Municipal Engineer and by the Province (where applicable).

It is intended that all storm drainage for developments is to be piped along and to streets. Swales and greenways shall be incorporated where approved or directed by the Municipal Engineer.

On site storm drainage is a requirement for all developments other than single family, semi-detached and duplexes. The designed system shall control the storm water leaving the site to the limits set out in the City's storm water strategy and the storm water shall be piped into an existing storm drainage system. The Municipal Engineer may exempt a development based on the property layout and the volume of runoff.

In addition, the latest revision of all applicable and relevant codes and standards shall be used by the designer, including but not limited to the following:

- City of Summerside Sub-Division Bylaw SS-19;
- Provincial Environmental Standards;
- City of Summerside Storm Sewer Strategy.

### **Responsibility of Developer**

The Developer is responsible for the design and construction of a storm water drainage system to intercept runoff entering the proposed development and runoff within the proposed development and to discharge it into a watercourse or an existing drainage system owned by the City or the Province. The Developer must ensure that runoff water is not diverted onto adjacent properties and provision is made to accommodate drainage from adjacent properties.

### **Design Drainage Area**

Drainage basin information will be provided by the City. The developer must prepare the drainage plan and calculate the flows from contour plans and the information provided. The Developer must include other areas which may become tributary by reason of regarding.

### **Drainage Plan**

Plan of the drainage area shall be to a scale of 1:500, 1:1250, or 1:2500, depending on the size of the area and shall show generally:

- Streets;
- Lots;
- Watercourses and direction of flow;
- Existing / proposed storm drainage pipes and sizes, catch basins and manholes. Catch basins and manholes shall be numbered;
- Tributary areas to each inlet, size of the area in hectares and the runoff coefficient clearly shown therein;
- Contour lines having an interval of one meter where available, but not

- greater than two meters;
- Proposed surface drainage (i.e. swales, ditches, etc.).

### **Subdivision Grading Plan**

- a. The Subdivision Grading Plan shall indicate the design drainage pattern within the subdivision and shall include the information as per Section 2.b.iii.
- b. The foundation elevation shall be established to ensure it conforms with the following except in exceptional circumstances where the Municipal Engineer may alter the standard:
  - i. it shall be 700 mm above the street centerline elevation at the center of the lot;
  - ii. it shall provide a minimum of 2% slope away from the building on all sides. This slope should be greater where the flow from other areas is to be channelled along the lot line; and
  - iii. it shall be high enough to permit a sewer lateral to be installed under the footing of a typical 2.4 m basement. If this is not attainable the restrictions on basement depth shall be noted.
- c. The foundation elevation is set assuming the finished ground elevation on all sides of the building will be 300 mm below top of foundation. If the finished ground elevation is to be more than 300 mm below top of foundation on any side, the drainage on the lot shall be reviewed, the foundation elevation adjusted accordingly and more information shall be provided for that lot.
- d. Where a property owner wishes to change the elevations or drainage patterns indicated on the plan he will be responsible to redesign the drainage for all affected lots and provide a new Subdivision Grading Plan as per City standards.

## **4.2 Flow Calculation**

### **Runoff**

Computations shall be based on the Rational Method formula:

$Q = R.A.I.N.$  where:

Q = maximum rate of runoff, in litres per second

R = runoff coefficient

A = area tributary to the point of design, in hectares

I = average rainfall intensity, having duration equal to the time of concentration of drainage area, in millimetres per hour

N = Constant = 2.778



Standard design forms may be used for all calculations. The form must list the following information: location, manhole (from-to), length of pipe (m), channel dimensions, tributary area (ha), runoff coefficient, runoff (l/s), pipe diameter (m), slope (m/m), capacity (l/s), velocity (m/s), additional capacity available (l/s). If any other format is to be used, the above information is to be contained and outlined. Manholes and catch basins shall be numbered and numbers shall match the Drainage Plan.

### Runoff Coefficient

The value of the coefficient shall be obtained by correlating the ratio of impervious to pervious surfaces. The following are suggested coefficients for fully developed areas:

- Parks & Undeveloped Areas           0.10 - 0.30
- Single Family Residence           0.30 - 0.50
- Semi-Detached                   0.40 - 0.60
- Row Housing                   0.60 - 0.75
- Apartments                   0.50 - 0.70
- Parking Lot Areas (paved)       0.90 - 1.00
- Light Industrial               0.50 - 0.80
- Heavy Industrial               0.60 - 0.90
- Hospitals                   0.70
- Light Commercial           0.50 - 0.70
- Commercial Core           0.70 - 0.95
- Heavily developed areas       0.80 - 0.95

### Rainfall Intensity

The rainfall intensity shall be based on a 1 in 10 year return period with duration equal to the time of concentration for residential areas. Trunk drainage system, bridges and other critical structures as determined by the City shall be on a 1 in 100 year return period with a duration equal to the time of concentration. The design intensity must be obtained from the most recent Environment Canada data available for the Summerside area which may be obtained from the City.

Design consideration shall be given where possible for overland flow when drainage capacity has been reached. This will help prevent damage to public and private properties.

## 4.3 Design and Layout

### Capacity of Pipe

Manning's Formula  $V = \frac{2}{3} S^{\frac{2}{3}}$  shall be used to compute the capacity of 'n'

storm sewers. The following roughness coefficient shall be used:

- Concrete box culverts 0.013
- PVC pipe 0.011
- Concrete pipe 0.013

### Minimum Size

- Street sewers 300 mm
- Catch basin leads single 250 mm / double 300 mm

### Velocity: (for design flow)Error! Bookmark not defined.

- Minimum 1 m/s
- Maximum 5 m/s for diameter up to and including 750 mm and 6 m/s for diameters larger than 750 mm.

### Change of Size

No decrease of pipe size from a larger size upstream to a smaller pipe downstream shall be allowed regardless of the increase in grade.

### Earth Load

Shall be calculated by using the Marston Formula.

### Superimposed Load

The effect of concentrated and distributed superimposed loads shall be evaluated by generally accepted formula.

### Minimum Depth

The minimum depth of cover of any storm drainage main located within the street right-of-way shall be 1.2 metres.

### Clearance

A minimum of 150 mm clearance is required between outside barrels at all pipe crossings.

### Location

- a. Where possible, for local streets, all storm sewer pipe and appurtenances shall be located within the street right-of-way owned by the City or the Province. Unless approved by the Municipal Engineer all storm sewer mains on local street rights-of-way shall be located on the side of the street with the sewer main and 4.0 metres from centerline. On collector streets the main shall be located as directed by the Municipal Engineer.
- b. Storm sewer mains shall be installed on all streets in the development including

- connector streets constructed to allow for future development and shall extend to the edge of the subdivision development. At locations where the storm sewer line ends and is not intended to be extended, the terminal manhole shall be located such that the maximum spacing of catch basins is not exceeded.
- c. When approved by the Municipal Engineer, a storm drainage system may be installed within easements granted in favour of the City. The minimum width of an easement will be 6 metres. However, the actual width of the easement shall depend on the depth and size of the pipe lines or width of the drainage channel contained within the easement. Easements shall be of sufficient width to allow safe access to the pipeline in accordance with the requirements of the Occupational Health and Safety Act for the Province. Depending on the length and location of the easement, the Municipal Engineer may require a travel way to be provided within the easement for access and maintenance purposes. Unless approved by the Municipal Engineer storm drainage pipes within easements shall be installed as close as possible to the centre of the easement. In some instances the City may require a right of way in place of an easement.
  - d. Where need is identified by the Municipal Engineer to accommodate future upstream lands naturally tributary to the drainage area, an easement or right of way shall be provided from the edge of the street right-of-way to the upstream limit of the subdivision and the storm drainage system shall be installed from the main line on the street to the limit of the subdivision.
  - e. Manholes shall be located at every change of horizontal and vertical alignment, size and material of the storm sewer.
  - f. Storm drainage pipes shall be identified by placing an underground warning tape one metre directly above the main. The tape shall be polyethylene with a message approved by the Municipal Engineer. Where the main is shallow, the minimum cover over the tape shall be 500 mm.

### **Service Laterals**

All laterals, if required by the City or Developer, from the main to the property line shall be provided by the Developer or the property owner.

### **Allowable Side Slopes**

Slopes for ditches, swales, and greenways shall be at a maximum slope of 3:1. The lower section of a greenway may be sloped steeper subject to approval and if conducive to the intended use of the greenway.

### **Protection of Existing System**

Where a storm sewer main is to be extended the Contractor shall install a 6 mm screen

or other device over the outlet pipe of an appropriate manhole to prevent silt, gravel or other debris from entering the existing system. The method to be used and the location shall be approved by the Municipal Engineer. Similar precautions must be installed at any connection to an existing channel.

### **Surcharged Structures**

Where a storm sewer main is accepting from or discharging into a ditch or an existing storm drainage system at a higher elevation than the new designed system elevation, a catch basin and two vertical bends are required as per the City's standard specification.

## **4.4 Materials and Structures**

### **Materials**

- a. Pipe for new construction shall be either reinforced concrete or PVC DR35 unless approved otherwise by the Municipal Engineer. All pipe 300 mm or less shall be PVC.
- b. Shop drawings must be submitted for approval for any manufactured items such as large 'tees', grates for inlets or outlets, etc. or for any special equipment. Specifically: size, model, date of manufacture, location, and list of materials used.
- c. A complete list of acceptable materials is included with the City of Summerside Standard Specifications For Municipal Services.

### **Manholes**

- a. Standard types of manholes and their details are shown in the Specifications.
- b. All manhole chamber openings must be located on the upstream of the manhole unless instructed otherwise.
- c. Special manholes shall be fully designed and detailed.
- d. Maximum distances between manholes unless otherwise specified shall be 90 m for 700 mm pipe or smaller and 120 m for pipe greater than 700 mm.
- e. The minimum internal diameter of a manhole shall be 1050 mm.
- f. The internal diameter shall be adequate to accommodate all pipe and appurtenances in accordance with manufacturer's recommendations.

### **Catch Basins**

- a. The lead shall have a minimum 0.5% grade and shall discharge directly to an

- existing or proposed manhole.
- b. Catch basins shall be located and spaced in accordance with conditions of design and shall provide for expected maximum flow.
  - c. Catch basins shall have a minimum of 300 mm sump below pipe invert.
  - d. Standard location for catch basins at street intersections shall be immediately upstream of sidewalk or pedestrian crosswalks and between intersections at all low points.
  - e. Spacing shall not exceed 90 m for road grades up to 3%. On steeper roads, this spacing shall be reduced.
  - f. Catch basins are to be depressed 30 mm with respect to the asphalt grade at the curb.
  - g. Double inlet catch basins shall be installed at the low point of a vertical curve.
  - h. The minimum internal diameter of a catch basin shall be 750 mm.

### **Special Structures**

Inlet and outfall structures including headwalls, etc. shall be fully designed and submitted in detail. In each case, topography shall be shown as well as the protective works necessary to counteract erosion of the site at the structure. These special structures may be required by the Municipal Engineer.

### **Outfalls**

- a. The storm drainage system shall be extended to discharge to a downstream storm drainage system such as an existing storm drainage system owned and maintained by the City or Province, or a watercourse. All storm outfalls which affect a watercourse must receive approval from Fisheries and Oceans Canada and the Province as applicable.
- b. Design of outfalls from piped storm drainage systems into watercourses shall take into consideration such factors as public safety (especially entry by children), erosion control, appearance, etc. The invert of outfall pipes shall be at least 150 mm above the 1 in 5 year water level in the receiving stream and, where possible, be installed above the normal winter ice level in the receiving stream.
- c. Outfalls from piped storm drainage systems shall, for pipes 300 mm diameter and larger, be provided with safety grates. The orientation of the bars on the

grate shall be horizontal.

### **Inlets**

Inlets to piped storm drainage systems shall, for pipes 300 mm diameter or larger require safety grates to prevent the entry of children. The orientation of the bars on the grate shall be vertical. The design of the inlet shall take into consideration the effect of the grating on restriction of flow into the pipe.

### **Headwalls**

Headwalls shall be designed for inlet control with  $HW/D < \text{or} = 1.0$

#### **4.5 Discharge to Adjacent Properties**

- a. Storm drainage is to be controlled within the subdivision limits and runoff shall be discharged to a water course or storm drainage system owned by the Province or the City.
- b. The grading along the limits of the subdivision shall be carefully controlled to avoid disturbance of adjacent properties or an increase in the discharge of storm water to those properties.
- c. The Subdivision Grading Plan shall provide for drainage from adjacent properties where required.
- d. The Subdivision Grading Plan shall provide for temporary drainage of all blocks of land within the subdivision that are intended for future development.
- e. In the design of storm water systems, provision must be made for accommodating natural drainage from adjacent properties by means of an interceptor swale or other system component.

#### **4.6 Erosion and Sediment Control**

- a. The developer shall prepare and submit an erosion and sediment control plan in conformity with all applicable municipal and provincial regulations. The plan shall include both short-term measures applicable during construction of services and building construction, and long-term measures after completion of development, including but not limited to, seeding or sodding of disturbed areas.
- b. Site design shall make optimum use of existing topography and vegetation and minimize cut and fill operations. During construction, site design shall prevent/minimize surface water flows across the construction site or from the construction site directly to adjacent watercourses and storm sewers.
- c. Storm water management systems shall be an integral part of overall site design

- and development. Erosion and sediment control planning shall emphasize on-site measures to prevent erosion during installation of services and building construction based on the principals of:
- exposure of minimum area of site for minimum time;
  - diversion of surface water around exposed areas.
- d. Controls that should be considered include:
- interception and diversion ditches to direct clear water around the construction site;
  - stable diversion berms;
  - sediment traps;
  - silt fences;
  - covering or seeding of topsoil or other soil stockpiles;
  - isolated stripping of land being developed;
  - vegetation screens or buffers;
  - settling ponds.
- e. Long-term environmental protection measures shall include designs to minimize erosion and sediment flow, protect outfall areas, minimize disruption of natural watercourses, utilize wetlands for natural filtration, and provide for groundwater recharge when possible.

#### **4.7 Testing & Inspection**

- a. The following tests shall be completed and reports submitted in accordance with the City of Summerside Standard Specification. Infiltration/exfiltration and manhole leakage tests shall be performed in accordance with sanitary sewer testing requirements of these specifications:
- infiltration/exfiltration test (water or air);
  - manhole leakage test (water or air);
  - deflection test;
  - video inspection.
- b. The following tests shall be completed and reports submitted in accordance with Appendix D1 of these Municipal Development Standards:
- trench compaction;
  - backfill material compliance.

#### **4.8 Installations in Developed Areas**

- a. This section addresses the requirements specific to the installation of new services along an existing street or for the replacement of existing services.
- b. Construction in developed areas and replacement of storm drainage system

components shall be in accordance with the City Standards where practical. The Municipal Engineer may permit exceptions to the standards where constraints exist that are difficult to rectify.

- c. For installations where a new pipe cannot be installed in accordance with these standards the following priorities shall be considered for the pipe alignment but the final decision regarding location shall be determined by the Municipal Engineer. The priorities for the location of the sewer main are: 1) as close as possible to above guidelines, 2) under gravel shoulder or grass, 3) under sidewalks, 4) under asphalt and 5) under concrete street.
- d. Unless written approval is granted by the Municipal Engineer all mains and services shall be augured under streets, sidewalks, driveways and other obstacles. No asphalt or concrete is to be cut without approval of the Municipal Engineer.
- e. Any asphalt or concrete cut shall be saw-cut and shall be patched according to City standards and specifications and to the satisfaction of the Municipal Engineer.
- f. Notwithstanding any other section of these standards no work is to proceed on the ROW's of Route 2, Route 1A or other provincial government road without approval of the Province.

## ***Section 5 STREET DESIGN***

### **5.1 General**

The guidelines set out in the 'Geometric Design Guide for Canadian Roads' and the 'Urban Supplement to the Geometric Design Guide for Canadian Roads' as prepared by the Transportation Association of Canada (TAC) shall serve as the basic standards for design of new streets in the City unless specified otherwise herein.

### **5.2 Design and Layout**

Street layout must conform to any provisions of the City of Summerside Official Plan.

Streets shall be laid out in a manner that connects to existing and future development, allows for ease of servicing, minimizes the requirement for easements, and promotes smooth flow of traffic:

- a. The street system must conform to any provisions of the City of Summerside Official Plan
- b. Street shall connect to existing streets where directed by the Municipal Engineer.



The system shall extend to the edges of the development to connect to future development areas as directed by the Municipal Engineer

- c. The City of Summerside street classification and basic standards shall be as set out in Table D4.1.
- d. The maximum allowable grade of any street shall be 8% with 3% being the maximum within 30 m of the intersection of two centre lines. The minimum grade of any street shall be 0.5% except that on cul-de-sac turning circle, the minimum grade along the curb line shall be 1%.
- e. Intersections of a 'T' type design are desirable. The minimum distance between intersections measured between centerline shall be 75 m for local streets and intersections shall be located so as to satisfy sight distance requirements. Offset intersections on opposite sides of the streets shall be not less than 50 m apart measured between centre lines.
- f. When two or more streets intersect, only one street may have a curved horizontal alignment. All other streets at the intersection shall have a minimum tangent section of 30 m before a horizontal curve.
- g. Sight distance shall be based on stopping sight distances as determined by design approach speed using eye height of 1.05 m, object height of 150 mm and the applicable tangent grade. Minimum design speed shall be as set out in Table D4.1 for the street classification.
- h. Minimum sight distance at intersections and on curves shall be based on stopping sight distance for applicable design speed.
- i. On vertical curves the minimum K value shall be as set out in Table D4.1.
- j. Centerline radii shall be as set out in Table D4.1. A centerline radius of 40 metres may be permitted at the discretion of the Municipal Engineer where slower, non through traffic will exist.
- k. Tangent distances between horizontal reverse curves shall not be less than 50 metres.
- l. Connector streets shall be constructed in the development to allow for future expansion and shall extend to the edge of the subdivision development, except when adjacent to the UGB.
- m. Cul-de-sacs, where approved, shall have the following additional minimum requirements (see Drawing D4-1 in Appendix D2):

- Face of curb line, turning circle, radius of 15.25 m;
  - Property line radius of 17.25 m;
  - Maximum exit grade of + 5%;
  - Transitional street line radius of 15.25 m into street line turning circle;
  - Maximum length of 200 m - measured from connecting street right of way to end of bulb.
  - Temporary cul de sacs shall be 13 metres.
- n. Streets in Commercial and Industrial areas shall be constructed to collector street standards or as deemed acceptable by the Municipal Engineer.

### 5.3 Grading

- a. All clearing and grubbing operations, including the removal of rock, shall be undertaken to the full extent of the right-of-way. All rocks and all trees, stumps and other organic matter removed during the clearing and grubbing operations shall be transported entirely from the site.
- b. The proposed subgrade shall be graded with a crown along the centerline which shall be 2.5% measured from centerline to the face of curb. The crown shall be uniform throughout the length of any street.
- c. Where rock exists at subgrade, it shall be fractured to 300 mm below subgrade and graded.
- d. Structure
- The thickness of granular base and surface courses shall be as stated in Table D4.1.
  - Concrete for surface structures including sidewalks and concrete curbs shall have a minimum 28 day compressive strength of 32 MPA, 5-8% entrained air and a slump of 80 mm +/- 30.
  - Temporary cul de sacs shall be topped with 115mm of gravel graded to street elevation in addition to the street sub-structure.
  - Seal coat applications are to take place in the next construction season.

### 5.4 Curb

- a. All streets shall be provided with standard curb as stated in Table D4.1.
- b. Driveways on corner lots at minor intersection shall be no closer than 15 m from the intersection of the prolongation of the edges of asphalt.
- c. Ramps shall be constructed at all intersections if sidewalks exist, where walkways intersect street, and at the site of Canada Post Superboxes and shall

have a minimum of 1200 mm of low back curb, or to match walkway width and tapered in accordance with the specifications.

- d. Topsoil and seed shall be placed from the back of curb to the edge of street ROW at a min. grade of 2% from the top of curb, except at known driveways. Minimum thickness of topsoil shall be 100 mm.

### **5.5 Sidewalk**

- a. Where sidewalk is to be installed on one side of street only, the sidewalk shall, in general, be placed on the same side as the street lights or on the shorter side of the street. Final decision on location shall be at the discretion of the Municipal Engineer.
- b. The minimum width of sidewalk shall be 1350 mm.
- c. On collector streets the sidewalk width shall be 1500 mm where right of way permits.
- d. On local streets the sidewalk shall be installed in place of the curb and a minimum of 600 mm strip shall be sodded behind the sidewalk, where possible. On collector or arterial streets, the sidewalk shall be placed a minimum of 1.5 metre behind the curb and the area between the curb and the sidewalk and 600 mm behind the sidewalk shall be sodded. The minimum thickness of topsoil shall be 100 mm. Any area within the street ROW not requiring sod shall be seeded.
- e. Minimum thickness of sidewalk shall be at least 100 mm, except at driveways and at street intersections where heavy vehicles may drive over the sidewalk, where the minimum thickness shall be at least 150 mm. At commercial and industrial driveways the thickness of sidewalk shall be at least 200 mm.
- f. Sidewalk and grassed area within the street ROW shall have 2% grade sloping toward the street.
- g. The maximum slope at driveways and other ramps shall be in accordance with the specifications.
- h. The base for sidewalk shall be sandstone for a minimum depth of 200 mm and shall extend 300 mm outside of each edge of the concrete sidewalk.

### **5.6 Access**

Access to residential lots shall be 4 to 7 metres in width. A standard commercial access is 6 metres wide but, based on local traffic flow a 9 metre access is sometimes granted

by the Municipal Engineer based on the type of traffic anticipated. A second access to a site can be granted if the Municipal Engineer deems it is warranted under the traffic conditions

- a. One driveway opening in a concrete curb shall be provided for each residential lot. The opening shall be formed as shown in the specifications. Minimum width of opening shall be 4.0 m for single driveway, 7.0 m for double driveway serving one lot or shared by two adjoining lots, 9.0 m for commercial lots. For industrial lots, the width of the driveway shall be as approved by the Municipal Engineer based on the type of traffic anticipated
- b. Our standard curb access is a low back curb extended 1 metre beyond the driveway width. For high traffic areas, the Municipal Engineer may allow the property owner to install a flared high backed curb into the property line.

### **5.7 Traffic Signals**

- a. For arterials and collectors where traffic projections warrant the installation of traffic signals or if required by the City. There shall be two signal heads visible from each direction. Pedestrian heads with push-button activation shall be included in all installations. All work to be done to the Transportation Association of Canada standard and to the City standard specification.
- b. The controller shall be the City's standard unit, approved by the Municipal Engineer. Traffic detector loops shall be included. Signal operation parameters to be determined by the Municipal Engineer.

### **5.8 Appurtenances**

- c. Setback of utility poles, signal poles, guy anchors, traffic and street name sign posts shall be a minimum 1650 mm from back of curb. Superboxes shall be a minimum of 2000 mm from back of curb.

### **5.9 Testing and Inspection**

- a. Tests shall be completed and reports submitted in accordance with Appendix D1 of these Municipal Servicing Standards for the following materials:
  - sandstone;
  - gravel;
  - asphaltic concrete;
  - shoulder gravel (if applicable),
  - concrete curbs and sidewalks.
- b. Professional Engineer's Certification of asphalt mix, materials, and plant compliance with specification requirements.

### **5.10 Patching**

This section applies to any person, utility, company or others excavating a street in the City.

- a. The owner of the work to be undertaken shall be responsible to ensure this policy is followed. If the owner is other than the City, the City shall deal only with the owner or Consultant.
- b. All concrete and asphalt patching shall be completed as soon as possible after excavation and all work shall be in accordance with City's specifications.
- c. Concrete shall be saw-cut and replaced with concrete. The concrete shall be patched by placing 15M steel dowels at 450 mm centres on both sides of the patch. The concrete shall be placed at the same thickness as the existing concrete. If the street previously had an asphalt layer on top of the concrete, the asphalt shall be patched to match the existing. If a large area of concrete is being removed, it may be replaced with asphalt if prior approval is granted by the Municipal Engineer
- d. Asphalt shall be saw-cut and replaced with base and seal at the thickness of the existing base and seal unless otherwise approved or requested by the Municipal Engineer.
- e. Asphalt patches shall be planned 1.5 metres beyond the works perimeter and planned a minimum depth of 40 millimetres.
- f. Where a longitudinal cut or several lateral cuts must be repaired, as directed by the Municipal Engineer, the street will be sealed with a spreader for the length of the cut area plus a distance beyond at each end and for a portion or all of the width. The extent of resurfacing will be determined, taking into consideration its effect on traffic flow, drainage and aesthetics. It is possible that an area much larger than the cut may be required to be resurfaced. The area to be resurfaced will be determined prior to the City granting approval to commence the work.

### **5.11 Installations in Developed Areas**

- a. This section addresses the requirements specific to the installation of new services or for the replacement of existing services.
- b. Construction in developed areas and replacement of street system components shall be in accordance with the City standards where practical. The Municipal Engineer may permit exceptions to the standards where constraints exist that are difficult to rectify.

- c. Placing of sidewalk and related landscaping is to be done as close as possible to the City Standards and to matching the existing elevations.
- d. Any asphalt or concrete cut shall be saw-cut and shall be patched according to City standards and to the satisfaction of the Municipal Engineer.
- e. Notwithstanding any other section of these standards no work is to proceed on the rights-of-way of Route 2, Route 1A or other provincial government roads without approval of the Province.

**5.12 Table D4.1 - Standards for Street Design**

	<b>Locals</b>	<b>Collectors</b>
Min. R.O.W. Width (m)	15	20
Back of Curb to Back of Curb Width (m)	8.8	11.8
Design Speed (kph) (posted + 10)	50	--
Minimum 'K' Value Vertical Curve Crests	7	7
Sags	11	11
Min. Length of Vertical Curve	L = length in metres should not be less than design speed in kph	Same as Local
Vertical Curve Maximum Length for Drainage	Crest K= 60 Sag K=30	-- --
Min. Radius Centerline (m)	50	--
Minimum Intersection Curb Radius (m)	7.5	9
Minimum Intersection Property Line Radius (m)	4.25	4.75
Min. Thickness Sandstone (mm)	300	600
Min. Thickness Granular Base (mm)	150	250
Min. Thickness Asphaltic Concrete (mm)		
Type >A= Base	75	130
Type >B= Seal	40	40
Curb Type	Concrete Curb & Gutter	Concrete Curb & Gutter

B = TAC Standard

## **Section 6 WATER SYSTEM**

### **6.1 Introduction**

A water system is a complete and properly functioning system of water mains, service connections and appurtenances, including pumping stations, pressure control facilities and reservoirs, which is designed to carry and distribute an adequate supply of potable water for domestic, institutional, commercial, industrial, and fire protection purposes. Water quality is monitored and maintained by the City Water Utility and the system must be designed so that the quality is maintained and distributed at an adequate pressure to supply their needs.

The City of Summerside has adopted the 'Atlantic Canada Standards and Guidelines Manual for the Supply, Treatment, Storage, Distribution and Operation of Drinking Water Supply Systems' (2004) prepared by the Environment Departments in the four Atlantic Provinces. **This Section of the Municipal Development Standards is supplemental to these Standards and Guidelines.**

The City of Summerside Water System is to be designed according to the Atlantic Canada Guidelines and the City of Summerside Development Standards. As well, all water distribution systems shall conform to any other requirements established by the Province. No system shall be constructed until the design has been approved by the City and the Province.

In addition, the latest revision of all applicable and relevant codes and standards shall be used by the designer, including but not limited to the following:

- 'Water Supply For Public Fire Protection' prepared by the Fire Underwriters Survey-Insurers Advisory Organization (IAO)
- National Fire Protection Association (NFPA)
- American Water Works Association (AWWA)
- Canadian Standards Association (CSA)
- National Building Code (NBC)
- Canadian Plumbing Code (CPC)
- Underwriters Laboratories Of Canada (ULC)

Water system extensions must be carried out in conformance with:

- The City of Summerside Subdivision Bylaw SS-19;
- The City of Summerside Water and Sewer Utility Bylaw and Regulations;
- The City of Summerside Water System Strategy. The Water System Strategy shall identify major infrastructure such as transmission and/or large diameter distribution mains and reservoir size and location.



As much as possible the numbering system used in the supplement corresponds with the Atlantic Provinces Standards and Guidelines document. Unless stated otherwise each item in this supplement is in addition to the Atlantic Canada Standard.

The water system must conform to any provisions of the City of Summerside Official Plan.

Water mains shall connect to existing water mains where directed by the Municipal Engineer. The system shall extend to the edges of the development to connect to future development areas as directed by the Municipal Engineer.

## **6.2 Design Requirements**

### **System Capacity**

- a. Water distribution systems shall be designed to accommodate fire flow and domestic demand.
- b. Fire flow demand shall be established by the Municipal Engineer in accordance with the latest requirements contained in the publication 'Water Supply for Public Fire Protection, a Guide to Recommended Practice', as prepared by the Fire Underwriter's Survey - Insurers Advisory Organization.
- c. Water distribution systems for residential areas shall be designed to accommodate the following domestic water demands:
  - i. Average daily demand: 400 litres per capita per day.
  - ii. Maximum daily demand: 680 litres per capita per day.
  - iii. Maximum hourly demand: 1080 litres per capita per day.
- d. The water distribution system shall be designed, as a minimum, for a net residential population density of 45 persons per hectare. The Net Residential Population Density area includes building lots, local ROWs, and parks. In developments where the anticipated population exceeds or is anticipated to exceed the population density of 45 persons per hectare the domestic demand shall be adjusted as determined by the Municipal Engineer. If requested, the design population or assumed domestic demand must be clearly specified in the calculations submitted for review and approval.
- e. Water demand for commercial, institutional and industrial developments shall be designed in the same manner as the sewer demand are designed in the Atlantic Canada Standards and Guidelines Manual for the Collection, Treatment and Disposal of Sanitary Sewage and Atlantic Canada Guidelines for the Supply, Treatment, Storage, Distribution and Operation of Drinking Water Supply Systems

### **6.3 Minimum Pressures**

- a. Water distribution systems shall be designed and sized so that during a fire flow condition, a residual positive pressure of 140 kPa is maintained at all points along the distribution main in the water system.

### **6.4 Materials**

- a. Pipe for buried water mains shall be AWWA C900 PVC pipe, DR18, unless approved otherwise by the Municipal Engineer. PVC water pipe shall be blue.
- b. Shop drawings must be provided for approval for any special equipment such as air release valves, etc. and for any fabricated items.
- c. A complete list of acceptable materials is included with the City of Summerside Standard Specifications For Municipal Services: Section 01601 - Water System Acceptable Materials.

### **6.5 Corrosion Protection/Reduction**

- a. All fittings and service connections shall be provided with acceptable corrosion protection such as sacrificial anodes.

### **6.6 Primary Distribution Mains**

#### **Valves**

- a. All connections to an existing water system shall be installed so that the system can be isolated by a valve at the start of the extension. The City does not guarantee leak-tight operation of existing valves.
- b. Valves shall be provided on water mains to satisfy the following conditions:
- c. A main line valve shall be provided on each leg at intersections of main lines.
- d. When possible, valves at intersections shall be installed in line with the edge of the street right of way.
- e. A sufficient number of valves shall be installed so that a break or other failure will not affect more than 150 metres of main unless approved otherwise by the Municipal Engineer.
- f. When possible, valves located mid block shall be located in line with the property line between two properties or 1 metre from a hydrant tee.

**Grade on Pipe**

- a. All water mains shall be installed with a set grade to ensure high and low points are controlled.

**Location**

- a. All water pipe and appurtenances shall be located within a street right-of-way owned by either the City or Province or within an easement or ROW granted in favour of the City. The minimum easement width shall be 6 metres. Depending upon the length and location of an easement, the Municipal Engineer may require a travel way to be provided within the easement for access and maintenance purpose. The City may require a right of way instead of an easement in some circumstances.
- b. Where possible, for local streets all water mains shall be located on the side of the street opposite the sanitary sewer main and 5.25 metres from centerline. In easements water mains shall be installed as close as possible to the centerline of the easement unless directed otherwise by the Municipal Engineer. On collector streets the main shall be located as directed by the Municipal Engineer.
- c. Water mains shall be installed on all streets in a development including connector streets constructed to allow for future expansion and shall extend to the edge of the subdivision development except as noted in Section 4.5a of this bylaw.
- d. Where a need is identified to accommodate future development on adjacent lands, easements may be required from the edge of the street right-of-way to the property boundary of the subdivision. If required, the water main shall be installed to the boundary of the subdivision development.
- e. The Developer must extend the water main from the existing City mains to service the development.
- f. Water mains shall be identified by placing an underground warning tape one metre directly above the main. The tape shall be polyethylene with blue background and black letters. The message shall be 'Caution, Water Line Buried'. A location tracer wire is to be installed directly on the top of the pipe for future locating of pipe.

**6.7 Water Demands****System Capacity**

- a. Water distribution systems shall be designed to accommodate fire flow and

domestic demand.

- b. Water distribution systems for residential areas shall be designed to accommodate the Average daily demand of 400 litres per capita per day.
- c. The water distribution system shall be designed, as a minimum, for a net residential population density of 45 persons per hectare. The Net Residential Population Density area includes building lots, local ROWs, and parks. In developments where the anticipated population exceeds or is anticipated to exceed the population density of 45 persons per hectare the domestic demand shall be adjusted as determined by the Municipal Engineer. If requested, the design population or assumed domestic demand must be clearly specified in the calculations submitted for review and approval.

### **6.8 Diameter**

- a. The water distribution system shall be sized according to capacity requirements. However, in no instance shall the main be:
  - i. Smaller than 150 mm in diameter for short lines that do not form part of the main looping distribution system, subject to approval by the Municipal Engineer.
  - ii. Smaller than 200 mm in diameter for all other locations.
- b. Over sizing of water mains to accommodate the water supply requirements of future off-site developments may be required by the Municipal Engineer or to satisfy infrastructure requirements of the City Water System Strategy.

### **6.9 Looping**

- a. Water distribution systems shall be designed to provide looping of water mains as frequently as street or easement layouts permit. Additional looping may be required to increase the reliability of the system where identified by the Municipal Engineer.
- b. Easements must be provided and water mains installed to provide looping of lines on cul-de-sacs.
- c. Where dead ends are left for future extension a hydrant must be located at the end of the main followed by a main valve restrained to the 'Tee' and located 1 metre from the 'Tee', then a stub and cap connected to the valve. A main valve may still be required at a nearby intersection.

### **6.10 Cover**

Water mains shall be installed with a minimum cover of 1.8 metres. Mains may be

installed at a shallower depth with written approval from the Municipal Engineer provided the main is properly insulated. Insulation shall be at least 25 mm thick for each 300 mm less than 1.8 m depth

### **6.11 Disinfection**

- a. Bacteriological tests - The city requires test results indicating zero coliform bacteria level, zero E-coli bacteria level and less than 200 ppm background growth on tests on two consecutive days.
- b. Samples shall be taken of water that has stood in the new main for, at least, sixteen (16) hours after final flushing has been completed.

### **6.12 Hydrants**

#### **Location and Spacing**

- a. Fire hydrants shall be spaced in accordance with the requirements contained in the latest revision of the IAO publication 'Water Supply for Public Water Protection'. In no case shall the maximum spacing exceed 150 metres. The following are desirable hydrant locations:
  - at high points of the water main profile unless an automatic; air release valve is required at that location;
  - at low points of the water main profile;
  - near intersections of streets but not in areas where snow may be piled;
  - near the middle of long blocks;
  - at the end of dead-end lines;
  - at property lines between lots.
- b. Spacing of fire hydrants in mobile home parks may be increased where the Fire Chief deems that sufficient fire protection can be provided and where normal hydrant spacing significantly affects the water main layout.
- c. The branch line to a hydrant shall be 150mm diameter and shall include a valve located 750mm from the centre line of the main pipe. The hydrant valve shall be restrained to the main.
- d. The back of the hydrant shall be at the edge of the ROW and shall be located on the same side of the street as the water main.

#### **Drainage**

The hydrant drain holes shall be plugged in areas where the height of the water table may cause water to enter the hydrant barrel through the holes.

### **6.13 Service Laterals**

- a. Laterals shall be installed with a minimum cover of 1.8 metres. Laterals may be installed at a shallower depth with written approval from the Municipal Engineer and provided the pipe is properly insulated. Insulation shall be at least 25 mm thick for each 300 mm less than 1.8 m depth.
- b. Water service connections shall be installed from the main to the property line of each lot with a curb stop installed at the property line. The curb stop is to be located as close as possible to the centre of the lot frontage. Facing the property, the curb stop shall be on the left of the sewer service. In situations where lot frontages are small or upon a written request from the developer the Municipal Engineer may approve an alternate location for the curb stop at the lot line.
- c. Standard size (19 mm) service connections may be direct tapped to PVC C900 mains ranging from 150 mm to 300 mm diameter. Larger size connections or connections tapped into 100 mm PVC shall be made only with the use of an approved saddle.
- d. All capped water service connections shall be marked at the property line. Each marker shall consist of a 38 mm x 90 mm stake extending from the pipe end at pipe level to 600 mm above grade. The exposed portion of the stake shall be painted blue.
- e. The minimum size laterals shall be 19 mm diameter.
- f. A semi detached building may be serviced by installing a 25 mm diameter service connection from the main to just outside the property line then by teeing the line and installing a 19 mm line and curb stop for each unit. This method may also be used for pairs of units in row houses.
- g. Couplings shall not be used in the water lateral unless the distance from main to curb stop or curb stop to premises is greater than 20 metres and then the fewest number possible shall be used.
- h. Service laterals shall be Type 'K' copper or for laterals 100mm or greater, DR18 PVC.

### **6.14 Connection to Existing Water System**

- a. The connection to any existing water system must be co-ordinated with City staff through the Consultant's on-site staff. Any such connection is to be witnessed by the Consultant's on-site staff as well as the City staff. Tapping of water mains for such connection may have to be conducted with the main under working

pressure. Pressure taps shall be performed by the City at the contractor's expense.

### **6.15 Testing and Inspection**

- a. Tests shall be completed and reports submitted in accordance with Appendix D1 of these Municipal Development Standards:
  - trench compaction;
  - backfill material compliance.

### **6.16 Installations in Developed Areas**

- a. This section addresses the requirements specific to the installation of new services along an existing street or for the replacement of existing services.
- b. Construction in developed areas and replacement of water system components shall be in accordance with the City standards where practical. The Municipal Engineer may permit exceptions to the standards where constraints exist that are difficult to rectify.
- c. For installations where the new main cannot be installed in accordance with these standards the following priorities shall be considered for the pipe alignment but the final decision regarding location shall be determined by the Municipal Engineer. The priorities for the location of the water main are: 1) as close as possible to above guidelines, 2) under gravel shoulder or grass, 3) under sidewalks, 4) under asphalt and 5) under concrete street.
- d. Unless written approval is granted by the Municipal Engineer all mains and service connections shall be augured under streets, sidewalks, driveways and other obstacles. No asphalt or concrete is to be cut without approval of the Municipal Engineer.
- e. Any asphalt or concrete cut shall be saw-cut and shall be patched according to City standards and specifications and to the satisfaction of the Municipal Engineer.
- f. Notwithstanding any other section of these standards no work is to proceed on the ROW's of Route 2, Route 1A or other provincial government roads without approval of the Province.

## **Section 7 SANITARY SEWERAGE SYSTEM**

### **7.1 Scope**

A sanitary sewerage system is a complete and properly functioning system of sewer mains, service connections, and appurtenances including trunk sewers, pumping

stations and treatment plants, owned and maintained by the City, which is designated to collect and convey sanitary sewage from its point of origin to a disposal or treatment location. Sanitary sewage is defined as the spent water from a community consisting of liquid conveying solids from residential, industrial, institutional, and commercial buildings but excluding storm water runoff or ground water.

The City of Summerside has adopted the 'Atlantic Canada Standards and Guidelines Manual for the Collection, Treatment and Disposal of Sanitary Sewage' (2006) prepared by the Environment Departments in the four Atlantic Provinces. **This Section of the Municipal Development Standards is supplemental to these Standards and Guidelines.**

The City of Summerside sewer system is to be designed and constructed according to the Atlantic Canada Guidelines and the City of Summerside Servicing Standards. As well, all sewer systems shall conform to any other requirements established by the Province. No system shall be constructed until the design has been approved by the City and the Province.

Sewer system extensions must be carried out in conformance with:

- the City of Summerside Subdivision Bylaw SS-19;
- the City of Summerside Water and Sewer Utility Bylaw and Regulations;
- the City of Summerside Sewer System Strategy. The Sewer System Strategy shall identify major infrastructure requirements.

As much as possible the numbering system used in the supplement corresponds with the Atlantic Provinces Standards and Guidelines document. Unless stated otherwise each item in this supplement is in addition to the Atlantic Canada Standard.

The sewer system must conform to any provisions of the City of Summerside Official Plan.

The sewer mains shall connect to the existing sewer mains where directed by the Municipal Engineer. The system shall also extend to the edges of the development to collect sewage from upstream areas as directed by the Municipal Engineer.

## **7.2 Design of Sewers**

### **General Inflow/Infiltration Allowance**

Newer areas are to be at the lower end of the range and older areas are to be at the higher end. The designer is to discuss the value with the Municipal Engineer prior to completing the design.



### Domestic Sewer Flows

- a. Replace Section 2.3.3.a. with the following:  
'The sewage collection system shall be designed for a net residential population density of 45 persons per hectare. The Net Residential Population Density area includes building lots, local ROWs, and parks. In developments where the anticipated population exceeds or is anticipated to exceed the population density of 45 persons per hectare the domestic sewage flow rate shall be adjusted as determined by the Municipal Engineer. The design population or assumed domestic flow rate must be clearly specified in the calculations submitted for review and approval.'
- b. Replace Section 2.3.3.b. with the following: 'average daily domestic flow (exclusive of extraneous flows) of 230 L/cap-d;'
- c. Harmon Formula is to be used.
- d. The flow from existing industrial areas is approximately 5 m<sup>3</sup>/hectare/day. This is to be used for flows from existing developed industrial areas. For undeveloped industrial areas the designer shall estimate the flow based on the existing flow rate and the values suggested in the Guideline. The designer is to discuss the value with the Municipal Engineer prior to completing the design.

### Pressure Pipes

Replace the existing 2.4.2 with the following: 'Sanitary Sewers may not be designed as pressure pipes.'

### Pipe Depth

- a. The designer shall take into consideration possible future extensions of the gravity sanitary sewer system when determining depth of cover and grade of sewer mains so that, wherever possible, those mains shall be installed at a sufficient depth to provide service to adjoining lands.

The depth of sanitary sewer mains as measured from the design grade at finished surface to the crown of the pipe shall not normally exceed a maximum of 4.5 metres. However, under special conditions, if full and justifiable reasons are given (such as elimination of pumping station), the maximum depth of sanitary sewer mains may be increased such that the depth to the crown of the pipe at any manhole location shall not exceed 5.5 metres.

Generally the sewer shall be deep enough to permit the service to be installed under the footing of houses and under the water main with sufficient clearance. A depth of 2.6 metres is normally sufficient to permit this. Notwithstanding the above, in specific conditions a minimum depth for sanitary sewer mains of 1.5

metres may be approved by the Municipal Engineer.

### **Sewer Laterals**

- a. Sanitary sewer laterals shall be installed at a minimum grade of 2 percent. The minimum size sewer lateral is 100 mm diameter.
- b. Connections to the main shall be inspected by authorized City personnel.
- c. Sewer laterals connecting to mains much deeper than the lateral pipe must drop to connect to the main using a method approved by the Municipal Engineer. The method chosen must provide proper support for the lateral pipe.
- d. Each unit must have a separate sewer service connection. Double connections are not permitted without written, conditional approval of the Municipal Engineer.
- e. Sanitary sewer service connections shall be installed from the main to the property line of each lot and be located as close as possible to the centre of the lot frontage. Facing the property, the water lateral shall be on the left of the sewer lateral. In situations where lot frontages are small or upon a written request from the property owner the Municipal Engineer may approve an alternate location for the lateral at the lot line.
- f. All capped sewer service connections shall be marked at the property line. Each marker shall consist of a 38 mm x 90 mm stake extending from the pipe end at pipe level to 600 mm above grade. The exposed portion of the stake shall be painted red with designation sanitary in black. The invert elevation of the pipe shall be indicated on the As-Built drawings and the Lot Servicing Information sheet.

### **Materials**

- a. Pipe for sanitary sewer shall be PVC unless approved otherwise by the engineer. All PVC sanitary sewer pipe shall be green.
- b. Shop drawings must be submitted for any special equipment such as lift stations, air/vacuum valves, etc. and for any fabricated items.
- c. A complete list of acceptable materials is included with the City of Summerside Standard Specifications For Municipal Services Section 01602 - Sanitary Sewer System Acceptable Materials.

### **Bedding, Haunching & Initial Backfill**

Replace the three sections with the following: Excavated material conforming to Section 2.4.15.7 - Final Backfill may be used as bedding, haunching, and initial backfill if recommended by the Consultant and approved by the Municipal Engineer.

### **Final Backfill**

In the second paragraph remove the following sentence: 'Compaction of the final backfill is usually controlled by the location as follows: traffic areas; 95% of modified Proctor density required; general urban area; 90% of modified Proctor density may be adequate; undeveloped areas; 85% of modified Proctor density may be required.' And replace it with the following: 'Compaction of the final backfill shall be controlled by the location as follows: under streets, sidewalks and driveways shall be 100% Standard Proctor Density and other areas shall be 95% Standard Proctor Density.'

### **Borrow Materials**

Delete this section.

### **Location**

- a. Where possible, for local streets, all sanitary sewer pipe and appurtenances shall be located within the street right-of-way owned by the City or the Province. Unless approved by the Municipal Engineer all sanitary sewer mains on local street rights-of-way shall be located on the side of the street opposite the water main and 5.25 metres from centerline. On collector streets the main shall be located as directed by the Municipal Engineer.
- b. Sewer mains shall be installed on all streets in the development including connector streets constructed to allow for future development and shall extend to the edge of the subdivision development except as noted in Section 4.5a of this bylaw.
- c. Dead end manholes shall be installed at the centre of the last lot to be serviced.
- d. The Developer must extend the sewer main from the existing City mains to service the development.
- e. When approved by the Municipal Engineer, sanitary sewer mains may be installed within easements or ROW's granted in favour of the City. The minimum width of easement will be 6 metres. However, the actual width of the easement shall depend on the depth of the pipe contained within the easement. Easements shall be of sufficient width to allow safe access to the pipeline in accordance with the requirements of the Occupational Health and Safety Act for the Province of Prince Edward Island. Depending on the length and location of the easement, the Municipal Engineer may require a travel way to be provided

within the easement for access and maintenance purposes. Unless approved by the Municipal Engineer sanitary sewer pipes within easements shall be installed as close as possible to the centre of the easement. The City may require a right-of-way instead of an easement.

- f. Where need is identified by the Municipal Engineer to accommodate future upstream lands naturally tributary to the drainage area, an easement shall be provided from the edge of the street right-of-way to the upstream limit of the subdivision and the sewer pipe and appurtenances shall be installed from the main line to the limit of the subdivision.
- g. Where a sanitary sewer main is to be extended the Contractor shall install a 6 mm screen or other device over the outlet pipe of an appropriate manhole to prevent silt, gravel or other debris from entering the existing system. The method to be used and the location shall be approved by the Municipal Engineer.

### **Testing & Inspection**

The following tests shall be completed and reports submitted in accordance with the City of Summerside Standard Specification:

- video inspection;
- infiltration/exfiltration test;
- manhole leakage test;
- deflection test.

The following tests shall be completed and reports submitted in accordance with Appendix D1 of these Municipal Development Standards:

- trench compaction;
- backfill material compliance.

### **Warning/Marker and Detection Tape**

Sewer mains shall be identified by placing an underground warning tape one metre directly above the main. The tape shall be polyethylene with green background and black letters. The message shall be 'Caution, Sewer Line Buried'.

### **Alternate Wastewater Collection Systems**

Replace with the following: Alternate Wastewater Collection Systems are not permitted in the City.

### **Installations in Developed Areas**

This section addresses the requirements specific to the installation of new services along an existing street or for the replacement of existing services.

- a. Construction in developed areas and replacement of sanitary sewer system components shall be in accordance with the City standards where practical. The Municipal Engineer may permit exceptions to the standards where constraints exist that are difficult to rectify.
- b. For installations where the new main cannot be installed in accordance with these standards the following priorities shall be considered for the pipe alignment but the final decision regarding location shall be determined by the Engineer. The priorities for the location of the sewer main are: 1) as close as possible to above guidelines, 2) under gravel shoulder or grass, 3) under sidewalks, 4) under asphalt and 5) under concrete street.
- c. Unless written approval is granted by the Municipal Engineer all mains and service connections shall be augured under streets, sidewalks, driveways and other obstacles. No asphalt or concrete is to be cut without approval of the Municipal Engineer.
- d. Any asphalt or concrete cut shall be saw-cut and shall be patched according to City standards and specifications and to the satisfaction of the Municipal Engineer.
- e. Notwithstanding any other section of these standards no work is to proceed on the rights of way of Route 2, Route 1A or other provincial government road without approval of the Province.

## ***Section 8 Sewage Pumping Stations***

### **8.1 Types of Pumping Stations**

Small pumping stations shall be duplex pumping stations. They shall be constructed as wet wells with fibreglass above ground valve/Control Panel Chamber Assembly to contain the valves and electrical panel. The Municipal Engineer may require a wet well and separate underground valve chamber for some installations.

Other manufacturers or types of stations may be requested or approved for specific applications.

### **8.2 Portable Generator Connection**

Each pumping station shall be equipped with a manual transfer switch and connection for the city's portable generator in the fibreglass enclosure or integrated with the control panel in the case of a separate valve chamber.

The equipment shall be installed in a manner in which the panel enclosure can be closed and secured during generator operation.

**8.3 Permanent Generator**

A surface mount generator complete with its own steel envelope shall be installed at the station where deemed necessary by the Municipal Engineer.

**8.4 Forcemain Identification**

Forcemains shall be identified with underground warning tape placed 1 metre directly above the main. The tape shall be polyethylene with green background and black letters. The message shall be A Caution, Sewer Line Buried. A location tracer wire is to be installed directly on the top of the forcemain for future locating of forcemain.

**Section 9 Appendix D1 - Material Testing Requirements**

The following materials testing requirements are required to ensure compliance with city standards

**9.1 Item I - Sandstone (Special Provisions)**

The contractor shall provide placement control which includes:

- An evaluation of the percent passing at 100 mm sieve.
- An evaluation of the material’s plasticity.
- The following tests:

<b>Test:</b>	<b>Procedure:</b>	<b>Frequency:</b>
Determination of % passing 75 Φm Sieve	ASTM C-117	One per material type as delivered to the job.
Standard Proctor Density	ASTM D-698	A
Optimum Moisture	ASTM D-698	A
Field Density Determination	ASTM D-2922	One per 2000 m2/lift (minimum of 4 per contract)
Thickness Determination		A

- A Compaction Control Report for sandstone showing, as a minimum, the

following:

- X Date tested;
- X Test location (chainage and offset);
- X Material thickness;
- X Field moisture;
- X Optimum moisture;
- X % Compaction.

All sandstone shall be compacted to 100% Standard Proctor Density.

## 9.2 Item II - Gravel

The Contractor shall provide placement control which includes:

2. The following tests:

Test:	Procedure:	Frequency:
Washed Sieve Analysis	ASTM C-136 & C-117	One per material type as delivered to the job.
Standard Proctor Density	AASHTO T-99 & T-224	A
Optimum Moisture	AASHTO T-99 & T-224	A
Field Density Determination	ASTM D-2922	One per 2000 m <sup>2</sup> /lift (minimum of 4 per contract)
Thickness Determination		A
Los Angeles Abrasion	ASTM C-131	One per pit source/ construction season

3. A Compaction Control Report for gravel showing, as a minimum, the following:

- X Date tested;
- X Test location (chainage and offset);
- X Material thickness;

- X Field moisture;
- X Optimum moisture;
- X % Compaction.

All gravel shall be compacted to 100% Standard Proctor Density.

### 9.3 Item III - Hot Mix Asphaltic Concrete

The Contractor shall provide production and placement control which includes but is not limited to:

- The following tests:

Test:	Procedure:	Frequency:
Bulk Density	ASTM D-2726*	At a frequency of one per 400 tonnes of each mix type (with a minimum of two per contract per mix type)
Marshall Stability	ASTM D-1559	A
Marshall Flow	ASTM D-1559	A
Maximum Theoretical Specific Gravity	ASTM D-2041	A
Air Voids	MARSHALL	A
Voids in Mineral Aggregate	MARSHALL	A
Voids Filled with Asphalt	MARSHALL	A
% Asphalt Metered		
% Asphalt Extracted	ASTM D-4125 or ASTM D-2172	A
Extracted Gradation (Washed)	ASTM C-136 & C-117	A



Combined Aggregate Specific Gravity	MARSHALL	A
--	----------	---

\*For specimens that contain moisture

- The Contractor's documentation of production control shall include, as a minimum, the following:

- X Contractor (paving);
- X Contract;
- X Date;
- X Mix type;
- X Job Mix Formula Percentages;
- X Sample times;
- X Sample temperatures;
- X Sample compaction temperatures.

- The Contractor's documentation of placement control shall include, as a minimum, the following:

- X Mix temperature (minimum of two);
- X Mix thickness.

A Compaction Control Report based on Division 603.14 of the PEI Department of Transportation and Public Works Specifications showing, as a minimum, the following:

- X Date cored;
- X Core location (station & offset);
- X Lift;
- X Bulk Relative Density;
- X Maximum Theoretical Relative Density;
- X % Compaction;
- X Lot Average % Compaction (based on mean maximum theoretical relative density);
- X Core thickness;
- X Average thickness;
- X Specified thickness;
- X T-test.

#### **9.4 Item IV - Shoulder Gravel**

The Contractor shall provide placement control which includes:

- The following tests:

<b>Test:</b>	<b>Procedure:</b>	<b>Frequency:</b>
Washed Sieve Analysis	ASTM C-136 & C-117	One per material type as delivered to the job.
Standard Proctor Density	AASHTO T-99 & T-224	A
Optimum Moisture	AASHTO T-99 & T-224	A
Field Density Determination	ASTM D-2922	One per 2000 m <sup>2</sup> /lift (minimum of 4 per contract)

2. A Compaction Control Report for gravel showing, as a minimum, the following:

- X Date tested;
- X Test location (chainage and offset);
- X Field moisture;
- X Optimum moisture;
- X % Compaction.

All gravel shall be compacted to 100% Standard Proctor Density.

**9.5 Item V - Concrete Sidewalks and Curbs**

The contractor shall provide placement control which includes:

1. The following tests:

<b>Test:</b>	<b>Procedure:</b>	<b>Frequency:</b>
Air Content	CSA A23.1 & CSA A23.2	CSA A23.1
Slump	CSA A23.1 & CSA A23.2	CSA A23.1
Compressive strength	CSA A23.1 & CSA A23.2	CSA A23.1
Thickness determination	measure before pour	each pour

- Control Report for concrete showing, as a minimum, the following:

- X Date tested;
- X Test location (chainage);
- X Material thickness;
- X % air content;
- X Slump;
- X Compressive strength.

**9.6 Item VI - Trench Compaction**

The contractor shall provide placement control which includes:

- The following tests:

<b>Test:</b>	<b>Procedure:</b>	<b>Frequency:</b>
Standard Proctor Density	ASTM D-698	One per material type
Optimum Moisture	ASTM D-698	A
Field Density Determination	ASTM D-2922	One per 2000 m2/lift (minimum of 4 per contract)

- Control Report for concrete showing, as a minimum, the following:

- X Date tested;
- X Test location (chainage);
- X Field moisture;
- X Optimum moisture;
- X % Compaction.

Compaction for various locations shall be as follows:

<b>Location</b>	<b>Compaction (Standard Proctor Density)</b>
Streets, sidewalks or driveways	100%
Urban grassed areas	95%

### 9.7 Item VII - Submission of Test Results

- All test results and compaction results shall be grouped by item and a copy forwarded to the Municipal Engineer as soon as possible after completion of the item.
- Upon project completion a bound report outlining all test results shall be submitted to the Municipal Engineer.
- The final report as prepared by a recognized materials testing firm shall include an executive summary stating that all materials as tested and used on the project meet project specifications. If some test results are non conforming, the report is to define the risks of not meeting the specifications and to recommend remedial action.
- If all materials as tested do not meet project specifications the Developer shall immediately have all materials removed that do not meet project specifications and replaced with materials that do meet project specifications at no additional costs to the City. In situations where the failure to meet specifications is considered minor the Municipal Engineer may approve the work with conditions to mitigate any short or long term consequences that may result from such approval.
- The City will not be responsible for any costs associated with non compliance with specifications, including testing materials, labour, and Engineering.

### ***Section 10 Appendix D2 - Drawings***

#### Index

<b>Drawing</b>	<b>Number</b>
Lot Servicing Information	D3-1
Typical Cul-de-Sac	D5-1
Typical Cross-Section	D6-1
Collector Street	D7-1

**10.1 D3-1 Lot Servicing Information**

Lot No: \_\_\_\_\_

Civic No: \_\_\_\_\_

Street Name \_\_\_\_\_

Street centerline elevation at center of lot \_\_\_\_\_

Sanitary sewer invert elevation at property line \_\_\_\_\_

▶◀ Curbstop is located at property line

▲ Driveway location (if applicable)

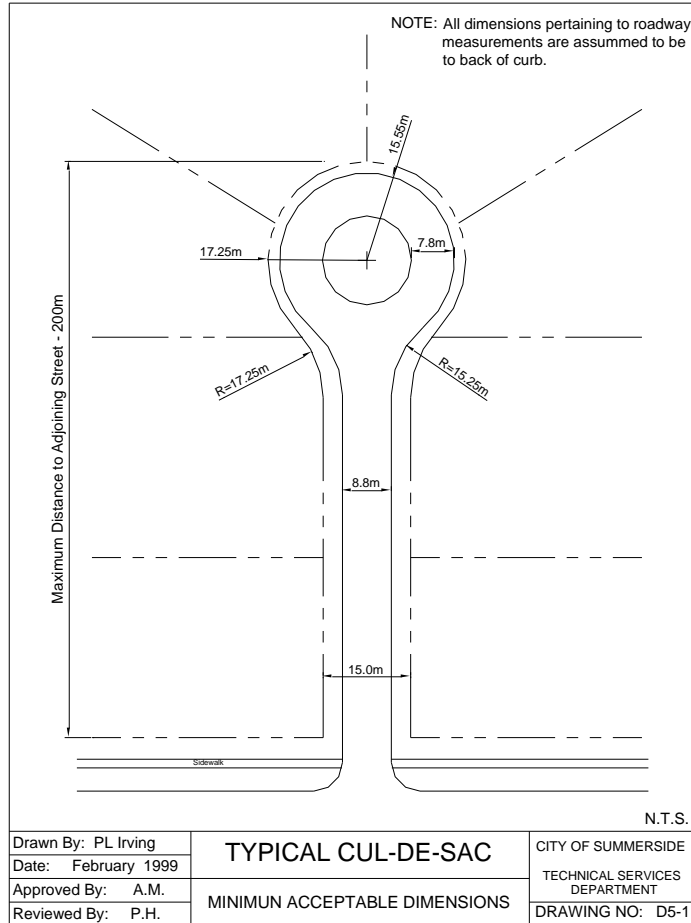
Sheet Completed By - Consulting Company Name: ABC Engineering Assoc.

Engineer: John Doe

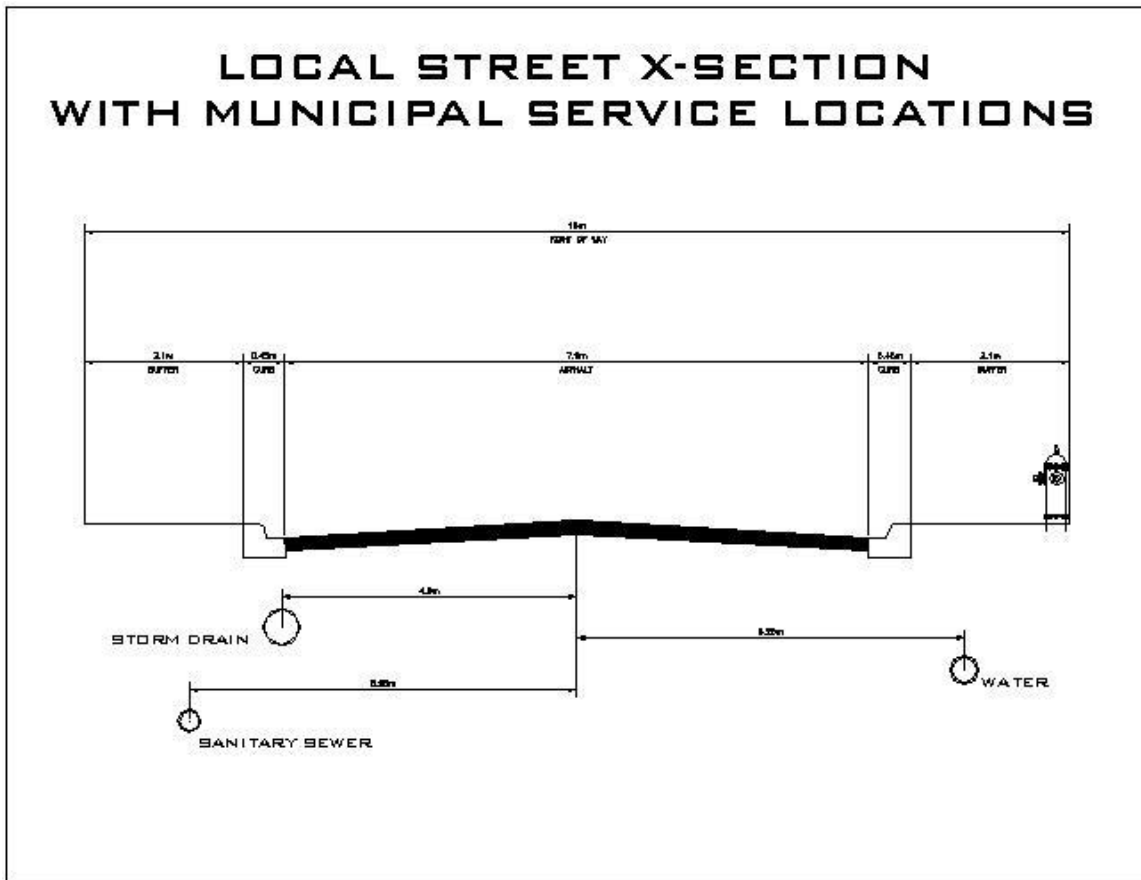
**NOTE:** See Subdivision Grading Plan for foundation elevation and lot drainage information. N.T.S.

Drawn By: J. Smith	<b>LOT SERVICING INFORMATION</b>	CITY OF SUMMERSIDE
Date: February 1999		TECHNICAL SERVICES DEPARTMENT
Approved By: J.D.	"SUBDIVISION NAME"	DRAWING NO: D3-1
Reviewed By: J.B.		

**10.2 D5-1 Typical Cul-de-Sac**



### 10.3 D6-1 Local Street with Pipe Locations



**10.4 D7-1 Collector Street**

