DISTRICT OF SPARWOOD

Subdivision Servicing Bylaw
BYLAW No. 591c, 1994

DISTRICT OF SPARWOOD

UNOFFICIAL CONSOLIDATION OF
SUBDIVISION SERVICING BY-LAW NO. 591, 1994
INCLUDING THE FOLLOWING BYLAWS:
(996, 1063, 1102)

A Bylaw to Regulate and Provide Minimum Standards
for the Subdivision of Land

CONTENTS

LIST OF SCHEDULES

1. **DEFINITIONS**

AASHO means the American Association of State Highway Officials.

Applicant means a person applying for the approval of a subdivision, whether as the owner of the property proposed to be subdivided or as agent for the owner.

Approval, Final means the Approving Officer's affixing his signature to the subdivision plan pursuant to Section 88 of the Land Title Act.

Approval, Preliminary Layout means written notification of a review of information presented to the Approving Officer prior to submission of a subdivision plan for final approval.

Approving Officer means the person appointed by Council as approving officer under the Land Title Act.

ASTM means the American Society for Testing and Materials.

AWWA means the American Water Works Association.

Bonding means security deposit.

Boulevard means that portion of a highway between the curb lines or the lateral boundary lines of a roadway and the adjoining property or between curbs on median strips or islands, but does not include curbs, sidewalks, ditches or driveways.

Community Open Access FON/FTTP means a community owned, open access, Fiber Optic Network/Fiber To The Premise network for use by telecommunications service providers to supply telecom related services to and from all businesses, industries, public buildings, institutions, and individual residences.

Community Sewerage System means a system of sewage disposal works approved under the Waste Management Act or under the Health Act and owned, operated and maintained by the District of Sparwood.

Community Water System means a system of waterworks approved under the Health Act, which is owned, operated and maintained by the District of Sparwood.

CSA means Canadian Standards Association.

Duct means a PVC or HDPE conduit or duct of a specific size for the purpose of connection to a utility or telecom network.

Developer means the owner of the subdivision or his agent appointed in writing.

FON means Fiber Optic Network

FTTP means Fiber To The Premise. Also known as FTTH (Fiber To The Home) or FTTx (Fiber To The Home, Premises, Building, Business, Curb, Node)

Hand Hole means the flush mount service boxes placed in the ground as specified for the Telecom Networks and used for termination and splicing or fiber optic cables.

Highway includes a street, road, lane, bridge, viaduct and any other way open to public use, but does not include a private right-of-way on private property.

K Value means the distance required to effect a one percent change in gradient on a vertical curve.

Lane means a highway less than 10 metres in width intended to furnish secondary access to a lot.

Lot means the smallest unit in which land is designated as a separate and distinct parcel on a legally recorded plan or description filed in the Land Title Office.

Municipality means the District of Sparwood or the area within the municipal boundaries thereof as the context may require.

Potable Water means water which is approved for drinking purposes by the Medical Health Officer.

Right-of-Way includes land or any interest in land acquired for the purpose of:

(a) public rights of passage with or without vehicles;

(b) constructing, maintaining or operating any railway, street railway, tramway or aerial tramway;

(c) erecting and maintaining any poleline, wood or timber chute;

(d) laying, placing and maintaining drains, ditches, ducts, pipes, transmission lines or wires for the conveyance, transmission or transportation of water, electric power, telecommunication or for the disposal of sewage.

Service Ducts means ducts of specified size to service the individual residential lots within a subdivision.

Street, Arterial means a highway:

(a) with the function of moving vehicles between major traffic generators;

(b) on which traffic or projected traffic volumes are in excess of 5,000 vehicles per day;

(c) with normal operating speeds of 50 to 70 kilometres per hour;

(d) from which no direct access to residential property is permitted.

Street, Collector means a highway:

(a) with the function of distributing local traffic to an arterial street;

(b) on which traffic or projected traffic volumes are between 1,000 and 5,000 vehicles per day; and

(c) with normal operating speeds of 50 kilometres per hour.

Street, Local means a highway:

(a) with the function of providing direct access to property;

(b) on which traffic or projected traffic volumes are less than 1,000 vehicles per day; and

(c) with normal operating speeds of less than 50 kilometres per hour.

Subdivision means any change in the existing size, shape, number or arrangement of registered lots or a consolidation of lots, whether or not involving the creation of a greater number of lots than those in existence and whether carried out by plan, by metes and bounds description or otherwise.

Telecommunications (Telecom) Networks means the inclusion of all telecom networks including, but not limited to, Cable TV networks; Fiber Optic Networks; FTTP networks; and Telephone networks.

Telecommunications Access means provisioning of all available telecom services to each and every business, industrial premise, public building, institution, and individual residence.

UAU means urban arterial undivided road.

UCU means urban collector undivided road.

ULU means urban local undivided road.

Works and Services means all works and services as defined in section 989 of the Municipal Act and required under this Bylaw.

Zone means a zone established under the Zoning Bylaw of the District of Sparwood.

2. PROCEDURE FOR SUBDIVISION APPLICATIONS

All proposed subdivisions applications must meet the requirements of this section before being presented for final approval by the Approving Officer.

(1) General Provisions

No land shall be subdivided unless:

(a) the proposed subdivision is suited to the configuration of the land being subdivided; and

(b) the lots created by the subdivision are suited to the use to which they are intended and the owner of the land being subdivided shall state in writing such intended use when application is made for approval of the subdivision; and

(c) the proposed subdivision is designed as to make practical the future subdivision of the land within the subdivision or the land adjacent to it; and

(d) the lots created conform to the minimum lot dimensional and area requirements for the zone in which they are located, as prescribed by the Zoning Bylaw.

(2) Application for Subdivision Approval

(a) An applicant for subdivision approval may, before preparing a plan of subdivision to be submitted for approval pursuant to the provisions of the Land Title Act, make an application for Preliminary Layout Approval in the form of Schedule "A" attached hereto. This application shall be accompanied by sketch plans of the proposal and include information that the Approving Officer may require to appraise the suitability of the application.

(b) Preliminary Layout Approval of any subdivision is not construed as final approval for land registration or any other purpose. Preliminary Layout approval is not considered as acceptance by the Municipality or its Approving Officer of anything except the general layout of the proposed subdivision and a list of minimum conditions which would be taken into consideration on an application for final approval. Preliminary Layout Approval is valid for a period of 180 days. The period of 180 days may be extended by the Approving Officer for further periods, each of not more than 90 days and the sum of all extensions shall not exceed 180 days. Preliminary Layout approval is revocable by the Approving Officer at any time before final approval is granted.

(c) Every applicant for a subdivision approval shall submit, with his application, a fee of One Hundred Dollars ($100.00) for the first lot to be created by the proposed subdivision and Ten Dollars ($10.00) for each additional lot to be created by the proposed subdivision.

(d) The fee required under Section (c) is not construed to be used to recover the costs of any repairs, replacements, inspections or duties, if the repairs, replacements, inspections or duties are stated in Section 5 to be the responsibility of the Developer.

(e) Every applicant for subdivision approval shall, with his application, state the use to which he intends to put the land following its subdivision.

(f) Every applicant for subdivision approval shall submit copies of engineered drawings and specifications in triplicate for review and approval by the approving officer. The drawings and specifications shall be prepared by a professional engineer who is a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia.

(g) Final subdivision approval is required prior to the signing and registering of plans under the Land Titles Act and is to be applied for in the form of Schedule F, attached to and forming part of this by-law. The procedure governing final approval is specified in Section 5 of this by-law.

3. **WORKS AND SERVICES REQUIRED AND CONSTRUCTION STANDARDS**

No person shall subdivide land except in conformity to the relevant requirements set out hereunder and unless specifically provided otherwise all works and services required to be constructed and installed shall be constructed and installed at the expense of the owner of land proposed to be subdivided.

A. The Master Municipal Construction Documents Platinum Edition Volumes 1 & 2 and Design Guideline Manual as amended and published by the Master Municipal Construction Documents Association hereby form part of this bylaw. The provisions of this bylaw supersede the provisions of the Master Municipal Specifications.

(1) **Highways**

(a) Highway requirements are that all new highways within the subdivision, including widening strips of existing highways, cul-de-sacs or lanes, be cleared, graded, drained and

surfaced in accordance with the standards, plans and specifications prescribed and set out in Schedule "B" attached hereto. No highway proposed to be dedicated by subdivision plan shall be shown on a plan, dedicated, laid out or constructed unless the dimensions, locations, alignment and gradient meet the requirements for highways as set out in Schedule "B" to this Bylaw.

(b) Where a highway is required to be provided by an owner of land being subdivided, pursuant to this Bylaw and such highway would, if constructed to a larger size, provide a benefit to lands outside the land being subdivided, the Municipality may require that the highway be constructed with a capacity in excess of that required to serve the subdivision and of a size sufficient to serve the lands that would benefit as well as the lands being subdivided.

Where the Municipality requires a highway to be larger than necessary to serve the land being subdivided, the costs shall be pursuant to Section 939 of the Local Government Act. All such oversize highways require designation at the time of approval of the engineering drawings.

Interest per annum shall be charged at the prime rate as calculated by the bank the District of Sparwood itself deals with on the 1st day of January for the purposes of Section 939(8) of the Local Government Act."

(2) **Sidewalks**

Sidewalk requirements are that where any lot is being subdivided and a highway or portion thereof is being created, sidewalks be located and constructed in accordance with the standards set out in Schedule "B" attached hereto.

Lands subdivided within the following zones require provision with sidewalks:

(a) RR-1 Restricted Low Density Residential if lot area is less than 2.0 ha (4.9 ac)
(b) R-1 Low Density Residential - if lot area is less than 2.0 ha (4.9 ac)
(c) R-2 Medium Density Residential
(d) R-3 High Density Residential
(e) RR-MH Restricted Mobile Home Subdivision - if lot area is less than 2.0 ha (4.9 ac)
(f) R-MH Modular Home Subdivision - if lot area is less than 2.0 ha (4.9 ac)
(f.1) R-MH1 Mobile Homes Subdivision - if lot area is less than 2.0 ha (4.9 ac)
(g) C-1 Central Business District Commercial
(h) C-3 Neighbourhood Commercial

(i) C-4 Comprehensive Commercial
(j) I-1 Institutional
(k) I-2 Institutional - Government

(3) **Boulevards**

Boulevard requirements are that where any lot is being subdivided and a highway or portion thereof is being created, boulevards be located and constructed in accordance with the standards set out in Schedule "B" attached hereto.

(4) **Street Lighting**

Street lighting requirements are that where any lot is being subdivided and a highway or portion thereof is being created, street lighting be located and constructed in accordance with the standards set out in Schedule "B" attached hereto.

(5) **Shallow Utilities**

This section pertains to electricity, gas, telephone, fiber optics and cable television.

(a) Where the intended use of the land being subdivided is such that electricity and telecommunication networks are required for the intended use, electricity and telecommunications networks shall be provided to each lot in the subdivision.

(b) Notwithstanding (5)(a) where the immediate surrounding area is and has been predominantly aerial or the intended usage is such that it is not possible and/or practical to provide underground wiring, the approving officer may approve, given sufficient evidence, a relaxation in the requirement for complete underground wiring for the following zones: M-1, PR, P, R-MP.

(c) Notwithstanding (5)(b) above the following zones shall be fed and serviced entirely with underground wiring within the subdivision: RR-1, R-1, RR-MH, R-MH, R-MH1, R-2, R-3C-1, C-2, C-3, C-4, I1, I2.

(d) The following zones may be serviced with overhead wiring: A-1, M-2, M-3.

(e) Must provide a conduit and hand hold (service box) system to allow for future deployment of Fiber Optics.

(f) Formal line assignment shall be as approved by the Approving Officer.

(g) Once the Construction Completion Certificate has been issued, the Municipality will offset the costs of the installation of the FON by paying the developer $210 per lot serviced.

(6) **Water Supply**

(a) Water supply requirements are that all subdivided lots be serviced by a water supply system and if the lands intended to be subdivided are located within an area of the Municipality that can be serviced by the water distribution system of the Municipality, that a water distribution system, including watermains, valves, hydrants and service connections, be provided in accordance with the standards set out in Schedule "C" attached hereto and the water distribution system connected to the existing water supply system of the Municipality in accordance with the standards set out in Schedule "C" attached hereto.

(b) Notwithstanding subsection 3(6)(a), lands subdivided within the following zones require servicing by a community water system:

- RR-1 Restricted Low Density Residential - if lot area is less than 2.0 ha (4.9 ac)
- R-1 Low Density Residential - if lot area is less than 2.0 ha (4.9 ac)
- R-2 Medium Density Residential
- R-3 High Density Residential
- RR-MH Restricted Mobile Home Subdivision - if lot area is less than 2.0 ha (4.9 ac)
- R-MH Modular Home Subdivision - if lot area is less than 2.0 ha (4.9 ac)
- R-MH1 Mobile Homes Subdivision - if lot area is less than 2.0 ha (4.9 ac)
- C-1 Central Business District Commercial
- C-3 Neighbourhood Commercial
- C-4 Comprehensive Commercial
- I-1 Institutional
- I-2 Institutional - Government

(c) Where a trunk watermain is required to be provided by an owner of land being subdivided, pursuant to this Bylaw and such trunk main would, if constructed to a larger size, provide a benefit to lands outside the land being subdivided, the Municipality may require that the trunk main be constructed with a capacity in excess of that required to serve the subdivision and of a size sufficient to serve the lands that would benefit as well as the lands being subdivided.

"Where the Municipality requires water mains to be larger than necessary to serve the land being subdivided, the costs shall be pursuant to Section 939 of the Local Government Act. All such oversize water mains require designation at the time of approval of the engineering drawings.

Interest per annum shall be charged at the prime rate as calculated by the bank the District of Sparwood itself deals with on the 1st day of January for the purposes of Section 939(8) of the Local Government Act."

(d) The inspection, testing and approval of the construction of the water distribution facilities shall be in accordance with the standards set out in Section 5(2) and Schedule "C" attached hereto.

(e) When the installation and testing of the community water system is completed and the community water system is approved by the Approving Officer, all works shall become the property of the District of Sparwood.

(f) Where the proposed subdivision is located in an area of the Municipality that is not within an area in which the Municipality can supply water, then each lot in the subdivision requires provision with its own proven supply of potable groundwater, located on each lot, in accordance with the standards set out in Schedule "C" attached hereto.

(7) **Sewage Collection and Disposal**

(a) Sewage Collection and disposal requirements are that all subdivided lots be serviced by a sewage collection and disposal system and that where any lot proposed to be subdivided is located within an area of the Municipality that can be serviced by the sewage collection and disposal system of the Municipality such lot not be subdivided unless the subdivision is provided with a sewage collection and disposal system including gravity sewage mains, pump stations and force mains, manholes, service connections and all appurtenant facilities, in accordance with the standards set out in Schedule "D" hereto and the collection system is connected by trunk sewage mains to the Municipal trunk sewage mains, in accordance with the standards set out in Schedule "D" attached hereto.

(b) Notwithstanding subsection 3(7)(a), lands subdivided within the following zones or within areas of the Municipality intended to be designated as the following zones require servicing by a community sewerage system:

- RR-1 Restricted Low Density Residential - if lot area is less than 2.0 ha (4.9 ac)
- R-1 Low Density Residential - if lot area is less than 2.0ha (4.9 ac)
- R-2 Medium Density Residential
- R-3 High Density Residential
- RR-MH Restricted Mobile Home Subdivision - if lot area is less than 2.0 ha (4.9 ac)
- R-MH Modular Home Subdivision - if lot area is less than 2.0 ha (4.9 ac)
- R-MH1 Mobile Home Subdivision - if lot area is less than 2.0 ha (4.9 ac)
- C-1 Central Business District Commercial
- C-3 Neighbourhood Commercial
- C-4 Comprehensive Commercial
- I-1 Institutional
- I-2 Institutional - Government

(c) Where a trunk sewage main is required to be provided by an owner of land being subdivided, pursuant to this Bylaw and such trunk main would, if constructed to a larger size than necessary, provide a benefit to lands outside the land being subdivided, the Municipality may require that the trunk main be constructed with a capacity in excess of that required to serve the subdivision and of a size sufficient to serve the lands that would benefit as well as the lands being subdivided.

Where the Municipality requires sanitary sewer mains to be larger than necessary to serve the land being subdivided, the costs shall be pursuant to Section 939 of the Local Government Act. All such oversize sanitary sewer mains require designation at the time of approval of the engineering drawings.

Interest per annum shall be charged at the prime rate as calculated by the bank the District of Sparwood itself deals with on the 1st day of January for the purposes of Section 939(8) of the Local Government Act.

(d) The inspection, testing and approval of the construction of the sewage collection and disposal system shall be in accordance with the standards set out in Section 5(2) and Schedule "D" attached hereto.

(e) When the installation and testing of the community sewerage works is completed and the community sewerage works is approved by the Approving Officer, all works shall become the property of the District of Sparwood.

(f) Where it is proposed to create un-sewered lots by subdivision, the applicant shall cause percolation and groundwater depth tests to be made by a competent person in accordance with the requirements of the Provincial Sewage Disposal Regulations.

The results of such tests together with evidence that sewage effluent may be disposed of in accordance with the Provincial Regulations and the provisions of Schedule "D" attached hereto.

(8) **Drainage**

(a) Drainage requirements are that all subdivided lots be serviced with a drainage collection and disposal system and that where any lot is proposed to be subdivided and is located within an area of the Municipality that can be serviced by the drainage collection and disposal system of the Municipality, the subdivision be provided with a drainage collection system, including gravity storm mains, manholes, catch-basins, inlet and outlet structures, flapgates, ditches, culverts, flumes, water courses as required, service connections and all appurtenant facilities, in accordance with the standards set out in Schedule "E" hereto and the drainage collection system connected by trunk drainage mains to the Municipal drainage system in accordance with the standards set out in Schedule "E" attached hereto.

(b) Where a trunk drainage main is required to be provided by an owner of land being subdivided, pursuant to this Bylaw and such trunk main would, if constructed to a larger size, provide a benefit to lands outside the land being subdivided, the Municipality may require that the trunk main be constructed with a capacity in excess of that required to serve the subdivision and of a size sufficient to serve the lands that would benefit as well as the lands being subdivided.

Where the Municipality requires drainage sewer mains to be larger than necessary to serve the land being subdivided, the costs shall be pursuant to Section 939 of the Local Government Act. All such oversize drainage sewer mains require designation at the time of approval of the engineering drawings.

Interest per annum shall be charged at the prime rate as calculated by the bank the District of Sparwood itself deals with on the 1st day of January for the purposes of Section 939(8) of the Local Government Act.

(c) The inspection, testing and approval of the construction of the drainage collection system shall be in accordance with the standards set out in Section 5(2) and Schedule "E" attached hereto.

(d) When the installation and testing of the drainage collection system is completed and the drainage collection system is approved by the Approving Officer, all works shall become the property of the District of Sparwood.

(9) **Metric Measurements**

(a) The measurements in this Bylaw are in metric and all imperial measurements are approximations included for convenience only.

(10) **Construction Plans and Specifications**

The applicant shall submit construction plans and specifications prepared and Sealed by a Professional Engineer to the Approving Officer, clearly indicating all the work proposed to be done. Plans together with all design data and contract specifications shall provide and properly set out all information required for construction as set out herein and receive approval from the Approving Officer prior to commencement of any construction. On this set of plans shall be shown in addition to water, sanitary sewer, storm sewer and highway works and services:

- The oversize of any sanitary sewers, storm sewers and water mains;
- Widths, subbase and pavement structure depths of roads and lanes;
- A proposed Land Use Classification map indicating the Land Use Classification of all the lots;
- The location of test holes with logs;
- Contours of the highest water table;
- Proposed lowest top of footing elevations;
- Lot corner elevations;
- Sewer and water connection invert elevations at the property line, or at three (3.0) metres inside the property line, for each lot where applicable;
- Weeping drain tile requirements;

- Storm drainage areas and flow calculations;
- The existing shallow utilities plus new utility and Telecommunication ducting to each lot line.
- An overall overland drainage control plan to indicate the overland emergency escape route and/or street storage to facilitate major rainstorms;
- A building grade plan indicating the suggested front grade, and in identifiable areas, the established lot grades for drainage protection;

and any other information which the Approving Officer requires as to types of material and construction.

(11) **Record Drawings**

Immediately upon the completion of the construction and installation of the works and services, the applicant shall deliver to the Approving Officer for review, all inspection testing records and two complete sets of prints of all design and construction drawings setting out the works and services constructed pursuant to this agreement and showing actual locations, descriptions and all "as-constructed" elevations referred to geodetic datum. All plans and information required by the Approving Officer to be amended or revised shall be corrected by the applicant and resubmitted for final acceptance by the Approving Officer. Upon final approval of the record drawings, the applicant shall deliver record drawings to the Approving Officer. Record drawings shall be submitted electronically and in print, in formats acceptable to the Approving Officer.

4. **BONDING**

(1) **Construction Period**

(a) For the purposes of Section 991(a) of the Municipal Act, any bond taken for the construction period shall be in the form of cash or the Letter of Credit attached hereto as Schedule "G" and shall be in the amount of one hundred and twenty-five percent (125%) of the cost of engineering, construction and installation of the works and services plus supervision, legal survey and other costs in connection therewith, as estimated by the Approving Officer.

(2) **Maintenance Period**

(a) For the purposes of Section 991(a) of the Municipal Act, any bond taken for the maintenance period shall be in the form of cash or the Letter of Credit attached hereto as Schedule

"G" and shall be in the amount of fifteen percent (15%) of the cost of engineering, construction and installation of the works and services, plus supervision, legal survey and other costs in connection therewith, as estimated by the Approving Officer.

(3) **Specification of Construction and Maintenance Periods**

(a) Construction period shall terminate upon the issuance of an approved Construction Completion Certificate, signed by the Approving Officer.

(b) Maintenance period shall terminate upon issuance of an approved Final Acceptance Certificate, signed by the Approving Officer, which has no deficiencies to be completed or corrected.

(4) Where an owner of land proposed to be subdivided constructs and installs the works and services necessary to serve the proposed subdivision without entering into an agreement with the District of Sparwood as referred to in Section 991(b) of the Municipal Act, that owner shall deposit with the District of Sparwood a bond which shall be taken as surety for the maintenance period and which shall be in the form of cash or the Letter of Credit attached hereto as Schedule "G" and shall be in the amount of fifteen percent (15%) of the cost of engineering, construction and installation of the works and services as estimated by the Approving Officer.

(5) For the purposes of Section 991(b) of the Municipal Act, the agreement to be undertaken between the Municipality and the owner of the land being subdivided shall be in the form of the agreement attached hereto as Schedule"H".

5. **CONNECTIONS**

(1) Where an owner of land proposed to be subdivided constructs and installs the works and services necessary to serve the proposed subdivision without entering into an agreement with the District of Sparwood as referred to in Section 4(5) of this Bylaw:

(a) The owner shall not connect such works and services to any of the sewer, drainage, electrical, telecommunication, or waterworks systems of the District of Sparwood and the District of Sparwood shall not accept the works constructed and installed by the owner or any part thereof, until:

(i) the layout of the proposed subdivision has been approved by the Approving Officer; and

(ii) the owner has deposited with the Approving Officer record drawings of such works and services prepared by

a Professional Engineer including individual lot servicing records in a format acceptable to the approving officer; and

(iii) the owner has caused to be registered in the Land Title Office at Kamloops and has deposited with the Approving Officer a copy of all rights-of-way required where such works and services cross private property; and

(iv) the issuance of an approved Construction Completion Certificate, signed by the Approving Officer, which has no deficiencies to be completed or corrected; and

(v) the owner has deposited with the District of Sparwood a bond as referred to in Section 4(4) of this Bylaw;

(b) Once the Approving Officer has signed the Construction Completion Certificate submitted by the developer under subsection (2) of this section, the works and services requirements of this Bylaw other than maintenance have been met.

(2) For the purpose of Section 991 of the Municipal Act and for the purposes of Section 4(4) of this Bylaw, the following procedure governs the issue of Construction Completion Certificates and Final Acceptance Certificates and Application for Final Approval of the Subdivision:

(a) Prior to the issuance of the Construction Completion Certificate, the Developer shall carry out, at his own cost, a television survey of all sanitary and storm sewer lines which are to be accepted by the Approving Officer. Should the television survey show any defects these shall be remedied by the Developer and the Developer shall carry out, at his costs, any further television surveys necessary to show proof that the defects are corrected. Tapes of the television survey shall be turned over to the District in a format acceptable to the Approving Officer.

(b) The developer shall, upon being satisfied that all of the Approving Officer's requirements are met, submit to the Approving Officer four (4) copies of a Construction Completion Certificate signed by the Developer's Engineer for each of the following works and services installed:

- sanitary sewers
- storm sewers
- waterworks
- sewer and water lot services

- paved streets
- curb, gutter, sidewalks & catchbasins
- lanes
- street lighting
- underground works and services relating to any and all telecommunications network infrastructure including the community open access FON/FTTP network
- underground works and services related to any and all utility companies
- landscaping

(c) The Approving Officer shall, within one (1) month of receipt of the Construction Completion Certificate, inspect the works and services with representatives of the Developer and his Engineer.

(d) If the inspection shows to the satisfaction of the Approving Officer that the works and services are completed, the Approving Officer shall sign the Construction Completion Certificate and shall indicate therein the date when the Developer shall cease to be responsible for maintenance. If, however, defects or deficiencies are apparent to the Approving Officer in the works and services, the Certificate will be returned to the Developer unsigned with a report of the defects.

(e) The Approving Officer will not sign and issue a Construction Completion Certificate until he is satisfied that all defects in the works and services are remedied and that all works and services which are required by this bylaw or by the Approving Officer have been constructed and completed in accordance with the specifications prescribed by this Bylaw.

(f) After the issuance of the Construction Completion Certificate the Developer is responsible for any and all repairs and replacements to any works and services which may become necessary from any cause whatever, up to the end of the maintenance period mentioned in the said Construction Completion Certificate.

(g) After all required Construction Completion Certificates for works and services have been duly approved by the Approving Officer, the Developer then may apply for final approval of the subdivision which is required before plans are signed and registered. This application is in the form of Schedule "F", attached to and forming part of this Bylaw.

(h) If during the maintenance period any defects become apparent in any of the works and services installed or

constructed and the Approving Officer requires repairs or replacement to be done, the Developer shall, within a time after notice, satisfactory to the Approving Officer, cause such repairs or replacements to be done and if the Developer defaults or any emergency exists, the Approving Officer may do the repairs or have the replacements carried out and the Municipality may recover the cost from the Developer or from the bond referred to in Section 4(4) of this Bylaw.

(i) The Municipality will, from the date of the Construction Completion Certificate, flush and clean out the sanitary sewers as required in ordinary maintenance procedure. The cost of removing obstructions caused by gravel, rocks or silt which is other than that deposited from sewage, may be charged to the Developer. All blocked sewers attributable to faulty construction shall be corrected at the expense of the Developer.

(j) The Developer is responsible for adjusting all hydrants, hydrant and main valve boxes and all service valve boxes to the established grades as they are developed and maintaining the valves and appurtenances in operating condition until such time as the Approving Officer issues the Final Acceptance Certificates for the paved streets, lanes and curb, gutter and sidewalks.

(k) Maintenance (without limiting the generality of the term) for which the Developer is responsible includes:

  (i) failure of or damage to underground works and services resulting from defective materials or improper installation;

  (ii) settlement of ditches;

  (iii) grading, gravelling, repairs and/or replacement of road and lane surfaces including the access roads;

  (iv) adjustments and repairs to watermains, main valves, water hydrants, hydrant valves, service lines and valves and valve operating mechanisms including the casings enclosing these mechanisms;

  (v) repairs, replacements and adjustments to sewer mains, sewer services, manholes, manhole frames and covers.

(l) The Developer agrees that maintenance is a continuous operation which shall be carried on until the date of issuance of the Final Acceptance Certificate for each of the works and

services and no releases from liability of any kind will be given by the Municipality to the Developer until all repairs or replacements required by the Approving Officer in the final inspection reports have been made.

(m) The Developer shall maintain each of the various works and services for the greater, respectively, of each of the following periods, from the dates shown in the Construction Completion Certificates:

Sanitary Sewers	One Year
Storm Sewers	One Year
Watermains & Hydrants	One Year
Sewer and Water Lot Services	One Year
Gravelled lanes including sewer manholes, manhole frames and covers. Watermain and hydrant valves and valve operating mechanisms, sewer and water connection valves and valve operating mechanisms installed in these lanes.	One Year from the date of the Construction Completion Certificate for roads, lanes or pathways.
Sidewalks, curbs and gutters	Two Years
Paved Roads, Lanes & Pathways Or; Where the base gravels or lower course of asphalt is placed to design grade and allowed to settle over one winter prior to the placement of the surface course.	Two Years One Year
Landscaping	Two full growing seasons
Street Light System	One Year
Sewer manholes, manhole frames and covers, watermains and hydrant valves and valve operating mechanisms, sewer and water connection valves and valve operating mechanisms and catch basin leads installed in lanes, roads or pathways	One year from the date of the Construction Completion Certificate for roads, lanes or pathways

Underground works and services related to any and all utility companies plus telecommunications networks, including but not limited to, the community open access FON/FTTP network.	One Year

The above dates may be extended by the Approving Officer when compaction test results or other documented observations indicate substandard construction.

(n) Two months before the expiration of the maintenance period for each of the works and services or earlier if weather conditions dictate, the Developer's Engineer, following a complete inspection of the works and services accompanied by his Contractor, shall correct all defects noted due to damage and other causes. For each of the works and services, four (4) copies of the Final Acceptance Certificate, duly signed by the Developer's Engineer will then be submitted to the Approving Officer.

(o) After receipt of the Final Acceptance Certificate, the Approving Officer shall make an inspection within one month of the receipt thereof, if weather conditions permit a proper inspection. If the inspection shows to the satisfaction of the Approving Officer that the works and services are acceptable, the Approving Officer shall approve the Final Acceptance Certificate. If, however, defects or deficiencies are apparent to the Approving Officer in the works and services, the Final Acceptance Certificate will be returned to the Developer unsigned with a report of the defects and deficiencies listed and with a statement of the length of time in which the deficiencies and defects shall be corrected by the Developer at his own expense.

(p) Should the Developer fail to correct the defects of deficiencies listed in a report appended to an unsigned Final Acceptance Certificate or to pay for any damage resulting therefrom, the Municipality may deduct the cost of correcting the deficiencies or defects or paying the damage from the bond referred to in Section 4(4) of this Bylaw.

6. BYLAW ENFORCEMENT

(1) Compliance

The provisions of this Bylaw apply to the whole of the area within the boundaries of the District of Sparwood. No person shall subdivide land contrary to the provisions of this Bylaw.

(2) **Inspection**

The Approving Officer and his delegates may enter at all reasonable times upon the land for which an application for Preliminary Layout approval or to subdivide has been made in order to ascertain whether the provisions of this Bylaw are being observed.

(3) **Penalty**

(a) A person who violates any provision of this Bylaw commits an offence and is liable to the penalties provided under the Offence Act. Each day during which a violation under this bylaw continues may constitute a separate offence.

(b) If a person fails to do anything required to be done by them pursuant to this Bylaw, the Council may direct that such thing be done at the expense of the person in default and the expense thereof, may be recovered with interest and in the same manner as municipal taxes.

(4) **Contravention of Other Regulations**

No subdivision shall be approved which would have the effect of causing any existing building, structure, sewerage or water installation to be in contravention of any building, zoning or other regulation in force on a lot under consideration or adversely affect the quality of the source of potable water used on that lot.

(5) **Severability**

If any section, subsection, clause, subclause or phrase of this Bylaw is for any reason held to be invalid by the decision of any court of competent jurisdiction, it shall be severable from the remaining parts of this Bylaw.

(6) **Schedules**

Schedules "A" through "J" inclusive, as attached hereto, are hereby made a part hereof.

(7) **Repeal**

Bylaw Number 265, 303, 326, 401, and 498 of the District of Sparwood are hereby repealed.

(8) This Bylaw may be cited for all purposes as, "Subdivision Servicing Bylaw No. 591, 1994".

READ A FIRST TIME THIS	**7th**	**DAY OF**	**March**	**1994**

READ A SECOND TIME THIS	**7th**	**DAY OF**	**March**	**1994**
READ A THIRD TIME THIS	**7th**	**DAY OF**	**March**	**1994**
RECONSIDERED AND FINALLY ADOPTED THIS	**21st**	**DAY OF**	**March**	**1994**

_____ _____

Mayor Clerk

SCHEDULE "A"
DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW
APPLICATION FOR PRELIMINARY LAYOUT APPROVAL

(I) (We) _____
(Name of Owner)

of _____
(Address) (Phone No.)

hereby make application under the provisions of the Subdivision Servicing Bylaw of the District of Sparwood for Preliminary Layout Approval of the Subdivision described below upon:

Lot(s)	Existing Zoning is
Block(s)	Existing Use is
Plan(s)	Intended Use is
District Lot(s)	Number of Lots Existing
Civic Address(es)	Number of Lots Proposed
	Park Land Provisions
A.L.R. Designation	Physical Constraints

(Fill in if applicable, mark N/A if not)

This application includes four copies of a sketch plan of the proposed subdivision at a scale of not less than 1:2000. The Plan shows all the requirements listed in Section 3 of the Subdivision Servicing Bylaw No. 591, 1994.

(I) (We) hereby declare that all the above statements and the information contained in the material submitted in support of this application are to the best of my belief true and correct in all respects.

_____ _____
Date Owner's Signature (If Agent written authorization required)

SCHEDULE "B"

DISTRICT OF SPARWOOD
SUBDIVISION SERVICING BY-LAW
HIGHWAY REQUIREMENTS

1. **Geometric Design**

Geometric design standards requirements are in accordance with the following table and for standards not identified in the following table, with the Geometric Design Standards for Canadian Roads and Streets as published by the Roads and Transportation Association of Canada:

Item	Local Street (ULU)	Collector Street (UCU)	Arterial Street (UAU)
Design speed	50 km/hr	70 km/hr*	80 km/hr
Minimum stopping sight distance	65 m	110 m	140 m
Minimum intersection spacing	75 m	75 m	220 m
Minimum horizontal curvature-radius	80 m**	190 m	250 m
Maximum superelevation m/m	0.02	0.06	0.06
Vertical crest curve-K value	7 min. (10 desirable)	22 min. (35 desirable)	35 min. (55 desirable)
Vertical sag curve K-value	6 min. (11 desirable)	15 min. (25 desirable)	20 min. (30 desirable)
Street gradients	0.60% min. 10.0% max.	0.60% min. 8.0% max.	0.60% min. 6.0% max.
Maximum gradients for stop roads at intersections	3.5%	3.5%	2.0%
Minimum right-of-way width	18 m	20 m	30 m
Minimum right-of-way in M-1 light industrial zone	18 m	20 m	30 m
Minimum pavement width, measured from lip of gutter to lip of gutter where curb and gutter are installed	10.4 m	12 m	14 m
Minimum curb return radius	9 m	12.5 m	15 m
Minimum monolithic sidewalk curb and gutter width	1.2 m	1.5 m	-----
Minimum separate side-walk width	1.2 m	1.5 m	1.5 m

* Should physical constraints dictate, collector streets may be designated to a speed of 60 km/hr in accordance with Geometric Design Standards for Canadian Roads and Streets as published by the Roads and Transportation Association of Canada.

** Radii less than 80 m are acceptable on a residential street if accompanied by acceptable pavement widening.

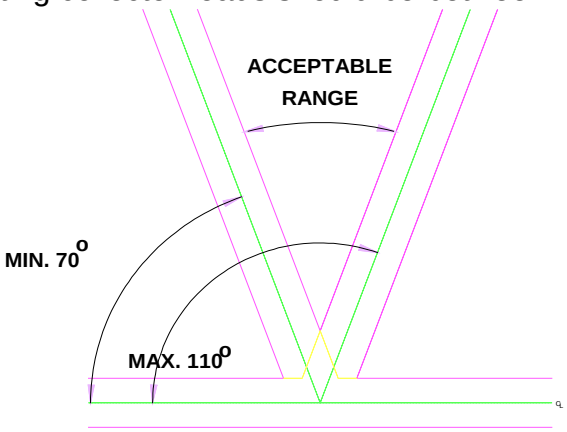
2. **Functional Planning**

Functional planning requirements are in accordance with the following table:

Item	Local Street (ULU)	Collector Street (UCU)	Arterial Street (UAU)
Function	provide direct access to property	distribute local traffic to an arterial street	move vehicles between major traffic generators
Projected	less than 1,000 vehicles/day	1,000-5,000 vehicles/day	more than 5,000 vehicles/day
Normal operating	less than 50 km/hr	50 km/hr	50-70 km/hr

3. **Additional Design Standards For Collector Roads**

Angles of intersecting collector roads should be between 70 and 110 degrees.



Intersections of more than two collector roads are not recommended.

Access to any adjacent land use shall be at locations greater than 25 metres distant from the centreline of the intersection of collector roads.

4. **Cul-de-Sacs**

Maximum length of a cul-de-sac is 110 m measured from the edge of the connecting street right-of-way to the beginning of the bulb, as shown on Figure B - 4.

Minimum pavement width in cul-de-sac shall be 12.0 m.

Cul-de-sacs require the bulb dimensions shown on Figure B - 4.

Maximum gradient for cul-de-sac shall be 8.0%

Minimum gradient for cul-de-sac shall be 1.0%

Cul-de-sacs require design in accordance with the Local Street Geometric Design Standards in residential areas and in Accordance with the Collector Street Geometric Design Standards in commercial and industrial areas.

All cul-de-sacs require grading so that they drain by gravity out to the connecting street. Trapped lows in cul-de-sacs are not permitted.

5. **Sub-base, Base and Pavement Thickness**

The minimum sub-base, base and pavement thicknesses are as follows:

Local Street	Sub-base gravel (40 mm - minus)	200 mm (8")
	20 mm (¾") granular base course	50 mm (2")
	Hot mix asphalt	65 mm (2½")
Collector Street	Sub-base gravel (40 mm - minus)	200 mm (8")
	20 mm (¾") granular base coarse	75 mm (3")
	Hot mix asphalt	90 mm (3½")
Arterial		
(i)	If base and pavement are constructed in the same construction season:	
	Sub-base gravel (40 mm - minus)	200 mm (8")
	20 mm (¾") granular base course	100 mm (4")
	Hot mix asphalt	125 mm (5")
(ii)	If base and pavement are not constructed in the same construction season:	
	Sub-base gravel (40 mm - minus)	300 mm (12")
	20 mm (¾") granular base coarse	100 mm (4")
	Hot mix asphalt	100 mm (4")

Requirements for compaction of road materials are as follows:

Sub-Base Gravel (40 mm - minus)	- layers shall not exceed 150 mm in depth - compaction shall not be less than 98% of the maximum dry density corrected for stone content as determined by the current issue of ASTM D698
Granular Base Course (20 mm - minus)	- layers shall not exceed 150 mm in depth - compaction shall not be less than 98% of the maximum dry density corrected for stone content as determined by the current issue of ASTM D698
Hot Mix Asphalt	- compaction shall not be less than 97% of field laboratory Marshall Briquet density

If Roads will be constructed over frost susceptible soils, the developer shall furnish proof, in the form of a report from an accredited soil testing company, as to the road structure and drainage required to reduce frost heaving to a minimum. The developer, at no expense to the District, shall provide the additional sub-base structure and drainage as recommended.

6. **Curb, Gutter and Sidewalks**

Sidewalks, curb and gutter are required as follows:

Local Streets - (including cul-de-sacs) low profile curb and gutter are required on both sides of the street and monolithic sidewalk required one side only.

Park Areas, School Sites, Multi-Family and Apartment Sites - Standard curb and gutter is required along the boundary. The use of monolithic or separate walk is contingent on the street standard as described above.
Curb, gutter and sidewalk shall be constructed using 25 MPa strength concrete, utilizing type 50 sulfate resistant cement. Dimensions and shape of curb, gutter and sidewalk shall be in accordance with the standard drawings.

Minimum grade for curb and gutter shall be 0.40% along gutter line.

Reinforcing steel shall be installed within the curb, gutter, sidewalk and monolithic curb, gutter and sidewalk structures where specified by the Approving Officer and as a minimum, shall be required at all underground works and services crossings, unstable areas, grades less than 0.8%, commercial and industrial lane crossings and in fill areas where greater than two metres. Minimum reinforcing steel shall consist of two 10-millimetre bars in curbs and gutters and four 10-millimetre bars in monolithic sidewalk curb and gutter structures.

All concrete curbs, gutter and sidewalk shall be placed on a minimum 50 mm deep granular base course compacted to minimum 98% of the maximum dry density as determined by the current issue of A.S.T.M. D698.

Sub-grade for all concrete curb, gutter and sidewalks shall be compacted to 95% Standard Proctor Density.
Wheelchair ramps are required at all intersections where curbs separate sidewalks from roadway. Wheelchair ramps shall be located at the mid point of the curb return. Dimensions and shape of wheelchair ramps shall be in accordance with the standard drawings.

Works and services fixtures shall be located so that there is a minimum distance of 0.30 metres from any fixture to the face of a curb or sidewalk.

Works and services shall not be continuously aligned underneath a curb, gutter or sidewalk.

7. **Boulevards**

All portions of the road allowance not paved or concreted shall be graded and covered with at least 100 mm (4") of topsoil and sodded or seeded to grass. Boulevards shall be sloped to the street at 2%. The Developer is responsible for maintenance of the boulevard for the same period of time as for the roads and walks except for those lots where occupancy by residents has occurred. Planting of (min. 75mm caliper) trees on the boulevards is desirable on local streets and is required on all others, in nonresidential areas.

8. **Lanes**

Minimum lane right-of-way width is 9 m and minimum carriageway width is 5 m. Lane cross-section shall be a centreline vee with a 2.5% crossfall. Minimum gradient is 1%.

The minimum sub-base and base course thicknesses is as follows:

Subgrade compacted to 95% Standard Proctor Density

Sub-base 150 mm of 40 mm minus sub-base gravel compacted to 98% Standard Proctor Density

Surface 75 mm of 20 mm minus granular base course compacted to 98% Standard Proctor Density.

9. **Street Name and Traffic Control Signs**

All street names and traffic control signs require location as approved by the Approving Officer.

Street name signs shall be placed at every intersection with double-faced nameplates. They require conformity in all respects to the street name signs currently in use within the District of Sparwood. Erection by the Developer of temporary street name signs is required at all intersections prior to the issuance of building permits. The temporary signs shall be maintained by the Developer in a legible condition until such time as the permanent street name signs are erected. Permanent signs shall be in place prior to the acceptance by the Approving Officer of the Construction Completion Certificate for roads and walks.

All traffic control signs require location in conformance to the RTAC manual for Uniform Traffic Control Devices for Canada or the Highway Act of British Columbia Regulations.

Generally, signs should be located on the right hand side of the roadway where the driver is in the habit of looking for them and should be mounted at right angles to the direction of and facing the traffic they are intended to serve. Signs in any other position will be considered supplementary to signs in the normal position.

In cases where the RTAC manual or the British Columbia Highway Act Regulations do not specify sign locations (i.e.: dead end barricades) the signs shall be located as shown on the engineering drawings and approved by the Approving Officer.

Traffic control signs require conformance in size and colour in all respects to the current provincial regulations.

Signs shall be individually erected on separate posts. Two signs for different purposes should not be erected closer together than 30 m (98.4 ft) if it can reasonably be avoided. Sign posts and their foundations require construction so as to hold the sign rigidly in a proper and permanent position and to prevent the sign from swaying in the wind or from being turned or otherwise displaced by irresponsible persons.

10. **Street and Walkway Lighting - Design Standard**

(a) Arterial and Collector Streets:

The average maintained horizontal illumination level requirement at the road surface is a minimum of 12.0 lumens per square meter (1.1 foot-candles) using a maintenance factor of 0.7. The minimum illumination level requirement at any point on the road surface is 4.3 lumens per square metre (0.4 foot-candles).

High pressure sodium minimum 150-Watt luminaires shall be supplied with a polycarbonate refractor giving a Type II, medium distribution, cut-off or semi cut-off mounted in a horizontal position.

HPF regulator ballasts rated 120/240 volts shall be mounted in the luminaires and the optical system shall be sealed and gasketted and fitted with a filter. The lamp socket shall be adjustable.

Where a 600/347 volt power distribution system is available 347 volt ballasts may be employed with the permission of the Approving Officer.

Luminaires shall be finished with a baked platinum grey enamel.

Upon approval of the Approving Officer, metal halide luminaires may be substituted for the high pressure sodium luminaires.

(b) Local Streets:

The average maintained horizontal illumination level requirement at the road surface is a minimum of 6.0 lumens per square metre (0.6 foot-candles) using a maintenance factor of 0.7. The minimum illumination level requirement at any point is 2.2 lumens per square metre (0.2 foot-candles).

High pressure sodium minimum 150 Watt luminaires shall be supplied with a polycarbonate refractor giving Type II distribution for roadways and Type V distribution for traffic islands. The distribution to be medium type cutoff or semi cutoff mounted in a horizontal position.

In the existing areas where one side of a roadway has davit style luminaires installed or where short extensions of roadways are planned, davit style luminaires matching the existing ones shall be installed.

Approval for use of alternate fixtures must be obtained from the approving officer.

(c) Special Considerations:

Civic areas, such as areas surrounding municipal buildings, community recreation centres, etc. and arterial roads require illumination with luminaires to the illumination levels set for arterial streets. The lighting design shall follow the recommendations of the latest revision of AMSI/IBS RP8' American Standard Practice for Roadway Lighting.

All intersections, pedestrian crossings, turning lanes and railroad crossings require treatment as special cases generally with a minimum average maintained illumination level of 21.0 lumens per square metre (2 foot-candles) except in residential areas where 12.0 lumens per square metre (1.1 foot-candles) is required. Minimum illumination level requirements on the road surface are 7.0 lumens per square metre (0.7 foot-candles) and 4.3 lumens per square metre (0.4 foot-candles) respectively.

Walkways shall be illuminated with post top luminaires to a minimum average maintained illumination level of 6.0 lumens per square metre (0.6 foot-candles). Luminaires shall be mounted at a minimum height of 3.7-m (12 ft) and shall be made vandal resistant.

Cul-de-sacs with a turn-around area for motor vehicles may be illuminated with a post top luminaire provided that the pole is mounted in and protected by a traffic island at least 3 m in diameter. The luminaire requires approval by the Approving Officer.

Illumination levels differ for different classifications of roadways and where these roads meet there shall be a transition area. The road with the lower illumination level shall have a gradual increase in illumination level until the higher level is reached.

On hills, the luminaire spacing shall be reduced to ensure uniformity of illumination. The spacing may be reduced to 70% of the spacing on flat sections and the luminaire shall be tilted to match the gradient of the hill.

On curves, the luminaire spacing shall also be reduced to ensure uniformity of illumination. Where poles are situated on the inside of bends, the spacing may be reduced to 55% of the spacing on straight sections. On the outside of bends, the spacing may be reduced to 70% of the normal spacing.

Poles shall be situated 0.3 m (1 ft) from the back of existing or future sidewalks or 0.762 m (2'6") behind face of curb. In the case of conflicts with shallow utility line assignments, poles and bases shall be located so that they are a minimum of 0.3 m (1 ft) from curb or sidewalk. The davit arm shall be located perpendicular to the road centreline.

On residential streets, the luminaires shall be staggered on each side of the road as far as possible.

On arterial and collector streets, the poles shall be staggered on each side of the road.

Poles shall be located clear from all driveways and generally on property lines, not in front of houses.

Consideration shall be given to the relative positions of luminaires and trees so that a uniform light distribution is maintained on roadways and sidewalks.

Clearance shall be maintained from B.C Hydro power lines to meet BCHPA requirements.

In new areas where only one side of a road is to be developed, the lighting shall be designed according to the standards but only half of the poles and luminaires shall be installed. Provision shall be made for future extension of the power distribution system to the opposite side of the roadway by providing ducts and fish wires across roadways and terminating in a junction box.

Notwithstanding the requirements of this section, the use of full cut off LED street lighting is encouraged and may be required or approved by the Approving Officer.

11. **Street/Walkway Lighting Materials**

(a) Poles:

Poles for davit style luminaires shall be octagonal tapered steel to ASTM A570 Grade 40 designed to withstand wind loads of 160 kpm (100 mph) peak at the yield strength of the material with a safety factor of 1.3 using the projected area of the luminaires to be installed.

Davits shall be separate and shall be attached to the poles with either a bolted flanged connection or a bolted slip fit connection.

Cast steel anchor bases shall be secured to the poles with circumferential welds and shall be provided with a vee groove drain.

Anchor bolts and die cast aluminum or galvanized steel nut covers shall be supplied with the poles.

A reinforced hand hold approximately 101.6 mm x 177.8 mm (4" x 7") shall be supplied with a galvanized steel cover plate and securing bolts.

A grounding stud shall be welded to the pole on the inside adjacent to the hand hole.

Special combination poles shall be supplied for the installation of traffic signals when required by the Approving Officer.

Electrical weatherproof duplex outlets shall be installed and wired on poles in commercial zones and civic areas and may be required on arterial and collector roads. The outlet shall be located 609.6 mm (24") below the davit connection point. One 15-amp circuit shall supply each duplex outlet.

A four position flag holder and bracket shall be supplied and installed on each pole in commercial zones and civic areas and may be required on arterial and collector roads.

All poles shall be listed as approved by the Canadian Standards Association testing laboratories.

All poles scheduled for painting shall be shop painted with primer Type CISC Standard 2-75 prior to delivery. Remove all oil and grease, dry abrasive blast to a commercial finish in accordance with SSPC-SP6-63 to a degree of cleanliness in accordance with NACE #3 to obtain a 25-75 micron blast profile. Apply paint by spray or in accordance with manufacturer's recommendation.

All poles shall be finished with a coat of exterior enamel paint Type CGSB 1GP59 depending on method of application. Colour of the paint shall be equal to General Paint Product No. 16054-01; Tint Color 0Y24 + TW1Y24 + LB2Y24 + PG10Y (Hunter Green) or as approved by the Approving Officer.

(b) Wiring:

PVC duct for underground wiring shall be CSA approved and cement, approved for use by the manufacturer of the duct, shall be used for all connections. All ridges shall be removed and the duct cleaned thoroughly before application of the solvent.

Factory bends for PVC duct are preferred but field bends are permissible on a radius not less than ten times the duct diameter on ducts up to 50.8 mm (2") in diameter.

Conductors shall be copper with RW insulation. A green ground conductor shall be installed in all conduits.

Conductors shall be sized to ensure a voltage drop of not greater than 2% at the pole base.

12. **Street and Walkway Lighting Installation**

(a) Poles and Bases:

All poles shall be refinished after installation with primer Type C1SC 2-75 to cover areas damaged due to transportation, drilling and erection. Before application, the surface to be refinished shall be thoroughly cleaned and the primer applied in complete accordance with manufacturer's recommendations.

Generally, the power shall be supplied from a B.C. Hydro service box and run underground to the service pole. A special base shall be supplied for the pole to house the service equipment. This shall be 3 feet high and be manufactured by Barber or another approved manufacturer.

The service pole shall be 3 feet shorter than the poles in the area so that all luminaires are mounted at the same height.

The concrete for pole bases shall have a minimum compressive strength at 28 days of 20.7 MPa. A minimum curing time of seven days shall elapse before the standards are erected.

In landscaped areas, the top of the concrete base shall be placed a minimum of 100 mm and a maximum of 200 mm above final grade.

Anchor bolts shall be arranged to suit the poles and shall be held in place with an overhead template to ensure correct lateral positioning and correct thread exposure. After installation of the pole at least one thread of the anchor bolt shall be exposed on top of the nut.

Poles shall be erected carefully to prevent damage to the finish on the pole or the anchor bolts.

The poles shall be plumbed so that they are vertical when viewed from all directions. Leveling shims shall be installed around the anchor bolts to achieve this.

Anchor bolt nuts shall be securely tightened and inspected by the Approving Officer before the nut covers are installed.

(b) Wiring and Controls:

Where it is necessary to cut pavement, sidewalks or curbs for the installation of bases, ducts or junction boxes, a pavement saw shall be employed or other methods approved by the Approving Officer.

Before commencing excavation, the Developer shall verify the locations of other underground services with local utility companies. The Developer shall bear the cost of any repairs required to any works and services damaged during excavation.

Conduits shall not be continuously aligned underneath a curb, gutter or sidewalk.

The service trench shall have a minimum depth of 1 m and the conduits shall be laid on a 75 mm bed of sand with a minimum cover of 0.9 m, the first 150 mm over the duct being sand and the remainder being suitable fill from which all stones larger than 100 mm have been removed.

Conduits running between poles and junction boxes shall be laid at minimum depth of 0.6 m or 0.9 m under roads on a 75 mm bed of sand with 150 mm of sand cover and the remainder being suitable fill from which all stones larger than 100 mm have been removed.

Where possible, conduits shall be drilled or pushed under existing paved areas to eliminate the necessity of excavation.

All sidewalks, curbs and pavement shall be restored to their original condition to the satisfaction of the Approving Officer. Where asphalt has been removed, the area shall first be repaired immediately with a cold mix asphalt and finally repaired, after all settlement has ceased, with a hot mix of thickness equivalent or better to the surrounding area.

Grassed areas shall be restored to their original state by replacement of turf or by reseeding in 100 mm of topsoil and fertilizing with premium products to match existing.

A vibratory plough may only be used where conditions are suitable and with special permission from the Approving Officer.

Ducts shall be graded to drain back to junction boxes when installed. The grades of ducts shall parallel street grades.

Concrete junction boxes shall be installed near the base of each multi-use pole. A concrete or steel lid shall be installed.

In locations where there are no traffic signals, multiple circuits, and the junctions and drainage of conduits is not a problem, the junction box may be eliminated.

When required by the Approving Officer, the Developer shall install underground conduit and wiring to existing and future traffic signals.

All main line connections in junction boxes outside the poles shall be made with solderless connectors and taped. Where a three wire 120/240 volt system is employed, alternate poles shall be connected to alternate 120 volt circuits.

Each pole shall contain in-line fuses and receptacles providing sufficient wiring to make all changes outside of the pole.

The service pole base shall house a main two pole breaker, contactor and selector switch and a photoelectric cell shall be installed on the luminaire to control the contactor. All components shall be in weatherproof enclosures.

Where only three of four poles are on a circuit, they may be switched directly using a photoelectric cell rated for the current. A selector switch mounted in the base shall be installed to bypass the photocell.

(c) Grounding:

A 15.9 mm x 2.4 m (5/8" x 8') long galvanized ground rod shall be installed at each pole and the neutral wire shall be grounded at the service pole at a 19.1 mm x 3.0 m (3/4" x 10') long copperweld ground rod. Alternatively a 0.200 m^2 galvanized ground plate shall be cast into the bottom of each pole base with an electrical connection to each anchor bolt.

The continuous ground conductor in the conduit system shall be connected to the ground stud at each pole.

The ground rods, conductors and galvanized steel conduit, when used, shall be connected together with approved compression connectors and only one wire shall be connected to any one ground bushing.

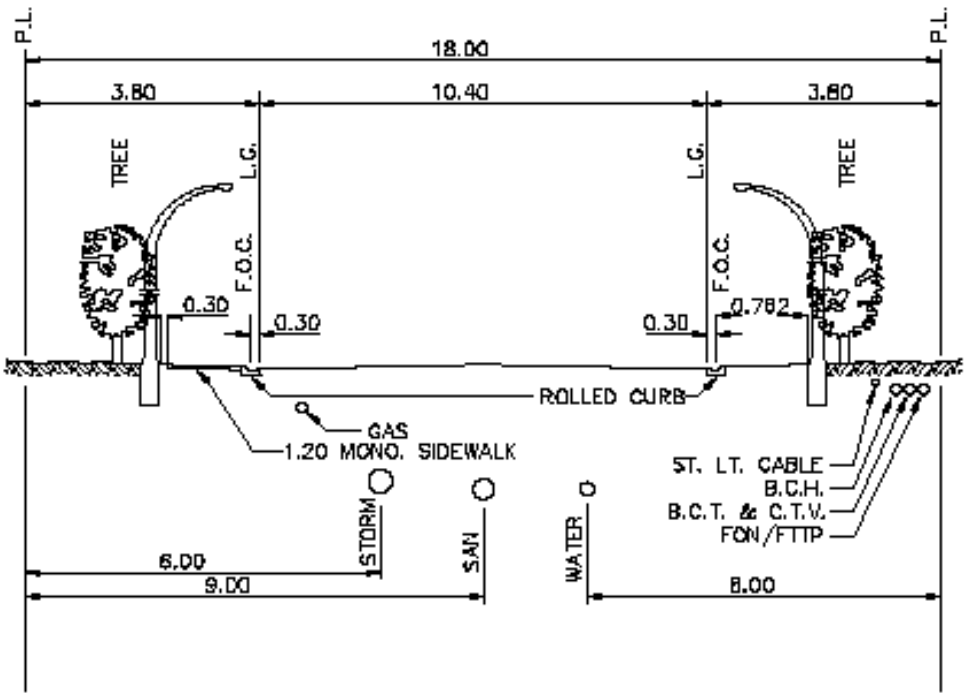
All grounding shall conform to the latest CSA Standards and provincial codes and amendments thereto.

13. **Country Residential Road Standard**

Country residential roads may be designed with a finished roadway surface of minimum 9m, no curbs or gutters with a gravel or paved shoulder. This standard permits a drainage ditch, overhead electricity and lighting. Country residential roads are only permitted within A-1 zones.

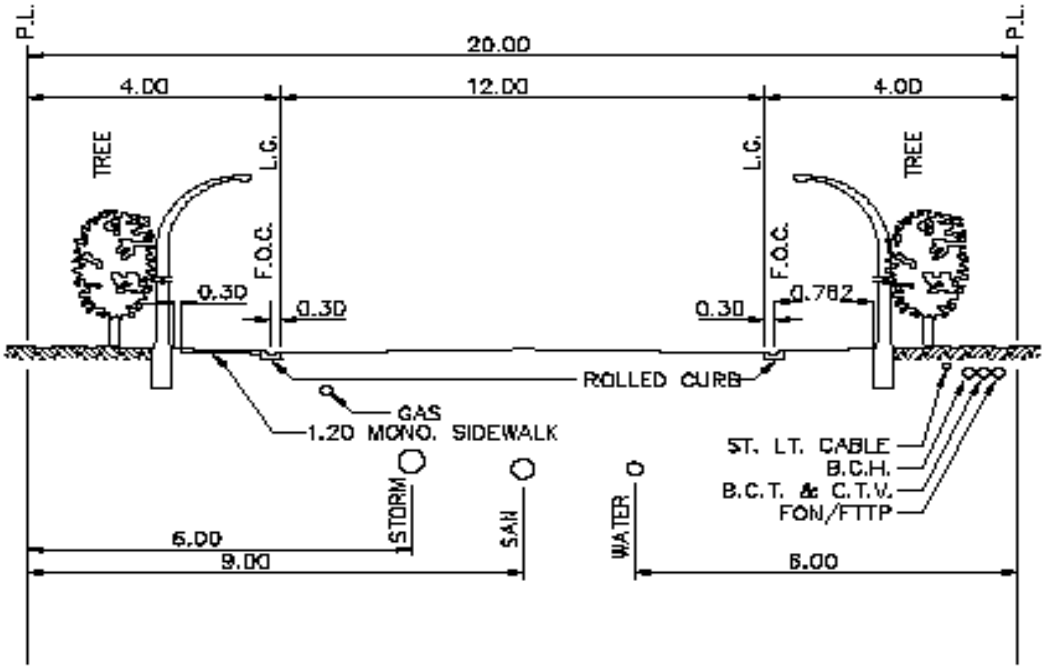
List of Standard Drawings

Drawing #.	Title
B1	Local Street - 18.00 m R.O.W., 10.40 m roadway
B2	Collector Street - 20.00 m R.O.W., 12.00 m roadway
B3	Arterial Street - 30.00 m R.O.W., 14.00 m roadway
B4	Standard Cul-de-Sac
B5	Monolithic Sidewalks
B6	Separate Sidewalk Details
B7	Standard Curb & Gutter, Standard Curb & Gutter Crossing
B8	Low Profile Concrete Curb
B9	Standard Wheelchair Ramp for Monolithic Sidewalk
B9A	Standard Wheelchair Ramp for Monolithic Sidewalk With Widening
B10	Standard Wheelchair Ramp for Separate Sidewalk
B11	Typical Residential Service Installation
B12	Specification for Aggregate
B13	Community FON/FTTP (Fiber Optic Network/Fiber To The Premise) - Telecom Network Installation Details -



NOTES:
* HYDRANTS 0.50m OFF P.L.
* HYDRANT VALVES 1.0m OFF MAIN
* LOT SERVICE VALVES 0.30m OFF P.L.
* STREETLIGHT POLES, TRANSFORMER BOXES AND ALL OTHER SURFACE STRUCTURES SHALL MAINTAIN A MINIMUM OF 3.00m CLEARANCE FROM HYDRANT.
* SHALLOW UTILITIES INCLUDING THE COMMUNITY OPEN ACCESS FON/FTTP NETWORK, TO BE LOCATED IN ACCORDANCE WITH UTILITY COMPANY SPECIFICATIONS.

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 22.10.07 COMPUTER FILE: \SPAR\B-1	MUNICIPAL STANDARD	DWG. No: B-1
		LOCAL STREET 18.00m R.O.W. 10.4m ROADWAY	



NOTES:
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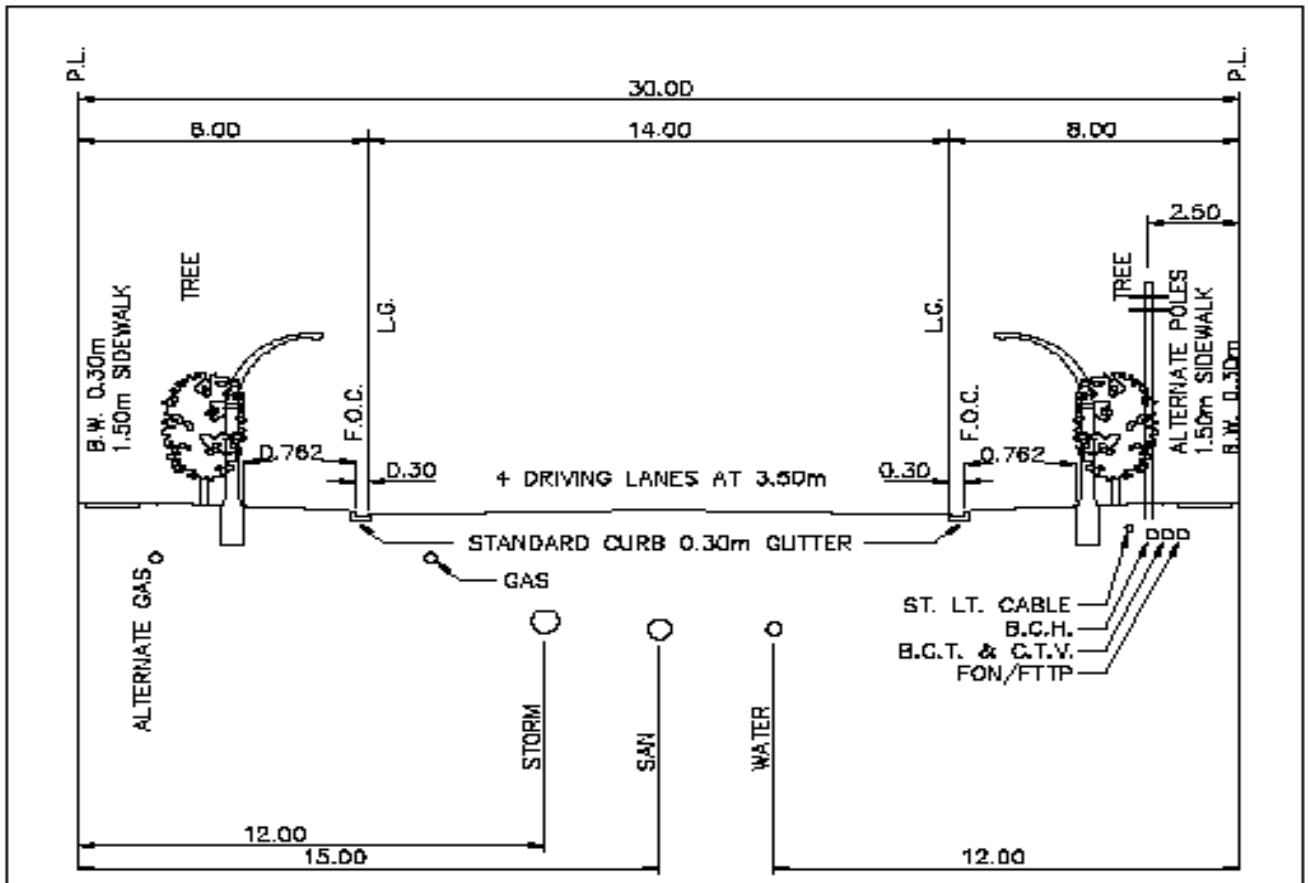
* HYDRANT VALVES 1.0m OFF MAIN
* LOT SERVICE VALVES 0.30m OFF P.L.
* STREETLIGHT POLES, TRANSFORMER BOXES AND ALL OTHER SURFACE STRUCTURES SHALL MAINTAIN A MINIMUM OF 3.00m CLEARANCE FROM HYDRANT
* SHALLOW UTILITIES INCLUDING THE COMMUNITY OPEN ACCESS FON/FTTP NETWORK TO BE LOCATED IN ACCORDANCE WITH UTILITY COMPANY SPECIFICATIONS
* STANDARD CURB AND GUTTER IN NONRESIDENTIAL AREAS

OPTIONAL STANDARD:
* 1.50m SEPARATE SIDEWALK WITH B.W. 0.30m TO REPLACE MONO. SIDEWALK AS AN ALTERNATIVE.
* HYDRANTS 0.50m IN FRONT OF SEPARATE WALK

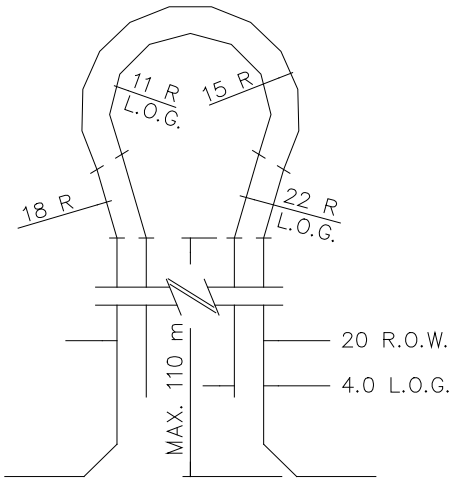
DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 22.10.07 COMPUTER FILE: \SPAR\B-2	MUNICIPAL STANDARD	DWG. No: B-2
		COLLECTOR STREET 20.00m R.O.W., 12.00m ROADWAY	



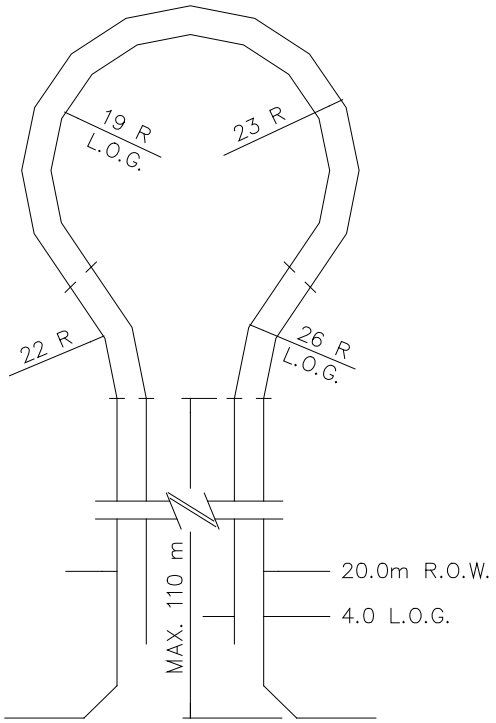
NOTES:

* HYDRANTS 0.50m IN FRONT OF SEPARATE WALK
* HYDRANT VALVES 1.0m OFF MAIN
* LOT SERVICE VALVES 0.30m OFF P.L.
* POWER POLES, STREETLIGHT POLES, TRANSFORMER BOXES AND ALL OTHER SURFACE STRUCTURES SHALL MAINTAIN A MINIMUM OF 3.00m CLEARANCE FROM HYDRANT
* SHALLOW UTILITIES INCLUDING THE COMMUNITY FON/FTTP NETWORK, TO BE LOCATED IN ACCORDANCE WITH UTILITY COMPANY SPECIFICATIONS

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 22.10.07 COMPUTER FILE: \SPAR\B-3	MUNICIPAL STANDARD	DWG. No: B-3
		ARTERIAL STREET 30.00m R.O.W., 14.00 ROADWAY	



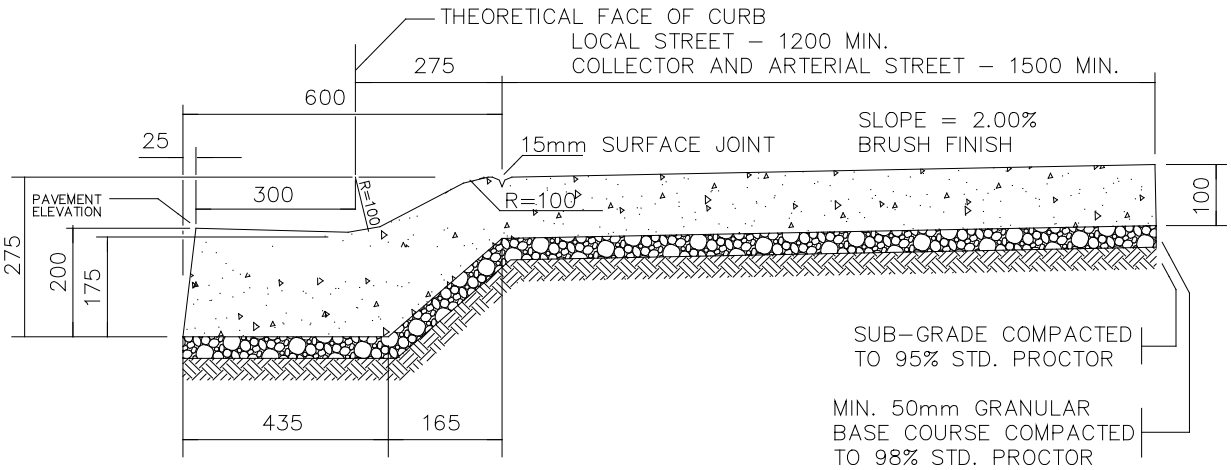
RESIDENTIAL CUL–DE–SAC



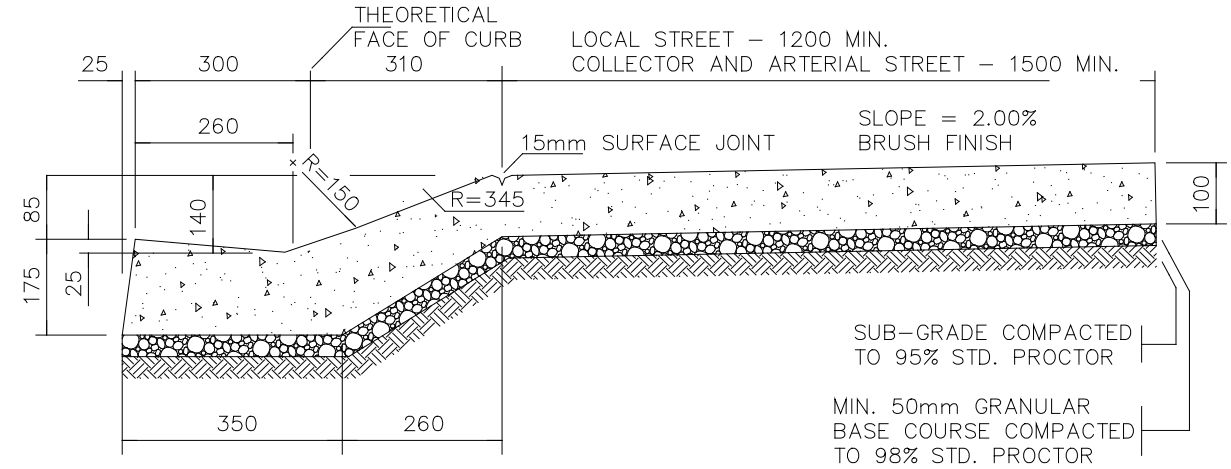
INDUSTRIAL & COMMERCIAL CUL–DE–SAC

Note: All dimensions are in meters

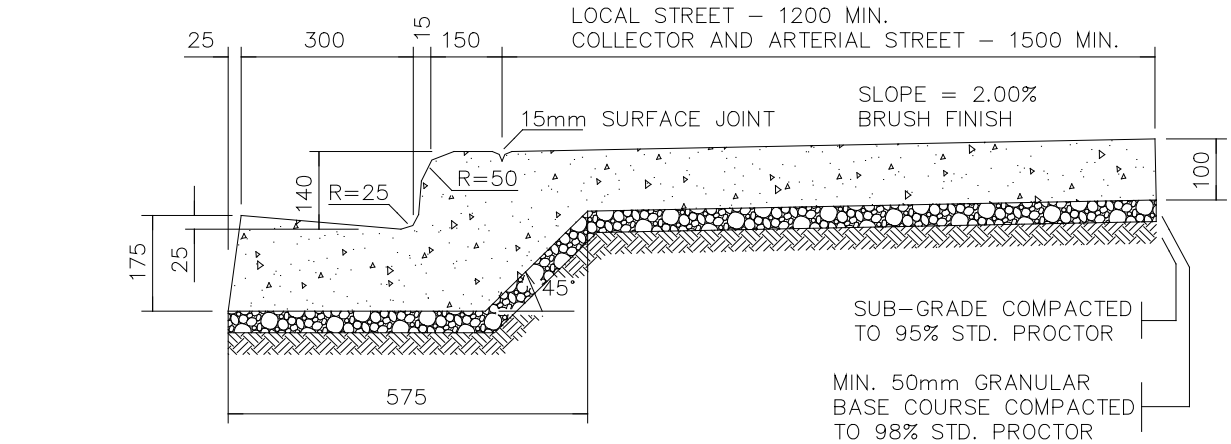
DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 29.06.93 (DD.MM.YY.) COMPUTER FILE: \SPAR\B–4	MUNICIPAL STANDARD STANDARD CUL–DE–SAC	DWG. No: B–4



LOW PROFILE ROLLED MONOLITHIC SIDEWALK



ROLLED MONOLITHIC SIDEWALK

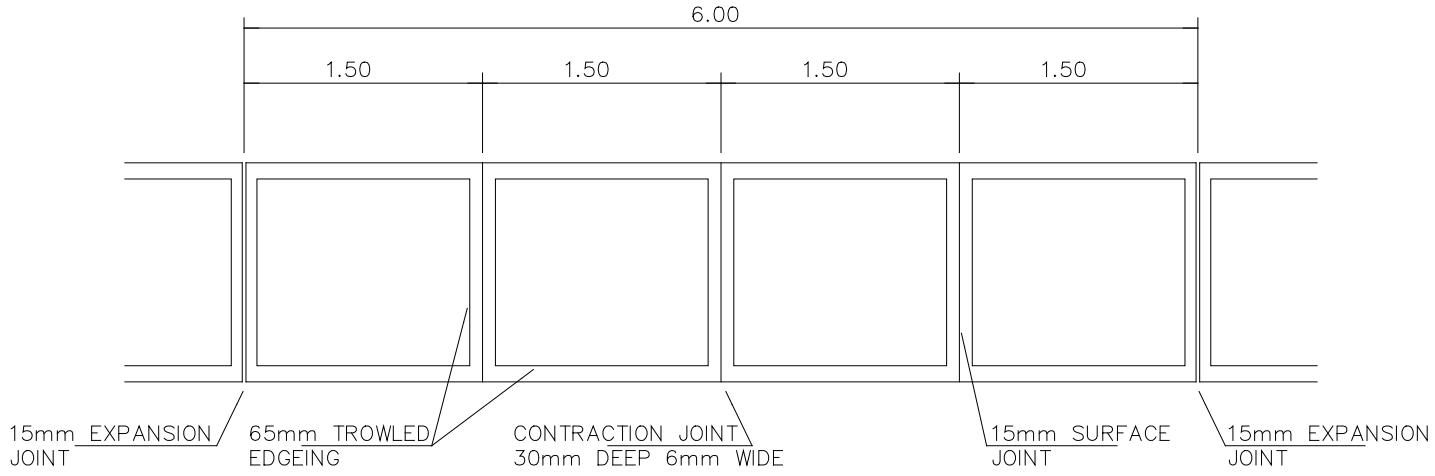


STANDARD MONOLITHIC SIDEWALK

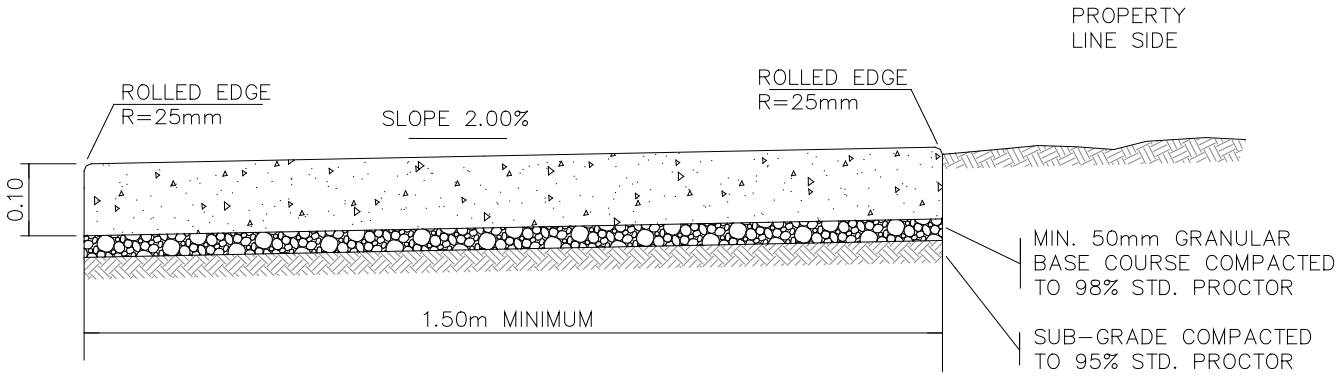
All dimensions are in milimeters

Not to scale

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 21.02.94 (DD.MM.YY.) COMPUTER FILE: \SPAR\B–5	MUNICIPAL STANDARD	DWG. No: B–5
		MONOLITHIC SIDEWALKS	



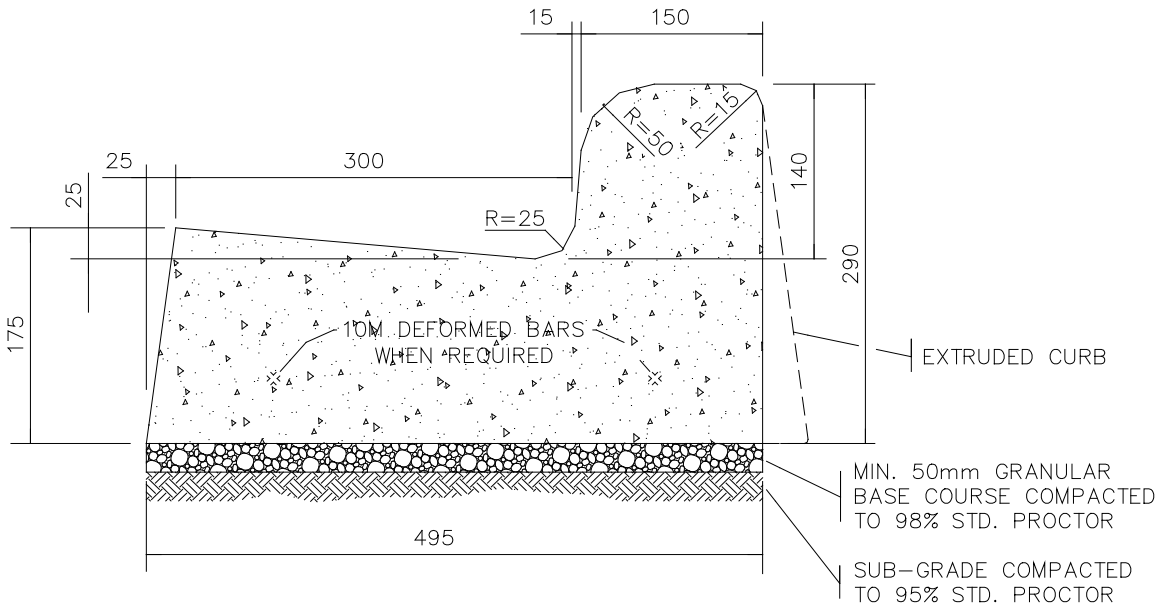
PLAN



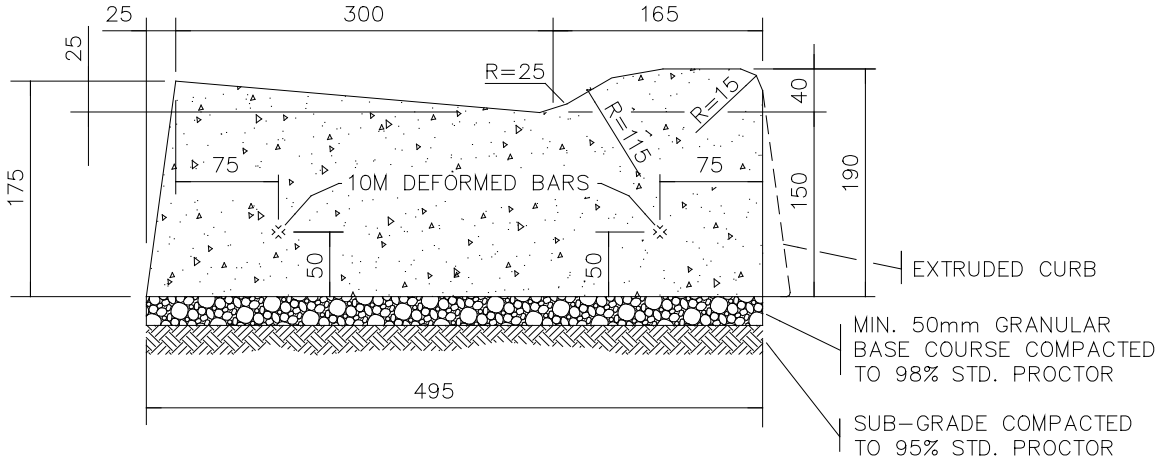
SECTION

Note: All dimensions are in meters

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 29.06.93 (DD.MM.YY.)	MUNICIPAL STANDARD	DWG. No: B-6
	COMPUTER FILE: \SPAR\B-6	SEPARATE SIDEWALK DETAILS	DISTRICT OF SPARWOOD



STANDARD CURB & GUTTER

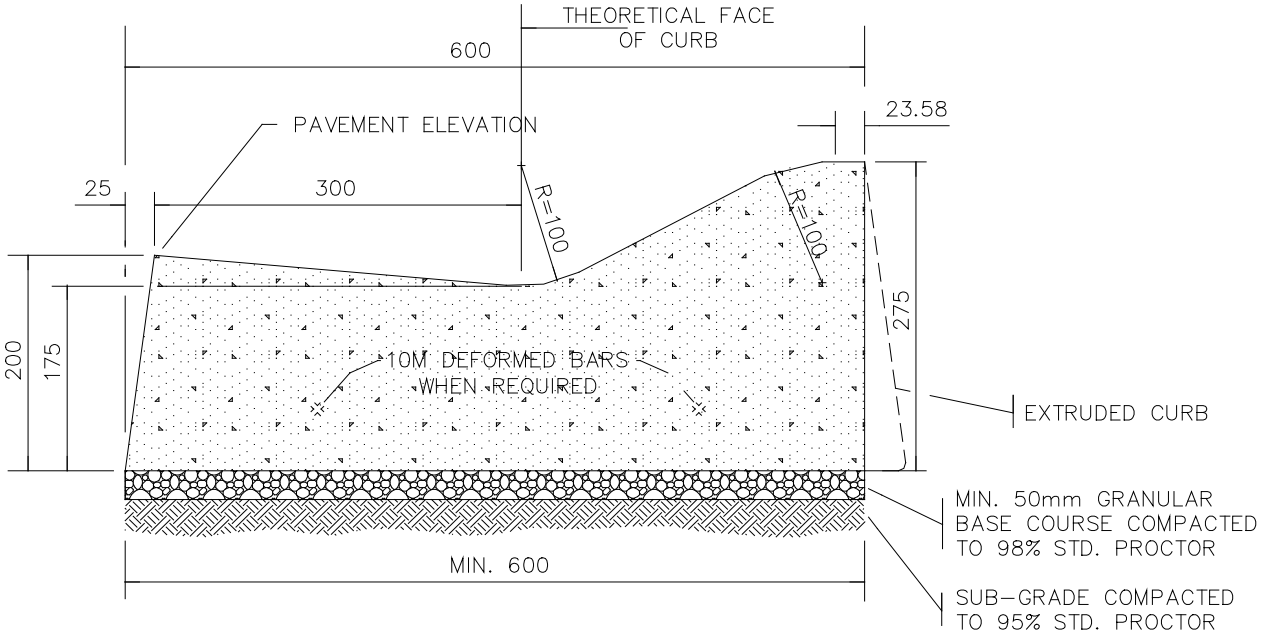


NOTE:
NO EXPANSION JOINT
IN CROSSING

STANDARD CURB & GUTTER CROSSING

All dimensions are in milimeters

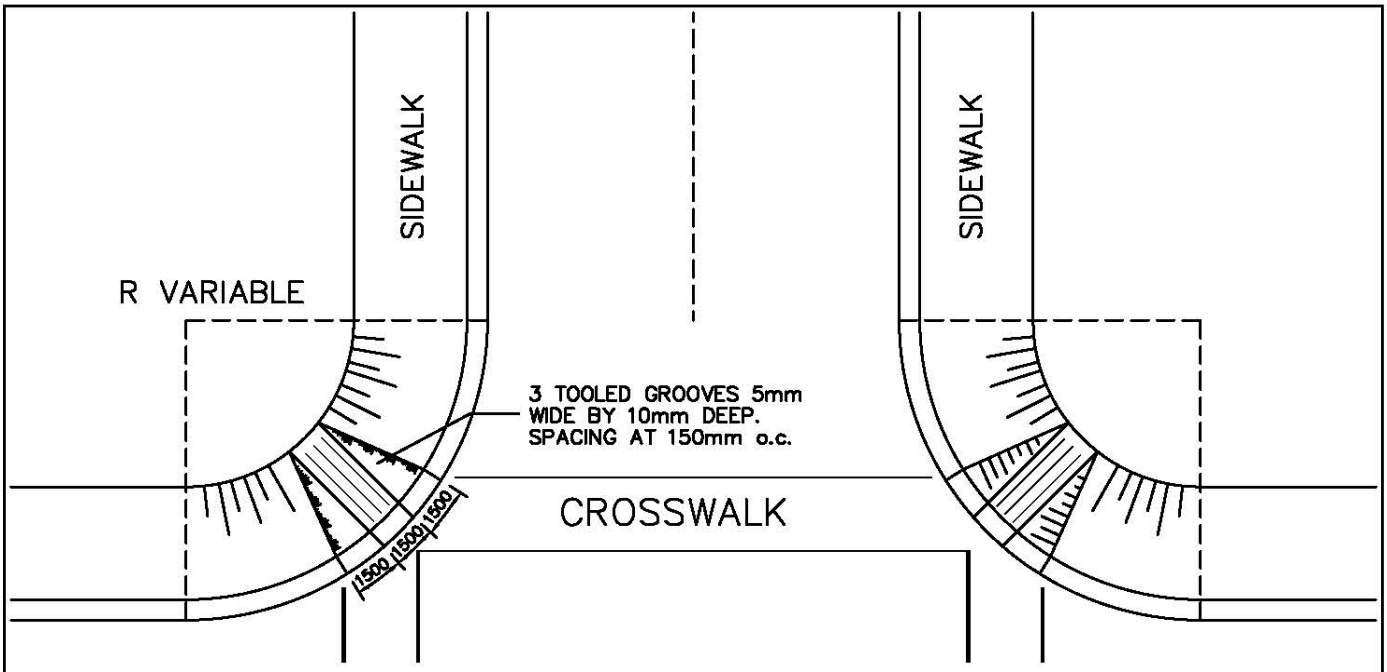
DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 29.06.93 (DD.MM.YY.) COMPUTER FILE: \SPAR\B-7	MUNICIPAL STANDARD	DWG. No: B-7
		STANDARD CURB & GUTTER STANDARD CURB & GUTTER CROSSING	



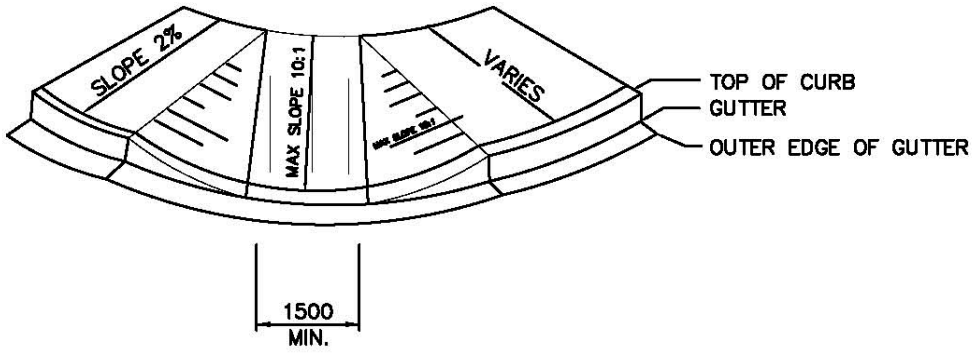
LOW PROFILE CONCRETE CURB

Note: All dimensions are in milimeters

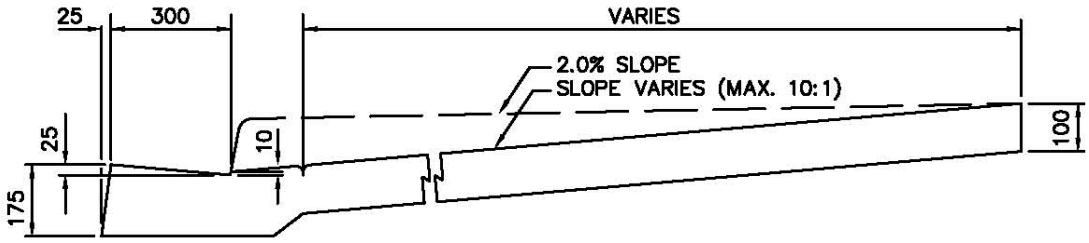
DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 29.06.93 (DD.MM.YY.) COMPUTER FILE: \SPAR\B-8	MUNICIPAL STANDARD LOW PROFILE CONCRETE CURB	DWG. No: B-8



PLAN



ISOMETRIC VIEW

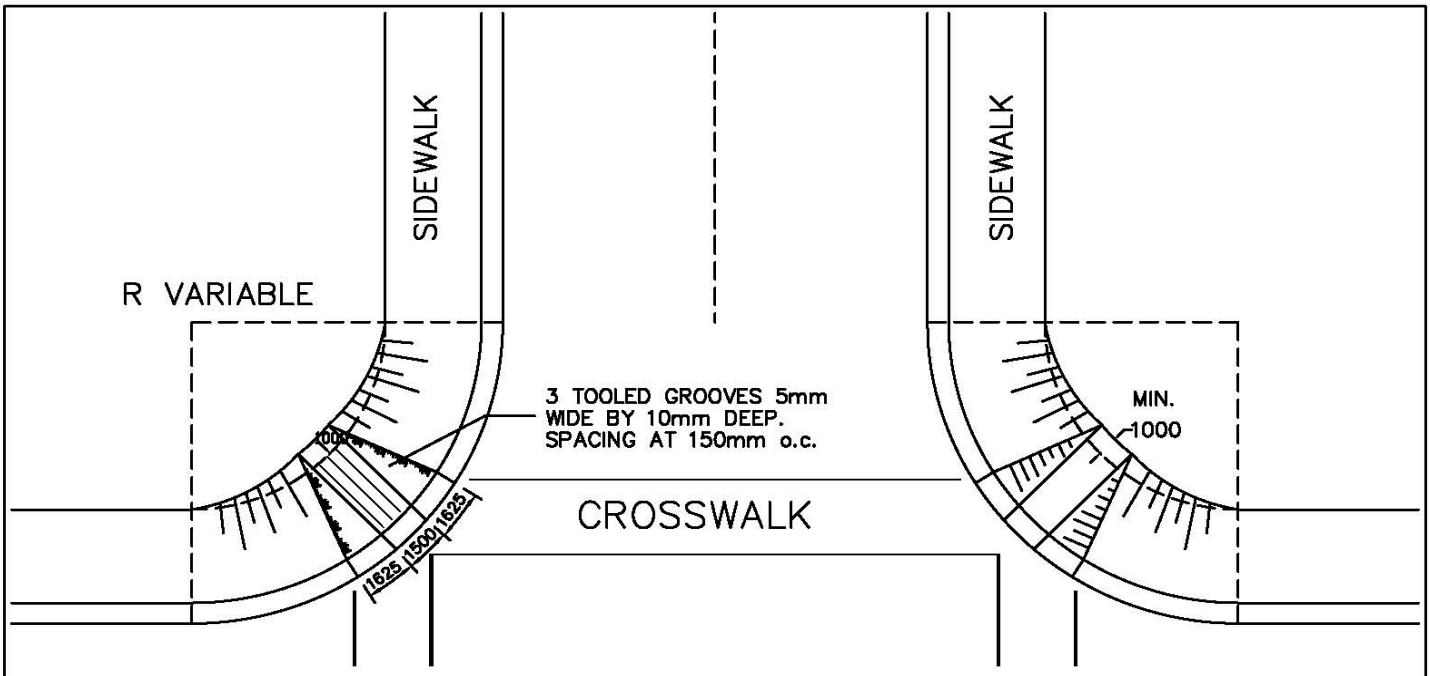


SECTION

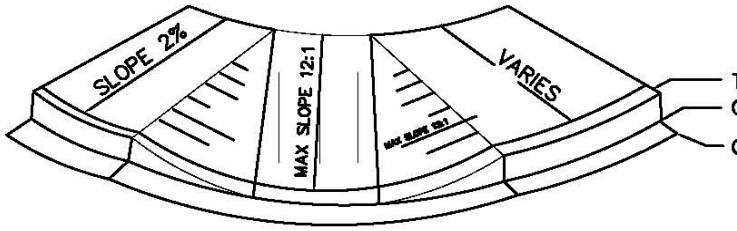
NOTES:
* LOCATE RAMP IN CENTER OF CORNER
* MINIMUM WIDTH OF RAMP 1.50m
* MAXIMUM SLOPE OF RAMP 10:1
* DESIRABLE SLOPE OF RAMP 12:1
* THIS MAY BE USED ONLY WHERE FACTORS WILL NOT ALLOW SIDEWALK WIDENING AS SHOWN ON DRAWING (B–9A)

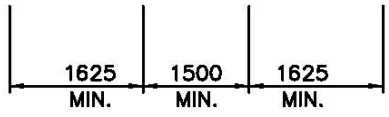
All dimensions are in milimeters

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 27.03.08 (DD.MM.YY) COMPUTER FILE: \SPAR\B–9	MUNICIPAL STANDARD	DWG. No: B–9
		STANDARD WHEELCHAIR RAMP FOR MONOLITHIC SIDEWALK	

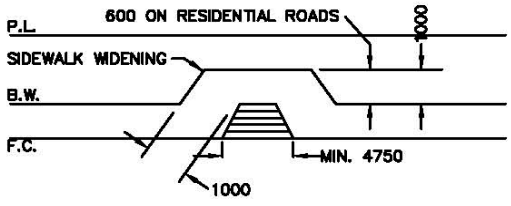


PLAN

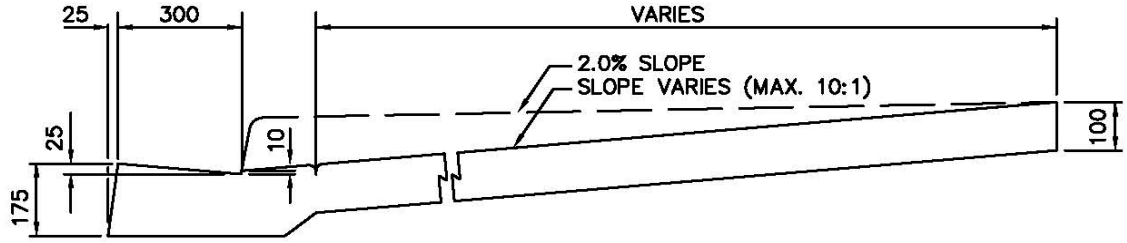




ISOMETRIC VIEW



MID-BLOCK WHEEL CHAIR RAMP

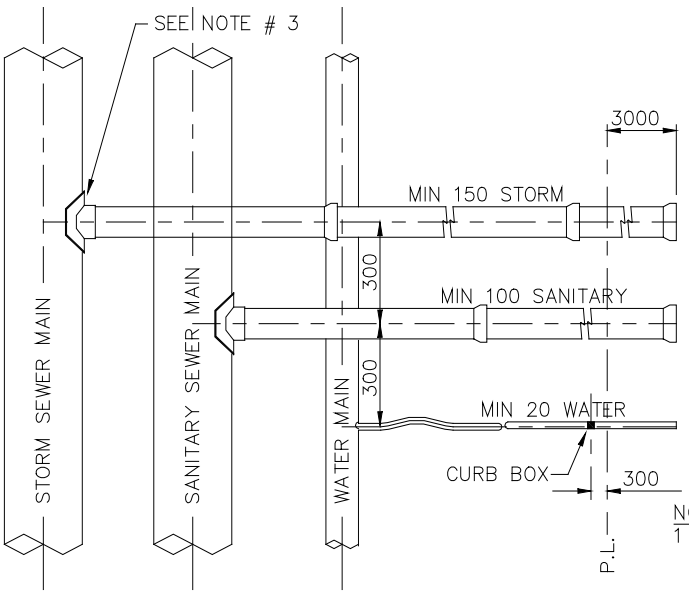


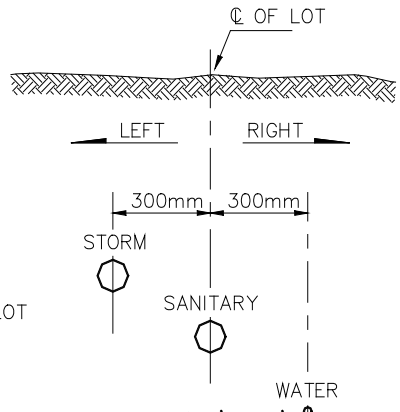
SECTION

NOTES:
* LOCATE RAMP IN CENTER OF CORNER
* MINIMUM WIDTH OF RAMP 1.50m
* MAXIMUM SLOPE OF RAMP 12:1

All dimensions are in milimeters

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 27.03.08 (DD.MM.YY) COMPUTER FILE: \SPAR\B-9A	MUNICIPAL STANDARD	DWG. No: B-9A
		STANDARD WHEELCHAIR RAMP FOR MONOLITHIC SIDEWALK WITH WIDENING	





SECTION 'A–A'

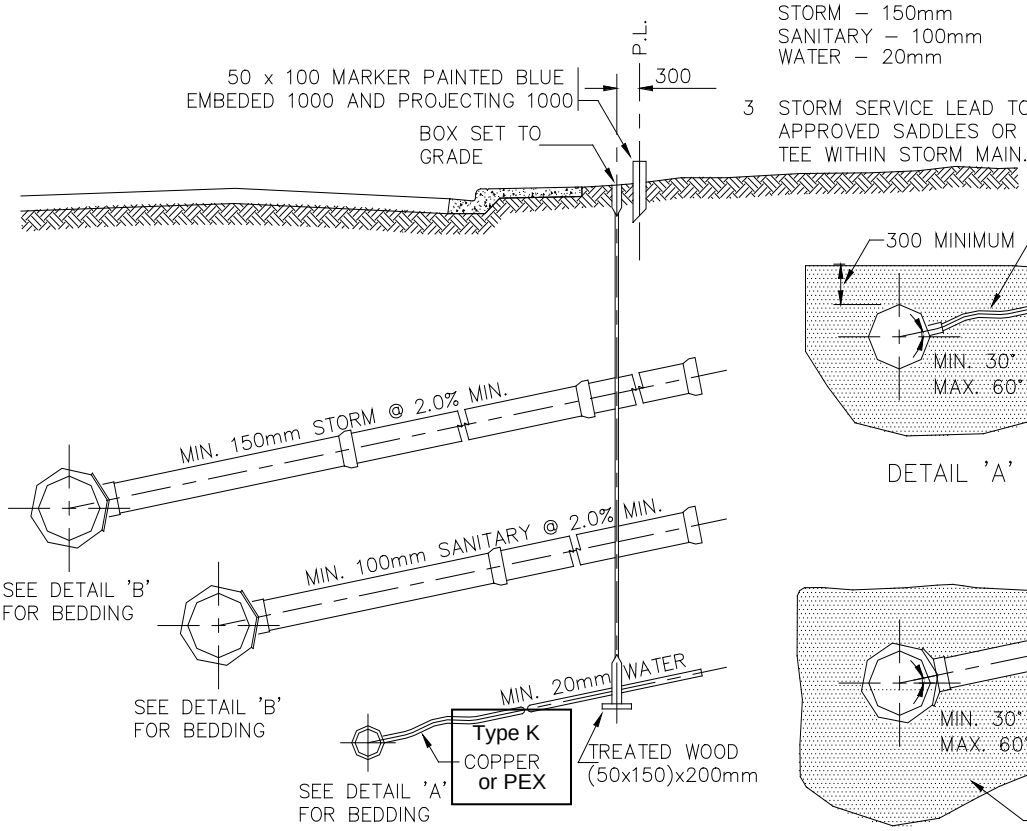
* LOOKING FROM MAINS TOWARDS LOT

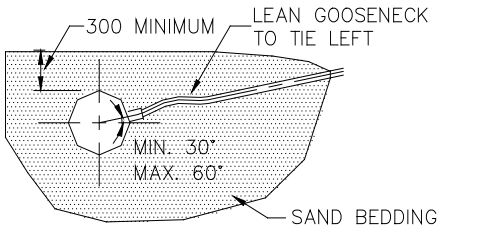
NOTES:

1 SEWER SERVICES MUST TERMINATE WITH A BELL END AND AN APPROVED PLUG SHALL BE PLACED INSIDE THE BELL END.

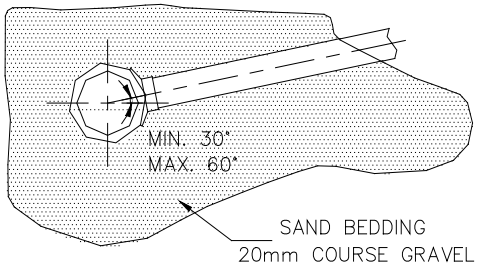
2 MINIMUM LOT SERVICE SIZES
STORM – 150mm
SANITARY – 100mm
WATER – 20mm

3 STORM SERVICE LEAD TO MAIN SHALL BE WITH APPROVED SADDLES OR MANUFACTURED TEE WITHIN STORM MAIN.





DETAIL 'A'



DETAIL 'B'

DEPTH OF WATER SERVICE AT PROPERTY LINE

MINIMUM 2.4 m BELOW FINAL GRADE
GREATER DEPTHS MAY BE REQUIRED FOR VARYING SOILS

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 07.03.94 (DD.MM.YY.) COMPUTER FILE: \SPAR\B–11	MUNICIPAL STANDARD TYPICAL RESIDENTIAL SERVICE INSTALLATION	DWG. No: B–11

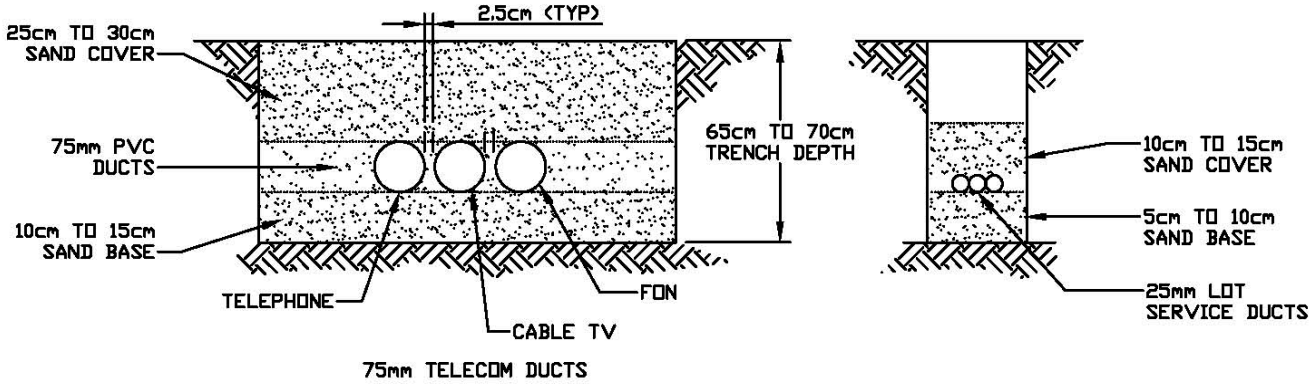
DESIGNATION	1			2					3						4			5	6		7	8	9	DESIGNATION
CLASS (mm)	10	12.5	16	16	20	25	40	50	12.5A	12.5AW	12.5B	12.5BW	12.5C	16	20	25	40	10	80	125	40	40	8	CLASS (mm)
125000																				100				125000
80000																			100					80000
50000								100											55–100	55–100				50000
40000							100										100				100	100		40000
25000						100		63–90								100			38–100	38–100				25000
20000					100										100		55–90							20000
16000			100	100		70–94	55–85	47–79						100					32–85	32–85				16000
12500		100	80–92						100	100	100	100	100	72–95										12500
10000	100	83–92	70–84	70–93	63–86	52–79	44–74	38–70	35–65	35–65	55–75	55–75	70–93	53–82	35–77	30–77	25–72	100			85–100	78–95		10000
8000																							100	8000
5000	60–75	55–70	50–65	50–70	40–67	35–64	32–62	28–59	0–15	0–15	0–15	0–15	30–60	27–54	15–55	15–55	8–55	45–70	20–65	20–65		60–85	85–100	5000
1250	26–45	26–45	26–45	26–45	20–43	18–43	17–43	16–42	0–3	0–3	0–3	0–3	9–28	9–28	0–30	0–30	0–30	20–45			40–100	27–57	45–75	1250
630	18–38	18–38	18–38	18–38	14–34	12–34	12–34	12–34															30–50	630
315	12–30	12–30	12–30	12–30	9–26	8–26	8–26	8–26					0–15	0–15				9–22	6–30	6–30	17–100	5–29	18–30	315
160	8–20	8–20	8–20	8–20	5–18	5–18	5–18	5–18					0–11	0–11				5–15				0–15	10–21	160
80	4–10	4–10	4–10	4–10	2–10	2–10	2–10	2–10	0–2	0–0.3	0–2	0–0.3	0–8	0–8	0–12	0–12	0–12	0–10	2–10	2–15	6–30	0–5	5–15	80
% FRACTURE BY WEIGHT (2 FACES) ALL + 5000	60+	60+	60+	60+	60+	60+	50+	40+	75+	75+	75+	75+	60+	60+	40+	40+	25+	N/A	N/A	N/A	N/A	N/A	N/A	% FRACTURE BY WEIGHT (2 FACES) ALL + 5000
PLASTICITY INDEX (PI)	0–4	0–4	0–4	0–6	0–6	0–6	0–6	0–6	N/A	N/A	N/A	N/A	0–4	0–4	0–8	0–8	0–8	0–6	0–8	0–8	0–10	0–5	0–4	PLASTICITY INDEX (PI)
L.A. ABRASION LOSS PER CENT MAX.	40	40	40	50	50	50	50	50	35	35	35	35	35	35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35	L.A. ABRASION LOSS PER CENT MAX.
FLAKINESS INDEX	N/A								MAX 15				N/A											FLAKINESS INDEX
COEFFICIENT OF UNIFORMITY (Cu)	N/A																				3+		N/A	COEFFICIENT OF UNIFORMITY (Cu)

PER CENT PASSING METRIC SIEVE (CGSB 8 – GP – 2M) um

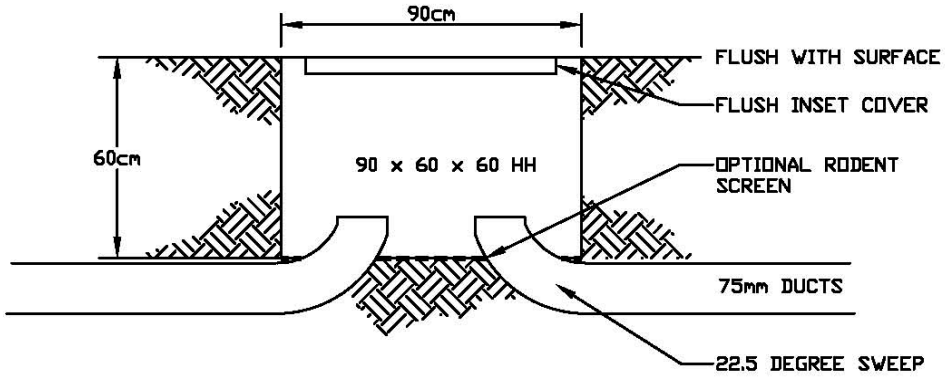
DESIGNATION

1. ASPHALT CONCRETE AGGREGATE (CLASS 10 FOR SURFACE PREPARATION COURSE ONLY)
2. GRANULAR AND ASPHALT STABILIZED BASE COURSES, SUB–BASES AND DUST ABATEMENT AGGREGATES
3. SEAL COAT AGGREGATE
4. GRAVEL SURFACING AGGREGATE
5. SANDING MATERIAL
6. PIT–RUN GRAVEL FILL
7. CEMENT STABILIZED BASE COURSE AGGREGATE
8. GRANULAR FILTER AGGREGATE
9. SLURRY SEAL AGGREGATE

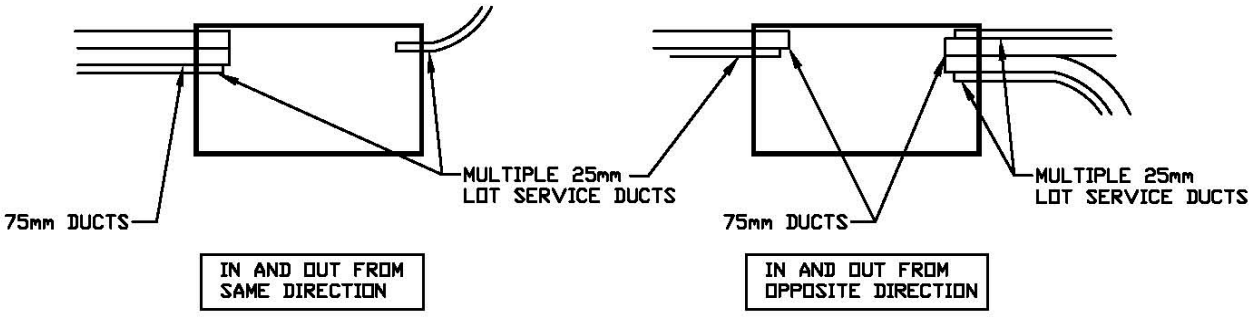
DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 07.03.94 (DD.MM.YY.) COMPUTER FILE: \SPAR\B–12	MUNICIPAL STANDARD	DWG. No: B–12
		SPECIFICATION FOR AGGREGATE	



TYPICAL TRENCH DETAIL



TYPICAL FON HAND HOLE INSTALLATION



NOTE: ALL DUCTS MUST BE INSTALLED UNDER/THRU LONG ENDS ONLY AND PRODTRUDE 25mm ABOVE BASE LINE. CAP DUCTS

TYPICAL HAND HOLE DUCT ROUTING
FON AERIAL VIEW

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 22.10.07 (DD.MM.YY) COMPUTER FILE: \SPAR\B-13	MUNICIPAL STANDARD	DWG. No: B-13	DISTRICT OF SPARWOOD
		COMMUNITY FON/FTTP NETWORK TELECOM DUCTING INSTALLATION DETAILS		

SCHEDULE "C"

DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW

WATER SYSTEM REQUIREMENTS

1. **Water Supply and Distribution Capacity**

Where water for subdivided lots is to be provided by means of individual systems on each lot, each water supply requires a proven minimum capacity of 0.23 l/s (litres per second), 3 gallons per minute. Each lot requires a minimum size as prescribed under the appropriate zone in the Zoning Bylaw.

Water supply requirements are that proof of water supply capacity be provided prior to subdivision approval and shall comprise 24 hour pump test and well level recovery data from a minimum of one test well on each lot. A test result showing that the well was pumped or bailed at a rate of 0.23 l/s for 24 hours and that the water level in the well fully recovered to its pre-test level within 24 hours of the completion of the pumping function will be accepted as proof of adequate supply. Where two or more wells are required for testing, as outlined above, pumping of all the wells shall be carried out concurrently.

Where water for subdivided lots is to be provided from a community water system through a distribution network to be installed by the Developer, the distribution network requires a size to supply the greater of the peak hourly demand at 280 KPa to 560 KPa (40 to 80 psi) pressure or the peak daily demand plus fire flows at 140 KPa (20 psi). Criteria for flow and pressure analysis are as follows:

Average Daily Demand	450 L (99.0 gal) per capita/day
Peak Daily Demand	1200 L (264.0 gal) per capita/day
Peak Hourly Demand	2100 L (461.9 gal) per capita/day
Fire Flows	As recommended by the Insurer's Advisory Organization of Canada

2. **Water Quality**

Where potable water for subdivided lots is to be provided from a private source(s) as opposed to a community water system, then prior to subdivision approval the Developer shall submit a Certificate of Approval for the water source from the Medical Health Officer.

3. **Pipe Sizing**

On water distribution systems, the minimum pipe size requirement is 150 mm (6 inches).

For water services from the distribution main to the property line, the minimum pipe size requirement is 20 mm (¾"). Each lot requires its own lot service line to the distribution main.

4. **Pipe Materials**

Acceptable pipe materials for distribution mains are:

Ductile iron conforming to A.W.W.A. C151 (latest issue). Interior of D.I. pipe shall be cement mortar lined in accordance with A.W.W.A. C104 (latest issue).

Polyvinyl chloride (PVC) conforming to A.W.W.A. C900 (latest issue) and A.W.W.A. C905 (latest issue).

Acceptable pipe material for service lines (from distribution main to property line) is soft copper, Type "K" or Cross-Linked Polyethylene tubing (PEX) that conforms to the following standards; CSA B137.5, ASTM F876 & F877 and AWWA C904.

Acceptable materials for fittings and specials are:

- Ductile iron conforming to A.W.W.A. Standard C110 (latest issue) with a minimum pressure rating of 250 psi.
- Cast iron, Class 250 conforming to C.S.A. B131.9 (latest issue).
- Polyvinyl chloride (P.V.C.) conforming to A.W.W.A. C900 (latest issue).

5. Valves, Hydrants, Curb Stops

Requirement for location of valves is such that any section of the system can be isolated by the turning off of a maximum of three valves. The section to be isolated may contain a maximum of forty (40) residences and a single hydrant.

Valves are required at both ends of a right-of-way or easement and at a maximum spacing of 150 metres on long runs along streets or easements with no interconnecting mains.

For watermains with a diameter of less than 400 mm, all valves require conformity to A.W.W.A. C509. For watermains with a diameter of 400 mm or greater butterfly valves may be used.

All valves shall be iron body bronze mounted resilient seated gate valves with non-rising spindle, open counter-clockwise and shall be installed on the extension of street allowance limits or as otherwise required by the Approving Officer. Valve boxes, complete with operating extension stems and rock guards are required on all valves. Adjustable Nelson valve boxes are permitted with PVC boots and risers. Extension stems shall be placed within 300 mm below final grade. Operating nuts shall be 50 mm square.

Requirement for location of hydrants is to provide complete accessibility and to minimize the possibility of damage from vehicles or injury to pedestrians. They shall be located such that proper coverage is provided for the entire subdivision by inscribing a circle of 75 metres radius from the proposed hydrant location. Hydrant style and threads for connection to fire hoses shall be . the universal pumper port (Stortz).

Valves and valve boxes are required on all hydrant leads and shall be 1m off main hydrants unless otherwise directed.

Hydrants shall conform to A.W.W.A. C502 (latest issue).

Curb stops complete with curb boxes, marked by a 100 mm x 100 mm post, embedded one metre into the ground, projecting one metre above the ground and painted blue are required on each water service.

5.1 Corrosion Protection

- Exterior of buried valves and exterior of hydrant barrel below grade flange shall be factory coated with coal tar epoxy coating system conforming to A.W.W.A. C210 (latest issue).
- Exterior of all fittings, exterior and interior of all valve boxes shall be factory coated with fusion bonded epoxy coating conforming to A.W.W.A. C213 (latest issue).
- Interior of valves and hydrants shall be coated in accordance with A.W.W.A. C550 (latest issue).

6. **Installation**

All water distribution mains shall be installed to provide a minimum depth of 2.75 m from finished grade to top of pipe.

All water service lines shall be installed to provide a minimum depth of 2.40 m from finished grade to top of pipe.

All water distribution mains shall be bedded in sand material to a minimum of 150 mm below the bottom of the main and 300 mm above the top of the main and 300 mm on either side of the main. The sand bedding requires uniform compaction to 95% Standard Proctor Density.

Pipe joints shall be:

- For ductile iron pipe in accordance with A.W.W.A. C111 (latest issue).
- For P.V.C. pipe in accordance with A.W.W.A. C900 and A.W.W.A. C905 (latest issues).

All water distribution mains parallel or approximately parallel to sanitary and storm sewer mains require location a minimum horizontal distance of 3.0 metres from the nearest sanitary or storm sewer main.

Where watermains and sanitary or storm sewer mains are required to cross, the vertical separation between the outside diameters of the pipes shall be a minimum of 0.30 metres. If the watermain is required to pass under the sewer main, the watermain shall be encased in a carrier pipe for a minimum distance of 3 metres on either side of the crossing and the vertical separation of the carrier pipe and the sewer reduced to 0.20 metres.

Thrust blocks are required for all bends, tees and wyes. Thrust blocks are not required on service connections less than 60 mm in diameter.

Trench backfill in all public rights-of-way and easements requires compaction to a minimum of 95% Standard Proctor density.

Tapping for service connections shall be carried out under full operating pressure in the mains. Service connections shall be tapped into the upper portion of the main at an angle of at least 30 degrees from the horizontal and not exceeding an angle of 60 degrees from the horizontal.

Tappings for service connections require a minimum spacing of 1.0 metre.

Corporation stops for service connections require double strap bronze saddle with stainless steel straps and neoprene gaskets.

All service connections and lines shall be bedded in sand, compacted to 95% Standard Proctor density.

Water services may be installed in a common trench with sewer services with a 0.30 metre separation.

A minimum distance of 0.30 metres is required from any hydrant to the face of a curb or sidewalk.

Water distribution mains and water service lines shall not be continuously aligned underneath a curb, gutter or sidewalk.

7. **Testing and Disinfection**

All sections of the water distribution system shall be subjected to a leakage test of at least two hours duration. The test pressure shall be 1.5 times the maximum expected operating pressure but shall not exceed the rated operating pressure for the class of pipe concerned. The test section shall be the shortest portion of watermain that can be isolated by the minimum number of valves.

The maximum allowable leakage per hour is determined by the following formula:

$$L = \frac{SD\sqrt{P}}{715\ 264} \quad \textit{Where}:$$

L = Allowable Leakage in litres per hour

S = Length of pipe tested in metres

D = Nominal diameter of pipe in millimetres

P = Average test pressure during test in KPa

The test shall be witnessed by the Approving Officer or his representative.

Disinfection shall be carried out in accordance with the A.W.W.A. standards or the requirements of British Columbia Ministry of Health and the local medical officer of health. A final certificate from the Ministry of Health shall be received prior to the system being put into service.

Hydrostatic testing procedure shall be in accordance with A.W.W.A. C600 (latest issue).

Disinfection procedure shall be in accordance with A.W.W.A. C651 (latest issue).

8. **Lot Service Cards**

The Developer shall maintain individual lot service records for water, sanitary and storm sewer services. The attached lot service card as per Schedule K shall be properly executed and submitted with the record drawings to the Approving Officer for approval.

SCHEDULE "D"

DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW

SEWAGE COLLECTION AND DISPOSAL

1. **Sanitary Sewage Collector Design Criteria**

Discharge into the existing community sewerage system is required for subdivided lots serviced by sanitary sewage collector sewers.

Sanitary sewage collector mains require design in accordance with the following criteria:

- Average daily sewage flow - 365 litres per capita per day.
- Industrial and commercial population equivalent - 37 people per hectare.
- Peak sewage load = (365P) M + 4700 A (litres per day)

  Where P = Population
  Where A = area in hectares

$$M = \frac{5}{\left(\frac{P}{1000}\right)} 0.2$$

- Pipeline capacity - to be determined from the Manning Formula utilizing the following pipe roughness factors:

Concrete	0.013
PVC	0.010

- Pipeline gradients - collector pipeline gradients shall be sufficient to provide for a minimum flow velocity of 0.75 metres per second at designed peak loading. Collector pipeline gradients shall not exceed that which will permit flow velocities in excess of 5.5 metres per second at designed peak loading. Minimum gradient of lot service lines is 2%.
- Minimum gradient for a 200 mm diameter (8") sewer shall be 0.40%
- Minimum slope in curved sewers shall be increased by 50%

2. **Pipe Sizing**

Minimum pipe size for sanitary sewage collectors is 200 mm (8 inches).

Minimum pipe size for lot service lines is 100 mm (4"). Each lot requires its own lot service line to the collector sewer.

3. **Pipe Materials**

Acceptable pipe materials for collector sewers are:

- Polyvinyl chloride (P.V.C.) SDR 35 conforming to A.S.T.M. D3034 (latest issue).
- Concrete conforming to ASTM C14 (latest issue) or ASTM C76 (latest issue).

Acceptable pipe materials for lot service lines are:

- Polyvinyl chloride (P.V.C.) SDR 28 conforming to CSA B182.1 (latest issue).

All pipelines shall be designed for structural capacity in accordance with the recommendations of the pipe manufacturer.

All collector sewers and lot service lines shall be constructed using rubber gasketted joints.

4. **Manholes**

Manholes shall be located at all changes in direction and/or gradient in collector sewer lines. The maximum distance between manholes is 150 metres on straight sections. Manholes shall be located at the ends of curved sections and at intervals of not greater than 90 metres along a curve.

At manholes, where a change in direction or gradient occurs, the invert elevation at the wall of the outlet sewer line is 60 millimetres below that of any inlet pipe, measured at the wall.

All manholes shall be constructed with shaped channel(s) to provide for the transfer of sewage from inlet(s) to the outlet with a minimal energy loss.

Manholes located in frost susceptible soils shall be installed in a manner to avoid disjointing of manhole sections due to frost heaving. Installation method shall be approved by the approving officer.

Where four or fewer inlet and outlet pipes intersect at a manhole and no pipe is larger than 600 mm (24 inches) in diameter and the intersecting angles of the pipelines are sufficient, the minimum size manhole is 1200 mm (48 inches) in diameter.

Where the preceding set of conditions is not satisfied, a special manhole is required.

Manholes, 1200 mm in diameter, shall be constructed of precast, reinforced concrete sections manufactured in accordance with ASTM C76 (latest issue) and jointed using a flexible bituminous gasket. No grouting of manhole joints is allowed.

Where an inlet or outlet pipe at a manhole is made of PVC, a special P.V.C. man-hole adapter, complete with gasket, shall be used to join the pipe to the manhole.

All man hole covers shall be as per Drawing D-1 or as approved by the Approving Officer and shall be installed 30mm below the finished asphalt elevation and tapered upward to the finished elevation in a circle of 300 mm from the outer most circumference of the man hole rim..

Manholes require frames and covers designed to withstand highway loading and shall contain foot rungs for access of 20 mm galvanized iron at a spacing of 400 mm and conform to BC Occupational Health and Safety Standards.

Where the difference in elevation between the inverts of an inlet sewer and the outlet sewer is 0.6 metres or more, an exterior drop structure incorporating a drop pipe of two thirds the diameter of the inlet sewer but not less than 200 mm is required.

All concrete products and concrete used for the sanitary sewer system shall be made with Portland Type 50 sulphate resistant cement.

5. **Installation**

All collector sewers shall be located a minimum of 2.2 metres below finished grade.

All lot service lines shall be located a minimum of 2.2 metres below finished grade at the property line.

All sanitary sewer mains shall be bedded in sand material to a minimum depth of 150 mm below the bottom of the main and 300 mm above the top of the main. The sand bedding shall be uniformly compacted to 95% Standard Proctor density.

All pipe joints shall be made in accordance with the manufacturer's instructions and shall be "Ring-Tite" joints.

Trench backfill in all public rights-of-way and easements requires compaction to a minimum of 95% Standard Proctor density.

Lot service connections to collector sewers shall be made using either gasketted service saddles held in place by stainless steel straps or a pre-built tee fitting and shall connect into the upper half of the collector sewer at an angle of at least 30 degrees.

No service connections into manholes are permitted with the exception of the last manhole in a cul-de-sac. In which case the invert of the service connection shall be a maximum of 300 mm above the invert of the outlet pipe.

All service connections and lines shall be bedded in sand, compacted to a minimum of 95% Standard Proctor density.

All manholes shall be constructed plumb.

Sanitary sewer mains and lot service lines shall not be continuously aligned underneath a curb, gutter or sidewalk.

6. **Testing**

All collector sewers, manholes and lot service lines are required to pass an exfiltration test performed as follows:

- The test shall be performed for a period of one hour under a hydrostatic head of 1.5 metres, either above the crown of the lowest pipe or the maximum elevation of the groundwater table, whichever is greater. Maximum allowable leakage is 35 litres per mm (diameter) per kilometre (length) per day on mains. No separate allowance shall be made for lot service lines and manholes.
- The test shall be witnessed by the Approving Officer or his representative.
- All sewage collection lines shall be subjected to a television survey. Should the television survey show any defects, these shall be removed by the developer and the developer shall carry out, at his cost, any further television surveys necessary to show proof that the defects are corrected.
- Tapes of the television surveys shall be turned over to the District in a format acceptable to the approving officer.

7. **Private Sewage Systems**

Where subdivided lots cannot be serviced by sanitary sewage collector sewers, they may be serviced by private individual septic tank/leaching field systems.

Subdivided lots utilizing septic tank/leaching field systems require a minimum size as prescribed under the appropriate zone in the Zoning Bylaw. The entire sewage disposal system shall be located within the boundaries of the lot.

Private sewage systems shall comply with the requirements of the latest edition of the Sewage Disposal Regulations of the Health Act.

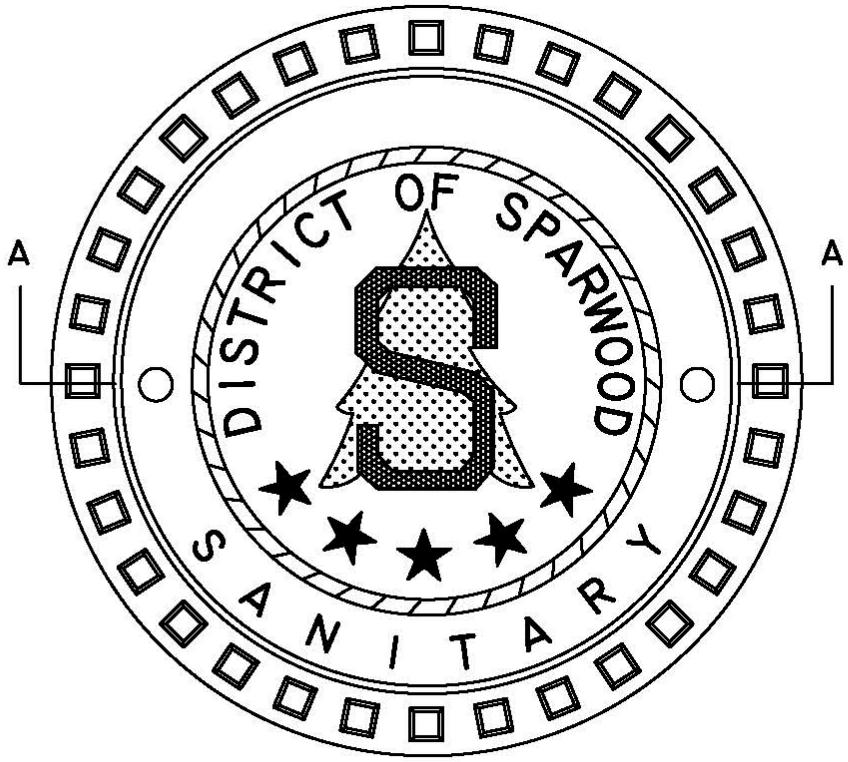
8. **Lot Service Cards**

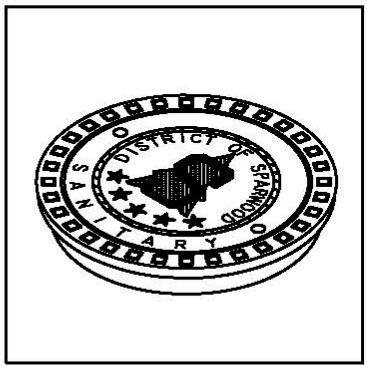
Refer to Schedule C, Item 8 for Lot Service Cards.

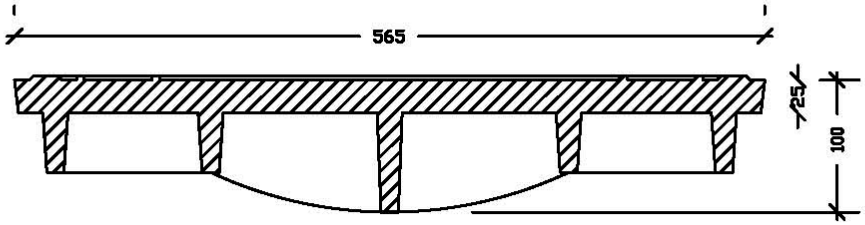
List of Standard Drawings

Drawing #	Title
D1	Sanitary Man Hole Cover

PLAN







SECTION A-A

ISO 9001-2000 CERTIFIED

RATED FOR HS-20 LIVE LOAD

MEASUREMENTS IN MILLIMETERS

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 27.03.08 (DD.MM.YY)	MUNICIPAL STANDARD	DWG. No: D-1	
	COMPUTER FILE: \SPAR\B-15	MANHOLE COVER SANITARY		

SCHEDULE "E"

DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW

DRAINAGE REQUIREMENTS

1. **Drainage System Design Criteria**

Where subdivided lots are served by a drainage system incorporating interception of surface runoff and subsequent transporting of the intercepted runoff by ditches or a piped system, the interception and piping/ditch system shall be designed in accordance with the following methods and criteria.

Hydraulic loading is determined by means of the "Rational Method" i.e.: Q = cAi wherein:

Q	=	Hydraulic Loading
c	=	Runoff Coefficient
A	=	Drainage Area
i	=	Rainfall Intensity

or by means of an urban runoff model acceptable to the Approving Officer.

Runoff coefficient(s) for the drainage area shall be determined by the Developer and statistically justified by the Developer. Rainfall intensities shall be:

For a 5 year return frequency $$i = \frac{1540}{t + 20}$$

For a 100 year return frequency $$i = \frac{2700}{t + 15}$$

The surface runoff system design shall provide for an interception / pipe system to accommodate a storm with a 5-year return frequency. The surface runoff system shall also be designed in such a manner that a 100 year return frequency storm may be accommodated without flooding buildings either within the subdivision area or downstream of the subdivision area.

Catch basin and culvert inlet systems shall be designed to pass the hydraulic loading from the 5 year return frequency storm with a maximum head of 5 cm over the grate or cover of a catch basin or 0.3 m over the obvert of a culvert inlet.

Pipeline and ditch capacities are determined from the Manning formula utilizing the following roughness factors:

Asphalt	0.015
Concrete	0.013
PVC	0.010
CMP	0.024
Grass	0.035
Rip Rap	0.030

Pipeline and ditch gradients shall be sufficient to provide for a minimum flow velocity of 0.75 metres per second at designed peak loading. Pipeline gradients shall not exceed that which will permit flow velocities greater than 5.5 metres per second at designed peak loading. Minimum gradient of catch basin leads is 2%.

Minimum gradient for lot service lines shall be 2%.

Pipelines having a diameter of 800 mm (36") or greater and ditches may be constructed on a curved alignment. Minimum radius for curved sewers is 60 m; however, smaller radii curves and bends may be permitted if it can be shown that adequate access for maintenance is provided. Minimum grades of sewers must be increased by 50% through curved sections.

Minimum pipe size for storm sewer pipelines is 300 mm (12"), excepting single catchbasin leads which may be 250 mm (10").

Minimum pipe size for lot service lines shall be 150 mm (6").

Manholes shall be located at all changes in direction and/or gradient in storm sewer lines. The maximum distance between manholes is 120 metres for 375 mm diameter pipe and smaller diameter pipe and 150 metres for 450 mm diameter pipe and larger diameter pipe on straight sections. Manholes shall be located at the ends of curved sections and at intervals of not greater than 90 metres along a curve.

At manholes, where a change in direction or gradient occurs, the invert elevation at the wall of the outlet sewer line shall be 60 mm below that of any inlet pipe, measured at the wall.

All manholes shall be constructed with shaped channel(s) to provide for the transer of runoff from inlet(s) to the outlet with a minimal energy loss.

Where four or fewer inlet and outlet pipes intersect at a manhole and no pipe is larger than 600 mm (24") in diameter and the intersecting angles of the pipelines are sufficient, the minimum size manhole is 1200 mm (48") in diameter.

Where the preceding set of conditions is not satisfied, a special manhole is required.

Catchbasins shall be designed with a sump, 300 mm in depth, measured below the outlet pipe invert.

Catchbasins shall be spaced to drain a maximum area of 500 m^2 of road surface on road grades up to 5% and 400 m^2 on steeper grades.

2. **Construction Materials**

Acceptable pipe materials for storm sewers and catch basin leads are:

- Polyvinyl chloride (PVC) conforming to ASTM D3034 with a standard dimension ratio (SDR) not exceeding 35.
- Concrete conforming to ASTM C14 (latest issue) or ASTM C76 (latest issue).

Acceptable pipe materials for storm lot service lines are:

- Polyvinyl chloride (P.V.C.) SDR 28 conforming to CSA B182.1 (latest issue).

All pipelines shall be designed for structural capacity in accordance with the recommendations of the pipe manufacturer.

All storm sewers and catch basin leads shall be constructed using rubber gasketted joints.

Manholes, 1200 mm, in diameter shall be constructed of precast, reinforced concrete sections manufactured in accordance with ASTM C76 (latest issue) and jointed using a flexible bituminous gasket. No grouting of manhole joints is allowed.

Manholes located in frost susceptible soils shall be installed in a manner to avoid disjointing of manhole sections due to heaving. Installation method shall be approved by the approving officer.

Catch basins shall be minimum 900 mm (36") in diameter.

Where an inlet or outlet pipe at a manhole or catch basin is made of PVC, a special PVC manhole adapter complete with gasket shall be used to join the pipe to the manhole.

All man hole covers shall be as per Drawing E-1 or as approved by the Approving Officer and shall be installed 30mm below the finished asphalt elevation and tapered upward to the finished elevation in a circle of 300 mm from the outer most circumference of the man hole rim..

Manholes and catch basins require frames and covers designed to withstand highway loading and shall contain foot rungs for access of 20 mm galvanized iron at a spacing of 400 mm and conform to BC Occupational Health and Safety Standards.

All concrete products and concrete used for the storm sewer system shall be made with Portland Type 50 sulphate resistant cement.

3. **Installation**

All storm sewers shall be located a minimum of 1.8 m below finished grade.

All catch basin leads shall be located a minimum of 1.5 m below finished grade.

All lot service lines shall be located a minimum of 1.5 m below finished grade.

All storm sewer lines and catch basin leads shall be bedded in sand material to a minimum depth of 150 mm below the bottom of the main and 300 mm above the top of the main. The sand bedding shall be uniformly compacted to 95% Standard Proctor density.

All pipe joints shall be made in accordance with the manufacturer's instructions and shall be "Ring-Tite" joints.

Trench backfill in all public rights-of-way and easements shall be compacted to a minimum of 95% Standard Proctor density.

Catch basin leads shall be tied to storm sewers using manholes unless the diameter of lead is less than 50% of the diameter of the storm sewer, in which case the connection may be made using a pre-built tee.

Lot service connections to collector sewers shall be made using either gasketted service saddles held in place by stainless steel straps or a pre-built tee fitting and shall connect into the upper half of the collector sewer at an angle of at least 30 degrees.

No service connections into manholes are permitted with the exception of the last manhole in a cul-de-sac in which the invert of the service connection shall be a maximum of 300 mm above the invert of the outlet pipe.

All service connections and lines shall be bedded in sand, compacted to a minimum of 95% Standard Proctor density.

All manholes and catch basins shall be constructed plumb.

4. **Testing**

All storm sewer pipelines and catch basin leads shall be subjected to a television survey. Should the television survey show any defects, these shall be remedied by the developer and the developer shall carry out, at this cost, any further television surveys necessary to show proof that the defects are corrected.

Tapes of the television surveys shall be turned over to the District in a format acceptable to the approving officer.

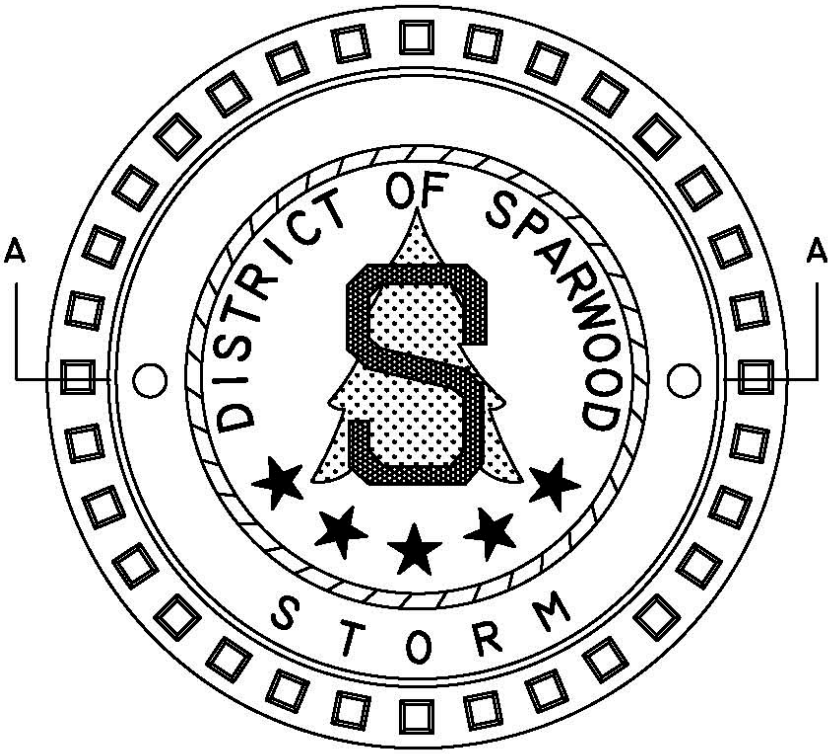
5. **Lot Service Cards**

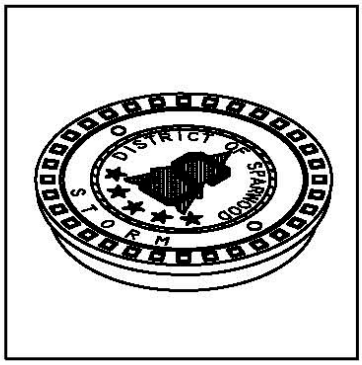
Refer to Schedule C, Item 8 for Lot Service Cards.

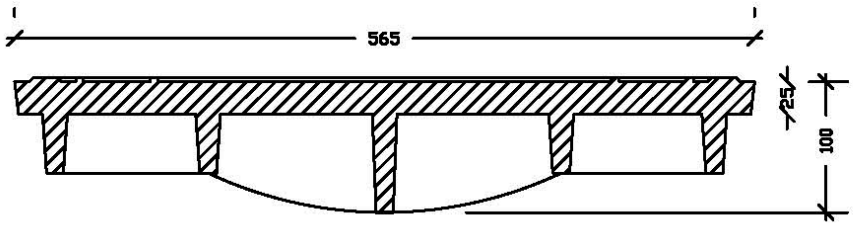
List of Standard Drawings

Drawing #	Title
E1	Storm Man Hole Cover

PLAN







SECTION A-A

ISO 9001-2000 CERTIFIED

RATED FOR HS-20 LIVE LOAD

MEASUREMENTS IN MILLIMETERS

DISTRICT OF SPARWOOD PROVINCE OF BRITISH COLUMBIA	LATEST REVISION DATE: 27.03.08 (DD.MM.YY) COMPUTER FILE: \SPAR\B-16	MUNICIPAL STANDARD	DWG. No: E-1
		MANHOLE COVER STORM	

SCHEDULE "F"

DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW

APPLICATION FOR FINAL APPROVAL OF SUBDIVISION

I/We _____
(Name of Owner)

of _____
(Address) (Phone No.)

hereby make application under the provisions of the Subdivision Servicing Bylaw of the District of Sparwood for Approval of Subdivision of the subdivision described below:

Lot _____

Block _____

District Lot _____

Plan _____

Civil Address _____

(fill in if applicable)

Approval in Principle Received _____
(Date)

This application includes:

1. A certificate stating that all works and services are completed to standard.
2. A certificate stating that all taxes have been paid.
3. Other information as required by the Approving Officer.

I/We hereby declare that all the above statements and the information contained in the material submitted in support of this application are to the best of my belief true and correct in all respects.

_____ _____
DATE OWNER'S SIGNATURE(S)

SCHEDULE "G"

DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW

LETTER OF CREDIT

Date: _____
Bank: _____
Address: _____

District of Sparwood
P.O. Box 520
Sparwood, B. C.
VOB 2GO

Dear Sirs:
At the request of _____
(Name of Developer)

we hereby establish in your favour our irrevocable credit for a sum not exceeding ($ _____) Dollars. This credit shall be available to you upon demand at the _____
(Name of Bank)

_____
(Address of Bank)

When supported by your written demand for payment made upon us. This Letter of Credit is required in connection with an undertaking by the Developer to perform certain works and services required by you. You may make partial drawings or full drawings at any time. We shall honour your demand without inquiring whether you have a right as between yourself and our customer. If you have not demanded on this Letter of Credit in full by _____ it will be considered cancelled unless other arrangements or a renewal have been made with the Bank prior to the aforementioned date.
Expiry Date
Our reference for this Letter of Credit is

_____
(Signature of Bank Officer)

_____
(Name of Bank)

_____
(Signature of Bank Officer)

The Developer hereby specifically agrees that it shall not take any action to dispute the validity of this Letter of Credit unless it has expired prior to demand.

We hereby agree to indemnify the (Bank) against any costs of actions relative to this Letter of Credit. We also authorize the (Bank) to make any necessary payments and debit our account accordingly

_____

_____
DEVELOPER(Signing officer)

SCHEDULE "H"

DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW

THE AGREEMENT

THIS AGREEMENT made the_____day of _____, 2_____.

BETWEEN:

DISTRICT OF SPARWOOD, a municipal Corporation having its place of business at 136 Spruce Avenue in the District of Sparwood, Province of British Columbia

(hereinafter called the **"Municipality"**)

OF THE FIRST PART

AND:

(hereinafter called the **"Developer"**)

OF THE SECOND PART

WHEREAS the **Developer** desires to develop certain lands within the **Municipality** more particularly known and described as:

(hereinafter called the **"Land"**) and

WHEREAS the **Developer** is required to construct certain works and services within the **Land** and to subdivide the **Land** according to a plan of subdivision (hereinafter called the **"Development"**) a copy of which is hereunto annexed as Schedule "H1". and

WHEREAS the **Developer** has requested approval of the Development prior to the construction and installation of the works and services and is agreeable to entering into this bonding agreement pursuant to Section 991 of the Municipal Act and to deposit the Bond herein specified and;

WHEREAS the **Developer** has submitted detailed drawings and specifications and has received the District's approval of these drawings and specifications for the construction of the works and services proposed to be installed and constructed within the development area or portion thereof:

NOW THIS AGREEMENT WITNESSETH that in consideration of the premises and in consideration of the agreement by the **Municipality** to permit the Development and in consideration of the approval of the subdivision plan prior to completion of the construction of the works and services, the **Municipality** and the **Developer** herein covenant and agree as follows:

1. In this agreement unless the context otherwise requires:

   APPROVING OFFICER means the persons appointed by Council as Approving Officer under the Land Title Act.

   COMPLETE OR COMPLETION or any variation of these words when used with respect to the Development shall mean completion to the satisfaction of the Approving Officer when so certified by him in writing.

   CONTRACT means this agreement.

   DEVELOPMENT means the works and services to be performed and constructed by the Developer as required by the Subdivision Servicing Bylaw of the Municipality in relation to the subdivision set out in Schedule "H1" hereto.

2. The **Developer** shall complete the Development herein specified, as more particularly described in Schedule "H2" hereto (herein called the "Works and Services") to the satisfaction of the Approving Officer by the ____ day of _____ 2 ____.

3. As security for the due and proper performance, during the construction period, of all the covenants and agreements in this Contract contained and the Development contemplated, the **Developer** has deposited with the Municipality:

   (a) Cash or a certified cheque in the amount of $_____ as a Bond within the meaning of Section 991 of the Municipal Act (hereinafter called the "Bond").

   OR

   (b) An irrevocable Letter of Credit in an amount of $ _____ bearing even date herewith, a copy of which is attached hereto (hereinafter called the "Bond" to be valid for a period of twelve (12) months from the date specified in paragraph 2 hereof, PROVIDED HOWEVER, that the **Municipality** shall be at liberty to make demand on the said Letter of Credit at any time after the date hereof with the **Developer** being entitled to renew this agreement as hereinafter provided if such Letter of Credit shall not have been demanded upon in the manner hereinafter provided and provided also that the amount of such Bond may be reduced at any time with approval of the **Municipality** in writing over the hand of the Approving Officer of the **Municipality**.

NOTE: The inapplicable clause should be deleted.

4. As security for the due and proper performance, during the maintenance period, of all of the covenants and agreements in the Contract contained and the Development contemplated, the **Developer** has deposited with the **Municipality**:

(a) Cash or a certified cheque in the amount of $ _____ as a Bond within the meaning of Section 991 of the Municipal Act (hereinafter called the "Bond").

OR

(b) An irrevocable Letter of Credit in an amount of $_____ bearing even date herewith, a copy of which is attached hereto (hereinafter called the "Bond" to be valid for a period of twelve (12) months from the date specified in paragraph 2 hereof, PROVIDED HOWEVER, that the **Municipality** shall be at liberty to make demand on the said Letter of Credit at any time after the date hereof with the **Developer** being entitled to renew this agreement as hereinafter provided if such Letter of Credit shall not have been demanded upon in the manner hereinafter provided and provided also that the amount of such Bond may be reduced at any time with approval of the **Municipality** in writing over the hand of the Approving Officer of the **Municipality**.

NOTE: <u>The inapplicable clause should be deleted.</u>

5. Construction period shall terminate upon the issuance of an approved Construction Completion Certificate, signed by the Approving Officer, which has no deficiencies to be completed or corrected. Maintenance period shall terminate upon issuance of an approved Final Acceptance Certificate, signed by the Approving Officer, which has no deficiencies to be completed or corrected.

6. The **Developer** agrees that if the Works and Services are not completed pursuant to paragraph 2 hereof, the **Municipality** may complete the Works and Services, at the cost of the **Developer** and for that purpose may draw upon the Bond the full amount of such Bond and should there be insufficient monies contained in the Bond the **Developer** shall pay the balance of such insufficiency forthwith upon invoice therefore or should the **Developer** complete the Works and Services or should the completion of the Works and Services cost less than the amount of the Bond then the Bond or such part thereof shall be returned by the **Municipality** to the **Developer**. The cost of the Works and Services shall include the actual cost of construction and installation thereof plus engineering, supervision, legal survey and other costs in connection therewith, together with an administration fee of ten percent (10%) of such cost which shall be payable to the **Municipality**. It is understood that the **Municipality** may do such Works and Services either by itself or by contractors employed by it.

7. The **Developer** shall complete the Development and shall grant all necessary right-of-ways as shown on the plans and specifications attached hereto as may be required by the **Municipality**. The Works and Services shall be to the standards required by the Subdivision Servicing Bylaw of the **Municipality** and to the approval of the Approving Officer. Should such Works and Services prove to be in any way defective or not operate, then the **Developer** shall, at the expense of the **Developer**, modify and reconstruct the Works and Services so that they shall be fully operative and function to the satisfaction of the Approving Officer. Such satisfaction to be indicated by a Construction Completion Certificate signed by the Approving Officer.

8. The **Developer** covenants and agrees to comply with the provisions of all Municipal Bylaws throughout the construction of the Development. In the event that any material or debris should be left upon any road after the construction of the Development, the **Developer** covenants and agrees that the **Municipality** may forthwith remove such material or debris at the expense of the **Developer**, the cost of such removal to be determined by the Approving Officer. In the event that any invoice of the **Municipality** for the removal of such material or debris shall remain unpaid after thirty (30) days of receipt of the same by the **Developer**, the **Municipality** is authorized to deduct the amount of such invoice from the Bond referred to in paragraph 3 hereof.

9. The **Developer** shall, at all times in connection with the Development, keep and employ a competent general superintendent with the authority to act on behalf of the **Developer** and capable of speaking, reading and writing the English language and any explanations, orders, instructions, directions and requests given by the **Municipality** to such superintendent shall be held to have been given to the **Developer.**

10. The **Developer** covenants and agrees to comply with any changes in subdivision requirements or standards prescribed by bylaw prior to the substantial commencement upon the said lands of the Development contemplated by this Agreement.

11. The **Developer** covenants and agrees to the following conditions of maintenance and final acceptance:

    (a) The **Developer** shall, upon being satisfied that all of the Approving Officer's requirements are met, submit to the Approving Officer four (4) copies of a Construction Completion Certificate signed by the **Developer's** Engineer for each of the following works and services installed:

        i) sanitary sewers
        ii) storm sewers
        iii) waterworks
        iv) sewer and water lot services
        v) paved streets
        vi) curb, gutter, sidewalks and catch basins

vii) lanes
viii) street lighting
ix) underground works and services related to any and all utility companies plus telecommunications networks including, but not limited to, the community open access FON/FTTP network infrastructure.

The Approving Officer shall, within one (1) month of receipt of the Construction Completion Certificate, inspect the Works and Services with representatives of the **Developer** and his Engineer.

(b) If the inspection shows to the satisfaction of the Approving Officer that the works and services are completed, the Approving Officer shall sign the Construction Completion Certificate and shall indicate thereon the date when the **Developer** shall cease to be responsible for maintenance. If, however, defects or deficiencies are apparent to the Approving Officer in the works and services, the Certificate will be returned to the **Developer** unsigned with a report of the defects.

(c) After the issuance of the Construction Completion Certificate the **Developer** shall be responsible for any and all repairs and replacements to any works and services which may become necessary from any cause whatever, up to the end of the maintenance periods mentioned in the said Construction Completion Certificate.

(d) If during the construction and maintenance period any defects become apparent in any of the works and services installed or constructed and the Approving Officer requires repairs or replacements to be done, the **Developer** shall, within a time after notice, satisfactory to the Approving Officer, cause such repairs or replacements to be done and if the **Developer** defaults or any emergency exists, the Approving Officer may have the repairs or replacements carried out and the **Municipality** may recover the cost from the **Developer** or from the Bond.

(d.1) After all Construction Completion Certificates have been issued and duly approved, the **Developer** then can apply for final subdivision approval which is required before plans are signed and registered.

(e) The **Municipality** will, from the date of the Construction Completion Certificate, flush and clean out the sanitary sewers as required in ordinary maintenance procedure. The cost of removing obstructions caused by gravel, rocks or silt which is other than that deposited from sewage, may be charged to the **Developer**. All blocked sewers attributable to faulty construction shall be corrected at the expense of the **Developer**. Prior to the issuance of the Final Acceptance Certificate, the Approving Officer may carry out, at **Municipality's** cost, a television survey of all sanitary and storm sewer lines which are to be accepted by the Approving Officer.

Should the television survey show any defects these are to be remedied by the **Developer** and the **Developer** shall carry out, at his cost, any further television surveys necessary to show proof that the defects are corrected. The Approving Officer will not issue a Final Acceptance Certificate until he is satisfied that the defects are remedied.

(f) The **Developer** shall be responsible for adjusting all hydrants, hydrant and main valve boxes and all service valve boxes to the established grades as they are developed and maintaining the valves and appurtenances in operating condition until such time as the Approving Officer issues the Final Acceptance Certificate for the paved streets, lanes and curb, gutter and sidewalks.

(g) Maintenance (without limiting the generality of the term) for which the **Developer** shall be responsible includes:

i) failure of or damage to underground works and services resulting from defective materials or improper installation;

ii) settlement of ditches;

iii) grading, gravelling, repairs and/or replacement of road and lane surfaces including the access roads;

iv) adjustments and repairs to watermains, main valves, water hydrants, hydrant valves, service lines and valves and valve operating mechanisms including the casings enclosing these mechanisms;

v) repairs, replacements and adjustments to sewer mains, sewer services, manholes, manhole frames and covers.

(h) The **Developer** agrees that maintenance is a continuous operation which shall be carried on until the date of issuance of the Final Acceptance Certificate for each of the works and services and no releases from liability of any kind will be given until all repairs or replacements required by the Approving Officer in the final inspection reports have been made.

(i) The **Developer** shall maintain each of the various works and services for the greater of the following periods, from the dates shown in the Construction Completion Certificates:

Sanitary Sewers	One Year
Storm Sewers	One Year
Watermains & Hydrants	One Year
Sewer and Water Lot Services	One Year
Gravelled lanes including sewer manholes, manhole frames and covers. Watermain and hydrant valves and valve operating mechanisms, sewer and water connection valves and valve operating mechanisms installed in these lanes.	One Year from the date of the Construction Completion Certificate for roads, lanes or pathways.
Sidewalks, curbs and gutters	Two Years
Paved Roads, Lanes & Pathways Or; Where the base gravels or lower course of asphalt is placed to design grade and allowed to settle over one winter prior to the placement of the surface course.	Two Years One Year
Landscaping	Two full growing seasons
Street Light System	One Year
Sewer manholes, manhole frames and covers, watermains and hydrant valves and valve operating mechanisms, sewer and water connection valves and valve operating mechanisms and catch basin leads installed in lanes, roads or pathways	One year from the date of the Construction Completion Certificate for roads, lanes or pathways
Underground works and services related to any and all utility companies plus telecommunications networks including, but not limited to, the community open access FON/FTTP network.	One Year

The above dates may be extended by the **Municipality** when compaction test results or other documented observations indicate substandard construction.

(j) Two months before the expiration of the maintenance period for each of the works and services or earlier if weather conditions dictate, the **Developer's** Engineer, following a complete inspection of the works and services accompanied by his Contractor, shall correct all defects noted due to damage and other causes. For each of the works and services, four (4) copies of the Final Acceptance Certificate, duly signed by the **Developer's** Engineer

and signed and sealed by a signing officer of the **Developer's** Engineer, will then be submitted to the Approving Officer.

(k) After receipt of the Final Acceptance Certificate, the Approving Officer shall make an inspection within one month of the receipt thereof, if weather conditions permit a proper inspection. If the inspection shows to the satisfaction of the Approving Officer that the works and services are acceptable, the Approving Officer, shall approve the Final Acceptance Certificate. If however, defects or deficiencies are apparent to the Approving Officer in the works and services, the Final Acceptance Certificate will be returned to the **Developer** unsigned with a report of the defects and deficiencies listed and with a statement of the length of time in which the defects and deficiencies shall be corrected by the **Developer** at his own expense.

(l) Should the **Developer** fail to correct the deficiencies or defects listed or pay for any damage resulting therefrom, the **Municipality** may deduct the cost of completing the Works and Services, correcting the deficiencies or defects or paying the damage from the Bond referred to in paragraph 4 hereof.

(m) Once the Construction Completion Certificate has been issued, the Municipality will offset the costs of the installation of the FON by paying the developer $210 per lot serviced.

12. The **Developer** shall submit to the **Municipality** final record drawings, including 2 sets of full size prints and 2 sets of reduced size prints – Tabloid size (11x17) of all works and services as constructed including individual lot servicing cards in a form acceptable to the Approving Officer plus a completed Schedule "F". Record drawings shall also be provided in electronic format, scanned to TIFF at a minimum of 300 dpi and shall be submitted also in DWG or DXF format on a compact disk (CD) or other electronic mean acceptable to the approving officer.

(a) The **Developer** agrees to pay all arrears of taxes outstanding against the property herein described before the formal approval of any subdivision plans.

(b) The **Developer** further undertakes to pay all current taxes levied or to be levied on the said lands on the basis and in accordance with the assessment and collectors roll entries.

(c) In addition to the cash deposit or Letter of Credit referred to in paragraphs 3 and 4 hereof, the **Developer** agrees to pay to the **Municipality** all inspection fees, administration fees, engineering fees, non-refundable levies and charges and legal costs incurred by the **Municipality** directly attributable to this agreement and the

cost of connecting all works and services to service the Development contemplated by this agreement.

13. The **Developer** covenants to save harmless and effectually indemnify the **Municipality** against:

    (a) all actions and proceeding costs, damages, expenses, claims and demands whatsoever and by whomsoever brought by reason of the Development;

    (b) all expenses and costs which may be incurred by reason of this agreement resulting in damage to any property owned in whole or in part by the **Municipality** or which the **Municipality** by duty or custom is obliged, directly or indirectly, in any way or to any degree, to construct, repair or maintain; and

    (c) all expenses and costs which may be incurred by reason of liens or non-payment of labour or materials, Workmens' Compensation assessments, unemployment insurance, federal or Provincial Tax.

14. The **Municipality** hereby covenants and agrees with the **Developer** to permit the **Developer** to perform all the said Works and Services herein upon the terms and conditions herein contained.

15. The **Municipality** covenants and agrees that upon satisfactory completion by the **Developer** of all of the covenants and conditions in this agreement and without limiting the generality of the foregoing, including the maintenance of the said Works and Services constructed pursuant to this agreement and keeping the same in complete repair for a period of time as specified in Section 11 hereof, to provide the **Developer** with a Final Acceptance Certificate of the said Works and Services, signed by the Approving Officer.

16. The **Developer** covenants and agrees that the **Municipality** may withhold the granting of an occupancy permit for the occupancy or use of any building or part thereof constructed upon the said lands until all of the Works and Services herein have been completed to the satisfaction of the Approving Officer, as evidenced by the Construction Completion Certificate provided to the **Developer** and signed by the Approving Officer.

17. It is understood and agreed that the **Municipality** has made no representations, covenants, warranties, guarantees, promises or agreements with the **Developer** other than those in this Agreement.

18. Wherever the singular or the masculine are used in this Indenture, the same shall be construed as meaning the plural or the feminine or body corporate or politic where the context or the parties hereto so require.

19. This agreement shall ensure to the benefit of and be binding upon the parties hereto, their respective heirs, executors, administrators and assigns.

20. The Works and Services required to be constructed pursuant to the provisions of this Agreement shall, upon issuance of the Final Acceptance Certificate provided for herein, become the property of the **District** free and clear of any claim by the **Developer** or any person claiming through the **Developer.**

IN WITNESS WHEREOF the parties hereto have hereunto set their hands and seals the day and year first written above.

THE CORPORATE SEAL OF THE MUNICIPALITY was hereunto affixed in the presence of:

_____

The amount and form of this Bond and Agreement is approved by the Approving Officer for the Municipality this_____day of _____ ,2_____ .

Approving Officer

THE CORPORATE SEAL OF THE DEVELOPER was hereunto affixed in the presence of:

RENEWAL

We hereby renewed for a further period of twelve (12) months in form identical to this Agreement

which renewal is approved by the approving Officer.

THE CORPORATE SEAL OF THE MUNICIPALITY was hereunto affixed in the presence of:

_____
Approving Officer

_____

THE CORPORATE SEAL OF THE DEVELOPER was hereunto affixed in the presence of:

SCHEDULE "I"
DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW
CONSTRUCTION COMPLETION CERTIFICATE

SUBDIVISION:_____WORKS AND SERVICES:_____
DEVELOPER:_____AGREEMENT DATED:_____
CONTRACTOR:_____DATE:_____
BOUNDARY OF AREA: See Map Attached

This Certificate is issued pursuant to Section 5 or Schedule "H" of the District of Sparwood Subdivision Servicing Bylaw.

This Certificate has been made to the best of the Developer's Engineer's knowledge, information and belief. It does not constitute a certification of any work not in accordance with the requirements of the District of Sparwood Subdivision Servicing Bylaw whether or not such defect or deficiency could have been observed or discovered during construction.

I, _____ of the Firm _____
hereby certify that the works and services noted herein have been installed as far as can be practically ascertained according to the District of Sparwood Subdivision Servicing Bylaw and are complete as defined by that Bylaw. I hereby recommend this area of the works and services for approval of this Construction Completion Certificate.

_____ DEVELOPER'S ENGINEER

(SEAL)

_____ SIGNING OFFICER
Developer's Engineer

_____
Approved on _____, 2____ Approving Officer

Rejected on _____, 2____ (Returned unsigned)

A list of deficiencies dated _____, 2____, to be completed or corrected is appended hereto.

I hereby certify that the items listed as deficiencies have now been completed or corrected.
_____ Date: _____, 2 ____
Developer's Engineer

APPROVED: _____ Date: _____, 2 ____
Approving Officer

Date maintenance period to expire: _____, 2____

SCHEDULE "J"
DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW
FINAL ACCEPTANCE CERTIFICATE

SUBDIVISION:_____WORKS AND SERVICES:_____
DEVELOPER: _____AGREEMENT DATED:_____
CONTRACTOR:_____DATED:_____
BOUNDARY OF AREA: See Map Attached.

This certificate is issued pursuant to Section 5 of Schedule “H” of the District of Sparwood Subdivision Servicing Bylaw.

I, _____ of the firm _____
hereby certify that as of the above date the said Works and Services meet all the requirements for acceptance as specified by the District of Sparwood Subdivision Servicing Bylaw and I hereby recommend this area of the Works and Services for Final Acceptance by the District of Sparwood.

_____
Developer’s Engineer

_____
(Seal) Signing Officer for Developer’s Eng.

Approved on _____, 2____.

_____
Approving Officer

Rejected on _____, 2_____ (Returned unsigned)

A list of deficiencies, dated _____, 2_____ to be completed or corrected is appended hereto.

I hereby certify that the items listed as deficiencies have now been completed or corrected.

_____ _____

Date: _____, 2____ Developer’s Engineer

Approved: _____ _____

Date Approved: _____, 2____ Approving Officer

SCHEDULE "K"

DISTRICT OF SPARWOOD SUBDIVISION SERVICING BYLAW

LOT SERVICE CARD

SUBDIVISION	LOT	BLOCK	PLAN	ADDRESS OF BUILDING

DEVELOPER	CONTRACTOR	DESCRIPTION OF BUILDING
		☐ SINGLE ☐ DUPLEX ☐ APT. ☐ OTHER

DATE INSTALLED	DATE CONNECTED TO BUILDING

SERVICE	SERVICE SIZE	COMPOSITION OF SERVICE	MAIN SIZE	COMPOSITION OF MAIN	FITTING AT MAIN	SERVICE ELEV. AT PL.	RISER HEIGHT
WATER							
SANITARY SEWER							
STORM SEWER							

NOTE:

The location of underground services shown on this lot service card is for your convenience only and is not intended to be an exact representation of either the horizontal or vertical alignment. It is the sole responsibility of the property owner to ensure that the services are located and connected correctly. After connection and before you backfill please call the Public Works Department at 425-7760 and ask for an inspection.

REMARKS	DRAWING

1. DESIGNATE MAIN TYPE
2. SHOW LOT-LINES AND ADJACENT LOT NUMBERS
3. DIMENSION SERVICES FROM LOT LINE
4. SHOW DISTANCE FROM PL. TO MAINS
5. SHOW LOCATION OF CURB STAND
6. SHOW LOCATION OF SERVICE STUBS

WARNING

CALL BEFORE YOU DIG

BC-ONE CALL 1-800-474-6886

CHECK FOR BURIED UTILITIES BEFORE YOU DIG. GAS, HYDRO, TELEPHONE, CATV, STR. LIGHTING, STORM SEWER, SANITARY SEWER, WATER, ETC.

ORIGINAL ON CARD STOCK TO DISTRICT OF SPARWOOD

COPY TO DISTRICT OFFICE

COPY TO DEVELOPER