

FRASER VALLEY REGIONAL DISTRICT
CONSOLIDATED
SUBDIVISION AND DEVELOPMENT SERVICING BYLAW

RECORD OF AMENDMENTS

BYLAW	SUMMARY	DATE AUTHORIZED
FVRD BL 1319, 2015	Regulations Establishment	2015 07 28
1459, 2017	Adds S. 7.14.6	2017 12 20
1603, 2020	Amends Schedule A re sidewalk requirement	2020 11 24
1644, 2022	Replaces Schedule A	2022 01 27
1850, 2026	Replaces Section 2.5 Fire Flows of Schedule B	2026 09 24

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**FRASER VALLEY REGIONAL DISTRICT
BYLAW NO. 1319, 2015**

A bylaw to establish regulations with respect to the Subdivision and Development servicing of land

WHEREAS pursuant to the *Local Government Act*, a local government, may, by bylaw, regulate and require the provision of *Works and Services* in respect of the *Subdivision* of land;

NOW THEREFORE the *Regional District Board*, in open meeting assembled, enacts as follows:

1. CITATION

This bylaw may be cited as *Fraser Valley Regional District Subdivision and Development Servicing Bylaw No. 1319, 2015*.

2. AREA OF APPLICATION

This Bylaw shall be applicable within all electoral areas of the *Fraser Valley Regional District*, except:

- a) within those lands at Cultus Lake Park separately administered by the Cultus Lake Park Board under the *Cultus Lake Park Act*; and
- b) within those lands in Electoral Area B outlined on the map attached hereto as Schedule C to this bylaw.

3. PURPOSE

The purpose of this Bylaw is to:

- a) regulate the *Subdivision* of land, and especially the dimensions, shape and arrangement of *Parcels* of land so created;
- b) ensure that access to each *Parcel* created by *Subdivision* may be obtained in a safe and convenient manner;
- c) preserve the amenity and well-being of the community as a whole by requiring that *Subdivisions* proceed in a safe, orderly and economical manner;
- d) ensure that all *Parcels* created by *Subdivision* are suitable for the use intended; and,
- e) ensure the provision of all *Works and Services* that had not previously been provided to:
 - i. all *Parcels* created by *Subdivision*; and,
 - ii. certain building projects requiring the issuance of a *Building Permit*.

4. **DEFINITIONS**

In this bylaw, unless the context otherwise requires, the following words, and terms shall have the meanings hereinafter assigned to them:

Approval means the *Approval* in writing from the authority having jurisdiction.

Approving Officer means the person appointed under the *Land Title Act* to deal with applications to subdivide land in the *Regional District*.

Arterial means a *Highway* so classified and designated by the Ministry of Transportation and Infrastructure.

Building Area means that part of a *Parcel* of land on which can be constructed a building in accordance with this Bylaw, and the applicable *zoning*, building regulation and/or other relevant bylaw[s].

Building Official means *Building Officials* duly designated or appointed by the *Regional Board* in accordance with the *Local Government Act*.

Building Permit means an authorization that is granted by the *Regional District* before the construction of a building can legally occur, pursuant to the provisions of the *Building Code of British Columbia*.

Certificate of Final Acceptance means a certificate, in the form provided in the attached Schedule D to this bylaw issued by the *Regional District* in respect of *Works and Services* required by this bylaw verifying that all requirements of this bylaw have been met by the *Developer*, including the completion of the maintenance period.

Certificate of Substantial Completion means a certificate, in the form provided in the attached Schedule D to this bylaw, issued by the *Regional District* in respect of *Works and Services* required by this bylaw, and listing any and all deficiencies that must be addressed prior to issuance of a *Certificate of Total Completion*.

Certificate of Total Completion means a certificate, in the form provided in the attached Schedule D to this bylaw, issued by the *Regional District* in respect of *Works and Services* required by this bylaw, and stating that all *Works and Services* have been completed, including the correction of all deficiencies.

Community Sanitary Sewer System means a system of works owned operated and maintained by the *Regional District*, Strata Corporation, Improvement District, Utility or Corporation (Private or Public), and which is established and operated under the *Public Health Act*, and regulations, or *Environmental Management Act*, and regulations, or any other provincial legislation that may apply, for the collection, treatment and disposal of sanitary sewage, which serves more than one *Parcel*.

Community Water System means a water supply system owned, operated and maintained by the *Regional District* ; a water supply system operated by a water utility holding a Certificate of

Public Convenience and Necessity under the *Water Act* in respect of which no compliance issues under the *Drinking Water Protection Act* are outstanding as of the date of *Subdivision* application; or a water supply system operated by a strata corporation, in accordance with the *Strata Property Act*, in respect of which no compliance issues under the *Drinking Water Protection Act* are outstanding as of the date of *Subdivision* application.

Consultant Engineer means the *Professional Engineer* engaged by the *Owner* or *Developer* to design and/or prepare drawings for the construction of *Works and Services* in a *subdivision*, *Development*, and/or *Regional District* property, or his/her duly authorized representative. The *Consultant Engineer* is synonymous with the Chief Engineer, Design Engineer and/or the *Developer's Engineer*.

Contractor means the person or firm appointed by the *Owner* or *Developer* to construct the *Works and Services* required by this bylaw.

Cul-de-sac means a *Highway* which is designed to be permanently closed at one end by the patterns of *Subdivision* or which is terminated by a natural feature and provides at its termination a vehicular turning area.

Developer means the *Owner* of land or the holder of a bona-fide interim agreement or option to purchase land, who has made application to the *Regional District* for, or is engaged in undertaking the *Development* or *Subdivision* of such land and shall include an authorized representative.

Development means the improvement of land requiring the installation of *Works and Services*.

Director of Engineering means that person appointed by the *Regional Board* as the Engineer for the *Regional District*, or his/her designate.

Drinking Water Protection Act means the *Drinking Water Protection Act SBC 2001 Ch. 9*, as amended from time to time.

Engineers and Geoscientists Act means the *Engineers and Geoscientists Act RSBC 1996 Ch. 116*, as amended from time to time.

Environmental Management Act means the *Environmental Management Act SBC 2003 Ch. 53*, as amended from time to time.

Excess or Extended Services means a portion of a *Highway* system that will provide access to land other than the land being *subdivided* or developed, and a portion of a water, sewage or drainage system that will serve land other than the land being *subdivided* or developed.

Final Approval means that *Approval* granted by the *Approving Officer* when all relevant requirements of this Bylaw, the *Local Government Act*, the *Land Title Act* and any other relevant Bylaws and legislation have been fulfilled.

Frontage means that length of lot boundary which immediately adjoins a *highway* from which the *Parcel* takes or would take its civic address. A *Walkway*, trail, bridge, or statutory right-of-way granted to the *Regional District* would not be included as *Frontage*.

Groundwater means water below the surface of the ground, as defined in the *Water Act*.

Highway means a public street, road, trail, bridge, trestle, tunnel, ferry landing, ferry approach, or any other public way, as defined in the *Transportation Act*.

Hydrogeologist means a person who is registered or duly licensed as such, and in good standing, under the provisions of the *Engineers and Geoscientists Act* of the Province of British Columbia with specific expertise in *Groundwater* geology.

Land Title Act means the *Land Title Act RSBC 1996 Ch. 250* as amended from time to time.

Lane means a narrow *highway* (normally less than 10 metres total right-of-way width and normally less than 6 metres travel width) that normally provides vehicular access to any abutting *parcel*, so that the *Parcel* may be serviced or reached by vehicles using that *highway*; a *Lane* is not a half road.

Local Government Act means the *Local Government Act RSBC 1996 Ch. 323* as amended from time to time.

Medical Health Officer means the official appointed under the *Public Health Act* who has jurisdiction over the area in which the *subdivision* is located.

MMCD means the latest revised issue of standards as published by the Master Municipal Construction Documents Association.

MOTI means the Ministry of Transportation and Infrastructure.

Multifamily Residential means a residential building or *development* with more than one dwelling unit, and includes duplexes, townhouses, apartments, and condominiums or building stratas.

Official Community Plan means an *Official Community Plan* for an area as adopted by the *Regional District* in accordance with the *Local Government Act*.

Owner means a person as defined under the *Land Title Act*, registered in the Land Title Office as owner of land or a charge on land whether entitled to it in his/her own right in a representative capacity or otherwise, and includes a registered owner.

Panhandle means a portion of a *parcel* used only for access from a *highway* to the remainder of that *parcel*.

Parcel means any lot, block or other area in which land is held or into which land is *subdivided*.

Potable Water means water which is suitable for human consumption and exempt from adverse health risks as certified for drinking purposes in accordance with the Guidelines for Canadian Drinking Water Quality and with the BC Safe Drinking Water Regulation, by an authority having professional experience in drinking water standards.

Preliminary Layout Approval means the conditional *approval* by the *Approving Officer* of a proposed *subdivision* plan, and outlines the requirements which must be fulfilled to obtain *Final Approval*.

Professional Engineer means a person who is registered or duly licensed as such, and in good standing, under the provisions of the *Engineers and Geoscientists Act*.

Public Health Act means the *Public Health Act SBC 2008 Ch. 28*.

Regional District Board means the governing and executive body of the *Regional District*.

Regional District means the Fraser Valley *Regional District*.

Registered Onsite Wastewater Practitioner means a person who holds a registration certificate as outlined in the Sewerage System Regulation of the *Public Health Act*.

Security Deposit means cash or an irrevocable (and automatically renewable) Letter of Credit from a Chartered Bank or Credit Union.

Single Family Residential means a one dwelling unit residence with a maximum of one accessory dwelling unit, located on a single fee simple lot, or in a bare land strata *Development* with one dwelling unit per strata lot.

Stream means a natural watercourse or source of water supply, whether usually containing water or not, and a lake, river, creek, spring, ravine, swamp and gulch, as defined in the *Water Act*.

Strata Property Act means the *Strata Property Act, SBC 1998, Ch. 43* as amended from time to time.

Subdivision or **Subdivided** means the division of land into two or more *parcels*, as defined in the *Land Title Act* or under the *Strata Property Act*.

Surface Water means water from a source which is open to the atmosphere and includes *streams*, lakes, rivers, creeks, wetlands, springs and shallow wells.

Transportation Act means the *Transportation Act SBC 2004 Ch. 44*, as amended from time to time.

Type 1 Sanitary Sewer System means an on-site sewage system that is comprised solely of a septic tank and disposal field as defined in the Sewerage System Regulation of the *Public Health Act*.

Walkway means a narrow *highway* for the predominant use of pedestrian traffic.

Water Act means the *Water Act, RSBC 1996, Ch. 483*.

Works and Services means any public service, facility or utility which is required by this Bylaw including, but not limited to the supply and distribution of water, collection and disposal of sewage, collection and disposal of drainage water, street lighting, access roadways, curbs, gutters, sidewalks, electrical and gas utilities, telecommunication services and internet providers.

Works and Services Agreement means a contract reached between two or more parties, in which the parties agree to the *Works and Services* required for both on-site and off-site improvements which are consistent with the standards in this bylaw and in accordance with the *Local Government Act*.

Zone/Zoning/Zoning Bylaw means the *zone* or *zoning* as determined in the *Regional District's* relevant *Zoning* Bylaws as amended from time to time.

5. **GENERAL PROVISIONS**

5.1. **Severability**

The provisions of this bylaw are severable. If any provision is for any reason held to be invalid by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining provisions of this bylaw.

5.2. **Administration**

5.2.1. **Compliance with this Bylaw**

No *parcel* may be *subdivided* unless the *subdivision* conforms to the provisions set out in this bylaw.

5.2.2. **Compliance with Other Requirements, Regulations and Approval Process**

Applications for *subdivision* will be reviewed for compliance with the requirements established here within this bylaw and by any other local authorities and provincial legislation. It is the applicant's responsibility to seek out and comply with the requirements, regulations and *approval* procedures of all local authorities and provincial legislation. Nothing contained in this bylaw shall relieve the applicant from that responsibility. Where requirements and regulations of other agencies are inconsistent with this bylaw, the more stringent requirements and regulations shall apply.

5.2.3. **Suitability**

A *subdivision* shall be suited to the configuration of the land being *subdivided*, and suited to the use for which it is intended. No *subdivision* shall be approved if it makes

impracticable the further *Subdivision* of any land within the proposed *subdivision* or any adjacent *parcel*.

5.3. Application to Strata Lots

The design criteria, standards and procedures set out within this bylaw do not apply to a strata lot wholly within a building located in an industrial, commercial or multiple family residential district.

For a bare land strata *Development*, where the *Strata Property Act* exempts on-site services from the requirements of this bylaw, off-site services must still be constructed in accordance with the standards and procedures set out in this bylaw.

5.4. Duty of Care and Cause of Action

This bylaw does not create any duty at law on the part of the *Regional District*, its *Regional Board*, officers, employees, or other representatives concerning anything contained in this bylaw. All works, services, improvements, and all matters required pursuant to this bylaw are the responsibility of the *Developer* and all persons acting on their behalf. No *Approval* of any kind, certificate, permit, review, inspection, or other act or omission by the *Regional District* or any of its representatives, including any enforcement or lack of enforcement of the provisions of this bylaw, shall relieve the *Developer* and all persons acting on their behalf from this duty pursuant to this bylaw and shall not create any cause of action in favour of any person.

5.5. Subdivisions Near Agriculture

Where a *subdivision* may be proposed near farming operations or the Agricultural Land Reserve, *Regional District* staff may advise the *Approving Officer* to consider that the proposal include provisions for adequate buffering or separation of the *development* from farming, in accordance with the *Land Title Act*.

6. SUBDIVISION DESIGN AND LAYOUT

6.1. Existing Bylaws

Design standards for *subdivision* layout will be determined by existing *Zoning* bylaws for the prescribed *zone* the *development* is in. The *Approving Officer* must ensure that these standards are met in *subdivision* proposals. The proposed *subdivision* must comply with all *zoning* bylaw requirements for the *zone* in which the property is located.

Except where a setback in respect to a *highway* is concerned, no *subdivision* shall be *approved* which would cause any existing use, building or structure to contravene any *zoning* bylaw, building bylaw, or other bylaw or regulation in force.

6.2. Parcel Size

The size and width of the *Parcel* to be created by *subdivision* may not be less than the minimum *parcel* size and width stated in the applicable *zoning* bylaw where the *subdivision* or *development* is being proposed.

6.3. Parcel Shape

The side *Parcel* lines shall be perpendicular or radial to the adjoining *Highway* unless the *Approving Officer* is satisfied that it is impractical to comply.

6.4. Minimum Parcel Frontage

Parcels less than 4.0 hectares in size in a *subdivision* must meet the minimum *Frontage* requirements specified in Section 944 of the *Local Government Act*, requiring that if a *Parcel* being created by *subdivision* fronts on a *Highway*, the *parcel* shall have a minimum *Frontage* which is the greater of:

- a. 10% of the perimeter of the lot (*Parcel*) that fronts on the *Highway*, and
- b. the minimum *Frontage* that the local government may, by bylaw, provide.

For *Parcels* 4.0 hectares or greater in size, the minimum *parcel frontage* shall be 6% of the perimeter of the *Parcel*.

For *Parcels* located on a *cul-de-sac* bulb with diverging side lot lines, the minimum *Frontage* may be reduced by up to 4% and shall not be less than 8.5 meters.

6.5. Double Frontage Parcels

Parcels adjacent to a *highway* at both the rear and front of the *Parcels* shall not be permitted unless it is impractical due to topography, orientation, or as otherwise deemed by the *Approving Officer*.

6.6. Limitations on Arterial Access

Except where no reasonable alternative exists, no *Parcel* shall have direct access from an *Arterial* class *Highway* or *Provincial Highway* as designated by the Ministry of Transportation and Infrastructure.

In situations where *Parcels* adjacent to *arterial* or *Provincial Highways* have no other alternative access options the *Parcel* shall have their depth and/or width increased, or shall provide alternate means of ensuring adequate buffering to the satisfaction of the *Regional District* and the *Approving Officer*.

6.7. Corner Parcels

The *frontage* of a *Parcel* adjacent to two perpendicular streets must be sufficient to permit the *Building Area* to be advantageously orientated to both streets and account for a 6 metre sight

triangle from the corner of the intersection of public right of way where as prescribed in Section 11 of the Provincial Public Undertakings Regulation of the *Transportation Act*.

6.8. Panhandle Parcels

Where access to a *Parcel* cannot be achieved by any other means and in all other respects the *Parcel* would comply with Zoning regulations and minimum *Parcel* size, a Panhandle may be permitted by the *Approving Officer* subject to the following conditions:

- a. All Panhandles shall have a width of not less than 6.0 metres;
- b. *Parcels* having Panhandles shall not be permitted in Commercial, Industrial, or Institutional Zones;
- c. In the case of a Panhandle *Parcel*, the portion of the *Parcel* used only for access to the remainder of the *Parcel* shall not be included in the *Parcel* area to determine compliance with the minimum *Parcel* size requirement.

6.9. Boundary Adjustments

- 6.9.1 Where an application is made to Subdivide adjoining *Parcels* for the purpose of a boundary adjustment; and where either one or all of the original *Parcels* are less than the minimum *Parcel* size for the Zone in which the original *Parcels* are located; and where the *Subdivision* relocates the common boundary between the original *Parcels* being *Subdivided*; then the *Subdivision* may be approved by the *Approving Officer* provided that:
 - a. none of the new *Parcels* are smaller in size than the smallest of the original *Parcels* being *Subdivided*; and,
 - b. the number of new *Parcels* is not greater than the number of original *Parcels* being *Subdivided*; and,
 - c. no greater number of new *Parcels* will be created which do not comply with the minimum *Parcel* size requirement for the Zoning in which the *Parcels* are located.
- 6.9.2 The *Director of Engineering* may waive the requirements for *Works and Services* for boundary adjustments.

6.10. Boundary Removal

A consolidation of adjoining *Parcels* to remove a lot line between adjoining *Parcels* is exempted from the minimum *Parcel* size requirements of this bylaw.

7. SERVICING REQUIREMENTS

Schedule A of this bylaw establishes the levels of *Works and Services* required to be completed for *Approval* of a Subdivision. The *Regional District* may require every *Developer* of land applying for Subdivision, prior to the issuance of *Subdivision Approval*, to provide all *Works and Services* which have not previously been provided on all *Highways* immediately adjacent to the land being *subdivided*, up

to the centre line of the *Highway*. Pursuant to the *Local Government Act*, the *Regional District* may also require the provision of *Excess or Extended Services*.

Schedule A of this bylaw also establishes the levels of *Works and Services* that may be required for certain building projects. For all *Building Permits* requiring the issuance of a *Building Permit*, including permits for the construction, extension or expansion of *Multifamily Residential* uses, mobile home parks, campgrounds, holiday parks, commercial, industrial and all other uses, except for:

- a. a *Single Family Residential* use; or,
- b. a commercial, multi-family or industrial *Building Permit* with a building value of less than \$70,000, as determined by the *Building Official*,

the *Regional District* may require every *Developer* of land applying to develop, prior to the issuance of a *Building Permit* for the construction of the *Development* on the land, to provide all *Works and Services* which have not previously been provided on all *Highways* immediately adjacent to the land being developed, up to the centre line of the *Highway*, or on the site being developed.

All *Works and Services* shall be provided to the standards required in Schedule B of this Bylaw.

7.11. Level of Service

The level of service requirements throughout the *Regional District* will be dependent upon the *Parcel* size and associated Zoning on that *Parcel*. The level of service table identified in Schedule A of this Bylaw summarizes the level of service required for various *Parcel* size thresholds and generalized land uses throughout the *Regional District*.

7.12. Highways

- 7.12.1. The *Developer* of any lands which are proposed to be developed or *Subdivided* shall dedicate right-of-way and construct a *Highway*, or *Highways* to access the *Parcels* being *Subdivided*, except as otherwise instructed by the *Approving Officer*.
- 7.12.2. All proposed *Highways*, whether required in respect of *Subdivision* or *Development* shall be dedicated and constructed to the current standards and satisfaction of the Ministry of Transportation and Infrastructure
- 7.12.3. Design standards for road cross sections to include additional treatments including, but not limited to, unique pedestrian and cyclist facilities, landscaping, or storm water facilities identified within an *Official Community Plan* or approved Neighbourhood Plan will be considered for joint *Approval* by the *Regional District* and the Ministry of Transportation and Infrastructure to allow flexibility in road design standards.
- 7.12.4. The required *Highway* standard will be at the discretion of the *Approving Officer* and the final location of the *Highways* determined during the processing of the *Development* application.
- 7.12.5. Any infrastructure required to be owned and maintained by the *Regional District* shall be subject to the relevant service area bylaw requirements.

7.13. Water

- 7.13.1. The *Developer* of any lands which are proposed to be developed or *subdivided* shall provide each *Parcel* created with an adequate supply of *Potable Water* suitable for the proposed land use as determined by the level of service for that area.
- 7.13.2. All *Community Water Systems* shall ensure adequate supply, quality through water treatment, distribution, design and construction in accordance with the requirements of the Province of British Columbia authorities having jurisdictional control and in accordance to the *Drinking Water Protection Act* and regulations. Further water servicing shall be provided in accordance with the *Regional District* Policies for Sustainable Water Service Provision. Specifically all new *Community Water Systems* must provide documentation to the satisfaction of the *Director of Engineering* to demonstrate that the system will be financially viable to own and operate regardless of whether private or public *Ownership* is proposed. Any proposed public *Community Water System* is subject to the requirements of a service area establishment bylaw.
- 7.13.3. Where required by the level of service here within Schedule A of this Bylaw, *Community Water Systems* shall be constructed and connected to the existing *Regional District* water distribution system in accordance with the design standards here within Schedule B of this bylaw and approved by the *Approving Officer*
- 7.13.4. The *Developer* of any lands which are proposed to be developed or *Subdivided* and serviced by an onsite well shall obtain confirmation from a *Hydrogeologist* certifying that a pump test was performed and the quality and capacity of the well conforms to the more stringent of the Guidelines for Canadian Drinking Water Quality and the *Drinking Water Protection Act* and Regulation without compromising the capacity or recharge rate of the aquifer. Where water quality levels are above the aesthetic objectives outlined in the Canadian Guidelines for Drinking Water Quality, specific *Approval* must be obtained from the Fraser Health Authority for use of this well.
- 7.13.5. Where a *Community Water System* is not required as prescribed by the level of service and an independent on-site water supply system is deemed appropriate, the following is required for *Approval* by the *Approving Officer*:
- a. The quality of the water must be approved by the Fraser Health Authority;
 - b. The capacity of the well conforms to the requirements outlined in Schedule B of this bylaw without compromising the capacity of the water source;
 - c. Flow rates shall be no less than 18 litres per minute for one hour;
 - d. Capacity shall be no less than 2500 litres per day for each *Parcel* that includes, or can reasonably be expected in the future to include, a residential dwelling unit; and,

- e. Quality standards must meet the requirements set by the Guidelines for Canadian Drinking Water Quality.
- 7.13.6. When the water source for a single property is not a well serviced by an aquifer the following shall apply:
 - a. A water license for the supply shall be obtained pursuant to the provisions of the *Water Act*;
 - b. The water supply for each *Parcel* has its own intake and supply line and is completely independent from any other water supply; and,
 - c. The water supply complies with design standards here within Schedule B of this bylaw.
- 7.13.7. Where testing of an independent on-site water system indicates that treatment is required, *Approval* of the Fraser Health Authority is required, and the *Owner* must enter into a covenant under Section 219 of the *Land Title Act* in favour of the Ministry of Transportation and Infrastructure, to ensure that suitable treatment systems are installed and maintained so that each dwelling unit is provided with *Potable Water*. The covenant must be registered against the property title.
- 7.13.8. Where the water system is to provide fire protection, fire hydrants are required at the time of *Development* and shall comply with the design standards here within Schedule B of this bylaw.
- 7.13.9. All Subdivisions and *Developments* within any service area established by bylaws of the *Regional District* for the purpose of providing a water supply and distribution system shall connect to, and be served by that system. The *Regional District* will own and operate the totality of the systems including new *Works and Services* associated with the proposed *Subdivision* or *Development*.
- 7.13.10. The design standards set out in Schedule B of this bylaw apply to all new infrastructure. If a *Subdivision* or *Development* requires a connection to an existing service area system that does not require upgrades, the existing *Regional District* system will not be retrofitted to meet the design standards set out in Schedule B of this bylaw.
- 7.13.11. Any infrastructure required to be owned and maintained by the *Regional District* shall be subject to the relevant service area bylaw requirements.

7.14. Sewage Collection and Disposal

- 7.14.1. Where required by the level of service here within Schedule A of this bylaw, *Community Sanitary Sewer Systems* shall be constructed and connected to the existing *Regional District* sanitary sewer system by means of trunks and mains in accordance with the design standards here within Schedule B of this bylaw and approved by the *Approving Officer*. Further sewage collection and disposal shall

be provided in accordance with the *Regional District* policies for sustainable sanitary sewer service provision. All new *Community Sanitary Sewer Systems* must be dedicated to the *Regional District* and designed to service an area determined by the *Regional District*. Further all new and expanded *Community Sanitary Sewer Systems* are subject to the requirements of the service area establishment bylaw. All new *Community Sanitary Sewer Systems* must provide documentation to the satisfaction of the *Director of Engineering* to demonstrate that the system will be financially viable.

- 7.14.2. Where a *Community Sanitary Sewer System* is not required as prescribed by the level of service, and an on-site sanitary system is deemed appropriate, the following is required for *Approval* by the *Approving Officer*:
 - a. A certified professional *Hydrogeologist* experienced with *Groundwater* and quaternary deposits shall certify that the ground percolation rates are suitable for the subsoil absorption of septic waste from an on-site sanitary system. Where a *Type 1 Sanitary Sewer System* is proposed, this certification can be provided by a *Registered Onsite Wastewater Practitioner*;
 - b. A *Medical Health Officer* from the Fraser Health Authority shall approve the conditions for the proposed on-site sanitary system; and
 - c. The proposed establishment of the on-site sanitary system shall be in accordance with the *Public Health Act*, *Environmental Management Act* and to the standards of the Fraser Health Authority.
- 7.14.3. All Subdivisions and *Developments* within any service area established by bylaws of the *Regional District* for the purpose of providing a sanitary sewage collection and disposal system shall connect to, and be served by that system. The *Regional District* will own and operate the totality of the system including new *Works and Services* associated with the proposed *Subdivision* or *Development*.
- 7.14.4. The design standards set out in Schedule B of this bylaw apply to all new infrastructure. If a *Subdivision* or *Development* requires a connection to an existing service area system that does not require upgrades, the existing *Regional District* system will not be retrofitted to meet the design standards set out in Schedule B of this bylaw.
- 7.14.5. Any infrastructure required to be owned and maintained by the *Regional District* shall be subject to the relevant service area bylaw requirements.
- 7.14.6. [BL 1459] Where a *Subdivision* or *Development* is serviced by a *Community Sanitary Sewer System* that is owned and operated by the *Regional District*, a covenant in accordance with Section 219 of the *Land Title Act* as amended or re-enacted from time to time shall be put on title of each *Parcel* of the *Development* prohibiting the installation or use of a garburator.

7.15. Storm Water Management Systems

- 7.15.1. The *Developer* of any lands which are proposed to be developed or *Subdivided* shall provide each *Parcel* of land within the proposed *Subdivision* or *Development* with a storm water management system including a drainage, collection, and/or disposal system to manage storm water runoff to the satisfaction of the Ministry of Transportation and Infrastructure current standards and to the *Approval* of the *Approving Officer*.
- 7.15.2. Where required by the level of service here within Schedule A of this bylaw, storm water management *Works and Services* shall be provided and connected to the storm water management system to the satisfaction of the Ministry of Transportation and Infrastructure current standards and to the *Approval* of the *Approving Officer*.
- 7.15.3. Where storm water management *Works and Services* are allocated outside of a *Highway* right-of-way or are the responsibility of the *Regional District*, the *Approving Officer* will refer to the design standards identified here within Schedule B of this bylaw.
- 7.15.4. All Subdivisions and *Developments* within any service area established by bylaws of the *Regional District* for the purpose of providing a storm water management system shall connect to, and be served by that system.
- 7.15.5. The design standards set out in Schedule B of this bylaw apply to all new infrastructure. If a *Subdivision* or *Development* requires a connection to an existing service area system that does not require upgrades, the existing *Regional District* system will not be retrofitted to meet the design standards set out in Schedule B of this bylaw.
- 7.15.6. Any infrastructure required to be owned and maintained by the *Regional District* shall be subject to the relevant service area bylaw requirements.

7.16. Street Lighting

- 7.16.1. The *Developer* of any lands which are proposed to be developed or *subdivided* shall provide street lighting as required by the *Regional District* and set out in the level of service table found here within the attached Schedule A of this bylaw, and the design standards found here within the attached Schedule B of this bylaw.
- 7.16.2. Street lighting is required at all intersections regardless of land use and also for road side lighting where curb and gutter are installed.
- 7.16.3. Any infrastructure required to be owned and maintained by the *Regional District* shall be subject to the relevant service area bylaw requirements.

7.17. Power

- 7.17.1. Every proposed *Subdivision* shall have written confirmation that arrangements have been made to supply electrical power to each *Parcel* being created by the Subdivision. Underground wiring shall be provided where required by the level of service table found here within the attached Schedule A of this bylaw.
- 7.17.2. Natural gas services may, at the *Developer's* option, be provided for some Subdivisions and *Developments* to the standards of the service provider.

8. SUBDIVISION PROCEDURES

8.18. Application Fees

Subdivision application fees shall be paid to the *Regional District* prior to receiving an acknowledgement letter and the application being reviewed upon referral from the *Approving Officer*. Prior to *Final Approval* of the *Subdivision* or issuance of a *Building Permit*, the *Developer* shall pay the *Regional District* any additional monies owed for *Works and Services*, administration, inspection fees or other fees specified in the applicable *Regional District* bylaw.

8.19. Works and Services Agreement

Prior to commencement of construction, the *Developer* and the *Regional District* shall enter into a written *Works and Services Agreement* pursuant to Section 940 of the *Local Government Act*, in the form provided in the attached Schedule D of this bylaw, that describes the terms and conditions agreed upon between the *Regional District* and the *Developer* relative to the provision of *Works and Services* associated with a *Subdivision* or *Building Permit*.

8.20. Works and Services Security

Where all *Works and Services*, excluding road works under the jurisdiction of the Ministry of Transportation and Infrastructure, are required to be constructed or installed at the expense of the *Developer* and have not been constructed or installed prior to the *Approval* of the *Subdivision Plan* or issuance of a *Building Permit*, a security in the form of a cash deposit or an irrevocable (and automatically renewable) letter of credit from a financial institution shall be paid to the *Regional District* to the amount of one-hundred and twenty percent (120%) of the estimated construction costs as determined by the *Developer's Professional Engineer* and approved by the *Regional District Engineer*.

Upon receipt of this payment the *Regional District* and applicant shall enter into a *Works and Services Agreement* acknowledging that the *Works and Services* are constructed and installed by a specified date, or the *Developer* forfeits to the *Regional District* the amount secured by the cash deposit or the irrevocable letter of credit.

8.21. Inspection Fees

Pursuant to section 931 of the *Local Government Act*, an inspection fee of three percent (3%) of the construction cost of *Works and Services* under the jurisdiction of the *Regional District*, with a minimum inspection fee of \$500 for each *Subdivision* or *Building Permit* application, is payable and must be provided to the *Regional District* prior to inspection.

8.22. Approvals

A *Subdivision* application shall be submitted to Ministry of Transportation and Infrastructure as defined by current Ministry procedures relating to the *Subdivision Approval* process. Associated referral agencies and the *Approving Officer* will provide the applicant with a *Preliminary Layout Approval* with conditions defining the *Works and Services* required prior to registration with Land Title and Survey Authority.

8.23. Authorization to Commence Construction

The commencement of construction works shall not occur until the *Regional District's Director of Engineering* provides the *Developer* with written permission to proceed with construction.

8.24. Substantial Completion of Works and Services

Pursuant to the *Local Government Act*, all *Works and Services* required to be constructed and installed at the expense of the *Developer* shall be constructed and installed to the standards prescribed in this bylaw before the *Approving Officer* approves the *Subdivision*, or the building inspector issues the *Building Permit*, unless the *Developer* provides a *Works and Services* security pursuant to Section 8.3 *Works and Services* Security here within this bylaw.

Substantial completion shall be authorized by the *Regional District Director of Engineering* on the completion of construction and the receipt of the following from the *Developer*:

- a. A Certificate of Inspection, issued by the *Consultant Engineer*, together with the supporting documentation on which it is based, including relevant quality assurance tests.
- b. Receipt of record drawings of completed work, operations and maintenance manuals, and safety procedures documentation prepared by the *Consultant Engineer* and approved by the *Director of Engineering*.

At time of substantial completion the *Director of Engineering* shall issue a *Certificate of Substantial Completion*, listing all deficiencies that must be addressed prior to issuance of a *Certificate of Total Completion*.

8.25. Total Completion of Works and Services

Total completion shall be authorized by the *Regional District's Director of Engineering* on the completion of the construction and correction of all deficiencies. At the time of total completion, the *Director of Engineering* shall issue a *Certificate of Total Completion* upon receipt of the following from the *Developer*:

- a. A Certificate of Inspection, issued by the *Consultant Engineer*, together with the supporting documentation on which it is based, including relevant quality assurance tests.
- b. Receipt of record drawings of completed work, operations and maintenance manuals, and safety procedures documentation prepared by the *Consultant Engineer* and approved by the *Director of Engineering*.
- c. Maintenance *Security Deposit* from the *Developer*, in the form prescribed in Section 8.9 of this bylaw.

8.26. Maintenance Security

- 8.26.1. The *Developer* shall provide to the *Regional District* maintenance *Security Deposit* in an amount equal to ten percent (10%) of the actual cost of the *Works and Services* required by this bylaw.
- 8.26.2. The *Regional District* may, at the *Developer's* expense, confirm the cost of the *Works and Services* by consulting with a *Professional Engineer* of the *Regional District's* choosing.
- 8.26.3. The maintenance period shall be a one year period commencing on the date established by the *Regional District* under subsection 8.9.4 except that the *Director of Engineering* may extend that maintenance period if the *Works and Services* are deficient or otherwise not performing as intended.
- 8.26.4. The *Regional District* shall:
 - a. Establish the date of commencement of the maintenance period, which shall be no earlier than the date of total completion;
 - b. Advise the *Developer* of the date of commencement of the maintenance period and of any defects or deficiencies in the works of which the *Regional District* is aware, to be addressed by the *Developer* during the maintenance period; and,
 - c. Advise the *Developer* if the maintenance period has been extended.
- 8.26.5. The *Developer* shall maintain the works and repair or replace any defective works and correct any deficiencies during the maintenance period, under the supervision of the *Regional District*. If the *Developer* fails to maintain, repair or replace the works, the *Regional District* may do so and may draw upon the maintenance *Security Deposit*, after having provided the *Developer* at least seven days' notice. In the case of defects in the works creating a safety or health hazard, the *Regional District* will act in the public interest to resolve the hazard.
- 8.26.6. The *Developer* shall be responsible for the actual cost repairing or replacing any defective works and correcting any deficiencies in the *Works and Services* regardless of the adequacy of the maintenance *Security Deposit* held by the *Regional District*. If the cost of maintaining the works and repairing or replacing

any defective works and correcting deficiencies exceeds the amount of the maintenance security deposit, the balance shall be a debt due from the *Developer* to the *Regional District*, recoverable in any court of competent jurisdiction or by any other means available to the *Regional District*.

8.27. Final Acceptance of Works

- 8.27.1. Final acceptance shall occur when all conditions of this bylaw and an applicable *Works and Services Agreement* have been met. All *Works and Services* required to be constructed or provided pursuant to the provisions of this bylaw shall remain the sole responsibility of the *Developer* until a *Certificate of Final Acceptance* has been issued, in the form provided in the attached Schedule D of this bylaw.
- 8.27.2. The *Regional District* shall only issue a *Certificate of Final Acceptance* upon completion of the maintenance period; correction of all deficiencies in the required *Works and Services*; and, receipt of record drawings of completed work to date.
- 8.27.3. *Works and Services* constructed and installed under this bylaw become the property of the *Regional District* or the agency having jurisdiction subject to no encumbrances, on issuance of the *Certificate of Final Acceptance*.

8.28. Excess Capacity of Works and Services

Where a *Developer* in accordance with this bylaw provides "*Excess or Extended Services*" such as a portion of a water or sewage system that will serve land other than the land being *Subdivided* and:

- a. The *Regional District* has required that the *Developer* provides "*Excess or Extended Services*" and,
- b. The *Regional District* has considered the cost of the *Regional District* providing such *Excess or Extended Services* in whole or in part would be excessive; and,
- c. The *Regional District* has:
 - i. determined the portion of the cost of providing *Excess or Extended Services*, that it considers *Excess or Extended Services*; and
 - ii. determined which part of *Excess or Extended Services* will benefit each *Parcel* served; and,
 - iii. imposed, as a condition of a *Developer* connecting to or using the excess or extended service, a charge related to the benefit determined under 8.11.c.ii

Then, in accordance with section 939 of the *Local Government Act*; the interest rate on the charge payable under Section 7.11.c.iii shall be at the rate established by *Regional District* bylaw.

8.29. Latecomer Agreements

If the *Regional District Board* determines that all or part of the costs referred to in section 8.11 Excess Capacity of *Works and Services* of this bylaw are excessive and should be paid for by the

Developer, the *Regional District* will prepare a latecomer agreement for execution, in accordance with the provisions of the *Local Government Act* and the *Regional District Excess or Extended Services Latecomer Policy*.

8.30. Show-Home Permits

In new Subdivisions where *Regional District* services are being installed, all essential services shall be in place and accepted by the *Director of Engineering* in accordance with the following criteria, prior to issuance of *Building Permits*:

- a. Where the *Regional District* services are installed in phases and all essential services have been accepted for a phase, *Building Permits* may be issued for the lots in that phase.
- b. Where essential services have not been installed and accepted, show home permits may be issued to a maximum ten percent of the lots in the registered *Subdivision* with a minimum of one show home per *Subdivision*.
- c. The *Developer* and builder must acknowledge in writing that there will be no request for occupancy/final inspection until all essential services have been accepted by the *Regional District* for the lots upon which the show homes have been built.
- d. Essential services shall include water systems, sanitary sewer systems, storm water systems, lot grading and road base construction.

9. ENFORCEMENT

9.31. Authorization for Inspection

All officers, employees and agents of the *Regional District* are hereby authorized to enter at all reasonable times, and on any property subject to this bylaw, to inspect and determine whether all regulations, prohibitions and requirements are being met.

9.32. Prohibition

In the applicable electoral area lands of the *Regional District*, no person may Subdivide or develop land unless in conformance with the regulations, provisions and requirements set out in this bylaw and other bylaws of the *Regional District*.

9.33. Offence

Every person who contravenes a regulation, provision or requirement of this bylaw shall, upon summary conviction be liable of a fine not exceeding \$10,000 plus the cost of prosecution.

Every person who commits an offence, and on each day that the offence continues, constitutes a new and separate offence.

10. **EXEMPTIONS**

Despite the foregoing, the requirements for *Works and Services* prescribed in this Bylaw shall be waived by the *Approving Officer* where a *Parcel* is created to accommodate unattended equipment necessary for:

- a. A civic utility such as a *Community Water System* or *Community Sanitary Sewer System*;
- b. A telecommunication relay station;
- c. An air or marine navigational aid;
- d. Electrical substations or generating stations;
- e. Any other similar public service or quasi-public service facility or utility;
- f. Any *Parcel* owned by the *Regional District*.

Requirements for *Works and Services* may also be waived by the *Approving Officer* where the *Developer* agrees in writing to registering a condition or covenant pursuant to Section 215 of the *Land Title Act* in favour of the Crown or the *Regional District* at the time the *Subdivision* is registered, and provides legal assurance that the land shall not be used for the construction of buildings or structures and /or specified land uses.

11. **BYLAW SCHEDULES**

The following list of schedules are attached hereto and form an integral part of this bylaw:

Schedule A - Levels of Service

Schedule B - Design Criteria, Specifications and Standard Detail Drawings

Schedule C - Map of the Lands Excluded from the Applicability of this Bylaw

Schedule D – Standard *Works and Services* Agreement

12. **REPEAL**

Regional District of Fraser-Cheam Subdivision and Development Control Bylaw No. 1110, 1992 and any amendments thereto are hereby repealed.

13. **EFFECTIVE DATE**

This bylaw will come into force and effect upon the adoption thereof by the *Regional Board*.

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[BL 1644]

SCHEDULE A - LEVELS OF SERVICE

		Minimum Required Works and Services								
Service Level Area	Parcel Area	Proven Water Supply	Community Water Supply*	On-Site Sewage Disposal System	Community Sewer System*	Storm Sewer with Curbs and Gutter*	Street Lighting**	Overhead Wiring	Underground Wiring	Sidewalks
Single Family Residential	1 ha and greater	●		●				●		
	0.5 ha to 0.99 ha		●	●			X	●	X	
	0.2 ha to 0.499 ha		●	X	X	X	X	●	X	X
	Less than 0.2 ha		●		●	●	●		●	●
Multifamily Residential	0.2 ha and greater		●		●	●	●	●	X	X
	Less than 0.2 ha		●		●	●	●		●	●
All other land uses (e.g. Industrial, Commercial, Civic, Institutional)	1 ha and greater	●	X	●	X	X	X	●		X
	0.5 ha to 0.99 ha		●		X	X	X	●	X	X
	0.2 ha to 0.49 ha		●		X	●	●	●	X	X
	Less than 0.2 ha		●		●	●	●		●	●

x = required when available or as determined by Regional District, relevant provincial agency (e.g. Fraser Health) and Approving Officer.

* The Director of Engineering may waive the requirement to connect to a FVRD community water system, to connect to a FVRD community sewer system, to connect to a FVRD storm sewer system with curbs and gutter or to install sidewalks where the subdivision: 1) is not located within an applicable local service area; or 2) where services are not available within a reasonable distance from the subdivision as determined by the Director Engineering; or, 3) where the service is deemed to be unnecessary by the Director of Engineering.

** Street lighting required for all intersections regardless of land use and also for road side lighting where curb and gutter are installed.

SCHEDULE B - DESIGN CRITERIA, SPECIFICATIONS AND STANDARD DETAIL DRAWINGS

Table of Contents

A. Supplementary Design Guidelines to MMCD Design Guideline Manual

- 1) Introduction and Section 1.0 General Design Considerations
- 2) Section 2 Water Distribution
- 3) Section 3 Sanitary Sewers
- 4) Section 4 Storm Drainage
- 5) Section 5 Roads
- 6) Section 6 Roadway Lighting
- 7) Section 7 Traffic Signals
- 8) Sections 8-10 Sustainability Considerations

B. Supplementary Specifications

- 1) List of Approved Materials
- 2) Section 25 56 01S Roadway Lighting

C. Submission Requirements

A. Supplementary Design Guidelines to MMCD Design Guideline Manual

Introduction

The *Regional District* has adopted the “MMCD Design Guidelines 2014” and the “MMCD for Unit Price Contracts Platinum Edition”. This document supplements these requirements and outlines additional and/or alternate design criteria and specifications that must be considered in the planning, detailed design, and construction phases for the roads and utilities within the *Regional District* Electoral Areas. In all situations where there is reference to decisions by the utility *Owner* this shall mean the *Director of Engineering*. Where decisions are referred to the local authority this shall mean the *Director of Engineering* where the *Regional District* has authority.

Section 1.0 - General Design Considerations – MMCD Design Guidelines 2014

The *Director of Engineering* may vary the requirements outlined in these sections providing they do not later the level of service defined in the attached Schedule “A” to this bylaw.

1.3 – Utility Rights-Of-Way

Add the following sentence at the end of the Section:

All Utility Rights-of-Way widths shall be confirmed by the *Director of Engineering*.

Add 1.7 - Work near Existing Dykes

For all proposed works in the vicinity or within the dyke envelope, the designer must notify the *Regional District* and obtain necessary *Approvals* through the Provincial Inspector of Dykes office prior to performing any permanent or temporary work within the dyke, including fill placement, excavation, installation of new permanent utilities, removal of existing utilities and connections/tie-ins to existing operational utilities.

Section 2.0 - Water Distribution

2.2 – Metering

Add the following sentence at the end of the Section:

All meters up to and including 50mm in size are supplied and installed by the *Regional District*.

2.5 – Fire Flows [BL 1850]

Where it has been determined that fire flows are going to be provided the following applies:

2.5.1

Delete the minimum requirements outlined in Table 2.5 for Apartments, Townhouses, Commercial, Institutional, and Industrial uses.

2.5.2

Whereas an existing water distribution system owned and operated by the Fraser Valley Regional District was designed to provide a fire flow of less than 60 L/s for a duration of 1.4 hours, and the Director of Engineering determines that upgrading the existing water distribution system to meet the applicable minimum fire flow requirement is not feasible, the Director of Engineering may authorize additional connections to the system, provided that the fire flow demand does not exceed the fire flow capacity for which the water system was designed."

2.7 – Water Pressure

Replace the following:

Maximum allowable pressure	700 kPa
Minimum pressure at peak hour	250 kPa
Normal desired operating pressure	400 kPa

Delete the following:

Subject to the *Approval* of the local authority, the maximum allowable pressure may be increased to 1035 kPa for systems with multiple pressure Zones.

2.9 - Minimum Pipe Diameter

Revise minimum size for service connections to 25mm.

Add the following:

When water mains cross railroads, major regional roads including Provincial *Highways*, or watercourses, a steel carrier pipe must be provided and must be designed to all applicable static, dynamic and seismic loadings and all other requirements of the authority having jurisdiction. The size of the casing pipe must be the greater of 25% larger than the pipe bell or two diameters greater than

the outside diameter of the watermain pipe. Service connection crossings across *Highways* and railroads are not permitted.

2.11 - Minimum Depth of Cover

Replace the first bullet with:

- Prevent freezing. Soil type and *Groundwater* should be considered. Minimum depths are 1.0m between Abbotsford and Hope and 1.5m in all other areas.

2.15 – Hydrants

Revise the first bullet to read:

- Not more than 150 m apart nor more than 90 m from a building measured along the path for the fire hose.

2.22 - Alignments and Corridors

Add the following sentence to the end of the first paragraph:

Where joint deflections are utilized the insertion depth shall be reduced in accordance with pipe manufacturer's recommendations.

2.23 – Reservoirs

2.23.2 – Capacity

Add the following sentence at the completion of the section:

Fire flow storage is only required to be supplied where it has been determined that fire flows are going to be supplied.

2.23.4 – Design Features

Add the following sentence at the completion of the section:

All reservoirs must be designed to prevent access by any insects or animals. This shall include at a minimum that all overflows and potential entry points into the reservoir are screened with rodent screen.

For *Regional District* owned reservoirs fall protection provisions must comply with *Regional District* equipment and standards.

Add 2.26 – Community Wells

Well design parameters should be reviewed and approved by the local authority before detailed design proceeds.

2.26.1 Preliminary Design Parameters

- Design Flows
- Water Quality Test Results
- Location
- Building Details
- *Hydrogeologist* Report including Flow Capacity Verification

2.26.2 Design Features

- Minimum 200mm casing
- Lockable security box over well head
- Variable frequency drives
- Two check valves
- Well service air/vacuum valve
- Magnetic flow meter
- Generator
- Electrical works to be located in building
- *Regional District* owned systems only - connection to SCADA system including:
 - Flow Meter
 - Well Level Transducer
 - Pump Run-Status
 - Operator Interface Panel
 - Pressure Transducer
 - Well head security alarm
 - Building security alarm

Designer is to provide three copies of comprehensive Operating and Maintenance Manual.

Section 3.0 - Sanitary Sewers

3.12 Curved Sewers

Replace this section with the following:

Curved sewers are not permitted.

3.18 Pump Stations

Standby power must be provided for all lift stations. Emergency storage is not an acceptable alternate.

3.19 Low Pressure Sewers

Replace this Section with the following:

Low pressure sewers are discouraged and will only be permitted when authorized in writing by the *Director of Engineering*.

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Section 4.0 – Storm Drainage

4.2 – Stormwater Control Plan

Delete the following from the first sentence

“except those in rural or agricultural areas”

and replace with

“except where waived by the *Director of Engineering*.”

Add the following additional stormwater control plan requirements to this section:

- Description of the property boundary(ies) and land uses (land use type, total impervious fraction and effective impervious fraction) in both existing and proposed conditions.
- Description of proposed landscaping for pervious areas (top soil thickness) and discharge locations for roof downspouts.
- Inventory of existing water and habitat features on the property, including environmental classifications and/ or fish presence information.
- A physical and geometric description of off-site¹ drainage systems bordering the subject property(ies).
- Assumed hydraulic boundary conditions at connection points to off-site drainage system.
- Description of all analysis conducted.
- Layout of existing and proposed drainage systems with a clear description of their connection points, and their relevant catchment areas, to the off-site drainage system.
- Minor and major flow paths, design flows, and maximum hydraulic grade line elevations within the limits of study.
- Lot grading and flood construction level.
- Proposed source control and/or quality treatment facilities (type, size, location, hydraulic performance, water quality treatment performance).
- Other proposed mitigation measures, if appropriate.
- Construction sedimentation control plan.

Any *Developments* located within the flood plain and outside of dyke protection require specific *Approval* for storm water control design requirements from the *Director of Engineering* prior to initiating design.

4.3.1 – The Minor System

Replace this section with the following:

Consists of local pipes, catch basins, bio-swales, driveway culverts, open channels, and other rainwater management facilities designed to carry flows of a 10-year return frequency.

¹ Off-site means lands and infrastructure beyond the legal boundaries of the subject property(ies).

All minor system components are to be sized to ensure that the hydraulic grade line of 10-year frequency flows remain below ground surface, and the flood protection elevation of dwellings, or within bank limits in the case of open channels and bio-swales.

4.3.2 – The Major System

Replace this section with the following:

Consists of overland flow paths, roadway culverts, trunk open channels, and other rainwater management facilities designed to carry flows of a 100-year return frequency.

Major system drainage infrastructure shall be sized to achieve the following performance targets during the 100-year return frequency:

- Water within public lands does not escape into private lands;
- Roadway culverts do not allow collector roadways, *Arterial* roadways, or *Highways* to over top;
- Maximum hydraulic grade lines in the proposed condition do not exceed those in the existing condition;
- Public safety is protected;
- Habitable area² and vulnerable infrastructure³ is protected.

4.7.3 – Rainfall Intensity

Add the following to this section:

Use the following rainfall IDF curves published by Environment Canada, Atmospheric Environment Service for calculation of rainfall intensities:

- For Floods, Laidlaw, Hope and Yale, use AES station 1113540, Hope Airport.
- For Popkum, Bridal Falls, Agassiz, Harrison Mills and Chilliwack, use AES station 1100120, Agassiz CDA.
- For Boston Bar and North Bend, use AES station 1114741, Lytton

Climate change is predicted to influence rainfall pattern distribution. Design professionals are to address the potential impacts of climate change by one of the following approaches:

- Apply a factor of safety of 1.15 to peak flow rate and volume estimates,
- Make use of IDF curves that have been adjusted for climate change impacts, where available, or

² Habitable area means any space or room, including a manufactured home, that is or can be used for dwelling purposes, business, or the storage of goods which are susceptible to damage by floodwater;

³ Vulnerable infrastructure means any infrastructure that may be damaged by floodwater.

- Undertaking analytical methods for adjusting rainfall intensities and peak flood flow rate in accordance with APEBBC's document Professional Practice Guidelines – Legislated Flood Assessments in a Changing Climate in BC.

4.8.1 Model Selection

Add the following text to this section:

For compatibility reasons, unless otherwise approved for special application by *Regional District* staff, all hydrologic and hydraulic modelling shall be prepared using one of the following programs:

- HEC-RAS
- XP SWMM (XP Software)
- PC SWMM (CHI)
- InfoSWMM (Innovyze)

4.9.7 Minimum Grade

Add the following text to this section:

- Minimum grades of main line storm sewers and open channels should not be less than 0.25%.

4.10.6 Watercourses

Add the following text to the end of this section:

Designers are responsible for confirming the capacity of *downstream* to the extent dictated by the *Director of Engineering*. Where adequate capacity does not presently exist or drainage issues are known then the designer may be required to implement volume control measures.

Add 4.11.10 - Performance Targets

The overall performance targets have been established as follows:

All *Developments*, excluding single family *Developments*, must incorporate water quality treatment provisions into the design to meet the following targets.

- **Basic Control** – Basic treatment focuses on removal of TSS along with associated pollutants attached to those sediments, including low levels of petroleum hydrocarbons (oil and grease and PAHs). Basic control is applicable to all non-agricultural lands. The performance target is:
 - 80% removal of TSS for influent event mean concentrations (EMCs⁴) greater than 100 mg/L but less than 200 mg/L; for influent EMCs less than 100 mg/L, meet a goal of 20 mg/L effluent TSS. For sites generating TSS greater than 200 mg/L, provide Enhanced Control (see below); and,

⁴ The “event mean concentration” (EMC) is the total mass of pollutant in runoff from a storm event divided by the total volume of runoff from that same storm event.

- Treatment should be applied to a runoff volume generated by 25 mm of rainfall per hectare of impervious surface; runoff above this volume may bypass the treatment system(s); for systems requiring the use of a flow rate for design, base the computations on Table 4.1 below.
- **Oil Control** – Oil removal is specifically required for sites where there is significant likelihood that higher concentrations of petroleum hydrocarbons will be released; in general, this includes sites with significant presence or use of vehicles. The performance target is:
 - No on-going or recurring visible sheen in receiving watercourse(s), and 24-hour average Total Petroleum Hydrocarbon (TPH) concentration no greater than 10 mg/L with a maximum discrete (grab sample) concentration no greater than 15 mg/L; and,

Treatment should be applied to all runoff with no bypass allowed, and the catchment area to the treatment system may be restricted to drives, roads and parking areas

- **Enhanced Control** – Enhanced control is intended to achieve a higher level of dissolved metals removal and applies to sites experiencing intense vehicle usage, for example, industrial sites, or other activities likely to yield higher levels of pollutants. The performance target is:
 - Exceed basic removal of TSS;
 - Greater than 50% removal of the dissolved fractions of copper and zinc; and,
 - Treatment should be applied to a runoff volume generated by 25 mm of rainfall per hectare of impervious surface; runoff above this volume may bypass the treatment system(s); for systems requiring the use of a flow rate for design, base the computations on Table 4.1 below.

Table 4.1 Flow Rates for Enhanced Control Treatment

Storm Duration (Time of Concentration, T_c) (hrs)	Flow Rate per Impervious Area (L/s/impervious ha)*
0.1	167.2
0.2	83.1
0.3	54.9
0.4	40.6
0.5	31.9
0.6	25.0
0.7	20.1
0.8	16.5
0.9	13.9
1.0	11.9
1.5	6.6
2.0	4.4

Table 4.2 shows how these performance targets are to be applied to the various land uses. As well, the table lists rainwater best management practices (BMPs) presumed to achieve the performance targets, if properly designed, installed and maintained, and are accepted for use on properties within the *Regional District*. Natural, surface oriented BMP's will be encouraged over below ground, manufactured systems.

Table 4.2 Performance Targets by Land Use Classification

Land Use Classification	Water Quality Pollutants of Concern	Performance Targets	Acceptable BMPs to Achieve Performance Targets
Residential - Multi-Family	TSS O&G	Basic + Oil Control	Disconnected roof downspouts Rain Gardens
Commercial – offices with primarily employee daily parking	TSS	Basic	Bioswales Porous Asphalt Drives, Sidewalks, parking areas
Commercial – retail use with significant daily traffic (>100 vehicles per 100 m ² of building) • Includes service station(s)	TSS O&G	Basic + Oil Control	Sand Filters Filter Strips Stormwater treatment wet ponds
Industrial – low intensity use, with minimal truck traffic and primarily employee daily parking	TSS	Basic	Stormwater treatment wetlands Manufactured Filter Systems Oil/water separator (API or coalescing plate type)
Industrial – medium intensity use, with truck traffic and employee daily parking	TSS O&G	Basic + Oil Control	Same as those listed under “Residential – Multi Family”
Industrial – high intensity use • Industrial machinery & equipment, and railroad equipment maintenance • Log storage and sorting yards • Railroad yards • Fueling stations • Vehicle maintenance and repair • Construction businesses	TSS O&G Trace Metals	Basic + Oil Control + Enhanced	Oil/water separator (API or coalescing plate type) plus: Stormwater Treatment Wetlands Stormwater Treatment Wet Ponds Media Filters Subsurface Infiltration Sand Filters Amended Sand Filters
Institutional (Schools; government; hospitals; cultural buildings)	TSS O&G	Basic + Oil Control	Same as those listed under “Residential – Multi Family”
Parks and Open Space (Buildings, parking lots and other hard surfaces)	TSS	Basic	Same as those listed under “Residential – Multi Family”
Roads & Streets – low intensity use (<15,000 ADT) • Local roads • Lanes	TSS	Basic	Same as those listed under “Residential – Multi Family”

Land Use Classification	Water Quality Pollutants of Concern	Performance Targets	Acceptable BMPs to Achieve Performance Targets
Roads & Streets – high intensity use (>15,000 ADT) - Arterials / Highways - Collectors - High use intersections (>15,000 ADT on main road; >10,000 ADT on intersecting road)	TSS O&G (high) Trace metals	Basic + Oil control + Enhanced	Oil/water separator (API or coalescing plate type) plus: Stormwater Treatment Wetlands Stormwater Treatment Wet Ponds Media Filters Subsurface Infiltration Sand Filters Amended Sand Filters
Agricultural		Follow Applicable Provincial Rules and Guidelines for Agricultural Lands	

A frequent question or concern is the quality of runoff from building roofs. In the past it has often been assumed that roof drainage is generally “clean”; however, a number of references have noted that rainfall coming in contact with roofs as well as exterior building surfaces may be contaminated with a variety of pollutants. As noted in Table 4.2 above, wood preservatives, paint, uncoated metals, biocides and pathogens (from animal droppings) can be washed off buildings. Vents on roofs (e.g., oven or grill vents from restaurants), can also deposit oil and grease on roofs. Further, atmospheric deposition of other particulates can find their way onto building surfaces, potentially contaminating runoff. At this time, the best general advice is to avoid uncoated metals for roofs, walls and railings; avoid use of copper for gutters, drain pipes and other surfaces exposed to rain; use water repellent wood finishes on wooded treated with preservatives; and maintain or replace aging, deteriorating building surfaces before they contribute to NPS pollution.

Add 4.11.11 Location and Maintenance of Runoff Controls

Subject to any specific requirements contained in relevant Service Area Bylaws, the location and maintenance options for control facilities include:

- On-site: For all land uses other than *Single Family Residential*, all rainwater management and treatment objectives shall be met by implementing engineered facilities on site. Registered covenants are required to ensure appropriate maintenance by the property Owners.
- Off-site: For roadways, rainwater management and treatment objectives shall be met on public lands, commonly road right-of-ways or parks. Maintenance is to be carried out by the local authority.

4.13 Drainage Pump Stations

Delete the last paragraph and replace with "Drainage Pump Stations are not permitted unless approved in advance by the *Director of Engineering*."

NOT FOR LEGAL USE

Section 5.0 - Roads

Delete this section in its entirety and replace with the following:

The design, operation and maintenance of roadways within the Electoral Areas of the *Regional District* are the responsibility of the Province of British Columbia (Ministry of Transportation and Infrastructure or as departmental names and responsibilities change). As such please refer to the Province of British Columbia for the appropriate design guidelines and standards to be employed. In cases where alternative design standards are anticipated they shall be established during the neighbourhood planning stage and approved by both the Province of BC and the *Director of Engineering* prior to initiating design.

Sidewalks, pathways and trails when required are to be designed in accordance with criteria determined by the Province of BC when under their jurisdiction and otherwise with specific criteria reviewed and approved by the *Director of Engineering*. These elements should be considered for all new *Developments* through the neighbourhood planning process and criteria identified at that time.

NOT FOR LEGAL USE

Section 6.0 – Roadway Lighting

6.1 General

Add Section 6.1.1:

6.1.1 Warrants

Lighting is required in accordance with the Level of Service Table for all streets and intersections.

A lighting warrant (defined in the TAC Guide for the Design of Roadway Lighting Chapter 10.4) shall be undertaken to determine the requirements and the amount of lighting (ie; full, partial or delineation lighting).

Lighting is required at all roundabouts and mid-block crosswalks.

Lighting is required at all grade railway crossings where warranted by Transport Canada RTD-10 Grade Crossings Regulations.

Lighting of *Walkway* and multi-use trails is required in all areas with high night time usage where part of main trail system is the main access to a facility.

Lighting of guide signs will not be required where retro-reflective sign sheeting material is ASTM Grade IV or better. Signs shall be illuminated via sign luminaires where lower grade sheeting is used or where car headlights will not illuminate sign sheet due road curvature.

6.5.1 Light Sources and Luminaires

Delete this section and replace with the following:

Light sources shall be LED. The designer shall select suitable optical systems which shall most effectively meet the lighting design criteria for the street and sidewalk. Acceptable luminaires shall be as listed on the *Regional District* Approved Street Lighting Product List.

6.5.2 Light Loss Factor

Delete this section and replace with the following:

Light loss factor shall be 0.63 for LED sources (L70)

6.13 Poles

Add the following:

Where overhead power lines are present, the designer shall verify the height of the proposed or existing lines and provide poles which meet the required clearances to overhead power lines. Maintaining clearances to overhead and underground Utilities in accordance with Utilities Standards,

Canadian Electrical Code, Work Safe BC and the BC Electrical Safety Act shall also govern pole location and height.

Poles may be placed in medians where barrier curb and gutter is provided the posted speed is 50km/h or less and minimum pole setback of 1.5m can be maintained. Breakaway bases shall not be used in medians as poles may be knocked into oncoming traffic.

Poles shall have an anti-theft device on the pole hand hole (such as a bolt which requires special tool to remove or lock) or device inside pole handhold to limit access to the main wiring.

Poles shall be supplied with a galvanized finish and a powder coat finish may be added where approved by the *Director of Engineering* for decorative applications.

6.15 Luminaires

Delete the first paragraph and replace with:

Luminaire shall be listed on the *Regional District* Approved Product List. All LED luminaires shall meet specific requirements listed under section 6.15 and shall be listed on. Luminaires shall be selected for their photometric efficiency, durability and quality, using optics that minimize spill light on adjacent properties and eliminate up-light directly from the luminaire (luminaires shall have an IESNA BUG rating of U0). Luminaires shall have suitable optics to meet sidewalk lighting requirements. All luminaires shall be equipped with 0-10V dimmable drivers and NEMA C136.41, 7 pin Dimming Receptacle.

Modify bullet 7 from 4500 kelvin to 4000 kelvin.

6.16 Power Supply and Distribution

Add:

Junction Boxes shall have security lids with locks to reduce the potential for wire theft. These devices must be of a proven design and have locks to prevent access. Junction box shall have concrete poured all around the outside to further prevent access by digging up the box.

6.17.3 Electrical

Add:

All access points (pole hand holes and junction boxes lids) shall be equipped with proven security devices to restrict un-wanted access and reduce the potential for wire theft.

Section 7.0 – Traffic Signals

Delete this section in its entirety and replace with the following:

The design, operation and maintenance of traffic signals within the Electoral Areas of the *Regional District* is the responsibility of the Province of British Columbia (Ministry of Transportation and Infrastructure or as departmental names and responsibilities change). As such please refer to the Province of British Columbia for the appropriate design guidelines and standards to be employed.

NOT FOR LEGAL USE

Section 8.0 – Sustainability Considerations 2014 – Water Distribution

Delete this section in its entirety.

Section 9.0 – Sustainability Considerations 2014 – Roads

Delete this section in its entirety.

Section 10.0 – Sustainability Considerations 2014 – Lighting and Signalization

Delete this section in its entirety.

NOT FOR LEGAL USE

SCHEDULE B – SUPPLEMENTARY SPECIFICATIONS**List of Approved Materials**

<i>MMCD</i> Ref	Product	Approved Material/Type	Manufacturer	Model/Series	Restrictions/Additional Specifications
29 56 01	Roadway Lighting				
	Cobra Luminaires		GE Lighting LED Roadway Lighting Ltd. American Electric Ltd.	Evolve ERS series NXT series Autobahn ATB0 and ATB2 series	Luminaires shall be supplied with 0-10V dimming driver and 7 pin NEMA photocell receptacle and shorting cap.
	Post Top Luminaires		Lumec	Metroscape Series	Luminaires shall be supplied with 0-10V dimming driver and 7 pin NEMA photocell receptacle and shorting cap
	Photocells		Precision Multiple Controls Inc.	ECDV-AP LM347 (347V)	
	Large Round Plastic Junction Boxes		Valmont West Coast Engineering	25010	<i>MOTI</i> Specification with galvanized steel lid
	Davit Poles / Arms		Valmont West Coast Engineering Nova Pole		<i>MOTI</i> Specification complete with powder coat finish where defined
	Concrete Bases		Armtec – AE Concrete Pre- Cast Products		Refer to <i>MMCD</i> Specifications
	Service Bases		Valmont West Coast Engineering Nova Pole		Refer to <i>MMCD</i> Specifications
	Service Panel		Valid Manufacturing Ltd.	BCD4A18	40A- 2P breaker

MMCD Ref	Product	Approved Material/Type	Manufacturer	Model/Series	Restrictions/Additional Specifications
	Wire Anti-Theft Devices		Trans Canada Traffic Inc.	Wire Sentry	
	Conductor Tags		Panduit	MP250-C TAGS	
	RPVC Conduit		IPEX Royal		CSA C22.2 No. 211.2
	Fuse Holders (Pole Hand Holes)		Tron	Tron HEB-AA c/w 2 L-Type Insulating Boots	
	Fuses		Bussman	10-A Buss KTK	Class CC to CSA 248.4
	Powder Coat Finish		Valmont West Coast Engineering Ltd. White Power Coating Ltd.		Refer to MMCD Specifications
33 11 01	Waterworks				
	Mainline Pipe, Joints and Fittings	PVC AWWA C900 DI AWWA C110 HDPE AWWA C906 (in Dyke Only) 25-50mm Series 160 or 200 PE			PVC: Minimum Class 165 DR 25 (PVC)
	Hydrants		Terminal City C71P w/ Storz Connection		Painted Red
	Valves and Fittings				
	25mm-75mm	Brass	Mueller		Ball corporation stops and service line fittings Iron Pipe or Compression Style
	50mm	Resilient Wedge	Terminal City		AWWA C509 NSF 61 (FIP)
	100-300mm	Resilient Wedge	Terminal City		AWWA C509 NSF 61 (Tyton)

MMCD Ref	Product	Approved Material/Type	Manufacturer	Model/Series	Restrictions/Additional Specifications
	300+mm	Resilient Wedge	Terminal City		AWWA C509 NSF 61 (MJ)
	Air Release Valves		Terminal City		Minimum 300 PSI Rating c/w brass ball style shut off valve c/w 1050mm manhole c/w step lid, frame and cover marked water
	Valve Boxes		Nelson		Marked "Water"
	Meters		Sensus		Make and model to be approved by the <i>Regional District</i>
	Meter Setter		Cambridge Brass	6020	Minimum 25mm
	Meter Box		Brooks	Type 66 (25mm) Type 67 (50mm)	c/w metal lid and auto read hole Meter Chamber Shop drawings required to be approved for meters larger than 50mm.
33 30 01	Sanitary Sewers				
	Plastic Pipe, Mainline Smooth Profile	PVC (except in dyke) HDPE within dyke			
33 34 01	Sewage Force mains				
	Pipe, Joints and Fittings	PVC (except in dyke) HDPE			

SCHEDULE B – SUPPLEMENTARY SPECIFICATIONS

Roadway Lighting

MMCD Section 26 56 01P Roadway Lighting

PRODUCTS

2.1 **General**

Replace 2.1.3 All products shall be in accordance with the *Regional District* List of Approved Products.

Replace 2.1.5 Equipment listed within the *Regional District* List of Approved Products shall be confirmed with the Contact Administrator prior to their order to confirm they are current.

2.9 **Conductor Tags**

Replace 2.9. Refer to the *Regional District* List of Approved Products.

2.11 **Fuse and Fuse Holders**

Replace 2.11 Refer to the *Regional District* List of Approved Products.

2.14 **Luminaires**

Replace 2.14 All luminaires shall be LED. Refer to the *Regional District* List of Approved Products

2.19 **Service Panels**

Add 2.19 Refer to the *Regional District* Approved Products

2.20 **Wire Anti-Theft Devices**

Add 2.20 Add poles shall have anti-theft device to prevent wire theft in pole hand holes. Refer to the *Regional District* Approved Products.

EXECUTION

3.1 **General**

Add 3.1.5 When tying into or upgrading an existing installation, maintain the existing lighting system operation during the hours of darkness.

3.5 Underground Conduit

- Add 3.5.6 Conduits shall be blown out with compressed air, from both ends if necessary, then swabbed out to remove stones, dirt, water and other material which may have entered during installation.

3.10 Luminares and Photocells

- Add 3.10.4 NEMA wattage label shall be visible at the bottom of the luminaire on all fixtures. Place label on the underside of the luminaire for cobra heads and on the neck or top of pole for post tops.

3.13 Pole Finish Application

- Replace 3.13 .1 Prior to producing a powder finish product the supplier must provide a Certificate of Compliance indicating that they have met or exceeded the following specifications. The supplier will name their independent testing agency and this information will be submitted to the Contract Administrator for their files.

.2 The application process will be as follows:

- .1 The pole or product will be hot dip galvanized.
- .2 Powder will only be applied after the product is completely fabricated. No welding or bending will take place after the powder is applied.
- .3 The pole or product will be thoroughly cleaned by brush blasting in accordance with SSPC-SP7. The brush blast will maintain a minimum profile of 0.5 mils. If brush blasting is done off site then the product will be covered and shielded from any dirt or moisture during its return to the powder applicators facility. Where poles or products are not kept clean and dry or have any signs of flash rust they will be returned for further brush blasting.
- .4 Once at the applicators facility the pole or product will be thoroughly cleaned and dried with an air gun. All hand marks or grease spots will be cleaned with a mild solvent.
- .5 After brush blasting the entire pole or product will be pre-baked in an oven at 220 degrees C for at least 30 minutes to 1 hour, depending on steel thickness. The pre-baking must be done to prevent out-gassing during the curing cycle.
- .6 The base powder coat will then be applied electrostatically while the pole or product is cooling from the 220 degrees C

pre-bake period to allow the powder to melt and fuse to the surface. The base coat will be a minimum of 3 mils in thickness.

- .7 After base coat is applied and set the topcoat will be applied to a thickness of 3 to 5 mils. The pole or product will be returned to the oven and heated to 190 to 220 degrees C (temperature will not exceed pre-bake) for a minimum of 25 minutes, depending on steel thickness. Thicker product material may require longer bake cycles to fully cure. Upon removal of the pole or product from the oven it will be left to rest until the pole or product is cool enough to the touch.
- .8 Once the topcoat has cured and the poles or product cooled, they will then be individually wrapped (min 4" overlapping method) with 1/8" foam wrap over the entire pole or product. The poles or product will be bundled together and separated with suitable wood dunnage to avoid contact between the poles, product or other bundles. All bundles themselves will be fully wrapped with foam and with stretch-wrap as noted above. The poles or products will be handled and shipped with great care to prevent damage; damaged product will be cause for rejection of the item(s).

.3 Testing process will be as follows:

- .1 Each run of product in an oven will have at least one sample tested for:
- .2 Adhesion – The finished powder surface will have minimum pull-off strength exceeding 1000 PSI as tested in accordance with ASTM D4541.
- .3 Quality – The finished powder surface will be free from any holidays (skips or misses) as tested in accordance with ASTM D4541. The product will also be free from wrinkles, orange peel, cracking, pinholes, fish eyes, blisters, etc by visual inspection.
- .4 Color – The color will be verified to be within 3 DE of specialized color.
- .5 An independent firm (such as CanSpec Testing) who are qualified to test powder finish will do the testing at the supplier's expense. The result of tests must accompany the Certificate of Compliance and will be made available to the Contract Administrator. A supplier who fails to test product as noted above will have their product rejected until the testing is completed and the product deemed acceptable by the testing agency.

- .6 Where the tested product fails on a given production run then a minimum of 30 % of the entire production run will be tested. If no other failures are found then the individual failed product will be stripped, reapplied and re-tested until it passes. If any of the 30% of product tested fails then the entire order will be stripped, reapplied and retested until it passes.
- .4 Field repairs will be undertaken as required to fix any scratches or imperfections in the final finish. Field repairs will be done as follows:
 - .1 Feather the damaged area with sandpaper.
 - .2 Clean area with solvent.
 - .3 Let dry.
 - .4 Neatly brush on an application of Aliphatic Urethane Acrylic Semi-Gloss High Build applied at 2-4 mils DFT over the entire sanded and damaged area. The ambient conditions will be dry and over 10 degrees C when the paint is applied.
 - .5 The pole supplier will warranty the integrity of the surface for a minimum of 5 years from the date of installation. The warranty will include all labour and materials required to provide replacement product if required. The powder finish will be the responsibility of the pole supplier. The warranty will apply to fading, blistering, cracking or chipping of the surface.

SCHEDULE B

Submission Requirements

1.1 Drawing Submissions

All drawings shall be prepared in accordance with good engineering practice and all other applicable requirements of this bylaw, schedules and the *MMCD* documents.

All drawings shall be signed and sealed by a *Professional Engineer* registered in British Columbia.

A complete set of Engineering Design drawings shall include, in the following sequence:

1. Cover Sheet

Noting the *Consultant Engineer's* name, the client's name, the *Regional District* project number, the legal description of the lands involved, a site plan at a 1:5000 scale, and an index.

The site plan shall note all proposed roads and the proposed *Subdivision* layout. The cover sheet may be utilized to show the drainage catchment area.

General notes should be located on this sheet.

2. Key Plan

The key plan shall be at a 1:1000 scale and shall note all proposed services, including street lighting. If more than one sheet is required, note the westerly or southerly portion first and identify as Key Plan A with additional plans noting B and C, etc.

3. Storm Water Management and Drainage Drawings

Shall be at 1:1000 scale and identified as per key plan system if more than one sheet is required. The storm water management and drainage drawings shall note:

- a) The pre-*Development* contour lines; this topography shall extend a minimum 30.0 metres outside the *Development* site;
- b) All existing corner lot elevations (un-circled);
- c) All proposed corner lot elevations (circled);
- d) The proposed building envelope with the minimum building elevation (M.B.E.) noted; all M.B.E.'s are to be set at least 0.3 m above the 100 year return period storm event calculated hydraulic grade line;
- e) The slope of the lot (directional arrow), noting a minimum one percent grade on the lots;
- f) The storm sewer system with the 10 year return period storm event flows noted on each pipe segment and the accumulated flows from all *upstream* sections; provision must be made for *upStream Development* potential where applicable;

- g) A storm sewer sizing table showing contributing areas, runoff coefficients, calculated flow rates, pipe details (size, slope, length);
- h) The major drainage system with the 100 year return storm event flows; the Consultant shall note wherever the major system is not in the pipe or the roadway, showing the routing, flows and velocities etc. for the 100 year return storm event flows;
- i) All swales proposed required for the storm drainage system; it is policy in the *Regional District* to avoid surface drainage from one lot to cross another adjacent lot; where grading is not feasible to direct surface drainage away from adjacent lot(s), swales shall be incorporated generally on the *upstream* side of the *downstream* lot, and an easement is required over the lot accepting drainage from *upstream* lots; when a swale is proposed over several lots, a lawn basin, connected to a storm sewer system, is to be provided at every third lot;
- j) Areas external to the *Development* site that are *upstream* and *downstream* the *Development* site; no surface drainage shall be proposed to flow off-site over adjacent lands;
- k) existing and proposed elevations along the *Development* boundary;
- l) A legend noting all items proposed in the storm water management and drainage drawings; applicable "General Note" should also be included; and
- m) A site plan showing the catchment area(s) involved at a scale of 1:1000.

4. Road and Water

Plan and profile drawings shall show all grades, inverts, curves, radii, valves, hydrants, bends, service connections, etc. The scale shall be 1:500 for plans and 1:50 or 1:100 for profile. The full pipe shall be shown for the watermain on the profile. All crossover points with sewers shall be noted and where the separation between the invert of the watermain and the top of any sewer is less than 0.5 metres, the watermain shall be protected in accordance with Fraser Health requirements.

5. Storm and Sanitary Sewers

Plan and profile drawings shall show grades, inverts, manholes, catch basins, service connections, etc. The scale shall be 1:500 for Plan and 1:50 or 1:100 for profile. Symbols to denote the service connection elevation at the property line shall be shown on the profile plan, as well as the minor and major system hydraulic grade lines. The full pipe shall be shown on the profile.

6. Road Cross Sections

Shall be scaled at 1:100 horizontal and 1:50 vertical and shall note the existing ground elevation, the proposed elevations of the road centerline, the curb and gutter (or road edge) and property lines. Cross-sections are required at 20.0 metre intervals. Additional sections may be required or requested where excessive cuts or fills are involved.

7. Street Lighting Plan

Shall be a plan view (1:500) of the street lighting proposal designed, signed and sealed by a *Professional Engineer*. There shall be general notes included on the plan noting reference(s) to the appropriate *MMCD* section and the appropriate design criteria. Generally, street lights shall be located at all intersections and within 1.0 metres of property lines.

8. Drawing Sets

Plan and profile information required by points 4, 5 and 7, above, may be combined on single plan-profile sheets provided that the required information can be shown clearly.

9. Construction Details

Shall show all proposals for construction which are not covered or specifically detailed in the *MMCD* Standard Detail Drawings. Where there is a *Regional District* standard, it is expected to refer to the drawing number. It is not necessary to include or provide construction details for which there is a standard drawing.

The *Consultant Engineer's* seal and signature shall be noted on the all sheets of all design submissions. Failure to do so will result in the plans being returned without comment. The *Consultant Engineer's* seal and signature shall infer that all works as proposed are structurally sound, comply with the applicable design criteria of this manual, and good engineering practice.

Notwithstanding the previously detailed requirements, the following additional information is to be noted in the design submissions:

- The size, grade, inverts, and type of material on profile sections;
- The locations, off-sets, curvatures, size and identification of the mains noted on the plan sections;
- The clearance between mains at all cross-over points;
- All existing structures, including houses, sheds, fences, wells, septic tanks and fields, shall be shown on the appropriate drawing(s), with a notation indicating their fate (ie. To be removed, filled, etc.); and
- In semi-rural and rural Subdivisions, with an open ditch drainage system, note the size of future driveway culverts required to conform to the design.

The first complete design submission shall be delivered to the *Regional District* offices and shall consist of:

- 3 complete sets of drawings, points 1 – 5 and 7, as described above, including key plan and storm water management plan;
- 1 set of road cross-sections where requested by the *Director of Engineering*; and
- All applicable utility calculations (water, sanitary sewer, storm sewer).

Subsequent design submissions requiring changes to the previous submission shall consist of:

- 2 complete sets of drawings, points 1 – 5 and 7, as described above;
- A complete construction cost estimate;
- All submissions subsequent to the first submission shall have clouded any changes made by the *Consultant Engineer* which are in addition to “red line” changes required by the *Regional District*; and
- Items “red lined” must be addressed by the *Consultant Engineer*. Failure to do so will result in submissions being returned.

The final submission for *Regional District* acceptance shall consist of:

- 3 complete sets of drawings, points 1 – 5 and 7, as described above, (one set of which will be returned to the *Consultant Engineer*);

1.2 Construction Cost Estimate Calculation

The construction cost estimate shall be broken down in a format as directed by the *Director of Engineering*.

Note: All hydro, telephone and *Regional District* costs are to be bonded, and are to be included in the calculation of the administration fee. The *Regional District* will provide a detailed breakdown of the above items. These items and costs will be reviewed and amended where or if necessary.

1.3 Service Connection Cards

The *Director of Engineering* may request that service connection cards be provided for each *Development*. These cards are to indicate clearly and accurately the location and size, etc., of each *Regional District* connection. Service connection cards are considered part of the “As-Built” submission.

1.4 “As-Built” Submissions

The following procedures shall be followed in the submission of “As-Built” drawings for *Regional District* acceptance.

- a) The *Consultant Engineer* shall submit 3 complete sets of paper prints, except for the road cross-section sheets(s), and a complete set of service connection cards for *Regional District* review.
- b) One marked-up set of the “As-Built” paper prints will be returned to the Consultant for revision.
- c) When the *Regional District* is satisfied with the “As-Built” submission, the *Consultant Engineer* will be requested to submit the following:
 - i) One set of drawings identified in bold letters with the words “CERTIFIED AS-BUILT”.

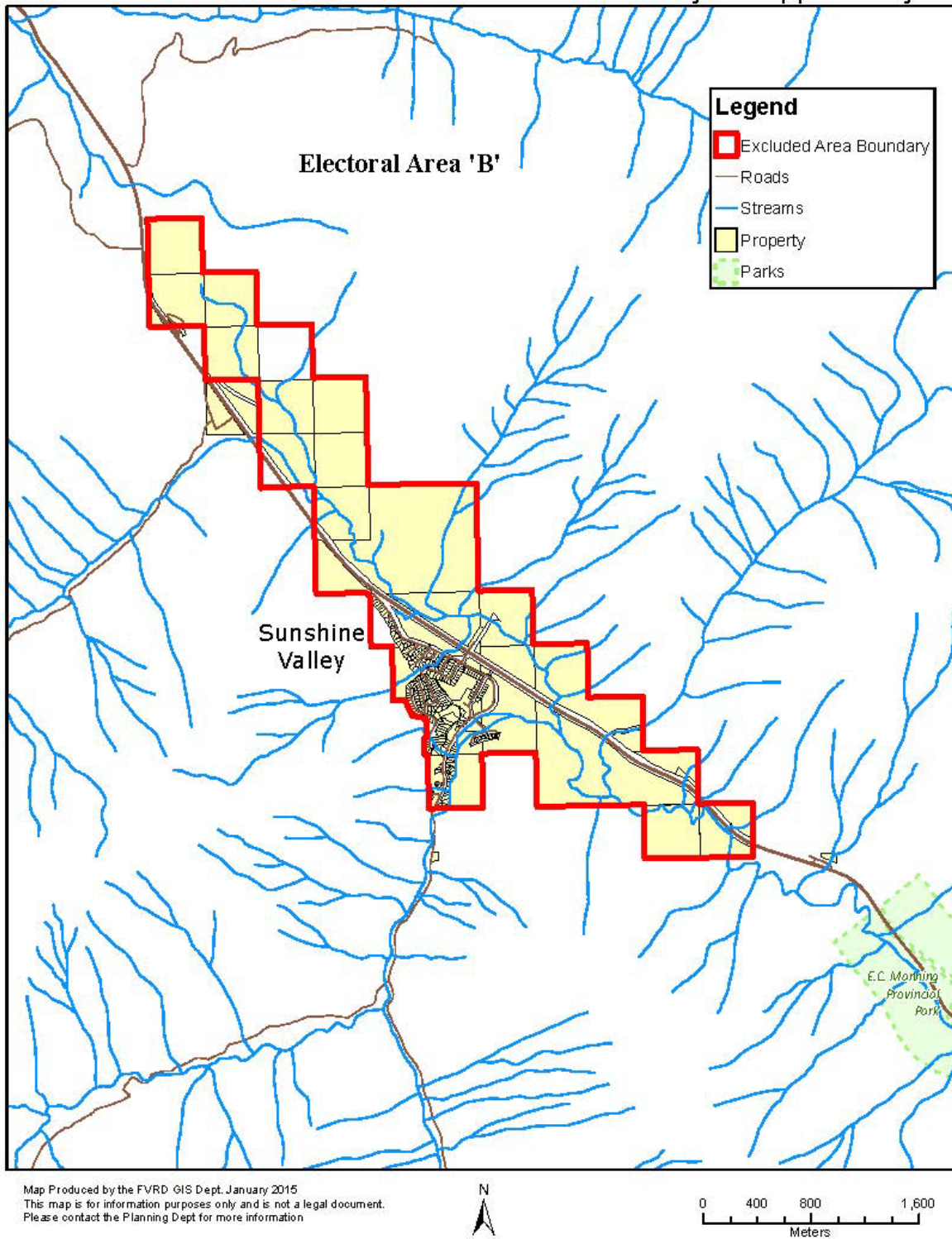
“I certify this drawing represents the *Works and Services* as designed, installed, and inspected under my supervision.”

The signature and seal shall be by the Engineer who personally supervised the required inspections. One set will be returned to the Consulting Engineer upon acceptance by the *Regional District*.

- ii) One copy of the "Certificate of Inspection". This form is to be signed by the *Consultant Engineer*.
- d) Once accepted by the *Regional District*, the *Director of Engineering* will automatically authorize a reduction of the *Security Deposit*, to reflect the acceptance of the drawings and the service connection cards.
- e) As-Built drawings shall be as follows:
 - One key plan for water, sanitary, storm mains and road works;
 - Detailed plan profile drawings for water, sanitary, storm, service connection and road works;
 - One key plan indicating lot grading;
 - Plans of details where required.

The *Owner* must submit "service connection cards": to the *Director of Engineering* in conjunction with the "As-Built" drawings.

**SCHEDULE C- MAP OF THE LANDS EXCLUDED
FROM THE APPLICABILITY OF THIS BYLAW**



SCHEDULE D - STANDARD WORKS AND SERVICES AGREEMENT

THIS AGREEMENT made this _____ day of _____, 20 .

BETWEEN: The Fraser Valley *Regional District*, a *Regional District* incorporated under the *Local Government Act* of the Province of British Columbia, and having its District office at 45950 Cheam Avenue, Chilliwack BC, V2P 1N6, and herein after called the *Regional District*.

AND: _____, herein after called the "*Developer*".

WHEREAS:

- I. The *Developer* is the registered *Owner* or holder of a Registered Right to Purchase lands and premises situated within the *REGIONAL DISTRICT*, Province of British Columbia, and more particularly known and legally described as:

herein after called the "*Land*".

- II. The *Developer* desires to Subdivide and/or develop the Land, or part thereof, in the manner shown on a plan of *Subdivision* which has been submitted by the *Developer* to the *Approving Officer* of the *REGIONAL DISTRICT* for *Approval*, a copy of which such plan is attached hereto as Appendix A, and is herein after called the "*Subdivision Plan*".

- III. The *Developer* desires to enter into this agreement with the *REGIONAL DISTRICT* pursuant to the provisions the *Local Government Act*.

- IV. The *Developer* understands that the *Works and Services* referred to in the agreement do not include those *Works and Services* which are as required by the Ministry of Transportation and Infrastructure.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the promises, covenants and agreements hereinafter set forth, the parties hereto covenant, agree, represent and promise as follows:

1. APPENDICES

The following Appendices are to be initialed by each party for identification and will be read with and form part of this agreement.

- APPENDIX A – A copy of the *Subdivision Plan* for the Lands.
- APPENDIX B – A list of the *Works and Services* and an estimate of their respective construction costs.
- APPENDIX C – Construction drawings to be used for the construction of the *Works and Services*.
- APPENDIX D – Performance security.
- Appendix E – Sample forms.

2. DEVELOPER TO DO THE WORK

The *Developer* covenants and agrees to design, construct and provide all the *Works and Services* listed and shown on Appendices A, B, and C, hereto, as approved by the *Regional District*, in accordance with the standards contained in the attached Schedule B of the *Fraser Valley Regional District Subdivision and Development Servicing Bylaw No. 1319, 2015*. The *Developer* shall employ only bonded and qualified *Contractors* to carry out and complete the *Works and Services*. The whole of the work shall be done in a substantial and workmanlike manner with materials, articles and workmanship of the best quality and description. Unless otherwise specified, all materials shall be new.

All legal posts, stakes and monuments within and outside the area of the work, and all construction stakes and marks on adjoining works, shall be preserved, undisturbed and visible. In the event any of the above are disturbed, lost or destroyed, they shall be replaced to the acceptance of the *Director of Engineering*. All costs for replacement shall be borne by the *Developer*.

3. TRANSFER OF INTEREST IN WORKS

The *Developer* covenants and agrees with the *REGIONAL DISTRICT* to assign, transfer and convey to the *REGIONAL DISTRICT* all of its right, title and interest in the *Works and Services*, upon their acceptance by the *REGIONAL DISTRICT*, (as witnessed by the issuance of a *Certificate of Final Acceptance*). The *Developer* will from time to time and at all times so long as it exercises any rights of *Ownership* in the Lands upon request of the *REGIONAL DISTRICT*, make, do and execute or cause or procure to be made, done and executed, all such further acts, deeds, right(s)-of-way, easements and assurances for the more effectual carrying out of this agreement.

4. PERMISSION TO DO WORK

The *REGIONAL DISTRICT* covenants and agrees to permit the *Developer* to construct the *Works and Services*, including that portion of the *Works and Services* to be constructed on dedicated *Highways* and other right(s)-of-way controlled by either the *REGIONAL DISTRICT* or *MOTI*; on the terms and conditions herein, and in the manner required by and at the places specified in Appendix C of this agreement and specifications contained and forming part of the standard *Works and Services Agreement*; provided that nothing in this agreement shall be construed as an undertaking, promise or covenant on the part of the *REGIONAL DISTRICT* to make available the use of or access to the *Works and Services* for any purpose, and without limiting the foregoing for the purpose of servicing the Lands or any other real property whatsoever either owned or controlled by the *Developer* or its associates or otherwise, but rather the *REGIONAL DISTRICT* reserves the right in its sole and absolute discretion to make available, operate, alter, use, extend, diminish, discontinue, tear up, sell, rent or otherwise dispose of the *Works and Services* as the *Regional District Board* from time to time deems fit.

5. DATE FOR COMPLETION OF WORK

The *Developer* shall complete the construction of the *Works and Services*, specified in Appendix C of this agreement as project No. _____ of the *REGIONAL DISTRICT*, to the satisfaction of the *REGIONAL DISTRICT*, within one (1) year from the date of this agreement.

6. CHANGES TO BYLAWS

The *Developer* covenants and agrees to comply with any changes in *Subdivision* requirements or standards enacted by the standard *Works and Services Agreement* prior to the actual commencement of the *Works and Services* contemplated by the agreement.

7. LOT GRADING AND DRAINAGE

The *Developer* covenants and agrees to adhere in all respects to the contours, elevations and drainage patterns indicated herein Appendices A, B and C of this agreement. The *Developer/Contractor* shall keep all portions of the site properly and efficiently drained during construction and, until final acceptance by the *Regional District*, the *Developer/Contractor* shall be held responsible for all damage which may be caused by, or result from, water backing up or flowing over, through, from or along any part of the work, or which any of his operations may cause to flow elsewhere.

Existing culverts, drains and ditches affected by the work shall be kept clear of excavated material at all times during construction. When it is necessary to temporarily remove an existing drainage structure, the *Developer/Contractor* shall provide suitable temporary ditches or other means of handling the drainage as accepted by the *Director of Engineering*.

Culverts and drain pipes shall be replaced at the time of trench backfilling and shall be adequately supported such that trench settlement does not disrupt flow of water. Culverts, drains, and ditches shall be replaced in a condition at least equal to that which existed before construction commenced and ditch walls shall be reinstated so as to prevent any erosion or seepage.

At all times, the *Developer/Contractor* shall ensure that there will be no discharge of any silt, dirt or debris into any existing drainage facility.

8. PERMISSION FOR COMMENCEMENT OF CONSTRUCTION OF WORKS

The *Developer* covenants and agrees not to commence work until the *REGIONAL DISTRICT Director of Engineering* provides the *Developer* with written permission to proceed with construction.

9. DEVELOPER TO GRANT RIGHTS OF WAY

The *Developer* is to grant to the *REGIONAL DISTRICT* or Ministry of Transportation and Infrastructure all necessary road dedications, statutory rights-of-way and easements over the said Lands to accommodate the said works and, where the said works are located upon or under privately owned Lands other than the said Lands, to obtain at the *Developer's* expense, all necessary road dedications, statutory rights-of-way and easements over such Lands, in favour of the *Regional District* where applicable, to accommodate the said works.

10. EXISTING STRUCTURES AND UTILITIES

Any plans or descriptions, verbal or otherwise, or existing piping or structures that are given to the *Developer/Contractor* are intended only as an aid in the location of these items. Measurements and locations of the existing underground piping and structures shown on the drawings are compiled

from the most reliable information available, and must be verified by the *Developer/Contractor* prior to proceeding with construction.

11. DESIGN BY PROFESSIONAL ENGINEER

The *Developer* covenants and agrees that all works required herein shall be designed by a *Professional Engineer*, who shall be registered with the Association of *Professional Engineers* of British Columbia and retained by the *Developer*. Plans and specifications for the said works shall be prepared by or under the direct supervision of the said *Professional Engineer* and all plans shall bear his professional seal and signature. The *Developer* covenants and agrees to retain a *Professional Engineer* during the construction period for the purposes of inspection to ensure compliance with the approved design and to provide certification of the as-built records. Full-time inspection is required by the *Developer* for all buried works.

12. ENGINEERING DRAWINGS

The *Developer* covenants and agrees that the intent of this agreement is that the *Developer* shall construct fully completed *Works and Services*, and grant all necessary statutory right(s)-of-way as shown in the drawings and specifications prepared by: _____

The drawings comply with the submission requirements found in the Schedule B of the *Fraser Valley Regional District Subdivision and Development Servicing Bylaw No. 1319, 2015* and include Drawing Nos.:

_____	_____
_____	_____
_____	_____
_____	_____

and are approved in principle for the purposes of this agreement by the *Director of Engineering* on the _____ day of _____, 20____.

13. DESIGN CHANGES

The *Director of Engineering* may request the alteration of the plans because of conditions on site so that the works function and operate in a manner satisfactory to the *Director of Engineering*. Should the works, as provided herein, prove to in any way defective or should they not operate to the satisfaction of the *Director of Engineering*, then the *Developer* shall, at this own expense modify and reconstruct the works so that the works shall be fully operative and function to the satisfaction of the *Director of Engineering*.

14. ADMINISTRATION, DESIGN REVIEW AND INSPECTION FEES

The *Developer* covenants and agrees to reimburse the *REGIONAL DISTRICT* for all fees incurred by the *REGIONAL DISTRICT* for administration, design review and inspection of the *Works and Services*. Fees shall be based on actual costs incurred by the *REGIONAL DISTRICT*.

15. AS-BUILT SUBMISSION

The *Developer* covenants and agrees to submit to the *REGIONAL DISTRICT* the final “as-built” drawings and records of construction, and test results, as accepted by the *Director of Engineering*, pursuant to Schedule B of the *Fraser Valley Regional District Subdivision and Development Servicing Bylaw No. 1319, 2015*, within sixty (60) days of the date of the *Certificate of Substantial Completion*.

16. SUBSTANTIAL COMPLETION

A *Certificate of Substantial Completion* shall be provided by the *Director of Engineering* on the completion of the construction listing all the deficiencies. This letter of Substantial Completion shall not be construed as acceptance of the works.

17. CERTIFICATE OF TOTAL COMPLETION

A *Certificate of Total Completion* shall be authorized by the *REGIONAL DISTRICT Director of Engineering* on the completion of the construction and correction of all deficiencies.

18. MAINTENANCE PERIOD AND RESPONSIBILITY

The *Developer* covenants and agrees to maintain every part of the works in good order and in complete repair for a period of one (1) year from the date shown on the *Certificate of Total Completion* in accordance with the requirements of the *Subdivision and Development Control Bylaw*. Should the *Developer*, for any reason, fail to maintain when ordered, then the *Director of Engineering*, at his option, after giving the *Developer* seven (7) days written notice (emergencies excepted), may do so, and the whole cost, charges and expenses so incurred by the *Regional District* will be payable by the *Developer*, as provided for herein. The decision of the *Director of Engineering* will be final with respect to the necessity for repairs, or the adequacy of any work done.

19. CERTIFICATE OF FINAL ACCEPTANCE

The *Regional District* covenants and agrees that upon satisfactory completion by the *Developer* of all of the covenants in this agreement, including the maintenance of the works in complete repair for a period of one (1) year, to provide the *Developer* with a *Certificate of Final Acceptance*. All such *Works and Services* remain at the risk of the *Developer* until the *Certificate of Final Acceptance* for the work has been issued.

20. FINAL BUILDING INSPECTION WITHHELD

The *Developer* covenants and agrees that the *Regional District* will withhold the granting of an occupancy permit of any building or part thereof constructed upon the lands until all the essential services herein have been completed to the satisfaction of the *Director of Engineering*.

21. DEVELOPER INDEMNIFIES REGIONAL DISTRICT

The *Developer* covenants and agrees to save harmless and indemnify the *REGIONAL DISTRICT* against:

- a. All actions and proceedings, costs, damages, expenses, claims, and demands whatsoever and by whomsoever brought by reason of the construction, installation, maintenance or repair of the *Works and Services*;
- b. All expenses and costs which may be incurred by reason of the construction, installation, maintenance or repair of the *Works and Services* resulting in damage to any property owned in whole or in part by the *REGIONAL DISTRICT* for which the *REGIONAL DISTRICT* by duty or custom is obliged, directly or indirectly, in any way or to any degree, to construct, install, maintain or repair;
- c. All expenses and costs which may be incurred by reason of liens for nonpayment of labour or materials, Work Safe BC assessments, Employment Insurance, Canada Pension Plan, Federal and Provincial Tax, Property Reinstatements or encroachments owing to mistakes in survey.
- d. All expenses and costs which may be incurred by the *REGIONAL DISTRICT* as a result of faulty workmanship and defective material in any of the *Works and Services* installed by the *Developer*.

22. INSURANCE BY DEVELOPER

The *Developer* covenants and agrees to provide the following insurance coverage, and to provide the *REGIONAL DISTRICT* with a copy of the insurance policy prior to the commencement of any construction of the *Works and Services* for the following situations:

- a. To protect the *Developer* and the *REGIONAL DISTRICT* against all claims arising out of:
 - i. Death or injury to persons; and
 - ii. Damage to, or loss of use of, any property of third persons, including without limiting the foregoing, the following classes of property: real property, chattels, land, works, buildings, structures, wires, conduits, pipes, mains, shafts, sewers, tunnels, and apparatus in connection therewith, even when the damage or loss of use is caused by vibration, moving, shoring, underpinning, raising, rebuilding, or demolition of any building, structure or support, or by excavation, tunneling or other work below the surface of the ground or water; and
 - iii. Damage to, or loss of use of, all buildings, structures, stores, equipment and materials included in, or required for, the carrying out of the works.
- b. Every policy of insurance required will:
 - i. Name the "*Regional District*" as an additional insured; and
 - ii. State that the policy applies to each insured in the same manner and to the same extent as if a separate policy had been issued to each insured; and
 - iii. State that the policy cannot be cancelled, lapsed or materially changed without at least thirty (30) days written notice to the *REGIONAL DISTRICT* to be delivered to the Secretary of the *REGIONAL DISTRICT*.

- c. Every policy of insurance required will be reviewed by the *REGIONAL DISTRICT* insurance agents.

23. PERFORMANCE SECURITY

As security for the due performance of all of the covenants and promises contained in this agreement, the *Developer* will on signing this agreement deposit with the *REGIONAL DISTRICT* a performance *Security Deposit*, calculated in Appendix D of this agreement, in the amount of \$_____ in the form of cash or an irrevocable letter of credit acceptable to the *REGIONAL DISTRICT* (herein called the Performance Security).

24. FORFEIT OF PERFORMANCE SECURITY

In the event that the *Developer* fails to construct and install the *Works and Services* prescribed herein within the time specified in clause five (5) of this agreement, the said Performance Security of \$_____ will be forfeited to the *REGIONAL DISTRICT*.

25. CONSENT TO FORFEITURE OF THE PERFORMANCE SECURITY FOR DEFERRED WORKS

The *Developer* acknowledges that construction of the following *Works and Services* are premature and/or may give rise to risk of public safety and agrees therefore to forfeit the amount of the Performance Security indicated. The *REGIONAL DISTRICT* will retain this amount and will use it to construct the said *Works and Services* at a future time of its choosing. the *Regional District* will not claim any further compensation from the *Developer* and the *Developer* will have no entitlement to return any part of the forfeited amount.

PROPOSED WORKS AND SERVICES	SECURITY AMOUNT FORFEITED
_____	_____
_____	_____
_____	_____
_____	_____

26. DESIGN BOND

Where security is provided in lieu of approved working drawings, hereafter called a "Design Bond", the *Developer* agrees to have the working drawings completed to the satisfaction of the *REGIONAL DISTRICT Director of Engineering* within ninety (90) days of the date of this Agreement. Failure to do so will result in forfeiture of the Design Bond in the amount of \$_____ which, shall be used by the *Regional District* to complete the design. Once forfeited, the bond becomes non-refundable in whole or in part.

27. USE OF PERFORMANCE SECURITY

The *Developer* agrees that if all the *Works and Services* or obligations are not completed, installed or performed pursuant to this agreement, the *REGIONAL DISTRICT* may complete or fulfill the *Works and Services* or obligations at the cost of the *Developer* and deduct from the Performance Security held by the *REGIONAL DISTRICT* the cost of such completion, and the balance of the deposit shall be returned

to the *Developer*, less any unpaid administration, design review, and inspection fees or costs incurred. If there is insufficient money on deposit with the *REGIONAL DISTRICT*, then the *Developer* will pay such deficiency to the *REGIONAL DISTRICT* immediately upon receipt of the *REGIONAL DISTRICT*'s bill for completion. It is understood that the *REGIONAL DISTRICT* may do such *Works and Services* either by itself or by *Contractors* employed by the *REGIONAL DISTRICT*. If the *Works and Services* are completed as herein provided, then the deposit shall be returned to the depositor.

28. RELEASE OF SECURITY AND PROVISION OF MAINTENANCE SECURITY

If the *REGIONAL DISTRICT Director of Engineering* is of the opinion that the *Works and Services* or any portion thereof have been adequately completed, and the *Developer's* covenants performed in compliance with this agreement, and if there is no litigation pending or threatened by any third party against the *REGIONAL DISTRICT* as a result of, or arising from, the construction of the *Works and Services*, the *REGIONAL DISTRICT Director of Engineering* may return all, or any portion of the Performance Security to the *Developer* at such times and in such amounts as the *REGIONAL DISTRICT Director of Engineering* may deem proper, provided only that the *REGIONAL DISTRICT Director of Engineering* will retain an amount equal to ten percent (10%) of the *Performance Security Deposit*, with a minimum of One Thousand (\$1,000) to secure the performance of the maintenance required of the *Developer* (hereinafter called the Maintenance Security).

29. RETURN OF MAINTENANCE SECURITY

If at the end of the one (1) year maintenance period the *REGIONAL DISTRICT Director of Engineering* is satisfied that the *Developer* has complied with the covenants contained in this agreement and if there is no litigation pending or threatened by any third party against the *REGIONAL DISTRICT* as a result of, or arising from, the construction of the *Works and Services*, the *REGIONAL DISTRICT Director of Engineering* may direct that the Maintenance Security or any portion thereof, be returned to the *Developer* and thereafter the *Developer's* responsibility for the *Works and Services* shall cease. The *Director of Engineering* may extend that maintenance period if the *Works and Services* are deficient or otherwise not performing as intended.

30. ADMINISTRATION FEES

The *Developer* covenants and agrees to pay to the *REGIONAL DISTRICT* administration, design review and inspection fees at full cost, as referred to herein this agreement in the amount of \$ _____. Fees are payable by cash or cheque prior to the signing of this agreement or the commencement of construction of the works.

31. NO OTHER REPRESENTATIONS

It is understood and agreed that the *REGIONAL DISTRICT* has made no representations, covenants, warranties, guarantees, promises or agreements (verbal or otherwise) with the *Developer* other than those in this agreement.

32. DEVELOPMENT COST CHARGES

The *Developer* covenants and agrees to pay the *REGIONAL DISTRICT* all applicable *Development* cost charges required by the *Regional Districts* bylaws.

33. COMPLIANCE WITH BYLAWS

Subject to this agreement, the proposed *Works and Services* and the *Development* herein shall comply with all the bylaws of the *REGIONAL DISTRICT*.

34. NO WAIVER

The *Developer* covenants and agrees that nothing contained or implied herein shall prejudice or affect the rights and powers of the *REGIONAL DISTRICT* in the exercise of its functions under any public and private statutes, bylaws, orders and regulations, all of which may be fully and effectively exercised in relation to the said Lands as if the agreement had not been executed and delivered by the *Developer*.

35. NOTICE TO DEVELOPER

Any demand or notice required or permitted to be given under the provisions of this agreement shall be in writing and may be given by mailing such notice by prepaid registered post to the party concerned at the address of such party first above-recited, and any such notice or demand mailed as aforesaid shall be deemed to have been received by the party to whom it is addressed on the second business day after the date of posting thereof.

36. ARBITRATION

In the case of any dispute between the *Regional District* and the *Developer/Contractor* during the progress of the work or afterwards, as to any matter arising thereunder, either party may at his option give to the other notice of such dispute and demand arbitration thereof; and the parties may, with respect to the particular matters then in dispute, agree to submit the same to arbitration in accordance with the laws of the Province of British Columbia; provided, however, that if arbitration has not been agreed upon, either party may elect to have such dispute determined by a Court or Courts of competent jurisdiction. Arbitration shall not be a cause for the stoppage of work.

THIS CONTRACT shall ensure to the benefit of and be binding upon the parties hereto, their respective successors and assigns.

IN WITNESS WHEREOF the parties hereto have executed the agreement the day and year first above written.

FRASER VALLEY REGIONAL DISTRICT

By its authorized signatories

Corporate Officer

Chair/Vice Chair

THE DEVELOPER

By its authorized signatories

Name, Title

APPENDIX A

A copy of the *Subdivision* Plan of the Lands

NOT FOR LEGAL USE

APPENDIX B

A list of the *Works and Services* and Engineers Construction Estimate of their respective construction cost (on-site and off-site works)

NOT FOR LEGAL USE

APPENDIX C

Construction drawings to be used for construction of the *Works and Services*
(on-site and off-site works)

NOT FOR LEGAL USE

APPENDIX D

Refundable Performance Security

I. Refundable Performance Security (On-Site Works)

Total cost for construction of on-site *Works and Services* as per Appendix B
\$ _____.

On-Site Performance Security \$ _____ x 1.20 =
(Cash or Irrevocable Letter Of Credit)

II. Refundable Performance Security (Off-Site Works)

Total cost for construction of off-site *Works and Services* as per Appendix B
\$ _____.

Off-Site Performance Security \$ _____ x 1.20 =
(Cash or Irrevocable Letter of Credit)

NOTE. A Maintenance Security in the amount of 10% of the Total Performance Security amount for both on-site and off-site works shall be retained for a period of one year for the date shown on the Certificate of Completion.

APPENDIX E
Sample Forms

NOT FOR LEGAL USE

Form F – 1: Permission to Construct

Authorization to proceed with construction is hereby granted to:

Name of Developer: _____

Address: _____

For the works described generally as:

Authorized Start Date: _____

Completion Date: _____

Authorized hours of work shall conform to *Regional District* noise bylaws in effect in the area of construction.

Check the following: (All must be completed)

___ Approved plans covering the works are attached

___ Certificates of insurance are attached.

___ Administration fee has been paid.

___ A Servicing Agreement has been completed – No. _____

Consultant Engineer: _____

Address: _____

Phone: _____

Email: _____

Special Conditions:

Director of Engineering

C.c. *Contractor*

File No. _____

Form F – 2: Certificate of Inspection

I hereby certify that all engineering and construction services, required under *Fraser Valley Regional District Subdivision and Development Servicing Bylaw No. 1319, 2015* for the Subdivision of:

Legal Description: _____

Project No. _____

which services were designed by:

Name of Firm: _____

Address: _____

Phone: _____

Email: _____

and approved for construction on drawing numbers:

Drawing Number	Date

have been installed and inspected by or under the direction of:

I further verify that the "As-Built" drawings hereby submitted represent the *Works and Services* as installed for the aforementioned Subdivision.

(Signature and name of the consultant
engineer responsible for design)

Form F – 3: Certificate of Substantial Completion

Developer: _____

Contractor: _____

Project No. _____ Servicing Agreement No. _____

Date: _____

The attached is a list of deficiencies related to the works.

The *Certificate of Total Completion* will be issued when all deficiencies have been cleared, the *Director of Engineering* has been satisfied that all conditions of the servicing agreement have been fulfilled, and the *Developer* has provided a maintenance *Security Deposit* in the form prescribed in the *Subdivision and Development Servicing Bylaw*. This certificate has been made to the best of the *Director of Engineering's* knowledge, information and belief. It does not constitute acceptance of any work not in accordance with the requirements of the *Subdivision and Development Servicing Bylaw*, and not listed as a deficiency herein, whether or not such defect(s) could have been observed or discovered during construction.

Director of Engineering

C.c. Contractor

File No. _____

Form F – 4: Certificate of Total Completion

Developer: _____

Contractor: _____

Project No. _____ Servicing Agreement No. _____

Date: _____

Check the following: (All must be completed)

___ The *Consultant Engineer* has issued a Certificate of Inspection and supporting documentation, including relevant quality assurance tests.

___ The *Consultant Engineer* has issued "As-Built" drawings and applicable operations and maintenance manuals, and safety procedures.

___ The *Developer* has provided a maintenance *Security Deposit* in the form prescribed in the Bylaw.

This Certificate is issued pursuant to Sections 7.6 and 7.7 of the *subdivision and Development Servicing Bylaw*.

The Maintenance Period for the Works will begin on: _____

All deficiencies, defects or faults in the Work observed or discovered within the period preceding the date of this certificate having been rectified, this certificate is issued pursuant to the referenced Servicing Agreement.

This certificate has been made to the best of the District Engineer's knowledge, information and belief. It does not constitute acceptance of any work not in accordance with the requirements of the Servicing Agreement, whether or not such defect(s) could have been observed or discovered during construction.

This Certificate does not constitute final acceptance of any work. Final acceptance, and transfer of Ownership to the *REGIONAL DISTRICT*, shall occur upon the completion of the Maintenance Period.

Director of Engineering

C.c. Contractor

File No. _____

Form F – 5: Certificate of Final Acceptance

Developer: _____

Contractor: _____

Project No. _____

Servicing Agreement No. _____

Date: _____

I hereby certify that the maintenance period has ended, and there are no outstanding defective works or deficiencies to be addressed by the *Developer*.

Director of Engineering

C.c. *Contractor*

File No. _____