
CRD MODEL STORM SEWER & WATERCOURSE BYLAW UPDATED IN 2001

DISCUSSION PAPER

March 14, 2003

A. BACKGROUND & OBJECTIVES

The Capital Regional District (CRD) Stormwater Quality program works with member municipalities and others, to prevent stormwater runoff from causing harm to public health and the environment. In 1995, the CRD developed a model storm sewer bylaw to provide member municipalities with the regulatory powers to prohibit certain types of wastes from being discharged into storm sewers and watercourses to protect the environment, public health, storm sewer infrastructure, and the marine receiving environment.

Through the fall of 2000 and spring of 2001, the CRD developed an updated model storm sewer bylaw to incorporate additional powers provided by the provincial government through changes to the *Local Government Act* (formerly the *Municipal Act*). The bylaw also dovetails with provincial and federal statutes and initiatives, such as the Fisheries Act and stormwater management planning guidelines. The updated model storm sewer bylaw will provide municipalities with several new regulatory options to protect stormwater quality, protect the environment, to meet the requirements of senior governments, and to promote a consistent approach to stormwater quality throughout the region.

On July 11, 2001, the CRD Board received the Model Storm Sewer and Watercourse Protection Bylaw and invited member municipalities to adopt the model bylaw. The Board also supported the creation of a bylaw working group (BWG). This group was formed on September 28, 2001 and includes engineers and planners from the municipalities within the region. The purpose of the BWG is to coordinate the approach to bylaw-related activities, such as codes of practice and multi-jurisdictional stormwater issues. Regional Stormwater Quality Program staff coordinate the activities of the BWG.

The BWG and the Stormwater Quality program are currently developing model Codes of Practice for use under the updated model Storm Sewer and Watercourse Bylaw. The Codes of Practice provide sector-specific guidance to help businesses become compliant with the bylaw and they will be the primary tools to proactively prevent contaminants that can negatively impact stormwater quality.

As of March 2003, three model Codes of Practice (Automotive & Parking Lot Operations, Development & Construction Activities, and Recreation Facility operations) were being developed under the guidance and input from a Stakeholder Task Force created for each Code. The CRD has made a great effort to ensure that each Task Force includes representatives from member municipalities and the relevant business sectors. In addition, the Stormwater Quality program is scheduled to develop up to nine other Codes of Practice by 2006 for adoption and implementation by the municipalities. The schedule of development is reviewed by the BWG on a regular basis to check that the priorities and needs of the municipalities and the larger community are addressed in a timely manner.

1. Background

The traditional objective of stormwater management has been to remove stormwater as quickly as possible from an area to prevent flooding. Since the early 1990's, the CRD Stormwater Quality program has been working to move beyond the traditional approach to address the impacts of stormwater flow and quality on the environment and public health.

One stormwater management tool adopted by local municipalities is the 1995 CRD model storm sewer and watercourse bylaw. The model bylaw focused on protecting the stormwater collection systems and the receiving environment from stormwater contamination.

Beginning in 1997, changes to the *Local Government Act* gave municipalities a wider range of powers, including greater authority over stormwater management. With these changes, the CRD Stormwater Quality program was directed to include these new powers in an updated model bylaw for consideration and use by the municipalities.

2. Objectives of the Updated Bylaw

In preparation for enhancing the CRD model storm sewer bylaw, the following six objectives were used to select the regulatory tools that would be beneficial for the municipalities to protect stormwater quality, infrastructure, and municipal watercourses:

i) Protection of Infrastructure

To protect the stormwater drainage infrastructure (pipes, catch basins, pumps, and pump stations) from damage.

To protect the stormwater drainage infrastructure from factors that would compromise the operational efficiency of the drainage system.

ii) Management of Stormwater Discharge Quality

To ensure that the liquids discharged into the stormwater system are of a quality that will not have a negative impact on the receiving environment or public health.

To improve the quality of the liquids discharged into the stormwater system to a level that will raise the receiving water quality to natural levels to protect the environment and public health.

iii) Management of Stormwater Flow

To ensure that the flow rate of liquids discharged into the municipal stormwater drainage system will not have a negative impact on the receiving environment (erosion, destruction of habitat and spawning grounds, and displacement or destruction of aquatic life).

To improve the flow rate of the liquids discharged into the storm drainage system to a level that will approximate the natural hydraulic regime of the receiving environment.

iv) Watercourse Protection

To ensure that human activities will not have a negative impact on watercourses and riparian zones.

v) Watercourse Restoration

To restore the receiving environment, watercourses and riparian zones to a more natural state that supports habitat for native vegetation and wildlife and provides recreational and educational opportunities for the community.

vi) Flood Control

To reduce the risk of flooding in areas served by the municipal drainage system.

3. Previous Model Storm Sewer Bylaw (1995)

The 1995 model bylaw was created to protect stormwater infrastructure and to improve the quality of stormwater discharged to the receiving environment. However, one of the shortcomings of the 1995 model bylaw was that the prohibitions were “end-of-pipe” restrictions and the bylaw was “reactive” rather than preventative. The municipality could only act once a problem has occurred with the resulting impacts to the environment or infrastructure. At the time when the 1995 model bylaw was developed, the *Municipal Act* did not include preventative powers, such as the authority to:

- require the installation and operation of stormwater works
- require regular maintenance of stormwater works
- develop regulatory codes of practice for businesses
- restrict the amount of impermeable area of a property

Although the 1995 model bylaw provided basic protection from pollution, it did not protect watercourses or streamside areas from disturbance or physical damage. The municipalities traditionally relied on

provincial legislation, such as the *Water Act*, and federal legislation, such as the *Fisheries Act*, to protect watercourses and streamside areas; however, municipalities are recognizing the need for local authority to protect these areas in cooperation and coordination with the senior government agencies and legislation. The municipalities have a greater connection to the local environment, a greater awareness of the impacts of local development, and the best understanding of the needs of the local area. In addition, municipalities are naturally the first line of defence to address local environmental issues.

The 1995 model bylaw did not include the provisions to directly protect streams and streamside areas. However, some of the core area municipalities had already adopted provisions to protect “stream corridors” (streamside areas), prevent the enclosure or culverting of watercourses, and to enable the authority to designate specific watercourses as part of the municipal drainage system.

Finally, the 1995 model bylaw did not have any provision to manage stormwater flow. The management of stormwater flows into watercourses is a significant factor for the protection of the watercourse and to lessen or eliminate the negative impacts on the near-shore marine environment.

B. MODEL BYLAW ENHANCEMENTS

The updated model storm sewer bylaw was developed to reflect the amendments to the *Local Government Act*. In addition, the updated model bylaw draws upon additions to the ticketing powers under the *Municipal Bylaw Enforcement Ticket Regulation*.

Where appropriate, the updated model storm sewer bylaw was harmonized with the definitions and streamside setbacks as set out in the recently enacted *Streamside Protection Regulation* under the *Fish Protection Act*. However, the updated model bylaw does not derive any powers or authority from the *Streamside Protection Regulation*, due to more appropriate municipal tools such as Development Permit Areas and Official Community Plans. The intent is to harmonize the updated model bylaw with the *Streamside Protection Regulation* to avoid confusion or conflict with the Regulation.

Under the *Streamside Protection Regulation*, municipalities are required to designate official “Streamside Protection and Enhancement Areas” by January 2006. The updated model bylaw is not the first option that should be considered for municipalities to designate the legislated “Streamside Protection and Enhancement Areas”. We believe that the first option should be to designate the “Streamside Protection and Enhancement Areas” through Development Permit Areas and the Official Community Plan process, because the Regulation specifically applies to the use of local government powers under Part 26 (zoning powers) of the *Local Government Act*. In the future, the “Streamside Protection Areas” defined under the updated model bylaw could be amended to be the same as the official “Streamside Protection and Enhancement Areas” designated by municipal Councils.

The preamble to the model bylaw has been updated to change the references from the *Municipal Act* to the appropriate sections of the *Local Government Act*. The new preamble includes the appropriate reference to the *Municipal Bylaw Enforcement Ticket Regulation*. The preamble has also been improved to strengthen the objectives of the updated model bylaw.

Please note that the preamble for the updated model bylaw will require a change when the proposed “Community Charter” legislation is enacted to replace the Local Government Act. The Community Charter legislation is expected to further strengthen the authority of municipalities to require measures to prevent environmental damage. When enacted, Community Charter legislation should be reviewed for opportunities to strengthen the model bylaw and Codes of Practice.

Section 1 - Definitions

New definitions have been added to Section 1 to strengthen and support the new sections in the enhanced model bylaw.

Section 2 - Discharges to Storm Sewers and Watercourses

This section is the same as the 1995 model bylaw to define what can be discharged into a storm sewer or watercourse and what is prohibited. Please note that the prohibitions in Schedule A have been expanded to provide greater protection under this section.

Section 3 - Watercourses as Part of the Municipal Drainage System

The purpose of Section 3 is to allow municipalities to define and designate selected watercourses to be included as part of the municipal drainage system, in order to provide greater control over these watercourses. The designated watercourses will be listed in Schedule B, which can be amended at the direction of municipal council. Upon adoption and for each amendment of Schedule B, a copy of the amended bylaw must be filed in the Land Title Office.

Please note that while a designation as part of the municipal drainage system will give a municipality greater control over a watercourse, the municipality may take on greater responsibilities, such as monitoring and maintaining the watercourse to prevent flooding. Municipalities are advised to review this section.

Section 4 - Approval for Work in Municipal Drainage System

Section 4 was developed to give a municipality greater control to protect the drainage system, including designated watercourses, from unauthorized changes without the written approval of the manager. The changes that require prior approval include the alteration, diversion, filling in a watercourse, installing culverts, and enclosing a watercourse.

This section also prohibits work (tree cutting, removal of vegetation, removal or deposition of soil, or other alterations) within a “streamside protection area” (i.e. streamside setbacks) without the prior approval of the manager. This section applies to work that would degrade water quality or alter the flow patterns of the watercourse. This section gives a municipality regulatory powers over the “leave strips”, which are an integral factor for the environmental health of a watercourse.

In theory, no changes can be made to a watercourse without approval from the provincial government (under Section 9 of the *Water Act*) and, in the case of fish habitat, from the federal government (under Section 35 of the *Fisheries Act*). In practice, small changes and alterations are unlikely to receive attention from senior government agencies; thus, local governments are better suited to address these local issues. The cumulative impact from many small changes and alterations has caused the degradation of many of the region’s watercourses.

Please note that municipalities should make arrangements with the senior levels of government to develop memorandums of understanding for municipal approval of work on a watercourse. The municipalities should also arrange for the senior governments to be responsible for prosecutions under the provincial or federal legislation, which is more powerful and has higher penalties than local bylaws.

The subsection on tree cutting may overlap with existing tree protection bylaws or development permit restrictions. The section in this updated bylaw has a broader scope than most tree bylaws, as this section includes other forms of vegetation and all forms of work. Municipalities are advised to review this section carefully to determine whether this section has any overlap with other bylaws. As an option, existing municipal tree bylaws could be amended to include special requirements to protect trees and vegetation within riparian zones.

Section 5 - Determination of the Width of Streamside Protection Areas

The municipalities have not yet developed the regulatory structure under the municipal land use and zoning bylaws to create the “Streamside Protection and Enhancement Areas” as required under the *Streamside Protection Regulation*. When the municipalities create the “Streamside Protection and Enhancement Areas”, Section 5 can be adopted under the model bylaw to provide setback calculations that are consistent with the land use and zoning bylaws and the *Streamside Protection Regulation*. This section supports the restrictions under Section 4 for work within a Streamside Protection Area.

Section 5 is based on the procedure found in the *Streamside Protection Regulation* for the calculation of “Streamside Protection and Enhancement Areas”. However, the procedure in Section 5 allows the municipalities to set the minimum width, whereas, the *Streamside Protection Regulation* provides the municipalities with the authority to make the setbacks wider than the minimum widths if deemed necessary to protect the streams. In the future, the municipality may include a clause to harmonize the width of the “Streamside Protection Areas” in the bylaw with the width of the “Streamside Protection and Enhancement Areas” as designated under the *Streamside Protection Regulation*.

Please note that the “Streamside Protection Areas” can be determined only for those watercourses that have been designated as part of the municipal drainage system under Section 3. The municipalities have been advised to use their own set back definitions and calculations until such time that the municipalities decide to adopt the set back calculations as defined in the *Streamside Protection Regulation*.

Section 6 - Obstructing Watercourses

The purpose of Section 6 is to prohibit anyone from obstructing or impeding the flow in a municipal drainage system and also in streams, creeks and waterways. This section complements the prohibitions in Schedule A.

Section 7 - Restrictions on the Area Covered by Impermeable Material

This Section was developed for use in the future if the municipalities decide to restrict the amount of impermeable surface for specific zoning. The purpose of Section 7 is to provide the authority to restrict the percentage of impermeable surface for new development. Impermeable surfaces are the main cause for stormwater flow rate problems in watercourses, as changes in the natural hydrology can have devastating impacts on the environmental health of watercourses. This section will address quantity and flow rate issues, while quality issues are addressed in Section 2 (Discharges to Storm Sewers and Watercourses) and Section 8 (Codes of Practice).

This section will provide a municipality with the power to require preventative measures to protect watercourses and manage stormwater flow rates. These powers will also reduce the chance of flooding of the municipal drainage system and in watercourses.

Although the maximum allowable percentage of area covered by impermeable material has not yet been developed, these allowable percentages would be listed in Schedule C. Once the allowable percentages are developed, each municipality could adopt the maximum percentages for the specific zoning allowed under the local zoning and land use bylaws. If requested by the member municipalities, the CRD can assist with the development of science-based guidelines for adopting suitable allowable percentages. The CRD could also provide technical assistance in the determination of existing impervious conditions.

Please note that some municipalities may prefer to incorporate this section into local land use and zoning bylaws, rather than under the storm sewer and watercourse bylaw. Municipalities have been advised to defer a decision of adoption of this section until the impacts and technical details have been reviewed.

Section 8 - Codes of Practice

The purpose of Section 8 is to allow a municipality to adopt regulatory codes of practice for selected industrial, commercial, and institutional (ICI) operations. ICI operations have the potential to negatively impact the quality of liquids discharged into the stormwater drainage system. Due to the high percentage of impermeable surfaces on most ICI properties, these operations also have the potential to negatively alter the natural hydrology of watercourses. The high percentage of impermeable surfaces can also affect stormwater quality as contaminants from the operations can be washed directly into the stormwater collection system and into the municipal drainage system and watercourses.

A code of practice could include regulatory requirements for ICI operations to install, operate and maintain stormwater management facilities, such as catch basins, impoundments, and oil interceptors. Many of the requirements in a code of practice are preventative measures to protect water quality and manage stormwater flow rates. Codes of practice can also protect infrastructure and reduce the chance of flooding of the municipal drainage system and in watercourses.

The municipalities should work together with the CRD and appropriate business sectors to develop codes of practice. The Codes of Practices will be developed to address specific needs of each sector to assist the sector to achieve compliance with the bylaw. Codes of practice could be considered for a wide range of ICI operations, including, but not limited to, the following ICI operations:

- Automotive and Parking Lot Operations (Completion in 2003)
- Construction and Development Activities (Completion in 2003)
- Recreation Centre Operations (Completion in 2003)
- Painting Operations (Completion in 2004)
- Mobile Washing & Power Washing Operations (Completion in 2004)
- Marina & Boat Maintenance (To be considered for 2004, may fall under federal jurisdiction)
- Aviation Maintenance and Operation (To be considered for 2004, may be federal jurisdiction)
- Recycling Facilities (Completion in 2005)
- Fuel Storage & Industrial/Commercial Yard Storage (Completion in 2005)
- Concrete (Ready Mixed) Plants (Completion in 2006)
- Asphalt Plants (Completion in 2006)
- Landscaping, Golf Courses, & Playing Fields (Completion in 2006)

In order for codes of practice to have regulatory power, each code of practice must be adopted as a separate schedule of the bylaw. A municipality may decide to include this section in the bylaw only after the first code of practice is developed, although this section may be included from the outset without codes of practice and may be brought into effect at a later time.

The municipalities should be aware that the *Local Government Act* is vague in regards to an expressed authority for a municipality to require a person to keep records, to provide information, and to require installation of works or equipment unless these requirements are required as a condition for connection and use of the municipal drainage system. Given the benefits to the municipality to know who is using the municipal drainage system and the natural requirement for businesses to keep records of the operation and maintenance, we recommend that these requirements for a business to maintain records and provide information remain in this section. We also recommend that the municipalities clearly state that compliance with the Code of Practice is a condition for the connection and continued use of the municipal drainage system.

The CRD and the municipalities are developing the codes of practice in consultation with the business sector and affected stakeholders. When appropriate, the Codes of Practice should be harmonized with the Codes of Practice developed under the CRD [Sanitary] Sewer Use Bylaw No. 2830.

Section 9 - Appointment of the Stormwater Control Manager

This section, which provides the authority to appoint a Stormwater Control Manager, is substantially the same as the 1995 model bylaw.

Section 10 - Inspection

This section, which provides the authority for municipal representatives to enter onto a property to conduct inspections related to this bylaw, is substantially the same as the 1995 model bylaw.

Section 11 - Disconnection

This section, which provides the authority to disconnect a stormwater connection from the municipal drainage system, is substantially the same as the 1995 model bylaw.

Section 12 - Offences and Penalties

This section, which defines the fines and penalties under this bylaw, has been expanded to include ticketing powers for offences related to the restrictions on impermeable surfaces (Section 7) and codes of practice (Section 8).

Section 13 - General

This section, which addresses the general authority and administrative issues, is substantially the same as the 1995 model bylaw.

Section 14 - Purpose

This section, which provides the context for the provisions in the bylaw and limits the municipal liability with respect to action taken under the bylaw, is new section.

Section 15 - Citation

This is a new section in number only, as the citation has been given a section number.

Schedule A - Prohibited Waste

Seven new prohibitions have been added and one additional prohibition is being developed for turbidity:

- Fill - No soil, gravel, sand or rock may be deposited into a municipal drainage system)
- Oily Wastewater - No water with visible oil may be deposited into a municipal drainage system.
- Wastewater containing Suspended Solids - No wastewater that would exceed 75 mg/L or cause the water quality in the watercourse receiving the wastewater to exceed the criteria in the "British Columbia Approved Water Quality Guidelines (Criteria): 1998 Edition".
- Wastewater containing Fecal Coliforms - No water with fecal coliforms above 200 counts/100 mL may be deposited into a municipal drainage system. The limit of 200 counts/100 mL is the standard to protect public health as specified in the 1998 Edition of the British Columbia Approved Water Quality Guidelines.
- Wastewater from Garbage Containers and Restaurant Grease Containers - No water may be deposited that contains liquid waste that originates from within garbage containers bins (over two cubic meters in volume) or restaurant waste grease containers
- Carpet Cleaning Wastes - No water that has been used for carpet cleaning may be deposited into a municipal drainage system
- Wastewater Containing Phosphorus - No water above 1.0 mg/L of total phosphorus may be deposited into a municipal drainage system.

The municipalities are also considering a limit on turbidity.

The changes to Schedule A will improve the powers of the municipalities to protect watercourses, discharge quality, and the storm sewer infrastructure.

viii) New Schedules

The following new schedules are suggested for the updated bylaw to support the new sections in the bylaw. Additional schedules will be added as codes of practice are adopted.

- ◆ *Schedule B* - List Of Watercourses Designated as Part of The Municipal Drainage System or Appropriated for the Construction of Works (Draft - For example purposes only) - Supports Section 3 (Watercourses as Part of the Municipal Drainage System)
- ◆ *Schedule C* - Restrictions on the Percentage of Area Covered by Impermeable Material for Specified Zoning (Draft - For example purposes only) - Supports Section 7 (Restrictions on the Area Covered by Impermeable Material)
- ◆ *Schedule D* - List of Business Classifications Subject to a Code of Practice (Draft - For example purposes only) - Supports Section 8 (Codes of Practice)
- ◆ *Schedule E* - Code of Practice Registration Form (Draft - For example purposes only) - Supports Section 8 (Codes of Practice)
- ◆ *Schedule F* - Ticketing Offences and Fines (Draft - For example purposes only) - Supports Section 12 (Offences and Penalties)
- ◆ *Schedule G* and above- –Adopted Codes of Practice would be appended as Schedules under the Bylaw - Supports Section 8 (Codes of Practice)

C. OTHER RECOMMENDATIONS

The updated model storm sewer bylaw has the potential to become the main regulatory tool for municipalities to improve stormwater quality, thereby protecting the environment and public health. In general, bylaws and other regulatory tools are most effective when paired with non-regulatory education programs. To complement the bylaw and codes of practice, municipalities are encouraged to promote environmentally responsible stormwater management practices through education initiatives for the public and the ICI sectors.

Municipalities should work with the provincial and federal agencies to work together and coordinate stormwater and environmental initiatives and procedures to take advantage of the strengths and resources of the three levels of government to maximize the effectiveness of the protection of watersheds, watercourses and the near-shore marine environment.

In addition to the updated model storm sewer bylaw, municipalities should consider the following recommendations, both regulatory and voluntary, to complement and support the model bylaw.

1. Require Stormwater Management Plans for all New Development

New development can have a devastating effect on watercourses by contributing contaminants and changing the hydrology of the stream. The impacts by new development can be minimized through stormwater management plans. The most effective method for requiring new development to develop and implement stormwater management plans is through local zoning and land use bylaws, rather than the updated model storm sewer bylaw. This is why stormwater management plans do not appear as a requirement under the updated model bylaw.

Municipalities should consider a requirement for proponents of all proposed development to prepare a stormwater management plan under the local zoning and land use bylaws. Municipal approval of new development would be contingent upon municipal approval of the stormwater management plan. Once constructed, the new development would be required to operate under the approved stormwater management plan.

Stormwater management plans can include the requirement to install, operate and maintain stormwater management facilities, such as catch basins, swales, infiltration structures, impoundments, and oil interceptors.

The requirement for a stormwater management plan would provide a municipality with the power to implement preventative measures to protect watercourses, stormwater quality, and stormwater infrastructure from the effects of new development.

2. Develop Public Stormwater Education Programs

The public has significant influence on whether stormwater management programs are effective. Many jurisdictions have found that public education and voluntary participation are the most effective methods to minimize the impacts of residential activities on stormwater quality and flow rates. The development and implementation of public education tools is not a regulatory requirement; thus, these issues cannot be included in the updated model bylaw.

In order to balance the regulatory tools of the model bylaw, the municipalities should continue to provide and promote public education programs to prevent activities, such as the following:

- washing of gravel and exposed aggregate wash water from driveways into the storm sewers
- disposal of solvents, chemicals, pesticides, fuel, and oils into the storm sewers
- root management to prevent damage to drain pipes
- vehicle leaks of oil, antifreeze, and other automotive fluids
- over-use of fertilizers and pesticides

The municipalities should also continue public education programs to highlight the need to protect watercourses and riparian zones, with programs, such as:

- Streamkeepers
- Streamside Living
- Landscaping Practices for Stormwater Retention
- Watercourse Protection (general education)

In addition, the municipalities should consider residential best management practices (BMPs) to provide residents with “how to” suggestions. Residential BMPs could be developed and adopted for activities such as:

- Gardening (minimize fertilizer and pesticide use)
- Landscaping (water retention)
- Private vehicle washing
- Disposal of hazardous materials (paint, oil, and automotive fluids)
- Swimming pool/hot tub drainage
- Rain barrel use (flow retention)
- General property drainage, retention, and infiltration
- Streamside Living
- Erosion Control
- Septic Tank and Tile Field Operation & Maintenance

The municipalities and the CRD should develop and implement public education programs on a regional basis to maximize the use of resources.

3. Develop Best Management Practices for ICI Stormwater Management

Similar to residential activities, the municipalities should develop and implement voluntary best management practices (BMPs) to provide stormwater education for the industrial, commercial and

institutional (ICI) sectors. Due to the voluntary nature of BMPs, compliance with BMPs cannot be included in the updated model bylaw.

The CRD has classified BMPs as voluntary education tools, which include environmentally sound practices, waste management options, and general “common sense” suggestions. In the CRD, BMPs are commonly referred to as “how to” manuals.

The CRD has classified codes of practice as the regulatory requirements under local bylaws. The codes of practices specify the “legal requirements” for specified business sectors.

As with other regulatory tools, codes of practice are most effective when paired with non-regulatory BMPs. As a rule of thumb, a BMP should be available for every sector that is regulated under a code of practice to provide guidance in meeting the code of practice requirements. The CRD has committed to providing outreach programs to promote both the codes of practice and the associated BMPs. This outreach will be guided by the needs of the affected business sectors and the municipalities.

BMPs, developed by the CRD and other jurisdictions, are already widely available for many business sectors. For most business sectors, existing BMPs would require minor updating to meet the specific local needs of CRD municipalities.

4. Streamside Protection and Enhancement Areas

The Streamside Protection Regulation, under the Fish Protection Act, requires municipalities to designate “Streamside Protection and Enhancement Areas” by January 2006 for the protection of fish and fish habitat.

Since the Streamside Protection Regulation applies to the use of local government powers under Part 26 (Zoning powers) of the *Local Government Act*, we suggest that the municipalities consider official designation of the “Streamside Protection and Enhancement Areas” through Development Permit Areas and under the Official Community Plan process. We believe that these zoning-related powers should be kept under the main zoning and planning bylaws of the municipality.

Please note that the “Streamside Protection Areas” defined under the updated model bylaw are not the same as the “Streamside Protection and Enhancement Areas” required under the *Streamside Protection Regulation*. The *Streamside Protection Regulation* is specific that the powers for a municipality are derived from Part 26 (Planning and Land Use Management) of the Local Government Act.

The “Streamside Protection and Enhancement Areas” required under the *Streamside Protection Regulation* will be created possibly through the Official Community Plans but more likely through Land Use and Zoning Bylaws. Currently, municipalities do not have the Official Community Plans or land use

and zoning bylaws set up to officially designate the “Streamside Protection and Enhancement Areas”. The updated model bylaw uses the same streamside setback calculations for consistency; however, the setbacks only apply to watercourses that are designated as part of the municipal drainage system.

In the future, municipalities may choose to amend the updated model storm sewer bylaw so that “Streamside Protection Areas” can be defined to mean “*Streamside Protection and Enhancement Areas as designated by Council in the Official Community Plan and Development Permit Areas*”.

5. Review Official Community Plans (OCPs) for Stormwater Issues

The municipalities should review their OCPs for stormwater flow issues. After identifying areas with stormwater flow issues, the OCPs could be revised to provide restrictions or requirements for additional development of lands within an identified flow problem area. This recommendation complements the updated model bylaw.

As required under the *Streamside Protection Regulation*, municipalities could designate “Streamside Protection and Enhancement Areas” to be included in the Official Community Plans or Development Permit Areas.

The provincial and federal environment agencies developed the Land Development Guidelines for Protection of the Aquatic Environment and recently produced a guidebook titled, “*Stormwater Planning: A Guidebook for British Columbia*”. The guidelines and guidebook provide methods to strengthen streamside protection and enhancement. The municipalities should ensure that their Planning & Engineering departments are well aware of the guidelines and guidebook.

6. Remedies for Damage to Municipal Drainage System

The *Local Government Act* does not provide the authority for a municipality to compel a person to restore or enhance a waterway or other parts of the municipal drainage system if the quality or flow of runoff from the property is causing damage.

At this time, the only remedy available to a municipality is to pursue a civil suit for damages incurred. Municipalities should review their policies on the recovery of costs for damage to the municipal drainage system caused by a third party.

7. Review Municipal Policies on Restoration of Watercourses & Streamside Area

Municipalities may restore watercourses on a voluntary basis based on the best interests of the public. The decision to restore damaged or altered watercourses is dependent on the specific watercourse and related benefits for the public and environment.

The municipalities should review their policies for restoring watercourses to their natural state. The municipalities should partner with other municipalities and senior governments for assistance in watercourse restoration. The municipalities should also partner with local community groups to restore watercourses to their natural state. Work of this nature should be carried out within a municipal and watershed context.

Municipalities should discuss the costs and benefits of “daylighting” portions of watercourses that have been buried or encased in culverts on a case by case basis. Daylighting of buried watercourses is a controversial issue, mainly due to costs and potential disruptions for developments on or around buried watercourses.