



**TOWN OF LADYSMITH**

**LIQUID WASTE MANAGEMENT PLAN**

**STAGE 3**

**JANUARY 2013**

**OPUS** DAYTONKNIGHT



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**TOWN OF LADYSMITH  
LIQUID WASTE MANAGEMENT PLAN – STAGE 3**

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## **TOWN OF LADYSMITH LIQUID WASTE MANAGEMENT PLAN – STAGES 1 AND 2**

### **1.0 INTRODUCTION AND BACKGROUND**

The Town of Ladysmith Three-Stage Liquid Waste Management Plan (LWMP) is to provide the strategies for wastewater management over the next 20 to 30 years. The LWMP addresses existing and future development, including servicing of areas not yet connected to the central or other planned wastewater collection systems, greenfield developments, and potential boundary expansions.

#### **1.1 LWMP Process**

The LWMP was initiated in November 2007; the plan developed using the published Guidelines, and the recent update, produced by the B.C. Ministry of Environment (MOE). In accordance with the Guidelines, the LWMP includes consideration of source control of contaminants, wastewater volume reduction, stormwater management, wastewater collection and treatment, beneficial use of treated wastewater and residual solids, and the incorporation of sustainable design and integrated resource recovery technologies.

For the Town of Ladysmith LWMP, Stages 1 and 2 were combined to include both the identification of existing conditions and constraints, and the development of technical solutions. The LWMP committee structure combined the Technical and Local Advisory Committee into one Joint Advisory Committee (JAC) to facilitate communications and scheduling. A Steering Committee including representatives of the Town, a member of

the combined committee and a Ministry of Environment (MOE) representative provided overall project direction and planning. Seven Joint Advisory Committee meetings were held throughout Stages 1 and 2, and two open houses provided public feedback. First Nations were consulted at a meeting on April 6, 2010 and again on November 21, 2011. The Townsite also maintains a website with LWMP documentation.

## **1.2 Wastewater Collection and Treatment Service Areas**

Currently the Town occupies about 1,480 hectares of land and stretches about 9 km north to south, along the Island Highway. The OCP identifies a build-out population of 17,200, assuming no additions to the service areas or boundary expansion. Prudence suggests that siting of a plant should accommodate up to 30,000 people, to allow for the potential inclusion of additional service areas in future. New growth areas within the Town Boundary include Holland Creek, North End (Rocky Creek), South End (Russell Creek); Waterfront and infill. Future additions to the Town service area could include Saltair, Diamond Improvement District and First Nations lands. The OCP contains environmental protection policies relating to development and the wastewater and stormwater systems, which are included in the LWMP objectives.

## **1.3 Receiving Environment**

The Town of Ladysmith is situated adjacent to embayed Ladysmith Harbour. Holland Creek, Stocking Creek and Russell Creek flow to the outer harbour, and Rocky Creek flows to the inner harbour; all creeks are fishbearing. The harbour has a low tidal exchange rate. The riparian zones along the streams and undeveloped harbour provide wide areas of wildlife habitat and conduits for movement.

The existing Ladysmith wastewater treatment plant (WWTP) provides primary treatment and disinfection of effluent with outfall discharge to Ladysmith Harbour. Primary settled solids are pasteurized and stabilized in thermophilic digesters (ATAD), dewatered and trucked to the Town Works Yard for composting. Water and sediment studies by MOE

indicate that the existing wastewater discharge is impacting the marine environment. The shellfish resource in Ladysmith Harbour is a primary concern.

## **1.4 Summary of Stage 1 and 2 LWMP**

Various options were considered for inclusion in the LWMP; these were developed by the study team in consultation with the JAC and the public and are described in detail in the Stage 1 and 2 LWMP report. The LWMP components recommended for advancement to Stage 3 are outlined below.

### **1.4.1 Source Control**

- develop a sanitary sewer source control bylaw to protect effluent quality and biosolids quantity;
- public and private sector education and consultation with other knowledgeable jurisdictions;
- sampling and inventories to identify problem discharges to the sewer system;
- water quality monitoring.

### **1.4.2 Wastewater Volume Reduction**

- universal metering to help minimize water use;
- public education to reduce water use;
- regulations requiring use of low-flow plumbing fixtures (e.g., low-flush toilets);
- ongoing reduction of infiltration and inflow to the sewer system.

### **1.4.3 Stormwater Management**

- develop a Master Drainage Plan for the Town;
- identify environmental resources needing protection;
- implement a storm drainage bylaw;

- encourage onsite infiltration of precipitation where feasible;
- public education.

#### 1.4.4 Wastewater Management

- complete the current upgrade at the WWTP to achieve secondary treatment for a service population of 17,200 people. Include consideration of resource recovery in designing the upgraded facilities (e.g., heat recovery). Monitor the effectiveness of I&I reduction efforts so that a realistic schedule can be developed for eliminating the bypass to primary treatment.
- once the WWTP upgrade to secondary treatment has been commissioned, conduct environmental studies of Ladysmith Harbour to determine if additional action is needed to protect the environment. If additional action to meet water quality objectives is needed, determine whether the addition of tertiary treatment and/or extension of the outfall to open marine waters is the preferred solution.
- identify and secure a property suitable for construction of wastewater treatment facilities in future (possibly in the Industrial Park). New facilities may include treatment for waste solids generated at the existing WWTP, as well as future facilities for treating liquid wastewater. When the existing (upgraded) WWTP reaches capacity at 17,200 population, the decision can be made to either expand the existing plant, or to initiate construction of a second facility for treatment of wastewater at the new site.
- pursue the implementation of satellite water reclamation plants for pockets of new development, with localized use of the reclaimed water (e.g. for planned development in the Holland Creek area and other developments as appropriate).



#### 1.4.5 Biosolids Management

- alternatives where prior treatment (digestion) is not required (waste solids to be dewatered at WWTP before transport to composting facility)
  - cooperative regional composting solution with others (Cowichan Valley Regional District)
  - transport to Comox Valley RD composting facility
  
- alternatives where prior digestion to minimum Class B standards is required under current legislation
  - woodlot application of biosolids within Vancouver Island University program
  - partnerships with private sector (e.g., commercial composting facility at Duke Point)

#### 1.4.6 Water Reclamation and Reuse

- reclamation and reuse of treated wastewater should be focused on internal use for non-potable purposes at the (upgraded) WWTP, and on localized satellite reclamation plants in new developments for seasonal landscape irrigation as described above in Section 10.4.

#### 1.4.7 Approval of Stage 1 and 2 LWMP

The Stage 1 and 2 LWMP report was approved by the B.C. Ministry of Environment in April, 2011 (see letter attached in Appendix A). Conditions included in the letter are summarized as follows:

- clearly document consultation process;
- detailed implementation schedule for WWTP upgrade to secondary treatment and subsequent Stage 2 EIS;
- identify suitable property for future WWTP;
- draft source control bylaw, consider Codes of Practice;

- include stormwater management and I&I reduction measures;
- draft storm drainage bylaw;
- primary and alternate biosolids management strategies;
- identify cost per user for implementing LWMP;
- establish Plan Monitoring Committee; and
- continue First Nations consultation.

### **1.5 Scope of Work for Stage 3 LWMP**

- summary of Stage 1 and 2 report;
- Public and First Nations consultation – include summary of results of mail out brochure and questionnaire, meeting with First Nations;
- incorporate MOE recommendations;
- list of LWMP commitments (cost estimates, implementation schedule, revenue sources);
- technical details for Operational Certificates;
- JAC/MOE review of draft Stage 3 report;
- JAC meeting and recommendations to Council;
- Council review and adoption of Stage 3 LWMP; and
- submit Stage 3 LWMP to Minister for approval.

### **1.6 Acknowledgements**

The participation and assistance of all of the members of the Steering Committee and the Joint Advisory Committee is gratefully acknowledged (see Appendix B for a list of the Committee membership). In addition, we thank the Town of Ladysmith staff for their valuable assistance in providing technical information, organizing Committee meetings, and providing follow-up documentation.



## TOWN OF LADYSMITH LIQUID WASTE MANAGEMENT PLAN – STAGE 3

### 2.0 CONSULTATION

Essential to the success of the LWMP process is effective public consultation. The public consultation program for the LWMP commenced with the formation of the Steering, Technical and Local Advisory Committees, and will continue through newsletters, posting information on the Town’s website, press releases, committee meetings and public information meetings. A summary of the public consultation program undertaken during the LWMP is outlined in this section.

It should also be noted that another consultation process focusing on establishing a community sustainability vision was underway throughout the fall of 2008 - roughly the same time period as many of the LWMP consultation initiatives discussed in this section. This award-winning process yielded unprecedented levels of community participation, and resulted in detailed report, which is now formally referenced in the Town’s Official Community Plan – “*Ladysmith Community Vision for a Sustainable West Coast Town*”.

The report outlines a detailed sustainability strategy for the community, and is important in the development of the LWMP in the sense that includes a recent and very highly supported vision for future development in Ladysmith, as well as specific goals and strategies with respect to development of innovative infrastructure and wastewater management.

The LWMP must therefore consider and ensure consistency between the results and final report from the sustainability visioning consultation process, and the input gathered through the LWMP consultation process described throughout the remainder of this section.

## **2.1 Stage 1 and 2 LWMP Consultation**

### **2.1.1 Advisory Committee Meetings**

The MOE guidelines (B.C. Environment, 1992a) require the Town of Ladysmith to strike Advisory Committees to administer the development of the LWMP. A summary of the meetings of the Advisory Committees undertaken is provided below. Copies of the meeting minutes can be found in Appendix 2 of the Stage 1 and 2 LWMP Report.

#### **1. Steering Committee Meeting No. 1**

Steering Committee Meeting No. 1 was held on Tuesday May 13, 2008 to initiate the Stage 1 work. Items presented and discussed with the Steering Committee included the LWMP process, the roles of the Advisory Committees, meeting protocols, review of the project work plan and schedule, and Committee membership.

#### **2. Joint Advisory Committee Meeting No. 1**

Joint Advisory Committee (JAC) Meeting No. 1 was held after the first Steering Committee Meeting on Tuesday May 13, 2008. Committee terms of reference, meeting protocols, role of committees and means of defining consensus were reviewed with the members of the JAC. The work plan and schedule were also reviewed. Draft initial public information advertisement was reviewed. JAC Meeting No. 1 also included a presentation on the Municipal Sewage Regulation, and the fundamentals of wastewater treatment, as well as an update on the impending upgrades to the existing WWTP.

The JAC decided at Meeting No. 1 that the next committee meeting should be dedicated to a discussion of appropriate technologies for adding secondary (biological) treatment to the existing WWTP; this was to include one or more site visits to reference facilities by selected members of the JAC and the technical team.

3. Joint Advisory Committee Meeting No. 2

JAC Meeting No. 2 was held on June 17, 2008 to discuss the results of the site visit to a reference treatment facility located in Olso, Norway. This facility was based on the use of the moving bed bioreactor (MBBR) process for secondary treatment. The MBBR process was identified as a suitable candidate for use at the Ladysmith WWTP based on an evaluation of four candidate processes, namely integrated fixed film activated sludge (IFAS), membrane bioreactor (MBR), biological aerated filter (BAF), and MBBR. The MBBR process was identified as the preferred candidate based on an evaluation that included costs, space requirements, track record, reliability, operating characteristics, expandability, effluent quality and sludge production (Dayton & Knight Ltd., 2008). See the Stage 1 and 2 LWMP Report for additional information regarding process selection.

4. Joint Advisory Committee Meeting No. 3

JAC Meeting No. 3 was held on September 24, 2008 to discuss the 50% draft LWMP report, which was circulated to members of the Committee in advance of the meeting for review. The content of the 50% draft was reviewed at the meeting, and members of the Committee were requested to provide follow-up comments to the Town via e-mail. Information regarding the biosolids land application program at Malaspina Woodlot was also tabled at the meeting by a

member of the Committee. MOE Nanaimo noted that all WWTP upgrades must meet the requirements of the Municipal Sewage Regulation, and that alternatives to chlorination must be considered.

5. Joint Advisory Committee Meeting No. 4

JAC Meeting No. 4 was held on November 26, 2008 to discuss the LWMP options set out in the full draft LWMP report. Three concept options for long-term wastewater management were tabled for discussion and input from the Committee. A disk copy of the draft LWMP report was distributed to members of the Committee for review and comment. The Committee elected to hold a subsequent meeting for initial discussion before providing comments on the draft report.

6. Joint Advisory Committee Meeting No. 5A and 5B

JAC Meeting No. 5A was held on April 22, 2009 to review changes to the draft LWMP report arising from comments provided by MOE and other members of the Committee. A follow-up meeting for further discussion (5B) was held on June 10, 2009. The format, content and schedule for Public Open House No. 1 was discussed and agreed upon at Meeting 5A. Additional matters and clarifications regarding the LWMP process, content and format were discussed at Meeting 5B.

The draft Open House advertising and questionnaire were also discussed. Open House No. 1 was initially scheduled for May 20, 2009; however, this was subsequently re-scheduled for July 9, 2009 to allow more time for advertising.

7. Joint Advisory Committee Meeting No. 6

JAC Meeting No. 6 was held on September 23, 2009 to discuss the results of Public Open House No. 1 (see Section 2.2). Based on feedback obtained from Open House No. 1 and follow-up discussion among members of the Committee, consensus was achieved regarding revisions to the LWMP draft report. The revisions mainly focused on the provision of cost estimates for the wastewater management options, and matters of clarification regarding the descriptions of the options.

8. Joint Advisory Committee Meeting No. 7

JAC Meeting No. 7 was held on November 4, 2009 to review revisions to the draft LWMP report. The primary purpose of Meeting No. 7 was to obtain consensus from the Committee regarding the draft LWMP commitments to be presented at Public Open House No. 2.

2.1.2 Stage 1 and 2 Public Open Houses and Information

During the course of the LWMP work, LWMP information was published on the Town's website and in the local media to keep citizens informed on the progress of the work and to notify citizens of Committee meetings and public information meetings. Copies of these documents are included in the Stage 1 and 2 LWMP report.

*Public Open House No. 1*

Public Open House No. 1 was held on July 9<sup>th</sup>, 2009 at the Ladysmith Pioneer (Aggie) Hall. The draft material from the Stage 1 and 2 LWMP was summarized on poster displays. The Open House was staffed by representatives of the Town and by members of the consulting team, who were available for discussion and questions throughout the evening. Representatives of senior government regulatory agencies were also present.

There was a summary slide presentation by Dayton & Knight Ltd. (see Appendix 3), followed by a question and answer session.

Approximately fifty people attended the first Open House, and thirty-three (33) questionnaires were filled out and submitted. The primary purpose of the Open House was to obtain public feedback regarding which options should be advanced for preparation of cost estimates, analysis and selection of preferred option(s).

The questionnaire responses are described in the Stage 1 and 2 LWMP report and are summarized below:

- most of the respondents (nearly 67%) learned of the Open House through newspaper advertising (Question #1).
- 82% of respondents are connected to the sanitary sewer system, with 12% serviced by septic tank/ground disposal and 6% not responding (Question #2).
- 97% of respondents supported source control of contaminants, with 3% not responding (Question #3).
- 100% of respondents supported water conservation (Question #4).
- 90% of respondents supported beneficial reuse of treated biosolids, with 9% not sure (Question #5).
- 97% supported reclamation and reuse of treated wastewater, with 3% not sure (Question #6).



- Question #7 asked whether all residents of the Town should contribute financially to an expanded and improved waste management system to pay the costs generated by new development; 78% of respondents supported this, with 6% disagreeing, 12% not sure and 3% not responding. Additional comments related to Question #7 are listed on the summary immediately following the collated responses to Question #7 in Appendix 3 of the Stage 1 and 2 LWMP Report.
- Question #8 asked for input regarding the wastewater collection and treatment options. The responses are summarized below (additional comments received regarding Question #8 are listed on the summary immediately following the collated responses to Question #8 in Appendix 3 of the Stage 1 and 2 LWMP Report).

	Agree	Disagree	Not Sure or No Response
Option 1 (expand and upgrade WWTP at present location)	55%	15%	30%
Option 2 (satellite treatment with water reclamation)	48%	6%	45%
Option 3 (new central WWTP)	58%	6%	36%
Option 4 (relocate outfall discharge)	36%	18%	45%

- 79% of respondents agreed that the open house material was easy to understand, with 6% disagreeing and 15% not answering this question (#9).
- Approximately 82% agreed that the level of information presented at the Open House was appropriate, with 3% disagreeing and 15% not answering this question (#10).
- Question #11 requested additional input from members of the public; the comments received are listed at the end of the summary in Appendix 3 of the Stage 1 and 2 LWMP Report.

## Public Open House No. 2

Public Open House No. 2 was held on May 13, 2010 at the Ladysmith Pioneer Hall. Draft material from Stage 1 and 2 LWMP from Open House No. 1 as well as the new draft material identifying Option Costs was summarized on poster displays (see Appendix 3 in the Stage 1 and 2 LWMP Report for more detail).

The Open House was staffed by the Town and by Dayton & Knight Ltd. Members of Council and the Joint Advisory Committee also attended including a representative from the Ministry of Environment. All were available for discussion and questions throughout the evening.

Very few other people attended the Open House and only two (2) questionnaires were returned.

The questionnaires:

- Indicated strong agreement with all of the questions posed with the exception that one of the two returns did not strongly favour the Option 2 – Central Treatment Plant.
- All attendees stated they had learned of the Open House through the newspaper advertisement and were connected to the Town sewer system.
- A suggestion was made to partner with CVRD to subsidize rain barrel purchase.

Appendix 3 in the Stage 1 and 2 LWMP Report provides a copy of the Open House questionnaires.

### 2.1.3 Stage 1 and 2 First Nations Consultation

Information related to the Liquid Waste Management Plan for Ladysmith was presented in a joint Council meeting between the Stz'uminus First Nation and the Town of Ladysmith on April 6, 2010. The meeting included a power point presentation explaining

the LWMP process, timelines, scope and study findings, including the project history/background, the current treatment facility, public consultation, government regulations for protection of the Ladysmith Harbour, environmental studies, and treatment options including cost estimates for protection of the environment. A general understanding was developed that a larger scope of responsibility beyond the Town of Ladysmith boundary would need to be considered to ensure protection of the overall Harbour water quality, since there are inputs to the Harbour from outside the Town boundary.

Minutes from the initial April 6, 2010 meeting with First Nations and a copy of the slide presentation are included in the Stage 1 and 2 LWMP report. The Stz'uminus Council representatives voiced concerns at the meeting regarding the health of streams and creeks, pollution in Ladysmith Harbour, lack of traditional food sources, and the current and future waste treatment facility and the outfall.

Specific concerns regarding the Town's wastewater discharge to Ladysmith Harbour will be addressed through the current upgrade to the WWTP (which will add secondary treatment), and additional improvements if shown to be necessary by environmental studies (e.g. tertiary treatment and/or extension of the outfall).

The Town and Stz'uminus First Nation have agreed to a working group that will meet in the near future.

## **2.2 Stage 3 Consultation**

### **2.2.1 Stage 3 Advisory Committee Meetings**

#### **1. Joint Advisory Committee Meeting No. 8**

JAC Meeting No. 8 was held on Tuesday, November 1, 2011. The objective of the meeting was to discuss the scope and schedule for completing the Stage 3 LWMP,

including the conditions set out in the MOE Approval letter for Stage 1 and 2. Minutes of JAC Meeting No. 8 are included in Appendix B.

2. Joint Advisory Committee Meeting No. 9

JAC Meeting No. 9 was held on Wednesday, January 18, 2012. The objective of the meeting was to discuss the initial draft of the Stage 3 LWMP report, which had been circulated to the members of the JAC for review prior to the meeting. Input was received from the JAC regarding revisions, and additional information needed to complete the Stage 3 LWMP report. Minutes of JAC Meeting No. 9 are included in Appendix B.

3. Joint Advisory Committee Meeting No. 10

JAC Meeting No. 10 was held on Tuesday, April 10, 2012. The objective of the meeting was to present proposed revisions to the draft Stage 3 LWMP report that were undertaken as a result of committee input and questions raised at JAC Meeting No. 9. The JAC approved proposed revisions, and a motion to recommend that Council adopt the revised Stage 3 LWMP received unanimous approval. Minutes of JAC Meeting No. 10 are included in Appendix B.

2.2.2 Stage 3 Public Consultation

A mail-out Public Input Form was developed by the Joint Advisory Committee (JAC) and in consultation with the MOE. A copy of the Form is included in Appendix C. The Form was mailed out to each Ladysmith resident with the utility bill in July, 2011, and it was also made available at all municipal locations (e.g., City Hall, Community Centre, Town's website). A summary of the Public Input results is included in Appendix C.

### 2.2.3 Stage 3 First Nations Consultation

A meeting with the Stz'uminus First Nation was held on November 21, 2011 to present and discuss the LWMP, including the Stage 1 and 2 findings, and the scope and schedule for Stage 3. Copies of the slide presentation and the meeting minutes are attached in Appendix C. Correspondence regarding additional consultation between the Town of Ladysmith and the Stz'uminus First Nation is included in Appendix C.

On August 27, 2012, the Town of Ladysmith and the Stz'uminus First Nation signed a Memorandum of Understanding (MOU) that included First Nations support of the Town's LWMP and provision of water and sanitary services to designated areas on IR12 and IR13. A copy of the Joint News Release and the MOU are included in Appendix C.



## TOWN OF LADYSMITH LIQUID WASTE MANAGEMENT PLAN – STAGE 3

### 3.0 LWMP IMPLEMENTATION PLAN

The commitments, budget and schedule for the Town of Ladysmith LWMP are summarized in Table 3-1. Line items are included for specific LWMP components over the next five to ten years, beginning in 2012. As shown under Item 1 in Table 3-1, a line item has been included for annual review of LWMP progress to the year 2017 with review on a five-year cycle thereafter; the results of this progress review should be used to update and further develop detailed line items for financial commitments and scheduling as the LWMP proceeds. A Plan Monitoring Committee will provide ongoing review and comment as noted in Section 3.7. Once the Stage 3 LWMP is adopted by Council and approved by the Minister, the Town will adopt the LWMP as a bylaw and also incorporate the LWMP as part of the OCP.

### 3.1 Wastewater Collection and Treatment

The recommended approach for the Town of Ladysmith LWMP includes upgrading the existing central wastewater treatment facilities to provide secondary treatment, since this will conserve the Town's investment in the existing sewer collection systems. To secure the Town's long-term needs (20 to 50 year time frame and beyond), an alternative site more distant from residential development will be identified for future wastewater treatment facilities. The primary issues associated with developing central treatment facilities at the alternate location in the long term are reducing the risk of problem odours near the

downtown area and residential development along the shore near the existing plant, and limited space for expansion for long-term future wastewater treatment facilities.

The approach for upgrading of the existing WWTP is summarized as follows (see also Section 1.4.4, Appendix D, and Item 2 in Table 3-1):

- upgrade existing plant to secondary treatment using MBBR process with dissolved air flotation (DAF) for solids separation, and maintain discharge to Ladysmith Harbour;
- then complete Stage 2 EIS to determine effluent quality needs for Harbour discharge, add advanced treatment and/or extend outfall if needed;
- acquire additional property for possible future WWTP (min. area 4 ha, pref. 10 ha).;
- identify potential location for future open marine discharge (drogue studies, dispersion modelling); and
- satellite water reclamation plants for new development.

The approach for effluent disinfection is summarized as follows (see also Appendix D):

- consult with Environment Canada regarding federal disinfection standards for continued discharge to harbour;
- Stage 3 WWTP upgrade;
  - install and commission MBBR/DAF process
  - maintain use of existing chlorine disinfection tank
  - convert from chlorine gas to sodium hypochlorite (bleach) for disinfection
  - use sodium bisulfite for de-chlorination
- then conduct pilot study to determine feasibility and effectiveness of UV disinfection on the MBBR/DAF effluent;
- consultation with Environment Canada indicates that they are concerned with viruses as well as fecal coliform indicators in effluent discharges with regard to establishing prohibited zones for shellfish harvesting – inactivation of viruses should be included as a component of the UV pilot study.

- complete Stage 2 EIS (possible advanced treatment or outfall extension); and
- review feasibility of UV disinfection in light of confirmed effluent standards, pilot testing results, and decisions resulting from Stage 2 EIS.

The strategy outlined above allows the Town to ensure that the receiving environment will be adequately protected in the most cost effective manner possible. If the Town elects to extend the outfall after the Stage 2 EIS has been completed, then in all likelihood the recreational disinfection standard would apply and UV disinfection could be added to the plant without the need for effluent filtration. If outfall discharge to the Harbour is to continue, then additional treatment levels (including effluent filtration and UV disinfection to shellfish standards) can be implemented if the need is identified. In the meantime, use of the MBBR/DAF process with chlorination/dechlorination will ensure that shellfish standards can be reliably and consistently met, without incurring excessive capital and operating costs.

The LWMP also includes ongoing inspection and improvements to the sewer collection system to reduce inflow and infiltration (see Item 3 in Table 3-1).

### **3.2 Biosolids Management**

The preferred long-term approach for biosolids management is to transport waste primary and secondary solids produced at the WWTP to a regional composting facility to be constructed by others (alternatively, the Town may construct its own composting facility). As an interim measure (over the next 2 to 3 years), the Town will investigate options for waste solids management for the immediate future, including a local small-scale composting facility owned and operated by the Town (possibly in cooperation with other partners), and incorporation of waste solids into the wastewater treatment system at Crofton Mill (see Item 5 in Table 3-1).



### **3.3 Wastewater Volume Reduction**

Environmental initiatives such as water conservation and reuse to reduce wastewater volume are also included in the LWMP (see Item 3 in Table 3-1). Recommended water conservation measures include the adoption of a water use efficiency policy, an education and awareness education program, a bylaw to require low-flush toilets for new construction, audits of large commercial/industrial/institutional water users, a program to retrofit low use water fixtures to existing buildings, and universal water metering.

### **3.4 Source Control**

Source control initiatives are used to prevent the discharge of harmful contaminants to the sanitary sewer and storm drainage systems. Initiatives for the Town of Ladysmith LWMP include developing a sanitary sewer protection bylaw, conducting an inventory of industrial/commercial/institutional dischargers, a public education program, and a monitoring and enforcement program for the sanitary sewer protection bylaw (see Item 6 in Table 3-1).

### **3.5 Stormwater Management**

Stormwater management initiatives included in the LWMP are ongoing maintenance and repair of the storm drainage system, the development of a Master Drainage Plan, upgrading and expansion of the storm drainage system, the development of a storm drainage bylaw, review of the Town's development application procedures to ensure that drainage issues are considered at the outset of the land use planning process, and a review of the Official Community Plan to ensure that important natural components of the local hydrology and drainage are protected (see Item 7 in Table 3-1). An example of a storm drainage bylaw is attached as Appendix F.

**TABLE 3-1  
LWMP FINANCIAL COMMITMENTS AND SCHEDULE**

<b>LWMP Component</b>	<b>Budget Amount (2012 \$)<sup>1</sup></b>	<b>Funding Source</b>	<b>Schedule</b>
1. Update and Monitor LWMP			
a. Review LWMP Progress, Update and Revise as Required	\$10,000/yr	General Revenues	Annual to 2017, every five years thereafter
b. LWMP Monitoring Committee	Volunteer	N/A	Two meetings per year
2. Upgrade WWTP			
a. WWTP Upgrade to Secondary Treatment (Phase 3 including sustainability)	\$16,500,000	Infrastructure Grants, DCC, Sewer Utility, Borrowing	2012 to 2013
b. Complete Stage 2 Environmental Impact Study	\$100,000		2013
c. Site selection study for eventual relocation of WWTP, in accordance with the Town's Communication Plan and legislated consultation requirements	\$75,000	Infrastructure Grants, Sewer Utility	2015 to 2017
d. Identify Potential location for Future Open Marine Discharge (Drogue studies, Dispersion modeling)	\$250,000	Infrastructure Grants, Sewer Utility	2013
e. Satellite Water Reclamation Plants for New Development	Depends on service population	Development	Future
3. Sewer Collection System			
a. Sewer Inspection, Maintenance and Repair	\$50,000 to \$150,000/yr	Sewer Utility	ongoing
b. Infiltration and Inflow Reduction	\$150,000/yr	Sewer Utility	ongoing

<sup>1</sup> Based on Class C estimates

**TABLE 3-1 (cont'd)  
LWMP FINANCIAL COMMITMENTS AND SCHEDULE**

LWMP Component	Budget Amount (2012 \$) <sup>1</sup>	Funding Source	Schedule
c. Separate sewer connections on private property in the Old Town	Private cost	Private cost	2012 to 2017
d. Achieve treatment of dry and wet weather flows to be in accordance with MSR	Future	Future	Future
4. Wastewater Flow Reduction			
a. Universal water metering program.	\$800,000	Water Utility	2005
b. Education mail outs	\$10,000	Water Utility	2005 to 2012
c. Adopt bylaw requiring low flush toilets for all new buildings.	Minimal	Water Utility	2005
d. Install low flow toilets in municipal facilities	\$2,000	Sewer Utility	2013
e. Low Flush Toilet Rebate Program	\$15,000	Sewer Utility	2012
5. Biosolids Management			
a. Short-term options			
i. Primary - Interim small-scale composting at Ladysmith Public Works Yard or elsewhere	\$800,000 ±	Infrastructure Grants, Sewer Utility, Borrowing	2012 to 2014
ii. Alternative - Haul to Crofton Mill	\$60,000/yr <sup>2</sup>	Sewer Utility (WWTP O&M Budget)	2012 to 2014

<sup>2</sup> Includes allowance for transportation @ \$150/hr plus tipping fee @ \$20/wet tonne; Assumed volume of 4.5 m<sup>3</sup>/day @ 7% TS; Haul time 15 hrs/month (\$27,000/yr); Tipping fee \$20/wet tonne (1642.5 wet tonnes/yr @ \$20/tonne = \$32,850/yr).

**TABLE 3-1 (cont'd)  
LWMP FINANCIAL COMMITMENTS AND SCHEDULE**

LWMP Component	Budget Amount (2012 \$) <sup>1</sup>	Funding Source	Schedule
<ul style="list-style-type: none"> <li>b. Long-term options               <ul style="list-style-type: none"> <li>i. Primary - Cooperative regional composting solution in partnership with others.</li> <li>ii. Alternative -small-scale composting at Ladysmith Public Works Yard or elsewhere (possibly in partnership with others).</li> </ul> </li> </ul>	<p align="center">\$60,000/yr<sup>3</sup></p> <p align="center">\$1,500,000</p>	<p align="center">Sewer Utility (WWTP O&amp;M Budget)</p> <p align="center">Infrastructure Grants, Sewer Utility, Borrowing</p>	<p align="center">Beginning 2014</p> <p align="center">Beginning 2014</p>
<ul style="list-style-type: none"> <li>6. Source Control               <ul style="list-style-type: none"> <li>a. Develop Bylaw</li> <li>b. Source control monitoring and enforcement program.                   <ul style="list-style-type: none"> <li>i. develop program</li> <li>ii. ongoing monitoring and enforcement</li> </ul> </li> <li>c. Education program                   <ul style="list-style-type: none"> <li>i. develop program</li> <li>ii. deliver program</li> </ul> </li> <li>d. Inventory of Industrial, Commercial and Institutional Sector (see Section 5).</li> </ul> </li> </ul>	<p align="center">\$15,000</p> <p align="center">\$10,000</p> <p align="center">\$10,000/yr</p> <p align="center">\$15,000</p> <p align="center">\$3,000/yr</p> <p align="center">future</p>	<p align="center">Sewer Utility</p> <p align="center">Sewer Utility or General Revenues</p> <p align="center">Sewer Utility or General Revenues</p> <p align="center">future</p>	<p align="center">2013</p> <p align="center">2014</p> <p align="center">ongoing</p> <p align="center">2015</p> <p align="center">ongoing</p> <p align="center">future</p>
<ul style="list-style-type: none"> <li>7. Stormwater Management               <ul style="list-style-type: none"> <li>a. System inspection, maintenance and repair.</li> <li>b. Master drainage plan.</li> <li>c. Develop storm drainage bylaw.</li> </ul> </li> </ul>	<p align="center">\$50,000 to 100,00/yr</p> <p align="center">\$150,000</p> <p align="center">\$20,000</p>	<p align="center">General Revenues</p> <p align="center">General Revenues</p> <p align="center">General Revenues</p>	<p align="center">ongoing</p> <p align="center">2013</p> <p align="center">2013</p>

<sup>3</sup> Includes tip fee \$80/wet tonne @ 25% TS and 3 hour round trip: Assumed 1.26 m<sup>3</sup>/day @ 25% (\$36,800/yr) & haul 1x/week (\$23,400/yr)

**TABLE 3-1 (cont'd)  
LWMP FINANCIAL COMMITMENTS AND SCHEDULE**

LWMP Component	Budget Amount (2012 \$) <sup>1</sup>	Funding Source	Schedule
d. Review and revise development application approval procedures.	\$15,000	General Revenues	2013
e. Public education.	See Item 6c	See Item 6c	See Item 6c

The estimated cost per user for the upgrades to the WWTP and for biosolids management are summarized in Table 3-2 (based on Class C estimates).

**TABLE 3-2  
ESTIMATED COST PER CONNECTION FOR WWTP UPGRADES AND BIOSOLIDS  
MANAGEMENT**

Project	Additional Annual Cost per User <sup>(1)</sup>		
	Capital Repayment	Operation & Maintenance	Total Cost Per Connection
WWTP Upgrades			
• Complete Current Upgrade	None	\$66.30 <sup>(3)</sup>	\$66.30
• Add Secondary Treatment	\$115 <sup>(2)</sup>	\$200 <sup>(4)</sup>	\$315
• Stage 2 EIS	\$2.5 <sup>(2)</sup>		\$2.5
• Site Selection Study	\$1.9 <sup>(2)</sup>		\$1.9
• Drogue studies, dispersion modeling	\$6.3 <sup>(2)</sup>		\$6.3
Biosolids Management			
• Short Term			
○ Interim small-scale composting	\$12.60 <sup>(2)</sup>	\$23.75 <sup>(5)</sup>	\$36.35
○ Haul to Crofton Mill	-	\$19.01 <sup>(7)</sup>	\$19.01

**TABLE 3-2 (cont'd)  
ESTIMATED COST PER CONNECTION FOR WWTP UPGRADES AND BIOSOLIDS  
MANAGEMENT**

Project	Additional Annual Cost per User <sup>(1)</sup>		
	Capital Repayment	Operation & Maintenance	Total Cost Per Connection
<ul style="list-style-type: none"> <li>• Long Term               <ul style="list-style-type: none"> <li>○ Cooperative composting with CVRD</li> <li>○ Small scale composting</li> </ul> </li> </ul>	-	\$19.01 <sup>(2)</sup>	\$13.31
	\$25.10 <sup>(2)</sup>	\$23.75 <sup>(5)</sup>	\$48.85

<sup>1</sup> Incremental cost additional to existing facilities, cost per user based on total cost divided by 3,516 properties connected to sewer,

<sup>2</sup> This is the maximum parcel increase estimated by the Town accounting for borrowing and grant funding.

<sup>3</sup> Based on current costs to operate plant of \$189,500 + \$19,750 for solids handling.

<sup>4</sup> Includes current operating costs for primary treatment.

<sup>5</sup> Assumed operating cost of \$100,000, incl. chip purchase.

<sup>6</sup> Assumed \$1M borrowed for small-scale long-term operation set up.

<sup>7</sup> See Item 5(a), Table 3.1

### **3.6 Technical Details for Draft Operational Certificates**

#### **3.6.1 Central Ladysmith WWTP**

The Stage 3 upgrade described in the Stage 1 and 2 LWMP will result in secondary treatment being implemented at the central Ladysmith WWTP, with continued discharge of treated effluent to Ladysmith Harbour. The applicable MSR minimum effluent standards for discharge to surface water are as follows:

- Maximum day carbonaceous BOD<sub>5</sub> concentration      45 mg/L
- Maximum day total suspended solids concentration      45 mg/L

In addition to the above, it is anticipated that the discharge will have to meet the MSR criteria for discharges to shellfish bearing waters at the edge of the Initial Dilution Zone:

- Median number of fecal coliforms outside initial dilution zone not to exceed 14/100 mL, with not more than 10% of samples exceeding 43/100 mL (based on the geometric mean of 5 samples taken over the last 30 days).

It is important to note that the Stage 3 upgrade will also meet the future federal effluent standards set out in the Wastewater Systems Effluent Regulations (i.e., average CBOD<sub>5</sub> and TSS not to exceed 25 mg/L). Dechlorination following disinfection will be used to meet the federal standards for chlorine residual. The discharge is also expected to meet federal standards for unionized ammonia. The federal standard for effluent fecal coliforms remains to be confirmed.

As noted elsewhere in this report, the Stage 2 EIS to be carried out in Ladysmith Harbour after the Stage 3 WWTP upgrade is completed will determine whether additional measures are needed to protect Ladysmith Harbour.

A draft Operational Certificate for the Ladysmith WWTP is attached as Appendix E. The Operational Certificate is designed to take effect once secondary treatment is in place. The Operational Certificate will be finalized in accordance with the latest provincial and federal regulations prior to commencing of the discharge.

### 3.6.2 Satellite Water Reclamation Plants

As described in the Stage 1 and 2 LWMP reports, satellite water reclamation plants are to be used where applicable for pockets of new development, with local use of the reclaimed water. Treatment standards for these plants will have to meet the applicable requirements set out in the MSR for reclaimed water, for use in areas with unrestricted or restricted public access as the case may be.

### **3.7 Plan Monitoring Committee**

The Town intends to invite the members of the LWMP Advisory Committee to sit on the Plan Monitoring Committee (PMC). The Terms of Reference for the PMC will be the same as for the LWMP Advisory Committee. The role of the PMC will be to monitor the progress of the approved LWMP, and to provide input and comment. Table 3-1, Item 1 shows a schedule and budget for monitoring and updating of the LWMP. The frequency of PMC meetings is expected to be twice per year.





**TOWN OF LADYSMITH  
LIQUID WASTE MANAGEMENT PLAN – STAGE 3**

**APPENDIX A**

**MOE LETTER OF APPROVAL FOR STAGE 1 AND 2 LWMP**





April 28, 2011

File: 76780-30/TLADY

His Worship Mayor Rob Hutchins  
and Councillors  
Town of Ladysmith  
PO Box 220  
Ladysmith BC V9G 1A2

Dear Mayor Hutchins:

Re: Town of Ladysmith – Liquid Waste Management Plan Stages 1 & 2

I am in receipt of the plan entitled “Town of Ladysmith Liquid Waste Management Plan - Stages 1 and 2 Final” dated November 2010 and prepared by Dayton and Knight Ltd. Consulting Engineers on behalf of the Town of Ladysmith (TOL).

I understand that the TOL has combined Stage 1 and Stage 2 of the liquid waste management plan to accommodate your particular circumstances. I am satisfied that the required components of Stage 1 and 2 of a plan development process have been included in the submission and that public consultation has been adequate. Stage 2 of the Town of Ladysmith Liquid Waste Management Plan is hereby approved, and the town should proceed with Stage 3 of the planning process. It is recommended that the following components be included in the Stage 3 plan:

- 1) Clear documentation of the consultation process and results, including all correspondence between the TOL and applicable government authorities, First Nations and the general public.
- 2) A detailed implementation schedule for upgrading the wastewater treatment facility to provide secondary treatment, and subsequent Stage 2 Environmental Impact Study work to determine if tertiary treatment and/or extension of the outfall will be necessary.
- 3) Identification and securing of a suitable property to serve as a future wastewater treatment site.

.../2

- 4) Drafting of a Sanitary Sewer Source Control Bylaw to include both prohibited and restricted wastes. Stage 3 should also include further investigation into the potential use of Codes of Practice for industry sectors as part of a source control monitoring and enforcement program.
- 5) Inclusion of the stormwater management initiatives and inflow and infiltration reduction initiatives outlined in the Stage 1 & 2 plan.
- 6) Drafting of a Storm Drainage Bylaw to enable the Town to regulate and enforce all aspects of stormwater management.
- 7) Inclusion of both a primary biosolids management option and an alternate management option, in the event that the primary application or reuse option becomes unavailable.
- 8) Identification of the costs per user for users in the sewered area, projected over the life of the plan.
- 9) A schedule for implementing the commitments of the plan.
- 10) The establishment of an ongoing plan monitoring committee to ensure the commitments of the plan are carried out in accordance with the implementation schedule.

As part of the TOL's continued public consultation efforts, the TOL should continue to solicit input and feedback from First Nation representative(s) through the Joint Advisory Committee and the TOL - Stz'uminus First Nation working group. In addition, a copy of the Town of Ladysmith Liquid Waste Management Plan - Stages 1 and 2 Final report should be mailed to all affected First Nations.

If you have any questions about the procedures for developing Stage 3 of the plan, please contact Senior Environmental Protection Officer, Kirsten White at 250 751 3233.

Yours truly,

Blake Medlar  
A/Regional Manager  
Coast Region

KW/jlk \\Tarpon\S40133\EnvProtection\_Share\General\SAVE\2011\April\TOL LWMP  
Stage 1 & 2.doc

cc: Joe Friesenhan, Director of Public Works, PO Box 220, Ladysmith, BC V9G 1A2  
Al Gibb, Dayton & Knight Ltd. Consulting Engineers, #210 - 889 Harbourside Drive,  
North Vancouver BC V7P 3S1



**TOWN OF LADYSMITH  
LIQUID WASTE MANAGEMENT PLAN – STAGE 3**

**APPENDIX B**

**TECHNICAL AND LOCAL LIQUID WASTE  
ADVISORY COMMITTEE MEMBERSHIP, AND MEETING MINUTES**



<b>LWMP Committee Members - Contact Information</b>	
John T. Wilson Ladysmith, BC	Citizen/Chairperson
Rob Hutchins Ladysmith, BC	TOL Mayor
Gerry Clarke Ladysmith, BC	Citizen
Jim Cram Ladysmith, BC	Citizen
Ross Davis Ladysmith, BC	Citizen
Greg Edwards Ladysmith, BC	Citizen
Curtis Baker Ladysmith, BC	TOL Chief Operator
Joe Friesenhan Ladysmith, BC	TOL Director of PW
Blake Medlar BC Ministry of Environment Nanaimo, BC	MOE
Kirsten White BC Ministry of Environment Nanaimo, BC	MOE
Nick Meijerdrees Ladysmith, BC	Citizen
James Szasz Ladysmith, BC	Citizen
Lorena Mueller	Citizen

Ladysmith, BC	
David Brown	Citizen
Jill Dashwood	TOL Council Liaison
Dave Leitch, ASCT	CVRD Rep
Cowichan Valley Regional District	
Duncan, BC	
Ray Gauthier	
Manager of Business Dev.	First Nations Rep
Chemainus First Nation	
Ladysmith, BC	



**TOWN OF LADYSMITH  
LIQUID WASTE MANAGEMENT PLAN  
STAGE I, II AND III**

**JOINT ADVISORY COMMITTEE MEETING NO. 8**

**LOCATION:** Town of Ladysmith City Hall

**DATE:** November 1, 2011

**TIME:** 6:30 p.m.

**ATTENDING:** Town of Ladysmith (ToL) Joe Friesenhan, A.Sc.T.

Ministry of Environment (MOE) Kirsten White, A.Ag.

JAC  
John Wilson - Chair  
Rob Hutchins  
David Brown  
Nick Meijerdrees  
Lorena Mueller

Opus Dayton Knight (Opus DK) Harlan Kelly, P.Eng.  
Al Gibb, PhD, P.Eng.

**REGRETS:** Jill Dashwood, Ross David, Jim Cram, Greg Edwards, Gerry Clarke,  
Curtis Baker, Blake Medlar, James Szasz, David Leitch, Ray Gauthier

**DISTRIBUTION:** All present

Item	Description	Action By
1.	Stage 3 Objectives and Scope a. Stage 1 and 2 now approved by MOE with conditions. b. Stage 3 to include summary of Stage 1 & 2 with commitments and schedules for approval by Council (time frame is needed). c. Council needs to confirm funding approach. d. Only if there are other changes, does further public involvement need to be undertaken. e. A First Nations meeting will need to be scheduled to discuss Stage 1 and 2 and to request input (mid November or early December).	ToL

Item	Description	Action By
2.	<p>Slide presentation by Al Gibb summarizing Stage 1 and 2 components.</p> <ol style="list-style-type: none"> <li>a. Source Control</li> <li>b. Water conservation</li> <li>c. Wastewater volume reduction</li> <li>d. Stormwater management</li> <li>e. Wastewater management plan, including future site for new WWTP, outfall siting, satellite water reclamation plant(s).</li> <li>f. Biosolids management               <ol style="list-style-type: none"> <li>i. Untreated sludge (only to publicly owned facilities)                   <ul style="list-style-type: none"> <li>• Cowichan Valley RD – composting (future)</li> <li>• Comox Valley RD – composting (interim – short term)</li> </ul> </li> <li>ii. Class B treatment required                   <ul style="list-style-type: none"> <li>• Wood lot application</li> <li>• Partnerships with private sector</li> </ul> </li> </ol> </li> <li>g. MOE letter Stage 2 – recommended components for Stage 3               <ol style="list-style-type: none"> <li>i. Clearly document consultation undertaking.</li> <li>ii. Provide detailed schedule for secondary treatment.</li> <li>iii. Clarify funding commitment.</li> <li>iv. Suggest word change in commitment to select a public site for future plant. This may in future require further public consultation.</li> </ol> </li> <li>h. Consultation update (28 replies) from July 2011 mail out               <ol style="list-style-type: none"> <li>i. Town Hall meeting July 23, 2011 should be added to consultation (90 attendees).</li> <li>ii. Responses of mail out suggested 95% would prefer to do secondary plant now.</li> </ol> </li> </ol>	Council
3.	<p>Council Meetings – 5<sup>th</sup> and 19<sup>th</sup> December</p> <ol style="list-style-type: none"> <li>a. Borrowing not likely needed before the fall; detailed design would be done prior.</li> <li>b. Once detailed design is completed, the work would likely be started early fall, pending funding arrangements</li> </ol>	ToL

Item	Description	Action By
	c. Funding can be applied through grants as long as construction has not started.	
4.	Next JAC meeting December 14 at 6:00 pm, Town of Ladysmith.	ToL
5.	Draft Stage 3 report to be done by end of November, 2011.	Opus DK

Minutes recorded by:

**Opus DaytonKnight Consultants Ltd.**

Harlan Kelly, P.Eng.

HK/lp  
218.007

<p>The content of these minutes reflects the writer's interpretation of the proceedings. Participants shall advise the author of any errors or omissions within 5 days of receipt of this Pre-Construction Meeting Minutes.</p>
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## Town of Ladysmith LIQUID WASTE MANAGEMENT COMMITTEE

**Minutes of the Liquid Waste Management Committee meeting, held in Council Chambers at City Hall on Wednesday, January 18, 2012 at 6:00 p.m.**

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**Present:**

John Wilson – Chair  
Nick Meijer Drees  
Alan Gibb (ODK)  
Ruth Malli (TOL)

Rob Hutchins – Mayor  
David Brown  
Glenda Patterson – Counc. Liaison  
Gord Horth – Counc. Liaison

Kirsten White (MOE)  
Curtis Baker (TOL)  
John Manson (TOL)  
Ross Davis

**Call to Order**

Chair John Wilson called the meeting to order at 6:01 p.m. and introduced the new Director of Infrastructure Services, John Manson. John gave a brief outline of his work experience and said he looked forward to working with this Committee on the project.

**OPUS DK**

Alan Gibb of Opus DaytonKnight reviewed the Liquid Waste Management Plan Stage 3 Initial Draft.

The following items were noted during the presentation as discussions ensued:

- Kirsten White (MoE) will provide Committee with the Ministry's latest policy regarding "consultation"
- The need to document what steps taken, what input received, etc.
- Town staff to send letter to Ministry of Environment summarizing project to date and summarizing the consultation process to date.
- Harlan Kelly will attend next meeting and review project budget figures
- Director of Finance to provide summary of grant application and funding
- There have been no changes in project since the grant application went to Council in February 2011
- Require minutes from "Joint Committee" November 21<sup>st</sup> meeting with Stz'uminus First Nations - minutes are pending from SFN, as the Town and SFN alternate minute taking.
- John Manson advised that hard copies of Stage 1 and Stage 2 of the LWMP report have been mailed to MOE, and delivered to Stz'uminus First Nation
- Town is in the first stages of discussion with SFN and their consultants regarding their future servicing needs
- Comment made - if some of the green components of secondary treatment are taken out will it jeopardize the grant?
- Table 3.1 needs to be finalized (money for studies, change date, include Public Consultation - good turn out!)
- Ministry's main requirement pertaining to the management of

biosolids is that there be an alternate backup (currently Plan has primary option as CVRD with Comox as backup).

- Comox is having a meeting in February. The Town expects to hear from them following that meeting on our Biosolids proposal.
- Will need bylaw to regulate discharge to sanitary sewer (can hire consultant or liaise with other municipalities and adapt their bylaws to the Town of Ladysmith needs).
- Regarding the Source Control Bylaw slide - The committee agreed that educating the public be should be moved ahead on the time line to follow implementation of the bylaw, and precede the enforcing section.
- John Manson would like to budget for a Master Drainage Plan earlier than 2018. Having this in place will benefit other Town operations.
- Suggested that a Water Course Bylaw would be good to have.
- ODK will enquire of District of North Cowichan regarding their Chemainus and Crofton who are proposing to use UV light for disinfection in their waste water treatment.
- ODK to update Stage 3 draft and bring back to next meeting
- It was suggested that the Summary of WWTP survey that was done this past summer be put in body of report
- Identify in report table items that are completed
- A transition to a "Plan Monitoring Committee" is required by the Ministry *(to ensure commitments met, tasks are on track, approvals requested for changes when delays foreseen, should meet yearly to review Plan, report every 5 years to Ministry)*
- It was proposed this group be the Plan Monitoring Committee (PMC)
- The Joint Advisory Committee (JAC) will become the PMC

**Distribution of Report to Members**

Gord Horth and Rob Hutchins will accept electronic copies of Report, all other members would prefer hard copies of the Report

**Next Meeting**

Monday, January 30, 2012 at 6:00 p.m., in City Hall Council Chambers

**Adjournment**

Chair John Wilson called the meeting adjourned at 7:36 p.m.

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Chair John Wilson



LIQUID WASTE MANAGEMENT PLAN MEETING  
COUNCIL CHAMBERS  
November 18, 2012

JAN.

Attendance:

NAME (print)	SIGNATURE
Al Gibb, ODK	
Baljeet Mann, MoE	
Blake Medlar, MoE	
Curtis Baker, TOL	
Dave Leitch,	
David Brown	
Gerry Clarke	
Glenda Patterson, Councillor	
Gord Horth, Councillor	
Greg Edwards	
Jim Cram	
John Manson, TOL	
John Wilson, Chair	
Kirsten White, MoE	
Lorena Mueller	
Nick Mejdress	
Rob Hutchins, Mayor	
Ronda Jordan, SFN	
Ross Davis	

RUTH MALLI, ToFL

Small



# Town of Ladysmith

## LIQUID WASTE MANAGEMENT COMMITTEE

Minutes of a meeting of the Liquid Waste Management Committee held in Council Chambers at City Hall on Wednesday, April 10, 2012 at 6:00 p.m.

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### Present:

John Wilson – Chair	Rob Hutchins – Mayor	Lorena Mueller
Al Gibb (ODK)	Baljeet Mann (MoE)	Curtis Baker (TOL)
David Brown	Glenda Patterson – Council Liaison	Gord Horth – Council Liaison
Greg Edwards	John Manson (TOL)	Nick Mejerdress
Harlan Kelley (ODK)	Ross Davis	Ruth Malli (TOL)
Bill Drysdale – Councillor	Duck Paterson - Councillor	

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**CALL TO ORDER**            The Chair called the meeting to order at 6:01 p.m.

**AGENDA**                    Agenda be amended to add adoption of January 18, 2012 minutes.  
**It was moved, seconded and carried that the agenda be approved as amended.**

**MINUTES**                    **It was moved, seconded and carried that the minutes of the January 18, 2012 Liquid Waste Management Advisory Committee meeting be adopted as circulated.**

**PROJECT COST REVIEW**            Table 3-1 LWMP Financial Commitments and Schedule prepared by Opus Dayton Knight (ODK) was reviewed by the members. John Manson, Director of Infrastructure Services for the Town of Ladysmith spoke to the concerns raised at the last meeting regarding the project cost differences and noted the following:

- Four green components were added to the project scope to increase qualifications for grant applications, which were not included in the \$12.0 mill. Estimated project cost, the cost of these items was approx.. \$2.0 Million.
- The Town was successful with a gas tax grant worth 5.2 million, which includes the sustainability components;
- Rational was to reduce the \$16 mill. down to \$12mill. cost if the sludge was processed off site, by deleting the entire costs of the ATAD components – however tanks are still needed so of the \$4 mill. deducted there is still approx. \$ 2 mill needed for Stage 3.

The LWM Plan and the Public consultation process is equivalent to the petition process. The questionnaire that went out to the public quoted that the cost to the tax payer would be \$115.00 parcel tax. Of those that responded 70-80% were in favour. Discussion ensued. Mayor Hutchins felt that the consensus from the public was that more money be put into tertiary treatment rather than extending the outfall. Further he felt First Nations was of the same opinion.

Other discussions from the committee strategy members pertained to the time frame. Item 2b Schedule Column of Table 3-1 will be changed to 2014-2015. Item 2d Schedule Column of Table 3-1 will be changed to 2015. Item 5c title needs to be changed to read “Composting at Local site” and the budget amount changed to \$250,000 / yr. Also, the disinfection strategy will be added.

**EFFLUENT  
DISINFECTION  
STRATEGY –  
STAGE III**

Al Gibb, Professional Engineer with Opus Dayton Knight gave a power point presentation covering the effluent disinfection strategy. The Town has to meet the Municipal Sewage Regulations and there is Federal disinfection standards to take into consideration. The presentation covered UV Disinfection vs Chlorine. Once a MBBR/DAF is in place then site specific testing can be done to determine effectiveness of UV for disinfection. These results together with the Stage 2 EIS will help with the decision making on the best feasible path to completion.

**FIRST NATIONS  
(FN)  
CONSULTATION  
UPDATE**

Ruth Malli, City Manager advised that herself, the Mayor and staff had met with First Nations on a number of matters. Generally First Nations are supportive of the Liquid Waste management Plan as drafted. The Mayor will be receiving a letter from the Chief to this effect. A letter from the Town to other First Nations bands, those in proximity to Ladysmith, has yet to be sent out. Ruth explained the delay was because the Town wanted to meet first with the Ministry of Environment. Once the letter has been sent there will be a 30 day notification time frame for responses to the Ministry.

**WATER  
SUSTAINABILITY  
STRATEGY**

John Manson, Director of Infrastructure Services talked to the Committee about water sustainability strategy. It may take a year or two to get through this process. Steps should be taken to move forward on the sustainability plan. Ladysmith is one of the few municipalities who handle their water from start to finish.

**BIO-SOLIDS  
HAULING UPDATE**

John Manson informed the Committee that it is not likely the Comox Valley Regional District will take our sludge. We should be hearing from them soon following their meeting. Two other possibilities – process at local Cowichan Valley Regional District or Capital Regional District’s Hartland site. Possible interim solution – works yard or site near by. Odour control would be critical. There are leasing opportunities for the equipment needed. Discussion ensued and the possibility of sludge going to a local mill was brought up. The sludge has to be processed before it leaves site if its going to a private sector facility. Could the Town partner with a private facility and if so, what % of ownership would be required of the Town for the business to be considered government and therefore a provincially approved facility. Baljeet Mann with the Ministry of Environment will enquire. Other methods to convert sludge to biosolids were discussed. What could be added? Lime? What could be done with the product that might be have an economic spin to it – make bricks. More research is needed into this. Composting may be the best option. “OMAR” is being reviewed and potentially could change – so the Ministry will keep us informed.

**APPROVAL OF  
LWMP – STAGE III**

Staff to check with Jim Cram and Gerry Clarke on their membership in the Committee. The Plan Monitoring Committee (PMC) will require terms of reference. The members were asked if the Committee is ready to approve the LWMP- Stage III.



It was moved, seconded and carried that the Liquid Waste Management Committee recommend that Council adopt the Liquid Waste Management Plan – Stage 3 as amended in the Liquid Waste Management Committee meeting of April 10, 2012. (Table 3-1 item 2b, 2d , 5c, add disinfection, update public engagement materials, add info on consultation as needed) .

It was moved, seconded and carried that the Liquid Waste Management Committee recommend that Council refer the LWMP Stage 3 to the Province for review and approval once any feedback from First Nations interests have been received, following the 30 days notice.

It was moved, seconded and carried that the Liquid Waste Management Committee recommend that Council include in the 2012 Financial Plan the initiation of the design for the Stage III Sewage Treatment Plan Improvements with construction to follow.

It was moved, seconded and carried that the Liquid Waste Management Committee recommend that Council refer the Water Sustainability Strategy to staff for consideration in 2012/2013, as staff resource's permit.

**NEXT MEETING**

Will be at the call of the chair

**ADJOURNMENT**

It was moved, seconded and carried that this meeting adjourn (7:50 p.m.)





**TOWN OF LADYSMITH  
LIQUID WASTE MANAGEMENT PLAN – STAGE 3**

**APPENDIX C  
STAGE 3 CONSULTATION**





# Town of Ladysmith

**Liquid Waste Management Plan  
Meeting with Stz'uminus First Nation  
November 21, 2011**

# What is a Liquid Waste Management Plan?



- 3-stage process - Provincial Guidelines
- examine long term wastewater management needs for the whole community
- minimize environmental impact of development
- liquid waste reduction, reuse and recycling
- written record of community decisions
- public and stakeholder consultation

# Why have a LWMP?

- allows the community to develop and propose its own solutions and schedules for environmental protection



# Why have a LWMP?

- describes the state of the environment in the study area





# Why have a LWMP?

- integrates management options for different types of liquid waste



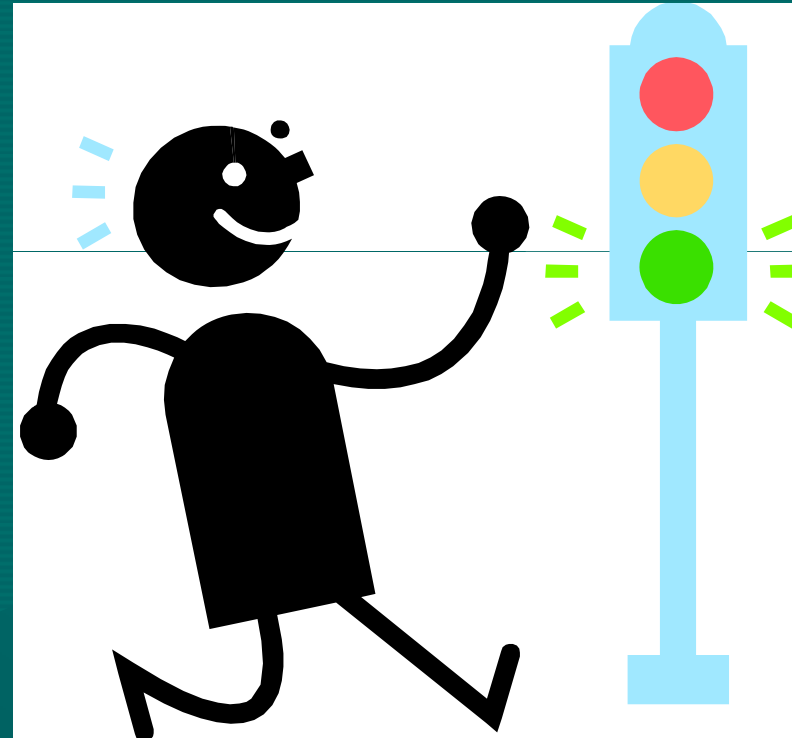
# Why have a LWMP?

- improves chances of infrastructure funding from provincial and federal governments



## Why have a LWMP?

- an approved LWMP allows the local government to implement the works without further approvals from the electorate



## 3 Stage Liquid Waste Management Plan



- Stage 1: develop a set of realistic concept options
- Stage 2: cost estimates, evaluation and selection of preferred option(s)
- Stage 3: finalize discharge standards, schedule and cost estimates, develop proposed financing, submit for approval
- Stage 1 and 2 combined for Ladysmith LWMP

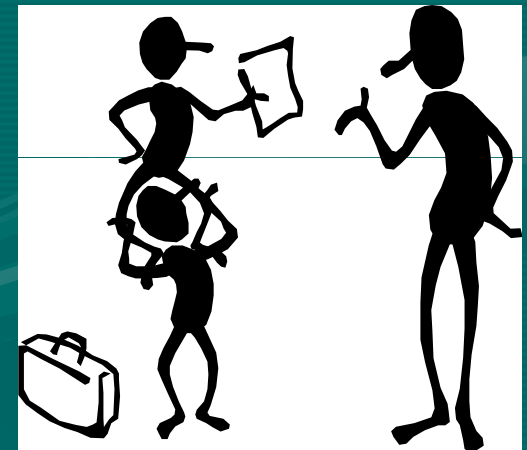
## Scope of Work

- LWMP planning horizon 20 to 30 years
- examine feasible options
  - liquid waste treatment and disposal
  - water reclamation and reuse
  - biosolids management
  - storm water management
- incorporate stakeholder and public input
- draft and final LWMP reports



# Consultation Update

- eight meetings of Joint Advisory Committee
- two Public Open Houses
- initial meeting with Stz'uminus First Nation April 6, 2010
- Stage 1 & 2 and supporting information report available on Town's website
- Public Input Form mailed to residents with utility bill (also on Town's website)
- second meeting with Stz'uminus First Nation November, 21 2011 to receive their input on the LWMP



# Stage 2 LWMP Components



# Recommended LWMP Commitments

## Source Control

- bylaw to regulate discharges to sanitary sewers + enforcement strategy
- public and private sector education
- publicize source control activities and successes
- maintain contact with other jurisdictions
- consider additional elements in future (monitoring, inventory of industrial/commercial discharges)





# Recommended LWMP Commitments

## Wastewater Volume Reduction

- Ladysmith is undertaking water conservation (included as LWMP component)
  - universal installation of water meters
  - education mail-outs to households
  - regulations requiring low flow toilets
  - grant program for retrofitting toilets to low flush models
  - install low-flow toilets in municipal facilities



# Recommended LWMP Commitments

## Wastewater Volume Reduction

- ongoing reduction of inflow and infiltration to the sewer system
- separation of public sewers completed in the Old Town
- private service connections to be separated within 5 years of completion of secondary WWTP
- treatment of dry and wet weather flows to be in accordance with Municipal Sewage Regulation

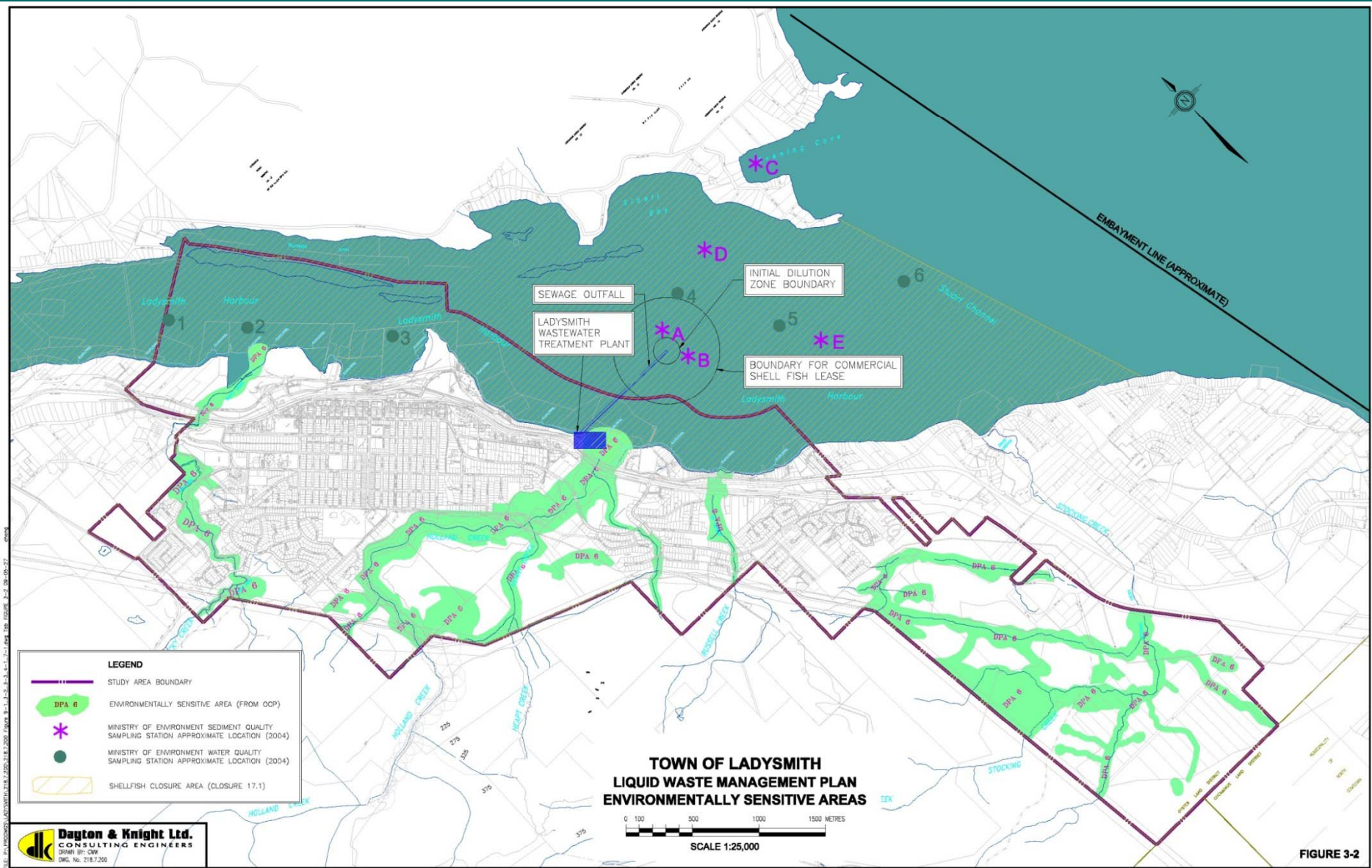


# Recommended LWMP Commitments

## Storm Water Management

- develop a Master Drainage Plan
- review existing development application procedures to ensure protection of key components of hydrologic cycle
- storm drainage bylaw
- encourage onsite infiltration of precipitation
- include drainage issues in sewer source control education





# Environmental Resources

# Wastewater Management

- current OCP buildout population for Town of Ladysmith is 17,200 people
- high priority issue is protection of Ladysmith Harbour and shellfish resource (Conditional Management Plan)



# Wastewater Collection and Treatment

- LWMP recognizes need to serve up to 30,000 people with wastewater collection and treatment facilities (includes Town population plus potential sewer service to neighbours – e.g. First Nations)
- existing WWTP does not have capacity to accept additional flows – Stage 3 upgrade & expansion of existing facilities required to allow for additional capacity
- regulations require minimum of secondary treatment required
- additional measures may be needed in future (e.g., nutrient removal, filtration, UV disinfection, extension of outfall)



# Recommended LWMP Commitments

## Wastewater Management



- upgrade existing plant to secondary treatment, maintain discharge to Ladysmith Harbour
- complete Stage 2 Environmental Impact Study to determine effluent quality needs for Harbour discharge
- add advanced treatment and/or extend outfall if needed
- purchase additional property for possible future WWTP (min. area 4 ha, pref. 10 ha)
- identify potential location(s) for future open marine discharge - drogue studies, dispersion modeling, consultation
- satellite water reclamation plants for new development

# Waste Solids Management Alternatives Currently being Pursued

- alternatives where prior treatment (digestion) is not required (waste solids to be dewatered at WWTP before transport to composting facility)
  - cooperative regional composting solution with others (Cowichan Valley Regional District)
  - transport to Comox Valley RD composting facility
- alternatives where prior digestion to minimum Class B standards is required under current legislation
  - woodlot application of biosolids within Vancouver Island University program
  - partnerships with private sector (e.g., commercial composting facility at Duke Point)





# MOE letter approving Stage 2 (April 28, 2011)

## Recommended Components for Stage 3

- clearly document consultation process
- detailed implementation schedule for WWTP upgrade to secondary treatment and subsequent Stage 2 EIS
- identify suitable property for future WWTP
- draft source control bylaw, consider Codes of Practice
- include storm water management and I&I reduction measures
- draft storm drainage bylaw
- primary and alternate biosolids management strategies
- identify cost per user for implementing LWMP
- establish Plan Monitoring Committee
- continue First Nations consultation



## Scope for Stage 3 LWMP

- summary of Stage 1 and 2 report
- consultation – results of mail out brochure and questionnaire, November 2011 meeting with Stz'uminus First Nation
- incorporate MOE recommendations
- list of LWMP commitments (cost estimates, implementation schedule, revenue sources)
- technical details for Operational Certificates
- JAC/MOE review of draft Stage 3 report, JAC meeting and recommendations to Council
- Council review and adoption of Stage 3 LWMP
- submit Stage 3 LWMP to Minister for approval



## Schedule for LWMP Completion

- submit initial draft Stage 3 LWMP report to Town by Nov 30, 2011
- Joint Advisory Committee meeting Dec 14 2011
- adoption of Stage 3 LWMP by Council Jan, 2012
- submit LWMP to Minister for approval Feb, 2012
- approval by Minister March, 2012



## Schedule for WWTP Upgrades

- begin design work for Stage 3 upgrade/expansion now
- explore additional funding opportunities
- begin construction of Stage 3 upgrade autumn 2012
- finish construction late 2012 or early 2013
- studies (Stage 2 EIS, drogue and modeling for outfall discharge) 2013



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**Stz'uminus First Nation/Town of Ladysmith  
Joint Council Meeting  
November 21, 2011 4:00 – 5:45 p.m.**

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5 Attendee's:

6 Stz'uminus First Nation

7 Chief: John Elliott

8 Council: Herb Seymour, Harvey Seymour Sr., Terry Sampson, Roxanne Harris, Gordon Seymour, Kevin  
9 Frenchy, George Seymour

10 Ronda Jordan – Administrator

11 Teoni Jameson – Executive Assistant

12 Ray Gauthier – CEO, Coast Salish Development Corporation

14 Town of Ladysmith:

15 Mayor Rob Hutchins

16 Council: Steve Arnett, Duck Paterson, Jill Dashwood, Bruce Whittington

17 Ruth Malli – City Manager

18 Al Gibbs – Opus Dayton Knight

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1. Liquid Waste Management Plan – Power Point Presentation

- Al Gibbs goes through the presentation to Chief and Council. The Town of Ladysmith is in the process of developing a Liquid Waste Management Plan which will allow the community to develop and propose its own solutions and schedules for environmental protection. The main objective of this plan is to look at the long term wastewater management needs for the Town of Ladysmith. This is a three stage process – stage 2 has been approved by the Province, so they are moving on to Stage 3.
- How does Stz'uminus enter this process to address long term needs? Stz'uminus has issues on IR 13 and has short term solutions but need to look at long term. Stz'uminus is also trying to get something going on IR 12 and the Town of Ladysmith is aware of this.
- The Town and Stz'uminus need to get together and have discussions on this.
- The Mayor suggests a meeting be scheduled to see how to address the short and long term needs. This plan allows the Town of Ladysmith to accept wastewater from outside of the Towns boundaries.

2. Water and Sewer

- Stz'uminus has received feasibility funding but is receiving push back from the Town of Ladysmith. We have until March 31, 2012 to spend the funds.
- The Town of Ladysmith will look at the request re: feasibility at tonight's meeting.

3. Update MOU

- Stz'uminus was wondering if there is a signed MOU. If so, it should be revisited or created. It was mentioned tonight that these meetings are consultation, but that is not Stz'uminus' understanding.
- There was an Accord signed between the two communities but not an MOU. These joint council meetings were started in 2005/2006 and the purpose was to get the council's together and build a working relationship because historically there has not been one.

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- Consultation is a law, it is not information sharing. With anything that will affect First Nations, consultation and accommodation needs to take place. Proponents that want to do anything in First Nations territory need to consult. This is Stz'uminus Territory and the Town of Ladysmith is within it. Stz'uminus is not sure the joint council meetings are the place for consultation. In other instances, the Crown notifies the First Nation of an upcoming project. Technical staff reviews the referral and then bring it to Chief and Council for a decision. An MOU would outline and clarify the expectation for both Councils
  - Last year the joint councils spoke about meeting with Sliammon & Powell River because they had signed an Accord.
  - **Direction:** It is suggested a committee be formed to look at establishing an MOU. Chief and Council and the Mayor and Council will each appoint three representatives to the committee. The Administrator and the City Manager are to work together to ensure this committee gets started.

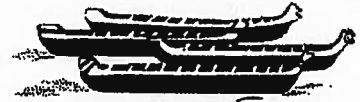
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61 4. District Lot 651

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- Stz'uminus would like to be updated on what is happening with this as the current agreement expires on December 15<sup>th</sup>.
  - The Town of Ladysmith is in the process of extending that and will update council at the next meeting.

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67 **Meeting adjourned at 5:45 p.m.**



## STZ'UMINUS FIRST NATION

January 27, 2011

Gas Tax / Public Transit Management Services  
Union of British Columbia Municipalities  
525 Government Street  
Victoria, BC  
V8V 0A8

Dear Selection Committee,

**RE: Gas Tax Pooled Funding Application - Ladysmith Wastewater Treatment Plant Upgrade**

The Town of Ladysmith is submitting an application for funding under the Gas Tax Pooled Funding programs for the Ladysmith Wastewater Treatment Plant Upgrade project. The Stz'uminus First Nation wishes to express formal, written support for the application.

Ladysmith Harbour is of vital economic and cultural importance to the people of the Stz'uminus First Nation. The protected, natural harbour is exceptionally rich with marine resources, including oysters, clams and scallops. What was once a thriving shellfish industry and traditional food source for the Stz'uminus First Nation has suffered a significant decline due to pollution in recent decades.

The restoration of the environmental health of the harbour is a high priority for the Stz'uminus First Nation. The existing municipal wastewater treatment plant is one of the most significant sources of pollution in the area, and therefore the Stz'uminus First Nation is highly supportive of the Town's proposed project, and their efforts towards restoration and protection of this valuable, natural resource.

I trust the information noted above will assist you in your consideration of the Town's application. Please contact the undersigned should you have any questions in this regard.

Sincerely,

Stephen Olson

Administrator

12611A Trans-Canada Highway  
Ladysmith, BC V9G 1M5  
Ph: 250-245-7155  
Fax: 250-245-3012







## TOWN OF LADYSMITH

410 Esplanade, P.O. Box 220, Ladysmith, BC V9G 1A2  
Municipal Hall 250-245-6400 • Fax 250-245-6411 • info@ladysmith.ca • www.ladysmith.ca

January 31, 2011

Our File: 1855-20

Gas Tax / Public Transit Management Services  
Union of British Columbia Municipalities  
525 Government Street  
Victoria, BC V8V 0A8

RE: **CERTIFIED RESOLUTION OF COUNCIL**  
**GAS TAX AGREEMENT FUNDING APPLICATION**

January 31, 2011

*It was moved, seconded and carried that staff be directed to apply under the Gas Tax Agreement's General Strategic Priorities Fund and Innovations Fund for:*

- \$2,488,000 for the Ladysmith Water System Upgrade, and
- \$5,210,000 for the Ladysmith Waste Water Treatment Plant Upgrade.

I hereby certify this to be a true and correct copy  
of Town of Ladysmith, Resolution #2011-052.

Deputy Corporate Officer (J. Winter)



<b>LWMP Committee Members - Contact Information</b>	
John T. Wilson Ladysmith, BC	Citizen/Chairperson
Rob Hutchins Ladysmith, BC	TOL Mayor
Gerry Clarke Ladysmith, BC	Citizen
Jim Cram Ladysmith, BC	Citizen
Ross Davis Ladysmith, BC	Citizen
Greg Edwards Ladysmith, BC	Citizen
Curtis Baker Ladysmith, BC	TOL Chief Operator
Joe Friesenhan Ladysmith, BC	TOL Director of PW
Blake Medlar BC Ministry of Environment Nanaimo, BC	MOE
Kirsten White BC Ministry of Environment Nanaimo, BC	MOE
Nick Meijerdrees Ladysmith, BC	Citizen
James Szasz Ladysmith, BC	Citizen
Lorena Mueller	Citizen

Ladysmith, BC	
David Brown	Citizen
Jill Dashwood	TOL Council Liaison
Dave Leitch, ASCT	CVRD Rep
Cowichan Valley Regional District	
Duncan, BC	
Ray Gauthier	
Manager of Business Dev.	First Nations Rep
Chemainus First Nation	
Ladysmith, BC	

**TOWN OF LADYSMITH  
LIQUID WASTE MANAGEMENT PLAN  
STAGE I, II AND III**

**JOINT ADVISORY COMMITTEE MEETING NO. 8**

**LOCATION:** Town of Ladysmith City Hall

**DATE:** November 1, 2011

**TIME:** 6:30 p.m.

**ATTENDING:** Town of Ladysmith (ToL) Joe Friesenhan, A.Sc.T.

Ministry of Environment (MOE) Kirsten White, A.Ag.

JAC  
John Wilson - Chair  
Rob Hutchins  
David Brown  
Nick Meijerdrees  
Lorena Mueller

Opus Dayton Knight (Opus DK) Harlan Kelly, P.Eng.  
Al Gibb, PhD, P.Eng.

**REGRETS:** Jill Dashwood, Ross David, Jim Cram, Greg Edwards, Gerry Clarke,  
Curtis Baker, Blake Medlar, James Szasz, David Leitch, Ray Gauthier

**DISTRIBUTION:** All present

Item	Description	Action By
1.	<p>Stage 3 Objectives and Scope</p> <p>a. Stage 1 and 2 now approved by MOE with conditions.</p> <p>b. Stage 3 to include summary of Stage 1 &amp; 2 with commitments and schedules for approval by Council (time frame is needed).</p> <p>c. Council needs to confirm funding approach.</p> <p>d. Only if there are other changes, does further public involvement need to be undertaken.</p> <p>e. A First Nations meeting will need to be scheduled to discuss Stage 1 and 2 and to request input (mid November or early December).</p>	ToL

Item	Description	Action By
2.	<p>Slide presentation by Al Gibb summarizing Stage 1 and 2 components.</p> <ol style="list-style-type: none"> <li>a. Source Control</li> <li>b. Water conservation</li> <li>c. Wastewater volume reduction</li> <li>d. Stormwater management</li> <li>e. Wastewater management plan, including future site for new WWTP, outfall siting, satellite water reclamation plant(s).</li> <li>f. Biosolids management               <ol style="list-style-type: none"> <li>i. Untreated sludge (only to publicly owned facilities)                   <ul style="list-style-type: none"> <li>• Cowichan Valley RD – composting (future)</li> <li>• Comox Valley RD – composting (interim – short term)</li> </ul> </li> <li>ii. Class B treatment required                   <ul style="list-style-type: none"> <li>• Wood lot application</li> <li>• Partnerships with private sector</li> </ul> </li> </ol> </li> <li>g. MOE letter Stage 2 – recommended components for Stage 3               <ol style="list-style-type: none"> <li>i. Clearly document consultation undertaking.</li> <li>ii. Provide detailed schedule for secondary treatment.</li> <li>iii. Clarify funding commitment.</li> <li>iv. Suggest word change in commitment to select a public site for future plant. This may in future require further public consultation.</li> </ol> </li> <li>h. Consultation update (28 replies) from July 2011 mail out               <ol style="list-style-type: none"> <li>i. Town Hall meeting July 23, 2011 should be added to consultation (90 attendees).</li> <li>ii. Responses of mail out suggested 95% would prefer to do secondary plant now.</li> </ol> </li> </ol>	Council
3.	<p>Council Meetings – 5<sup>th</sup> and 19<sup>th</sup> December</p> <ol style="list-style-type: none"> <li>a. Borrowing not likely needed before the fall; detailed design would be done prior.</li> <li>b. Once detailed design is completed, the work would likely be started early fall, pending funding arrangements</li> </ol>	ToL

Item	Description	Action By
	c. Funding can be applied through grants as long as construction has not started.	
4.	Next JAC meeting December 14 at 6:00 pm, Town of Ladysmith.	ToL
5.	Draft Stage 3 report to be done by end of November, 2011.	Opus DK

Minutes recorded by:

**Opus DaytonKnight Consultants Ltd.**

Harlan Kelly, P.Eng.

HK/lp  
218.007

<p>The content of these minutes reflects the writer's interpretation of the proceedings. Participants shall advise the author of any errors or omissions within 5 days of receipt of this Pre-Construction Meeting Minutes.</p>
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## Town of Ladysmith LIQUID WASTE MANAGEMENT COMMITTEE

**Minutes of the Liquid Waste Management Committee meeting, held in Council Chambers at City Hall on Wednesday, January 18, 2012 at 6:00 p.m.**

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**Present:**

John Wilson – Chair  
Nick Meijer Drees  
Alan Gibb (ODK)  
Ruth Malli (TOL)

Rob Hutchins – Mayor  
David Brown  
Glenda Patterson – Counc. Liaison  
Gord Horth – Counc. Liaison

Kirsten White (MOE)  
Curtis Baker (TOL)  
John Manson (TOL)  
Ross Davis

**Call to Order**

Chair John Wilson called the meeting to order at 6:01 p.m. and introduced the new Director of Infrastructure Services, John Manson. John gave a brief outline of his work experience and said he looked forward to working with this Committee on the project.

**OPUS DK**

Alan Gibb of Opus DaytonKnight reviewed the Liquid Waste Management Plan Stage 3 Initial Draft.

The following items were noted during the presentation as discussions ensued:

- Kirsten White (MoE) will provide Committee with the Ministry's latest policy regarding "consultation"
- The need to document what steps taken, what input received, etc.
- Town staff to send letter to Ministry of Environment summarizing project to date and summarizing the consultation process to date.
- Harlan Kelly will attend next meeting and review project budget figures
- Director of Finance to provide summary of grant application and funding
- There have been no changes in project since the grant application went to Council in February 2011
- Require minutes from "Joint Committee" November 21<sup>st</sup> meeting with Stz'uminus First Nations - minutes are pending from SFN, as the Town and SFN alternate minute taking.
- John Manson advised that hard copies of Stage 1 and Stage 2 of the LWMP report have been mailed to MOE, and delivered to Stz'uminus First Nation
- Town is in the first stages of discussion with SFN and their consultants regarding their future servicing needs
- Comment made - if some of the green components of secondary treatment are taken out will it jeopardize the grant?
- Table 3.1 needs to be finalized (money for studies, change date, include Public Consultation - good turn out!)
- Ministry's main requirement pertaining to the management of

biosolids is that there be an alternate backup (currently Plan has primary option as CVRD with Comox as backup).

- Comox is having a meeting in February. The Town expects to hear from them following that meeting on our Biosolids proposal.
- Will need bylaw to regulate discharge to sanitary sewer (can hire consultant or liaise with other municipalities and adapt their bylaws to the Town of Ladysmith needs).
- Regarding the Source Control Bylaw slide - The committee agreed that educating the public be should be moved ahead on the time line to follow implementation of the bylaw, and precede the enforcing section.
- John Manson would like to budget for a Master Drainage Plan earlier than 2018. Having this in place will benefit other Town operations.
- Suggested that a Water Course Bylaw would be good to have.
- ODK will enquire of District of North Cowichan regarding their Chemainus and Crofton who are proposing to use UV light for disinfection in their waste water treatment.
- ODK to update Stage 3 draft and bring back to next meeting
- It was suggested that the Summary of WWTP survey that was done this past summer be put in body of report
- Identify in report table items that are completed
- A transition to a "Plan Monitoring Committee" is required by the Ministry *(to ensure commitments met, tasks are on track, approvals requested for changes when delays foreseen, should meet yearly to review Plan, report every 5 years to Ministry)*
- It was proposed this group be the Plan Monitoring Committee (PMC)
- The Joint Advisory Committee (JAC) will become the PMC

**Distribution of Report to Members**

Gord Horth and Rob Hutchins will accept electronic copies of Report, all other members would prefer hard copies of the Report

**Next Meeting**

Monday, January 30, 2012 at 6:00 p.m., in City Hall Council Chambers

**Adjournment**

Chair John Wilson called the meeting adjourned at 7:36 p.m.

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Chair John Wilson



LIQUID WASTE MANAGEMENT PLAN MEETING  
COUNCIL CHAMBERS  
November 18, 2012

JAN.

Attendance:

NAME (print)	SIGNATURE
Al Gibb, ODK	
Baljeet Mann, MoE	
Blake Medlar, MoE	
Curtis Baker, TOL	
Dave Leitch,	
David Brown	
Gerry Clarke	
Glenda Patterson, Councillor	
Gord Horth, Councillor	
Greg Edwards	
Jim Cram	
John Manson, TOL	
John Wilson, Chair	
Kirsten White, MoE	
Lorena Mueller	
Nick Mejdress	
Rob Hutchins, Mayor	
Ronda Jordan, SFN	
Ross Davis	

RUTH MALLI, ToFL

Small





# Town of Ladysmith

## LIQUID WASTE MANAGEMENT COMMITTEE

Minutes of a meeting of the Liquid Waste Management Committee held in Council Chambers at City Hall on Wednesday, April 10, 2012 at 6:00 p.m.

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### Present:

John Wilson – Chair	Rob Hutchins – Mayor	Lorena Mueller
Al Gibb (ODK)	Baljeet Mann (MoE)	Curtis Baker (TOL)
David Brown	Glenda Patterson – Council Liaison	Gord Horth – Council Liaison
Greg Edwards	John Manson (TOL)	Nick Mejerdress
Harlan Kelley (ODK)	Ross Davis	Ruth Malli (TOL)
Bill Drysdale – Councillor	Duck Paterson - Councillor	

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**CALL TO ORDER**            The Chair called the meeting to order at 6:01 p.m.

**AGENDA**                    Agenda be amended to add adoption of January 18, 2012 minutes.  
**It was moved, seconded and carried that the agenda be approved as amended.**

**MINUTES**                    **It was moved, seconded and carried that the minutes of the January 18, 2012 Liquid Waste Management Advisory Committee meeting be adopted as circulated.**

**PROJECT COST REVIEW**            Table 3-1 LWMP Financial Commitments and Schedule prepared by Opus Dayton Knight (ODK) was reviewed by the members. John Manson, Director of Infrastructure Services for the Town of Ladysmith spoke to the concerns raised at the last meeting regarding the project cost differences and noted the following:

- Four green components were added to the project scope to increase qualifications for grant applications, which were not included in the \$12.0 mill. Estimated project cost, the cost of these items was approx.. \$2.0 Million.
- The Town was successful with a gas tax grant worth 5.2 million, which includes the sustainability components;
- Rational was to reduce the \$16 mill. down to \$12mill. cost if the sludge was processed off site, by deleting the entire costs of the ATAD components – however tanks are still needed so of the \$4 mill. deducted there is still approx. \$ 2 mill needed for Stage 3.

The LWM Plan and the Public consultation process is equivalent to the petition process. The questionnaire that went out to the public quoted that the cost to the tax payer would be \$115.00 parcel tax. Of those that responded 70-80% were in favour. Discussion ensued. Mayor Hutchins felt that the consensus from the public was that more money be put into tertiary treatment rather than extending the outfall. Further he felt First Nations was of the same opinion.

Other discussions from the committee strategy members pertained to the time frame. Item 2b Schedule Column of Table 3-1 will be changed to 2014-2015. Item 2d Schedule Column of Table 3-1 will be changed to 2015. Item 5c title needs to be changed to read “Composting at Local site” and the budget amount changed to \$250,000 / yr. Also, the disinfection strategy will be added.

**EFFLUENT  
DISINFECTION  
STRATEGY –  
STAGE III**

Al Gibb, Professional Engineer with Opus Dayton Knight gave a power point presentation covering the effluent disinfection strategy. The Town has to meet the Municipal Sewage Regulations and there is Federal disinfection standards to take into consideration. The presentation covered UV Disinfection vs Chlorine. Once a MBBR/DAF is in place then site specific testing can be done to determine effectiveness of UV for disinfection. These results together with the Stage 2 EIS will help with the decision making on the best feasible path to completion.

**FIRST NATIONS  
(FN)  
CONSULTATION  
UPDATE**

Ruth Malli, City Manager advised that herself , the Mayor and staff had met with First Nations on a number of matters. Generally First Nations are supportive of the Liquid Waste management Plan as drafted. The Mayor will be receiving a letter from the Chief to this effect. A letter from the Town to other First Nations bands, those in proximity to Ladysmith, has yet to be sent out. Ruth explained the delay was because the Town wanted to meet first with the Ministry of Environment. Once the letter has been sent there will be a 30 day notification time frame for responses to the Ministry.

**WATER  
SUSTAINABILITY  
STRATEGY**

John Manson, Director of Infrastructure Services talked to the Committee about water sustainability strategy. It may take a year or two to get through this process. Steps should be taken to move forward on the sustainability plan. Ladysmith is one of the few municipalities who handle their water from start to finish.

**BIO-SOLIDS  
HAULING UPDATE**

John Manson informed the Committee that it is not likely the Comox Valley Regional District will take our sludge. We should be hearing from them soon following their meeting. Two other possibilities – process at local Cowichan Valley Regional District or Capital Regional District’s Hartland site. Possible interm solution – works yard or site near by. Odour control would be critical. There are leasing opportunities for the equipment needed. Discussion ensued and the possibility of sludge going to a local mill was brought up. The sludge has to be processed before it leaves site if its going to a private sector facility. Could the Town partner with a private facility and if so, what % of ownership would be required of the Town for the business to be considered government and therefore a provincially approved facility. Baljeet Mann with the Ministry of Environment will enquire. Other methods to convert sludge to biosolids were discussed. What could be added? Lime? What could be done with the product that might be have an economic spin to it – make bricks. More research is needed into this. Composting may be the best option. “OMAR” is being reviewed and potentially could change – so the Ministry will keep us informed.

**APPROVAL OF  
LWMP – STAGE III**

Staff to check with Jim Cram and Gerry Clarke on their membership in the Committee. The Plan Monitoring Committee (PMC) will require terms of reference. The members were asked if the Committee is ready to approve the LWMP- Stage III.

It was moved, seconded and carried that the Liquid Waste Management Committee recommend that Council adopt the Liquid Waste Management Plan – Stage 3 as amended in the Liquid Waste Management Committee meeting of April 10, 2012. (Table 3-1 item 2b, 2d , 5c, add disinfection, update public engagement materials, add info on consultation as needed) .

It was moved, seconded and carried that the Liquid Waste Management Committee recommend that Council refer the LWMP Stage 3 to the Province for review and approval once any feedback from First Nations interests have been received, following the 30 days notice.

It was moved, seconded and carried that the Liquid Waste Management Committee recommend that Council include in the 2012 Financial Plan the initiation of the design for the Stage III Sewage Treatment Plan Improvements with construction to follow.

It was moved, seconded and carried that the Liquid Waste Management Committee recommend that Council refer the Water Sustainability Strategy to staff for consideration in 2012/2013, as staff resource's permit.

**NEXT MEETING**

Will be at the call of the chair

**ADJOURNMENT**

It was moved, seconded and carried that this meeting adjourn (7:50 p.m.)







## TOWN OF LADYSMITH

410 Esplanade, P.O. Box 220, Ladysmith, BC V9G 1A2  
Municipal Hall 250-245-6400 • Fax 250-245-6411 • [Info@ladysmith.ca](mailto:Info@ladysmith.ca) • [www.ladysmith.ca](http://www.ladysmith.ca)

April 29, 2010

Our File: 5340-05

Chief Councillor John Elliott  
Stz'uminus First Nation  
12611A Trans Canada Highway  
Ladysmith, BC. V9G 1M5

*John*

Dear Chief Elliott:

RE: TOWN OF LADYSMITH LIQUID WASTE MANAGEMENT PLAN OPEN HOUSE

On behalf of Council I respectfully invite you, members of your Council and members of the Stz'uminus First Nation to attend the Open House presentation and discussion regarding the development of the new Liquid Waste Management Plan for the Town of Ladysmith.

This Open House is the next step in the process that was presented to your Council at our joint meeting on April 6, 2010. The Open House will take place on Thursday, May 13 from 6:00 p.m. to 8:00 p.m., at the Aggie Hall in Ladysmith. Details are on the attached notice.

As we discussed at our April joint meeting as well as on other occasions, the effective and environmentally sustainable treatment of liquid waste and sewage is of utmost importance due to the potential impact on Ladysmith Harbour.

We hope that members of the Stz'uminus First Nation will be able to attend the Open House in order to continue to provide important input.

Do not hesitate to get in touch with me if you required further information.

Sincerely,

Rob Hutchins  
Mayor

Encl.

cowichan



Town of Ladysmith  
**Liquid Waste  
Management Plan**  
(Sewer and Drainage System)

**Public Open House  
and  
Presentation**

**Date:** Thursday, May 13, 2010  
**Time:** 6:00 pm to 8:00 pm  
Consultant presentation at 7:00 pm  
followed by question period  
**Location:** Aggie Hall  
1110 First Avenue  
Ladysmith

Additional information will be available at  
the Open House, or contact the Town of  
Ladysmith (see below).  
Or check the Town's website at  
[www.ladysmith.ca](http://www.ladysmith.ca)

**We value your active participation  
in this process.**

**Your opinions are important to us; we look  
forward to meeting you at the Open House.**

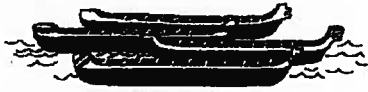
**Contact:**  
Public Works Department  
Town of Ladysmith  
250-245-6445

The Town began preparation of a Liquid Waste Management Plan (LWMP) in November, 2007. A technical team and a Joint Advisory Committee representing government agencies and a cross section of community interests developed a number of draft liquid waste management options.

One of the most important issues is to determine the best way to collect and treat wastewater (sewage) now and in the future. As the Town grows, the wastewater system will have to be expanded and the treatment facilities will have to be improved to meet increasingly stringent environmental regulations. A key issue is the need to upgrade the Town's wastewater treatment plant to protect water and sediment quality in sensitive Ladysmith Harbour. The following elements are also included in the LWMP:

- control of contaminants at the source;
- wastewater volume reduction;
- beneficial use of the treated solids (biosolids) produced by wastewater treatment;
- reclamation and reuse of treated wastewater; and
- management of storm runoff.

In accordance with provincial guidelines, the Town is seeking public input on the LWMP issues. The first Public Open House was held on July 9, 2009 to present the LWMP Options. The second Public Open House includes cost estimates for each option, and is designed to give the citizens of Ladysmith a voice in helping to develop the best long-term solutions for managing liquid waste.

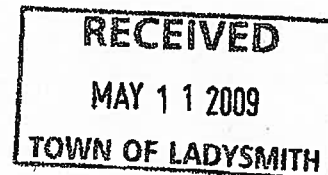


Chemainus First Nation  
Department of Natural Resources  
12611A Trans Canada Hwy  
Ladysmith BC, V9G-1M5  
Tel: (250) 245-7155 Fax: (250) 245-7140

Via E-mail to: [Gord.Smaill@gov.bc.ca](mailto:Gord.Smaill@gov.bc.ca)

May 11, 2009

Ministry of Agriculture and Lands  
Integrated Land Management Bureau  
142-2080 Labieux Road  
Nanaimo, BC  
V9T 6J9



**Attention: Gord Smalll**

**Re: File No. 1413319-0341103**

Please be advised the Chemainus First Nation (CFN) has recently reviewed your April 22, 2009 Referral File No. 1413319-0341103, in regards to the Town of Ladysmith's proposed amendment to their existing water licence.

The subject Referral falls within the traditional territory of the Chemainus First Nation, to which we have aboriginal title and rights that have never been ceded or extinguished. We are also currently in treaty negotiations with British Columbia and Canada for the lands and resources that are affected by the Referral.

While it is impossible to fully document CFN title and rights in the Referral area in this letter, we take this opportunity to provide some preliminary concerns to help facilitate the anticipated consultation process.

We have been engaged in Treaty negotiations to resolve our claims to lands and resources, including those contemplated in the Referral. We take the position that British Columbia should not be alienating, or creating new third party interests in, lands or resources that are currently on the treaty table. To do so while concurrently negotiating with CFN over title and rights to these resources appears to undermine the Treaty process in favour of the Crowns and/or proponents prevailing interim interests. Should this Referral be granted the proposed Licence of Occupation it must be executed in such a manner so as to not restrict, impede nor encumber CFN's treaty interests in the subject lands. In your response to this submission I ask that you specifically detail how a Licence of Occupation will not result in restrictions, impediments nor encumbrances to CFN's treaty interests in the subject lands.

Upon review of your submission it appears considerable studies and assessments have taken place with respect to evaluating potential environmental concerns as well as water supply issues. Please be advised your April 22, 2009 referral submission falls to include these reports for evaluation by CFN. At this time CFN does not specifically require formal copies of the subject reference materials and/or studies however we do reserve our options to request said materials should the need arise.

We also observe that it appears no Archaeological Overview Assessment (AOA) or Archaeological Impact Assessment (AIA) has occurred to date. CFN records reveal that the subject development area is positioned entirely within a Traditional Use Site, generally identified as a resource procurement region. We believe the potential for archaeological resources within the development area may be high and therefore request an AOA be conducted in advance of the project proceeding to the development stage. Should any archaeological or cultural heritage resources be identified through the AOA, CFN further reserves the option of requesting an AIA in advance of the project proceeding to the development stage.

By copy of this letter to Joe Friesenhan, Town of Ladysmith, CFN requests the proponent's appointed representative contact the undersigned so as to discuss CFN's preferred archaeologist for this undertaking.

CFN recognizes the importance of this initiative to the Town of Ladysmith and respective community members however CFN holds a duty to protect cultural heritage and archaeological resources within CFN traditional territory. As such, we ask for your cooperation in this regard and look forward to working with you and the proponents.

Please confirm that you will not make any decisions advancing this Referral prior to addressing our concerns and interests identified above. Should you have any specific questions or concerns regarding this submission please direct your inquires to the undersigned. Mr. Krevesky can be reached at (250) 245-6838 (ext 249).

Thank you,



Digital Signature

Heath Krevesky  
Referrals Coordinator  
Department of Natural Resources  
Cheminus First Nation

CC: Chief and Council, CFN

Warren Johnny, Manager, Department of Natural Resources, CFN  
Stephen Olson, Administrator, CFN  
Kathleen Johnnie, Referrals Coordinator, HTG  
Cameron Bezanson, Water Stewardship Division, Via e-mail to:  
[Cameron.Bezanson@gov.bc.ca](mailto:Cameron.Bezanson@gov.bc.ca)  
Joe Friesenhan, Town of Ladysmith, Via E-mail to: [clafleur@ladysmith.ca](mailto:clafleur@ladysmith.ca)



# TOWN OF LADYSMITH

410 Esplanade, P.O. Box 220, Ladysmith, B.C. V9G 1A2  
Municipal Hall (250) 245-6400 • Fax (250) 245-6411 • [info@ladysmith.ca](mailto:info@ladysmith.ca) • [www.ladysmith.ca](http://www.ladysmith.ca)

April 2, 2008

Attention: Chief & Council  
Chemainus First Nations  
12611 Trans Canada Highway  
Ladysmith, BC  
V9G 1M5

Dear Chief & Council;

The Town of Ladysmith passed a resolution on November 19, 2007 to develop a Liquid Waste Management Plan (LWMP). The LWMP is a comprehensive study that will determine how wastewater is managed in the community to minimize the environmental impacts of existing and future developments.

In 1992 the B.C. Ministry of Environment published "Guidelines for Developing a Liquid Waste Management Plan." As required in the guidelines, the Town is establishing a Local Advisory Committee to assist in developing the LWMP. The Local Advisory Committee will include Town staff, a consulting team, and representatives of the community including local businesses, ratepayer and consumer groups, environmental groups, First Nations, and elected officials. An extensive public and stakeholder consultation process is an essential component of a successful LWMP.

The Town of Ladysmith is committed to managing its water and wastewater in a cost-effective and environmentally responsible manner. We value your input and encourage you to participate as a member of the Local Advisory Committee.

Please contact the writer if you have any questions or if you would like further information. We would be grateful for your response within thirty (30) days stating whether or not you wish to participate in the LWMP.

Yours truly,

Joe Friesenhan, A.Sc.T.  
Director of Public Works

cowichan



## TOWN OF LADYSMITH

410 Esplanade, P.O. Box 220, Ladysmith, BC V9G 1A2  
Municipal Hall (250) 245-6400 • Fax (250) 245-6411 • Info@town.ladysmith.bc.ca • www.town.ladysmith.bc.ca

December 23, 2005

Our File: 0470-60

Chief Terry Sampson  
Chemainus First Nations  
12611 Trans Canada Highway  
LADYSMITH, B.C.  
V9G 1M5

Dear Chief Sampson,

RE: LETTER OF SUPPORT AND PROPOSED COMMUNITY ACCORD

On behalf of Council of the Town of Ladysmith, I wish to extend my most sincere gratitude for the letter of support that you provided on behalf of the Chemainus First Nation recently to Honourable Ida Chong, Minister of Community Services respecting the Town's application for funding for the wastewater treatment plant upgrade project.

I am absolutely delighted to report that the Town has been awarded \$2.25 million dollars from the Provincial Government for this innovative project, and I strongly believe that your letter of support was among the influential factors in the Ministry's deliberations.

I also wish to address the concerns raised in your follow-up correspondence of December 16, 2005. I thank you for raising and speaking openly about these concerns as the relationship and consultation between our two communities is very important to the Town.

That is the very reason why Council voted unanimously in March of 2005 (see attached correspondence) to invite the Chemainus First Nation to consider entering into a Community Accord with the Town of Ladysmith. The main purpose of a Community Accord is to formally recognize and understand our common interests and goals so that we may work, in true partnership, towards the greater good of our communities.

It is also the reason that the Town invited the Chemainus First Nation to send a representative to participate in the Town's Utilities Task Force which met throughout 2002 to review and plan for new and upgraded water and sewer infrastructure. Other requests for representation have been extended, including invitations to participate in the Health Care Task Force (2002) and the Harbour Task Force (2002). In addition, we continue to extend invitations to our Protective Services Committee meetings, Health Centre Advisory Committee meetings and Ladysmith Inter-agency Group meetings. Furthermore, we were extremely pleased to participate in the Tribal Canoe Journey in August 2004, as well as to host a meeting of our two Councils last Christmas season. While not all of our invitations are answered, we believe that the Town has made improvements in consultation and our goal is to continue that pattern.

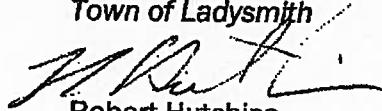
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cowichan

As was evidenced with the recent Provincial Government funding announcement, our communities are much stronger when we work together. It is my sincere hope, and that of Town Council, that you will consider our proposal to develop a Community Accord as a true and honest symbol of our intent to continue improving our relationship, as well as the wellbeing of our communities.

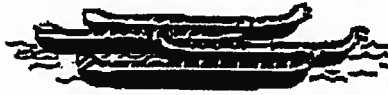
I would welcome an opportunity to discuss building the relationship of our two communities. I would suggest a breakfast meeting in the near future. Please contact me at 246-0420 at your convenience. I look forward to hearing from you.

Yours truly,  
Town of Ladysmith

A handwritten signature in black ink, appearing to read "R. Hutchins", written over the printed name.

Robert Hutchins  
Mayor





Chemainus First Nation  
12611A Trans Canada Hwy  
Ladysmith BC, V9G-1M5  
Tel: (250) 245-7155 Fax: (250) 245-7140

1411

December 15, 2005

Rob Hutchins, Mayor  
Town of Ladysmith  
Box 220  
Ladysmith BC, V9G-1A2

Re: Letter of Support – Wastewater Treatment Plant Upgrade – Town of Ladysmith

Dear Mr. Hutchins,

Earlier today I wrote a support letter to the Honorable Ida Chong regarding the above project that the town of Ladysmith will be initiating to improve better management of our sensitive marine environments. This was only done after discussion with my natural resources staff and their positive feedback.

I would like to add that I am frustrated regarding the process that your staff have taken with respect towards meaningful consultation with me, my council and the administration staff who are responsible for these types of projects within our traditional territory. I found it very disturbing that the staff, responsible for the protection of our nation's interests, were not given an opportunity to fully review the project details and fully comprehend the severity it may have on our interests or aboriginal rights, due to your time frames.

Therefore, I write to express that only after discussions with my natural resources manager, did I felt comfortable in providing the letter of support for the project. I'm saddened and I am suggesting that better communications between our communities be implemented in the future, but also that we need to develop a mechanism for dealing with each other on a government to government basis.

I want to remind you, we don't view ourselves as stakeholders within our traditional territory, but are the caretakers of a resource that has been our sustenance since time immemorial.

We are also striving for the greatest benefit for our communities and since we are going to be neighbors for centuries to come, I believe we must work together to establish an understanding of each others aspirations and common goals within our beautiful geographical area for the benefit of both our communities and our future generations.

Sincerely,

Chief Terry Sampson

TS/wj



## Hul'qumi'num TREATY GROUP

12611B Trans Canada Highway  
Ladysmith, B.C. V9G 1M5  
Ph: (250) 245-4660 fax: (250) 245-4668  
Toll Free: 1-888-9TREATY  
E-Mail: hlg-communications@shaw.ca

CIEMANUS  
FIRST NATION

LAKE COWICHAN  
FIRST NATION

COWICHAN TRIBES

LYACKSON FIRST NATION

HALALT FIRST NATION

PENELAKUT TRIBE

June 13, 2005

Joe A. Friesenhan, A.Sc.T., Director of Public Works  
Town of Ladysmith  
410 Esplanade, PO Box 220  
Ladysmith, B.C. V0R 2E0  
FAX: 250-245-8411

**RE: Town of Ladysmith's proposed Waste Water Treatment Centre  
atop recorded archeological site, DfRw-013**

Dear Mr. Friesenhan,

The staff of Hul'qumi'num thank you for the tour of the Ladysmith Sewage Treatment Plant and the area proposed for upgrade. The Hul'qumi'num Treaty Group (HTG) appreciates the efforts of Town of Ladysmith's Public Works Department's to protect our First Nations' archaeological heritage site, DfRw-013, during the planning phase of the proposed new Waste Water Treatment Center at Holland Creek.

HTG acknowledges that the current building plans have been redesigned to avoid the disturbance of the majority of archaeological deposits at DfRw-013; however, we caution the Town of Ladysmith that there are recorded archaeological materials within the proposed development area that require further archaeological attention.

First, we note that the Archaeological Impact Assessment study identified at least three positive subsurface tests (ST 32-34) in the proposed development area located on the upper terrace (pp.11). According to the preliminary site plans, these archaeological materials are located in the area of the proposed new Stage 1 service building, sludge pumps, and seawater tanks. In Appendix 1 of the AIA study, ArchaeoResearch Ltd. has interpreted that the cultural deposits observed in ST 32-34 are small, shallow, redistributed concentrations of archaeological materials. Regardless of their condition, however, please be advised that s.13 (2) of the *Heritage Conservation Act* [R.S.B.C. 1996, chapter 187] protects all archaeological materials from any non-permitted disturbance.

Secondly, we understand that the boundary of the proposed development area is located within and estimated two metres from observed archaeological deposits on the upper terrace at DfRw-013. The Hul'qumi'num Treaty Group is concerned that there is a high potential for the disturbance of archaeological materials by proposed development activity on the periphery of the estimated DfRw-013 site boundary.

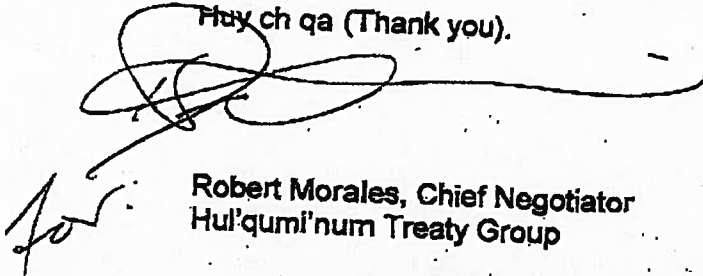
HTG Letter to MSRM – DfRw-081 Transfer Beach Park, Ladysmith, April 5, 2004

Thirdly, based on our review of the ArchaeoResearch Ltd.'s *Archaeological Impact Assessment Study* [AIA] (2004), it is evident that the DfRw-013 archaeological site since last recorded by the provincial government in 1974 has been largely destroyed by the past construction of the municipal sewage treatment plant in the Town of Ladysmith. The DfRw-013 site form of 1974 estimated the original site boundary at 120 m x 30 m – a size three times larger than the present estimate of 42 m x 13 m in 2004. The Hul'qumi'num Treaty Group is concerned that there may be additional unrecorded archaeological materials, deposits and features within the Waste Water Treatment Plant property that may be negatively impacted by proposed development activity.

For these reasons, the Hul'qumi'num Treaty Group recommends that the Town of Ladysmith contact the Archaeology and Registry Services Branch, Ministry of Sustainable Resource Management for further advice on whether the Town of Ladysmith is required to apply for a Heritage Site Alteration Permit (s.12) *Heritage Conservation Act* [RSBC 1996, Chapter 187] prior to proceeding with its proposed construction. The purpose of a Heritage Site Alteration Permit is to receive provincial authorization to conduct a defined set of activities that may alter a recorded archaeological site. A permit provides a detailed outline of the proposed development activities and conservation measures necessary to mitigate any related negative impacts to an archaeological site, such as monitoring of all land-altering development activities. Importantly, a Heritage Site Alteration Permit is held by a representative in charge of the development (ie. the Town of Ladysmith), not a contracted archaeological consultant.

The Hul'qumi'num Treaty Group would be pleased to assist the Town of Ladysmith in this matter and work directly with our First Nations to accommodate our concerns. Thank you for your consideration of our First Nations' heritage in the Town of Ladysmith – *Heritage-by-the-Sea*. If you have any questions, please contact Kathleen Johnnie, Referrals Co-ordinator at 250-245-4660, or if you prefer email: [kathleenj@hulquminum.bc.ca](mailto:kathleenj@hulquminum.bc.ca)

Huy ch qa (Thank you).

  
Robert Morales, Chief Negotiator  
Hul'qumi'num Treaty Group

cc. Robert Hutchins, Mayor, Town of Ladysmith (250-245-6411)  
Honourable George Abbott, MSRM (250-356-8273)  
Justine Batten, Director, Archaeology and Registry, MSRM (250-952-4188)  
Chemainus First Nation, Chief and Council  
attn: Warren Johnny and Ramona Sampson



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**AN ARCHAEOLOGICAL INVENTORY SURVEY OF  
TRANSFER BEACH PARK, LADYSMITH, B.C.**

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*CONDUCTED UNDER HERITAGE INSPECTION PERMIT 2004-019*

*PREPARED FOR:*

TOWN OF LADYSMITH  
P.O. BOX 220  
LADYSMITH, B.C. V9G 1A2

*PREPARED BY:*



ARCHAEO RESEARCH LIMITED  
205 - 2614 BRIDGE STREET  
VICTORIA, B.C. V8T 4S9

MAY, 2004



# TOWN OF LADYSMITH LIQUID WASTE MANAGEMENT PLAN

## PUBLIC INPUT FORM

**Please let us know your thoughts and preferences regarding the way the Town of Ladysmith treats waste water (sewage). First, review the following information carefully.**

Every time we flush a toilet, we make waste that needs to go somewhere. Where does it go, and what happens to it along the way?

Most of us don't spend much time thinking about what needs to be done to our raw sewage so that it is safe to dispose of.

The Town of Ladysmith has spent a lot of time thinking about what to do with our sewage, and is developing a Liquid Waste Management Plan. This plan will lay out how the Town can best manage its liquid waste (sewage) for the next thirty to fifty years.

An Advisory Committee made up of local residents as well as provincial government officials has developed a number of options, and has consulted with the public as well as the Stz'uminus First Nation. It is clear from feedback received that our community supports actions that protect the local environment, especially the water quality in Ladysmith Harbour.

Before finishing the Liquid Waste Management Plan, we want to hear from the residents of Ladysmith. Please read the information here carefully, fill out the questionnaire below, and let us know your thoughts, comments and suggestions.

Highlights of the draft Liquid Waste Management Plan include:

- **Manage waste water effectively**
  - Upgrade Ladysmith's sewage treatment plant from Primary Treatment to Secondary Treatment to meet Provincial and Federal regulations, and discharge the treated water into Ladysmith Harbour
  - Complete an environmental impact study after the sewer plant upgrade to make sure that water quality in Ladysmith Harbour meets Provincial and Federal regulations to protect water and shellfish
  - If need be, develop a more advanced waste water treatment system, and/or move the outlet for the treated waste water outside the Harbour (after studies are completed to find the best and safest location for the outlet)
  - Purchase property for future replacement or expansion of the sewer treatment facility at a new location.
- **Reduce the amount of waste water in the system**
  - Keep storm runoff out of the sewer system
  - Encourage citizens to make less sewage by using less water
- **Manage storm water in the sewer system**
  - Find ways to keep rainwater in the ground rather than running into storm drains
  - Encourage development that preserves natural drainage systems

- **Reclaim and reuse resources**
  - Use reclaimed water at the upgraded waste water treatment plant for things like washdown, watering or processing
  - Reclaim storm run-off in pockets of new development such as Holland Creek
  - Extract heat from waste water to use in the treatment plant
  - Make electricity from a turbine on the effluent (sewage) stream at the treatment plant
- **Use leftover, treated waste solids**
  - Work with the Cowichan Valley Regional District on a joint composting project
  - Look into other uses or partnerships with the private sector (this would require further processing of the waste solids before taking them off-site)
- **Prevent hazardous and toxic waste from entering the sewer and storm drain systems**
  - Through monitoring, education and development of bylaws to set standards
  - Keep track of discharge by businesses and industry

**HOW MUCH IS THIS GOING TO COST ME AS A TAXPAYER?**

The cost of the new secondary sewage treatment plant depends on how much money the Town receives in grants from the provincial and federal governments and how much can be collected through development fees. Waste water treatment plants are expensive to build, and moving to a further amount of treatment of the raw sewage will lead to higher operating costs. The estimated cost increase to implement the plan as outlined here shown in the table below. Each Ladysmith household that is connected to the sewer system currently pays \$154 a year without grant funding to help pay for the sewer plant upgrades for secondary treatment this annual amount will go up to \$269. Please see table:

<i>Project</i>	<b>Cost</b>	<b>Additional Cost to Taxpayer</b>
Completed Upgrades and Current Work on the First Phase of Secondary Treatment	\$5,500,000	None
Future Secondary Treatment	\$12,000,000	None (with grant) or \$115 Annually (without grant)
<b>Future Upgrade if Required (2020)</b>		
Extend Outfall Outside Harbour	\$5,000,000	\$115 Annually (without grant & without growth)
<b>OR</b>		
Advanced Treatment	\$7,000,000	\$166 Annually (without grant & without growth)

Please take a few minutes to fill out the attached input form. This is your chance to let us know what you think about the Town's plans for treating our sewage and to share any comments or suggestions.

If you would like further information, visit our website at [www.ladysmith.ca](http://www.ladysmith.ca), or contact Joe Friesenhan, Director of Public Works (250.245.6440; [jfriesenhan@ladysmith.ca](mailto:jfriesenhan@ladysmith.ca)).

Please return your completed form **by September 2, 2011** to :

- City Hall at 410 Esplanade
- Public Works at 330 6th Avenue
- Frank Jameson Community Centre at 660 6<sup>th</sup> Avenue

**OR** mail it to: Town of Ladysmith, P.O. Box 220, Ladysmith BC V9G 1A2



***With the options for sewage treatment and their estimated costs in mind, please state whether or not you agree with the following statements:***

- (1) The Town of Ladysmith should expand and upgrade the existing wastewater treatment plant from primary to secondary treatment of waste water to meet Provincial and Federal regulations.**

Strongly Agree  Somewhat Agree   Somewhat Disagree Strongly Disagree  Not Sure

- (2) If needed to protect Ladysmith Harbour, the outlet for treated waste water should be moved outside the harbour**

Strongly Agree  Somewhat Agree  Somewhat Disagree  Strongly Disagree  Not Sure

- (3) If needed to further protect Ladysmith Harbour, the waste water treatment plant should be upgraded to provide additional advanced treatment**

Strongly Agree  Somewhat Agree  Somewhat Disagree  Strongly Disagree  Not Sure

- (4) If feasible, features should be added at the waste water treatment plant to allow heat and energy recovery**

Strongly Agree  Somewhat Agree  Somewhat Disagree  Strongly Disagree  Not Sure

**Additional comments or thoughts:**

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**Thank you for taking the time to give us your comments and thoughts.  
Your input is vital to this process.**

## WELCOME!

Please let us know your thoughts and preferences regarding the way the Town of Ladysmith treats sewage. This survey should take no more than 10 minutes of your time. The first three pages contain important information to help you answer the four short survey questions.

Your answers will be completely anonymous. In order to progress through this survey, please use the following navigation buttons:

- ~ Click the 'Next' button to continue to the next page
- ~ Click the 'Previous' button to return to the previous page.
- ~ Click the 'Exit the Survey Early' button if you need to exit the survey.
- ~ Click the 'Submit' button to submit your survey.

## **READ THIS FIRST -- IMPORTANT INFORMATION**

Every time we flush a toilet, we make waste that needs to go somewhere. Where does it go, and what happens to it along the way?

Most of us don't spend much time thinking about what needs to be done to our raw sewage so that it is safe to dispose of.

The Town of Ladysmith has spent a lot of time thinking about what to do with our sewage, and is developing a Liquid Waste Management Plan. This plan will lay out how the Town can best manage its liquid waste (sewage) for the next thirty to fifty years.

An Advisory Committee made up of local residents as well as provincial government officials has developed a number of options, and has consulted with the public as well as the Stz'uminus First Nation. It is clear from feedback received that our community supports actions that protect the local environment, especially the water quality in Ladysmith Harbour.

Before finishing the Liquid Waste Management Plan, we want to hear from the residents of Ladysmith. Please read the information here carefully, answer the four short questions, and let us know your thoughts, comments and suggestions.

## LADYSMITH'S SEWAGE TREATMENT PLAN -- HIGHLIGHTS

Highlights of the draft Liquid Waste Management Plan include:

1. Manage waste water effectively

- o Upgrade Ladysmith's sewage treatment plant from Primary Treatment to Secondary Treatment to meet Provincial and Federal regulations, and discharge the treated water into Ladysmith Harbour
- o Complete an environmental impact study after the sewer plant upgrade to make sure that water quality in Ladysmith Harbour meets Provincial and Federal regulations to protect water and shellfish
- o If need be, develop a more advanced waste water treatment system, and/or move the outlet for the treated waste water outside the Harbour (after studies are completed to find the best and safest location for the outlet)
- o Purchase property for future replacement or expansion of the sewer treatment facility at a new location.

2. Reduce the amount of waste water in the system

- o Keep storm runoff out of the sewer system
- o Encourage citizens to make less sewage by using less water

3. Manage storm water in the sewer system

- o Find ways to keep rainwater in the ground rather than running into storm drains
- o Encourage development that preserves natural drainage systems

4. Reclaim and reuse resources

- o Use reclaimed water at the upgraded waste water treatment plant for things like washdown, watering or processing
- o Reclaim storm run-off in pockets of new development such as Holland Creek
- o Extract heat from waste water to use in the treatment plant
- o Make electricity from a turbine on the effluent (sewage) stream at the treatment plant

5. Use leftover, treated waste solids

- o Work with the Cowichan Valley Regional District on a joint composting project
- o Look into other uses or partnerships with the private sector (this would require further processing of the waste solids before taking them off-site)

6. Prevent hazardous and toxic waste from entering the sewer and storm drain systems

- o Through monitoring, education and development of bylaws to set standards
- o Keep track of discharge by businesses and industry

HOW MUCH IS THIS GOING TO COST ME AS A TAXPAYER? GO TO THE NEXT PAGE...

## HOW MUCH WILL LADYSMITH'S PROPOSED SEWAGE TREATMENT PLAN COST?

The cost of the new secondary sewage treatment plant depends on how much money the Town receives in grants from the provincial and federal governments and how much can be collected through development fees. Waste water treatment plants are expensive to build, and moving to a further amount of treatment of the raw sewage will lead to higher operating costs. The estimated cost increase to implement the plan as outlined here shown in the table below. Each Ladysmith household that is connected to the sewer system currently pays \$154 a year without grant funding to help pay for the sewer plant upgrades for secondary treatment this annual amount will go up to \$269. Please see table:

<b>SEWAGE TREATMENT COSTS</b>		
<b>Project</b>	<b>Cost</b>	<b>Additional Cost to the Taxpayer</b>
Completed Upgrades and Current Work on the First Phase of Secondary Treatment	\$5,500,000	None
Future Secondary Treatment	\$12,000,000	None (with grant) or \$115 Annually (without grant)
<b>Future Upgrade if Required (2020)</b>		
Extend Outfall Outside Harbour	\$5,000,000	\$115 Annually (without grant & without growth)
<b>or</b>		
Advanced Treatment	\$7,000,000	\$166 Annually (without grant & without growth)

Four simple questions are all you need to answer, and then you are done.

**1. The Town of Ladysmith should expand and upgrade the existing wastewater treatment plant from primary to secondary treatment of waste water to meet Provincial and Federal regulations.**

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Not Sure

**2. If needed to protect Ladysmith Harbour, the outlet for treated waste water should be moved outside the harbour**

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Not Sure

**3. If needed to further protect Ladysmith Harbour, the waste water treatment plant should be upgraded to provide additional advanced treatment**

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Not Sure

**4. If feasible, features should be added at the waste water treatment plant to allow heat and energy recovery.**

- Strongly Agree
- Somewhat Agree
- Somewhat Disagree
- Strongly Disagree
- Not Sure

## YOUR THOUGHTS AND COMMENTS

**5. Please tell us your thoughts, comments or concerns.**

A large, empty text input area with a vertical scrollbar on the right side. The area is light gray and occupies most of the page below the question. The scrollbar is located on the right edge of the text box, with a small triangle at the top and bottom.



## **YOUR WORK IS DONE!**

Thank you for taking the time to give us your comments and thoughts. Your input is vital to the process!

If you would like more information, please visit [www.ladysmith.ca](http://www.ladysmith.ca) and click on the Sewage Treatment link on the home page.

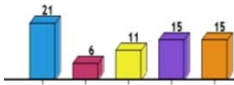
Or, contact Joe Friesenhan, Director of Public Works, at 250.245.6440 or [jfriesenhan@ladysmith.ca](mailto:jfriesenhan@ladysmith.ca)

Done 68

### Audience Question #1

How did you first hear about this meeting?

- A. Local Newspaper
- B. Town Bulletin Board
- C. Electronic Notice, Twitter, Facebook
- D. Town Newsletter in Utility Bill
- E. Word of Mouth



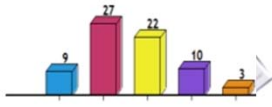
Option	Count
A. Local Newspaper	21
B. Town Bulletin Board	6
C. Electronic Notice, Twitter, Facebook	11
D. Town Newsletter in Utility Bill	15
E. Word of Mouth	15

Done 71

### Audience Question #2

Throughout the evening there will be many opportunities to ask questions or make a statement. In the interest of allowing everyone voices to be heard how much time do you wish to allow for individual question-statements?

- A. Thirty seconds
- B. One Minute
- C. Two Minutes
- D. Three Minutes
- E. Five Minutes




Option	Count
A. Thirty seconds	9
B. One Minute	27
C. Two Minutes	22
D. Three Minutes	10
E. Five Minutes	3

Done 71

### Audience Question #3

Where do you live in Ladysmith?

- A. North of the Holland Creek
- B. South of the Holland Creek
- C. I do not live in Ladysmith



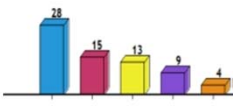
Option	Count
A. North of the Holland Creek	44
B. South of the Holland Creek	21
C. I do not live in Ladysmith	6

Wait 0

### Audience Question #4

How long have you lived in Ladysmith?

- A. < 10 years
- B. 10 – 20 years
- C. 21 – 40 years
- D. 41 + years
- E. I do not live in Ladysmith



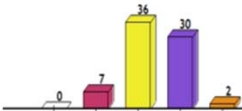
Option	Count
A. < 10 years	28
B. 10 – 20 years	15
C. 21 – 40 years	13
D. 41 + years	9
E. I do not live in Ladysmith	4

Wait 0

### Audience Question #5

What is your age?

- A. < 24 years
- B. 24 – 39 years
- C. 40 – 59 years
- D. 60 - 79 years
- E. 80+



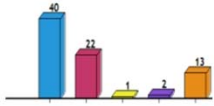
Option	Count
A. < 24 years	0
B. 24 – 39 years	7
C. 40 – 59 years	36
D. 60 - 79 years	30
E. 80+	2

Done 76

### Audience Question #6


The Town of Ladysmith should expand and upgrade the existing wastewater treatment plant from primary to secondary treatment ?

- A. Strongly Agree
- B. Agree
- C. Disagree
- D. Strongly Disagree
- E. I need more information



Option	Count
A. Strongly Agree	40
B. Agree	22
C. Disagree	1
D. Strongly Disagree	2
E. I need more information	13

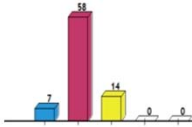
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### Audience Question #7

If further action is needed to protect Ladysmith Harbour I would support:

- A. The outfall be extended out of the harbour.
- B. The treatment plant be upgraded to provide additional advanced treatment.
- C. I need more information



Option	Count
A. The outfall be extended out of the harbour.	7
B. The treatment plant be upgraded to provide additional advanced treatment.	58
C. I need more information	14
Other	0
Other	0





## **JOINT NEWS RELEASE**

**FOR IMMEDIATE DISTRIBUTION**

### **STZ'UMINUS FIRST NATION AND TOWN OF LADYSMITH SIGN MEMORANDUM OF UNDERSTANDING TO GUIDE JOINT PROJECTS**

**LADYSMITH, August 27, 2012** – The Councils of the Town of Ladysmith and Stz'uminus First Nation today signed a new and far-reaching joint agreement, this one designed to guide how they will work together on specific initiatives.

“This is the next step in working closely together on projects that will benefit our communities and make them stronger,” said Chief John Elliot.

“The Memorandum of Understanding sets out a list of overdue and exciting joint initiatives that we will be working on together,” said Ladysmith Mayor Rob Hutchins.

Joint initiatives contained in the Memorandum of Understanding (MOU) include:

- The inclusion of water and sewer services to SFN in the Town's Liquid Waste Management Plan and the support of the SFN for the LWMP and the Holland Lake/Stocking Lake Pipeline
- Service agreements for Water and Sewer Services provided by the Town of Ladysmith to 1,500 homes in IR 12 and 13, with 100 of these connections to take place in the very near future
- Collaborative watershed management for the protection of our shared drinking water supply
- Clean-up of the Ladysmith Harbour and a possible marina expansion
- Uniform bylaws for the protection of the environment
- Joint applications for mutual funding opportunities and grants
- Consultation on amendments to the Town's Official Community Plan
- Joint development of industrial land in South Ladysmith
- Inclusion of First Nations heritage and culture in future agreements and projects, and formal recognition of Stz'uminus First Nation within the Town

- Harmonization of new land use policy

The two communities first pledged in 2007 to strengthen their relationship and work together on matters of common interest when they signed their original Community Accord. In May this year, they signed an updated Accord, titled the Naut'sa Mawt (Working Together) Community Accord, which reaffirms and strengthens the communities' commitment to build their relationship and increase cooperation, and lays out specific steps for how to work together on joint initiatives.

The Memorandum of Understanding has been approved by both Councils and is effective immediately.

- 30 -

For further information:  
*Chief John Elliott*  
250.245.7155

*Mayor Rob Hutchins*  
250.245.6403



## MEMORANDUM OF UNDERSTANDING

A MEMORANDUM OF UNDERSTANDING WITH RESPECT TO STZ' UMINUS FIRST NATION AND THE TOWN OF LADYSMITH RELATIONS AND PARTNERSHIPS

BETWEEN:

**STZ'UMINUS FIRST NATION**

12611 Trans Canada Highway  
Ladysmith, British Columbia  
V7T 1A2

("Stz'uminus First Nation")

and

**TOWN OF LADYSMITH**

PO Box 220, 410 Esplanade  
Ladysmith, British Columbia  
V9G 1A2

("Town")

(Collectively referred to as the "Parties")

GIVEN THAT:

- A. The Parties are engaged in discussions toward establishing a long-term, meaningful relationship in relation to their respective communities;
- B. The Parties wish to work collaboratively to support their respective communities' goals and objectives in a principled manner;
- C. Each of the Stz'uminus First Nation and the Town respects the lawful jurisdiction of the other Party;
- D. The Stz'uminus First Nation, the Town and the Province of British Columbia have engaged in discussions as reflected in this Memorandum of Understanding respecting:
  - (a) Liquid Waste Management Plan Approval;
  - (b) IR 12 (Oyster Bay) and IR 13 (Kulleet Bay and Shell Beach) Water/Sewer Services Agreement;
  - (c) Holland Lake-Stocking Lake Pipeline Agreement;
  - (d) Watershed management;
  - (e) Operational services, such as building inspection, and water meter reading;
  - (f) Boundary extension;

- (g) Ladysmith Harbour clean-up;
  - (h) DL 651 Partnership;
  - (i) Uniform bylaws for the protection of environment;
  - (j) Explore mutual funding opportunities;
  - (k) OCP consultation;
  - (l) South Ladysmith Stz'uminus First Nation (Crown) Land development;
  - (m) Incremental Treaty Process;
  - (n) Inclusion of First Nation's heritage/culture;
  - (o) Emergency Preparedness.
- E. The Parties intend this Memorandum of Understanding to set out their mutual expectations and goals in relation to the matters contained herein;
- F. The Memorandum of Understanding is to be read in the context of the Naut'Sa Mawt (Working Together) Community Accord and the Cooperation Protocol between the parties, and the principles stated therein;

**THE PARTIES AGREE AS FOLLOWS:**

**Guiding Principles**

1. In relation to the matters expressly addressed in this Memorandum of Understanding, the following principles apply:
  - (a) The Stz'uminus First Nation has constitutionally protected rights and it asserts aboriginal rights and title to its traditional territory; and
  - (b) The Town is a municipality with governance authorities as set out in Provincial legislation; and
  - (c) The Stz'uminus First Nation is a first nation with governance authority under federal law and rights of a self-governing nation; and,
  - (d) The Stz'uminus First Nation and the Town have mutual interests and shared objectives; and
  - (e) The Stz'uminus First Nation and the Town are building a working relationship based on mutual respect, cooperation, friendship, and trust; and



- (f) The Stz'uminus First Nation and the Town wish to further their relationship by entering into this Memorandum of Understanding following up on the Community Accord and Cooperation Protocol.

**Liquid Waste Management Plan Approval**

- 2. (a) The Stz'uminus First Nation supports the Town's Liquid Waste Management Plan.
- (b) The Town will provide the Stz'uminus First Nation with capacity in the Town's Waste Treatment Plant upgrade, in order to provide IR 12 and IR 13 with sanitary sewer services to facilitate the orderly and efficient development of IR 12 and IR 13.
- (c) The Stz'uminus First Nation will on the reference date of an agreement between the parties with respect to section 3(c) deliver to the Province of British Columbia a letter supporting the Town's Liquid Waste Management Plan.

**IR 12 AND IR 13 Water/Sewer Services Agreement**

- 3. (a) The Town will provide water and sanitary services
  - (i) for 1000 connections to the Stz'uminus First Nation's IR12 Reserve Lands (Oyster Bay); and
  - (ii) for 500 connections to the Stz'uminus First Nations IR13 Reserve Lands (Kulleet Bay and Shell Beach) Lands, plus potential capacity for additional units in the future,

at the same level of service the Town provides to lands and occupants throughout the Town, on generally the same terms and conditions, and subject in all respects to the same limitations, as are applicable to the provision of these services to lands in the Town and to occupants of those lands, after the Town completes the upgrade of its sewer and water capacity.

- (b) The parties will develop the phraseology of mutually satisfactory services agreements to implement sub-paragraphs (a)(i) and (ii).
- (c) Despite section 3(a), and until the parties can enter into the agreements under section 3(b), the parties will enter into an interim water and sewer services agreement for the Town to provide such services for the first 100 connections (of the total number of 1000 connections) for water and sewer for use by the Stz'uminus First Nation on IR 12 (Oyster Bay). This interim agreement will be amalgamated with the final comprehensive agreement referred to in section 3(b).

### **Holland Lake – Stocking Lake Pipeline Agreement**

4. The Stz'uminus First Nation will, on the reference date of an agreement to provide water and sanitary sewer services under section 3(c), deliver to the Province of British Columbia a letter to support the Town's proposal to construct, install, operate, and maintain and repair a potable water pipeline between Holland Lake and Stocking Lake.

### **Watershed Management**

5. The Stz'uminus First Nation and the Town will work together and facilitate stakeholders (e.g. other government agencies and private land owners) to develop a watershed management plan in relation to the Town's water service and commitments under its LWMP, and the Town will manage the plans and the services.

### **Operational Services**

6. (a) In the Water and Sewer Services Agreement referred to in section 3(b), the parties may include provision by the Town of other services of an operational nature, including building inspection and water meter reading. Other services that may be discussed include preparation of tax notices, bylaw enforcement, police services or other matters. The Agreement will also include provision by Stz'uminus First Nation of services to the Town including but not limited to operational services. It is the intent to reduce duplication of services to the extent feasible.
- (b) The parties will develop phraseology for a mutually satisfactory set of provisions for operational services to be included in the services agreement.

### **Boundary Extension**

7. (a) The Stz'uminus First Nation supports the extension of the Town's boundaries in the area shown on Schedule A, subject to the satisfactory conclusion of discussions between Stz'uminus First Nation and third parties.
- (b) The Stz'uminus First Nation will on the reference date of the agreement made between the parties under section 3(c) deliver to the Province of British Columbia a letter to support the boundary extension.

### **Ladysmith Harbour Clean-Up**

8. The Stz'uminus First Nation and the Town will work together to utilize their jurisdiction, resources and capacity to work with the Federal and Provincial governments agencies and the private sector to take such action as may be necessary to move in the direction of ultimately restoring Ladysmith Harbour to its original natural state, subject to the limited financial resources of each of the parties.

### **DL 651 Partnership**

9. (a) The Stz'uminus First Nation and the Town will continue their discussions on utilizing DL 651 for the purposes of cleaning up Ladysmith Harbour, further to section 8, and ultimately for the purpose of an expanded marina as a joint project in which both will have a significant role and interest.
- (b) The parties will develop the phraseology of a mutually satisfactory DL 651 partnership agreement.

### **Uniform Bylaws for the Protection of Environment**

10. (a) The Stz'uminus First Nation and the Town will consult on the desirability of harmonizing and making uniform a number of regulatory bylaws that would apply in the Town and on the Reserve in relation to the protection of the environment or other regulatory matters.
- (b) Both the Town and Stz'uminus First Nation will follow the commitments under the LWMP (e.g. source point control bylaw).
- (b) Subject to its ongoing discussions on land use and management leading to its land code, the objective of the Stz'uminus First Nation is that every person on the Reserve who uses water obtained from the Town water supply system act consistent with orders or bylaws respecting water use restrictions and orders or bylaws respecting fire protection and building safety.

### **Explore Mutual Funding Opportunities**

11. Each of the parties has access to unique funding opportunities for capital works, including infrastructure, facilities and services. The parties will work together on an overarching mutual funding opportunity plan.

### **Official Community Plan Consultation**

12. Under section 879 of the *Local Government Act*, the Town will consult with the First Nation on amendments to the Town's Official Community Plan by providing the First Nation with early and ongoing opportunities to make submissions to the Town in relation to the preparation of an Official Community plan amendment, to attend a meeting with the Town's staff if desired by the First Nation, and to make submissions at the formal public hearing if the First Nation so desires.

### **South Ladysmith Stz'uminus First Nation (Crown) Land Development**

13. The parties will develop the phraseology of a mutually satisfactory servicing agreement and development plan in respect of the South Ladysmith Crown Land Development by the Stz'uminus First Nation.

### **Incremental Treaty Process**

14. (a) The Stz'uminus First Nation will consult with the Town in relation to the Incremental Treaty Process on the same basis as the Town consults with the First Nation in relation to Official Community Plan amendments under section 12.
- (b) Without limiting paragraph 9(b) or 14(a), the Parties may develop partnerships in relation to Crown Land located within the Town, and in this regard may develop the phraseology of a mutually satisfactory partnership agreement for each partnership.

### **Inclusion of First Nation's Heritage/Culture**

15. (a) The Town acknowledges and agrees that the Stz'uminus First Nation's heritage and culture will be reflected in each of the agreements, plans and understanding reached by the parties under this Memorandum of Understanding.
- (b) The parties will provide for the formal recognition of Stz'uminus First Nation within the Town.

### **Emergency Preparedness.**

16. The parties will work together to enhance the Cowichan Valley Regional District's emergency preparedness plan.

### **Land Use Strategy**

17. The Stz'uminus First Nation and the Town will work together towards land use policy harmonization in the context of the Town's Official Community Plan, the Stz'uminus First Nation's Oyster Bay Land Use Plan and Smart Growth Principles, recognizing that each is subject to laws and statutory requirements and each is an independent government whose discretion cannot be fettered.

### **General**

18. This Memorandum of Understanding is not a binding legal agreement. It does not define, create, recognize or amend the rights of the Parties. This Memorandum of Understanding is not intended to be a treaty or a land claims agreement within the meaning of sections 25 and 35 of the *Constitution Act, 1982*. Nothing in this Memorandum of Understanding, or anything done based on it, is to be taken as limiting, interfering with, or derogating from the constitutionally protected rights of Stz'uminus First Nation and the assertion by it of its aboriginal rights and title to its traditional territory.
19. Nothing in this Memorandum of Understanding obliges the Town to act in a manner inconsistent with Provincial legislative and Town bylaw regulatory jurisdictions or authorities.

- 20. Nothing in this Memorandum of Understanding obliges the Stz'uminus First Nation to act in a manner inconsistent with applicable laws or regulatory or other authorities having jurisdiction with respect to Stz'uminus First Nation and its affairs.
- 21. For greater certainty, this Memorandum of Understanding will not be interpreted in a manner which fetters the discretion of statutory decision makers.

**Public Messaging**

- 22. Given that the Parties are engaged in discussions toward establishing a long-term, meaningful relationship in relation to their respective communities, the Parties will work together in relation to constructive positive public messaging in respect of this Memorandum of Understanding and the agreements arising out of it.

**Schedules**

- 23. The following schedules are attached to and form part of this Memorandum of Understanding:
  - (a) Schedule A – Boundary Extension Area

EXECUTED in Ladysmith, British Columbia on the \_\_\_\_ day of \_\_\_\_\_, 2012.

**On behalf of the STZ'UMINUS FIRST NATION**

**On behalf of the TOWN OF LADYSMITH**

\_\_\_\_\_

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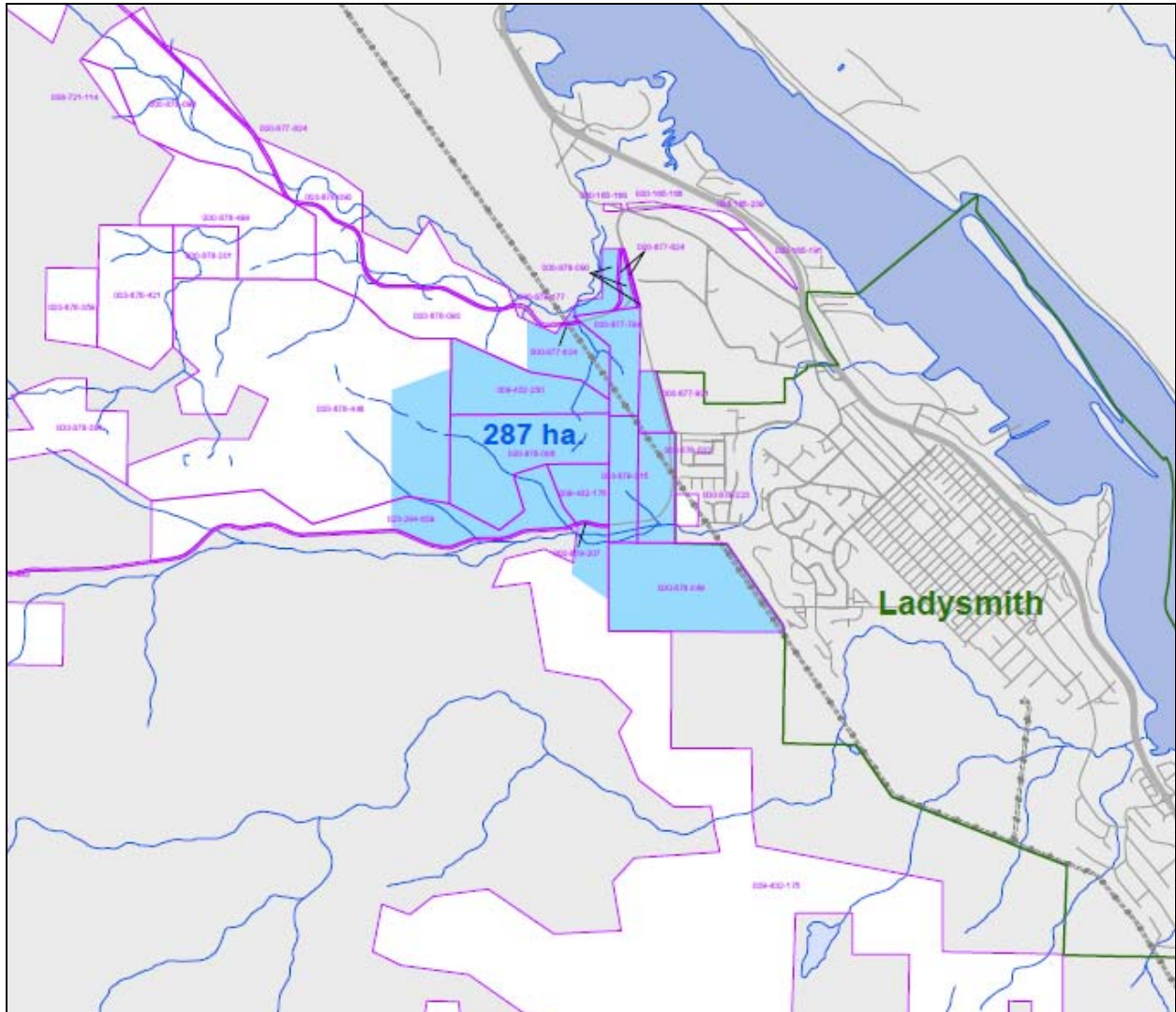
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**Schedule A**  
**Boundary Extension Area**





**TOWN OF LADYSMITH  
LIQUID WASTE MANAGEMENT PLAN – STAGE 3**

**APPENDIX D**

**ADDITIONAL DETAIL ON STAGE 3 WWTP UPGRADES AND EFFLUENT  
DISINFECTION**







# Town of Ladysmith

**Liquid Waste Management Plan  
Committee Meeting No. 10  
April 10, 2012**

# LWMP Commitments for Wastewater Management

- upgrade existing plant to secondary treatment, maintain discharge to Ladysmith Harbour
- then complete Stage 2 EIS to determine effluent quality needs for Harbour discharge, add advanced treatment and/or extend outfall if needed
- purchase additional property for possible future WWTP (min. area 4 ha, pref. 10 ha)
- identify potential location for future open marine discharge (drogue studies, dispersion modeling)
- satellite water reclamation plants for new development

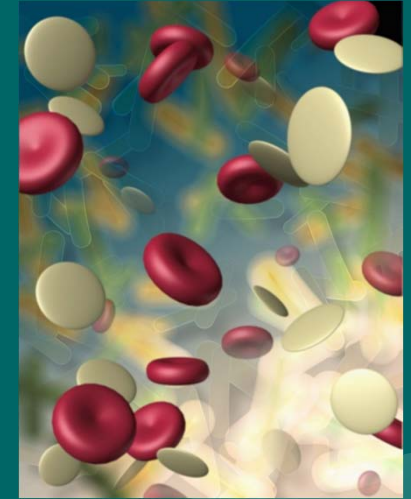


# WWTP Upgrade and Effluent Disinfection

- Municipal Sewage Regulation (provincial) requirements for fecal coliforms
  - standards to be met at the edge of the Initial Dilution Zone (IDZ)
  - shellfish waters 14 MPN/100mL
  - recreational waters 200 MPN/100mL
- federal disinfection standards for continued discharge to Ladysmith Harbour to be determined
- computer modeling for existing WWTP outfall
  - worst-case dilution at IDZ boundary is about 35:1 (no diffuser)
  - if a diffuser is added, dilution improves to  $> 100:1$
- therefore, meeting the recreational standard at end-of-pipe should meet MSR shellfish criteria at IDZ (no diffuser)



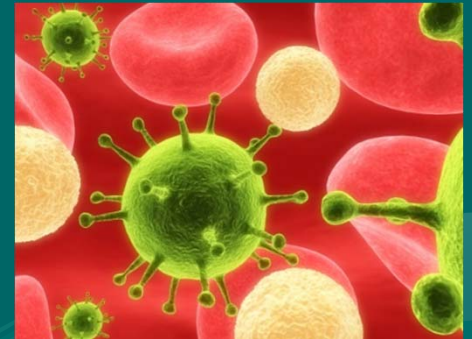
# UV Disinfection vs Chlorine



- UV generally preferred over chlorination by regulatory agencies (fish toxicity)
- effectiveness of UV disinfection difficult to predict (may require tertiary filtration of effluent to reduce suspended solids to meet shellfish standards at end-of-pipe)
- chlorination (chlorine gas or sodium hypochlorite) is less affected by suspended solids (requires de-chlorination prior to release of effluent)
- decision on which to use depends in part on effluent disinfection standards and on effluent suspended solids concentration

# Ladysmith WWTP Stage 3 Upgrade

- primary-treated effluent is currently disinfected using chlorination/de-chlorination
- selected process for secondary treatment is moving bed bioreactor (MBBR) with dissolved air floatation (DAF) for solids separation
- MBBR/DAF = high quality secondary effluent
- design effluent total suspended solids concentration = 10 mg/L
- site-specific testing will be required after commissioning of MBBR/DAF process to accurately determine effectiveness of UV for disinfection



# LWMP Strategy for Effluent Disinfection

- consult with Environment Canada regarding federal disinfection standards for continued discharge to harbour
- Stage 3 WWTP upgrade
  - install and commission MBBR process
  - maintain use of existing chlorine disinfection tank
  - convert from chlorine gas to sodium hypochlorite (bleach) for disinfection
  - use sodium bisulfite for de-chlorination
- pilot study to determine feasibility and effectiveness of UV disinfection on MBBR/DAF effluent
- complete Stage 2 EIS (possible advanced treatment or outfall extension)
- review feasibility of UV disinfection in light of confirmed effluent standards, pilot testing results, and decisions resulting from Stage 2 EIS



**TOWN OF LADYSMITH  
LIQUID WASTE MANAGEMENT PLAN – STAGE 3**

**APPENDIX E**

**DRAFT OPERATIONAL CERTIFICATE FOR TOWN OF LADYSMITH WWTP**

**(to take effect after secondary treatment is implemented)**





DRAFT

MINISTRY OF ENVIRONMENT

OPERATIONAL CERTIFICATE

PE-\_\_\_\_\_

Under the Provisions of the Environmental Management Act and in accordance with the  
Town of Ladysmith Liquid Waste Management Plan, the

**Town of Ladysmith**

**410 Esplanade**

**P.O. Box 220**

**Ladysmith, B.C.**

**V9G 1A2**

is authorized to discharge effluent from a municipal wastewater collection and treatment system located at Ladysmith, British Columbia to Ladysmith Harbour, subject to the conditions listed below. Contravention of any of these conditions is a violation of the Environmental Management Act and may result in prosecution. This Operational Certificate supersedes Waste Management Permit PE-120 and its amendments.

**1. AUTHORIZED DISCHARGES**

**1.1** This subsection applies to the discharge of effluent from a wastewater treatment plant serving the Town of Ladysmith in accordance with the approved Liquid Waste Management Plan.

**1.1.1** The maximum authorized rate of discharge is 15,500 m<sup>3</sup>/d.

**1.1.2** The characteristics of the discharge shall be equivalent to or better than:

5-day Carbonaceous Biochemical Oxygen Demand	45 mg/L
Total Suspended Solids	45 mg/L
Fecal coliform	14 CFU (or MPN)/100 mL at the Initial Dilution Zone Boundary

**1.1.3** The authorized works are influent screening, primary treatment using the Salsnes Filter process, secondary (biological) treatment using the moving bioreactor (MBBR) process, dissolved air flotation (DAF) for separation of biological solids, disinfection using sodium hypochlorite followed by the

dechlorination using sodium bisulfite, 300 mm and 710 mm diameter parallel outfalls extending 850 m from mean low water to a depth of 17.9 m below mean low water, sludge handling and dewatering facilities, and related appurtenances approximately located as shown on attached Site Plan A.

**1.1.4** The location of the facilities from which the discharge originates is the Town of Ladysmith.

**1.1.5** The location of the point of discharge is Ladysmith Harbour.

## **2. GENERAL REQUIREMENTS**

### **2.1 Maintenance of Works and Emergency Procedures**

The Town of Ladysmith shall inspect the treatment works regularly and maintain them in good working order. In the event of an emergency or condition beyond the control of the Town of Ladysmith, which prevents continuing operation of the approved method of pollution control, the Town of Ladysmith shall immediately notify the Regional Waste Manager and take appropriate remedial action.

### **2.2 Bypasses**

The discharge of effluent which has bypassed the designated treatment works is prohibited unless the approval of the Regional Waste Manager is obtained and confirmed in writing.

### **2.3 Process Modifications**

The Town of Ladysmith shall notify the Regional Waste Manager prior to implementing changes to any process that may affect the quality and/or quantity of the discharge.

### **2.4 Plans**

Plans and specifications of works authorized in Subsection 1.1.3 shall be submitted to the Regional Waste Manager. Plans of the authorized works shall be signed and sealed by a Professional Engineer licensed to practice in the Province of British Columbia.

### **2.5 Posting of Outfall**

The Town of Ladysmith shall maintain a sign along the alignment of the outfall above high water mark. The sign shall identify the nature of the works. The wording and size of the sign requires the approval of the Regional Waste Manager.

## **2.6 Outfall Inspection**

The Town of Ladysmith may be required to inspect the outfall line. The inspection shall be conducted when directed by the Regional Waste Manager.

## **2.7 Waste Solids Reuse and Disposal**

Waste solids from the treatment plant shall be reused in accordance with the Organic Matter Recycling Regulation.

## **2.8 Standby Power**

The Town of Ladysmith shall provide auxiliary power facilities to insure the continuous operation of the treatment works and operations building during power outages.

## **2.9 Odour Control**

Should objectionable odours, attributable to the operation of the sewage treatment plant, occur beyond the property boundary, as determined by the Regional Waste Manager, measures or additional works will be required to reduce odour to acceptable levels.

## **2.10 Facility Classification and Operator Certification**

The Town of Ladysmith shall have the works authorized by this Operational Certificate classified (and the classification shall be maintained) by the "Environmental Operators Certification Program Society" (Society). The works shall be operated and maintained by persons certified within and according to the program provided by the Society. Certification must be completed to the satisfaction of the Regional Waste Manager. In addition, the Regional Waste Manager shall be notified of the classification level of the facility and certification level of the operators, and changes of operators and/or operator certification levels within 30 days of any change.

Alternatively, the works authorized by this Operational Certificate shall be operated and maintained by persons who the Town of Ladysmith can demonstrate to the satisfaction of the Regional Waste Manager, are qualified in the safe and proper operation of the facility for the protection of the environment.

### 3. MONITORING AND REPORTING REQUIREMENTS

#### 3.1 Discharge Monitoring

##### 3.1.1 Flow Measurement

The Town of Ladysmith shall provide and maintain a suitable flow measuring device and record once per day the effluent volume discharged over a 24-hour period.

##### 3.1.2 Sampling and Analysis

The Town of Ladysmith shall obtain composite samples of the effluent except as otherwise noted below. The composite samples shall comprise samples taken over a 24 hour period.

The following samples and analyses shall be obtained:

Parameters	Frequency
5-day Carbonaceous Biochemical Oxygen Demand	weekly
Non-filterable Residue (total suspended solids)	weekly
Total Phosphorus	monthly
Total Kjeldahl Nitrogen	monthly
Ammonia	monthly
Nitrates	monthly
Fecal Coliforms	monthly grab
pH	monthly
Toxicity	annually grab

Proper care should be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination, breakage, etc.

#### 3.2 Monitoring Procedures

##### 3.2.1 Analyses

Analyses are to be carried out in accordance with procedures described in the latest version of “British Columbia Environmental Laboratory Manual for the Analysis of Water, Wastewater, Sediment and Biological Materials, (2005 Permittee Edition)”, or by suitable alternative procedures as authorized by the Regional Waste Manager.

Analyses for determining the toxicity of liquid effluent to fish shall be carried out in accordance with the procedures described in the “Laboratory

Procedures for Measuring Acute Lethal Toxicity of Liquid Effluent to Fish” dated November, 1982.

Copies of the above manual are available on the Ministry of Environment website at the following link  
[www.env.gov.bc.ca/air/wamr/labsys/field\\_man\\_03.html](http://www.env.gov.bc.ca/air/wamr/labsys/field_man_03.html)

### **3.2.2 Sampling Location and Techniques**

Sampling and flow measurement shall be carried out in accordance with the procedures described in “British Columbia Field Sampling Manual for Continuous Monitoring plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment and Biological Samples 2003 Edition (Permittee)”, or most recent edition, as published by the Ministry of Environment, or by suitable alternative procedures as authorized by the Regional Waste Manager.

Copies of the above manual are available from the Ministry of Environment website at the following link  
[www.env.gov.bc.ca/air/wamr/labsys/lab\\_main\\_03.html](http://www.env.gov.bc.ca/air/wamr/labsys/lab_main_03.html).

The referenced manuals may also be purchased from the Queen’s Printer Publication’s Center, P.O. Box 9452, Stn. Prov. Gov., Victoria, B.C., V8W 9V7 (1-800-663-6105) and are available for inspection at all Environmental Protection offices.

### **3.5 Reporting**

The Town of Ladysmith shall maintain data analyses and flow measurements for inspection, and every month, submit the data, suitably tabulated, to the Regional Waste Manager for the previous month.

### **3.6 Annual Report**

The Town of Ladysmith shall submit an annual report on or before March 31 of the year.

The annual report shall review and interpret monitoring data for the preceding calendar year and provide graphical analysis with suitable interpretations of any trends in the monitoring results.

The annual report shall review the performance of the sewage treatment system and identify any necessary changes to the treatment process and for works.





**TOWN OF LADYSMITH  
LIQUID WASTE MANAGEMENT PLAN – STAGE 3**

**APPENDIX F  
EXAMPLE STORM DRAINAGE BYLAW**





**THE CORPORATION OF THE DISTRICT OF SAANICH**

**BYLAW NO. 7501**

**FOR THE REGULATION AND PROTECTION OF  
NATURAL WATER COURSES, DITCHES, AND DRAINS**

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**WHEREAS** the Council may by bylaw pursuant to Section 587(a) of the *Municipal Act* prohibit a person from fouling, obstructing or impeding the flow of a stream, creek, waterway, watercourse, ditch, drain or sewer whether or not it is situate on private property and may provide for the imposition of penalties for the contravention of these regulations;

**AND WHEREAS** the Council may by bylaw pursuant to Section 589 of the *Municipal Act* provide for defining the channel or bed of a stream as defined by the *Water Act*, passing through the Municipality and provide works to protect its banks from erosion or damage;

**AND WHEREAS** Council by bylaw may require manufacturers and processors to dispose of the waste from their plants in a manner directed by bylaw pursuant to Section 932(j) of the *Municipal Act*,

**NOW THEREFORE** the Council of the Corporation of the District of Saanich in open meeting assembled enacts as follows:

1. **Definitions**

- (a) “Air” means the atmosphere but, except in a sewer or a stormwater management facility or as the context may otherwise require, does not include the atmosphere inside a constructed enclosure that is not open to the weather.
- (b) “Air contaminant” means any substance or odour whether gaseous, liquid, solid or a combination that is emitted into the air and that:
  - (i) injures or is capable of injuring the health or safety of a person,
  - (ii) injures or is capable of injuring property or any life form,
  - (iii) interferes or is capable of interfering with visibility,
  - (iv) interferes or is capable of interfering with the normal conduct of business,
  - (v) causes or is capable of causing material physical discomfort to a person, or
  - (vi) damages or is capable of damaging the environment.

- (c) “Biomedical waste” means biomedical waste as defined in “Guidelines for the Management of Biomedical Waste” established by the Canadian Council of Ministers of the Environment (CCME) and dated February 1992.
- (d) “Colour” means the true colour of water from which turbidity has been removed, as determined by the appropriate procedure in Standard Methods.
- (e) “Composite sample” means a sample which is composed of equivalent portions of a specified number of grab samples collected manually or automatically at the same sampling point, at specified times or flow intervals during a specified sampling period.
- (f) “Condensed water” means water which is produced through the process of condensation and includes condensate drainage from refrigeration equipment, air conditioning equipment and steam heating systems.
- (g) “Council” means the Council of the Corporation of the District of Saanich.
- (h) “Development” includes the construction of a building or structure, the placement of fill, the paving of land or any other alteration to land which causes a change to the existing drainage characteristics.
- (i) “Director of Engineering” means the person duly appointed by Council as “Director of Engineering”, or any person authorized to act on his behalf.
- (j) “Discharge” means to directly or indirectly introduce a substance by spilling, disposing of, abandoning, depositing, leaking, seeping, pouring, draining, emptying, or by any other means.
- (k) “Domestic waste” means waste, sanitary waste and the water-carried wastes from drinking, culinary uses, washing, bathing, laundering or food processing which is introduced on a residential property.
- (l) “Enactment” means any applicable act, regulation, bylaw, order, or authorization, by a federal, provincial, regional, municipal government or their authorized representatives.
- (m) “Grab sample” means a sample of water or stormwater collected at a particular time and place.
- (n) “Improvement District” means an improvement district incorporated under the Municipal Act.
- (o) “Manager” means the Manager of Inspection Services of the Municipality and includes any other municipal employee acting under his or her authority.

- (p) “Municipality” means the Corporation of the District of Saanich.
- (q) “Natural Watercourse” means a watercourse or section of a watercourse which has not been physically altered from its natural state other than cleaning, clearing or the removal of vegetation.
- (r) “Non-domestic waste” means all waste except domestic waste, trucked liquid waste, sanitary waste, stormwater, and uncontaminated water.
- (s) “Oil and grease” means an organic substance or substances recoverable by procedures set out in Standard Methods or procedures authorized by the Manager and includes, but is not limited to, hydrocarbons, esters, fats, oils, waxes, and high-molecular weight carboxylic acids.
- (t) “Oil and Grease Interceptor” means an in-ground structure designed specifically to trap oil, grease and silt contained in stormwater flows.
- (u) “Owner” means any person who is registered under the Land Title Act as the owner of land, or any other person who is in lawful possession of land or who is in lawful possession or occupancy of any buildings situated on the land.
- (v) “PCB” means any monochlorinated, dichlorinated, or polychlorinated biphenyl or any mixture that contains one or more of these.
- (w) “Person” includes an individual, society, partnership, or corporation.
- (x) “Pesticides” means pesticides regulated under the Pesticide Control Act of British Columbia.
- (y) “pH” means the expression of the acidity or basicity of a solution as defined and determined by the appropriate procedure described in Standard Methods.
- (z) “Pollution” means the presence in the environment of substances or contaminants that substantially alter or impair the health of the environment.
- (aa) “Pool” means any water receptacle designed for decorative purposes or used for swimming or as a bath or hot tub designed to accommodate more than one bather at a time.
- (bb) “Premises” means any land or building or both or any part thereof.
- (cc) “Prohibited waste” means prohibited waste as defined in Schedule “A” to this Bylaw.

- (dd) “Radioactive materials” means radioactive material as defined in the Atomic Energy Control Act of Canada and Regulations under that Act.
- (ee) “Regional District” means the Capital Regional District.
- (ff) “Residential property” means a property which is used primarily for the purpose of residence by persons on a permanent, temporary or seasonal basis.
- (gg) “Sanitary waste” means waste that contains human feces, urine, blood or body fluids originating from sanitary conveniences or other sources.
- (hh) “Sewer” means all pipes, conduits, drains, and other equipment and facilities, owned or otherwise under the control or jurisdiction of the Regional District, the Municipality or one or more municipalities, for collecting, pumping, and transporting wastewater and includes all such pipes, conduits, drains, and other equipment and facilities which connect with those of the Regional District, the Municipality or one or more municipalities.
- (ii) “Sharps” means hypodermic needles, hypodermic syringes, blades, broken glass, and any devices, instruments or other objects which have acute rigid corners, edges or protuberances.
- (jj) “Special Waste” means Special Waste as defined in the Waste Management Act of British Columbia or any legislation that replaces the Waste Management Act.
- (kk) “Special Waste Regulation” means the Special Waste Regulation enacted pursuant to the Waste Management Act or any legislation that replaces the Waste Management Act.
- (ll) “Standard Methods” means the latest edition of “Standard Methods for the Examination of Water and Wastewater” jointly prepared and published from time to time by the American Public Health Association, American Water Works Association, and the Water Environment Federation.
- (mm) “Storm sewer” means a pipe, conduit, drain or other equipment or facilities for the collection and transmission of stormwater or uncontaminated water.
- (nn) “Stormwater” means water resulting from natural precipitation from the atmosphere.
- (oo) “Stormwater management facility” means an impoundment and appurtenant structures, connections and controls for containment, detention or retention of stormwater and its delayed release at a controlled rate to a receiving storm sewer or watercourse.

- (pp) “Substance” includes any solid, liquid or gas.
- (qq) “Trucked liquid waste” means any waste that is collected and transported from the site where the waste originated by means other than discharge to a sewer including, but not limited to, holding tanks waste, septic tank waste, chemical toilet contents, oil and grease from interceptors or traps, and other sludges of organic or inorganic origin.
- (rr) “Uncontaminated water” means any water excluding stormwater but including cooling water, condensed water and water from municipal waterworks or a private water supply to which no contaminant has been added as a consequence of its use, or to modify its use by any person.
- (ss) “Waste” means any substance whether gaseous, liquid or solid, that is or is intended to be discharged or discarded, directly or indirectly, to a sewer, storm sewer or stormwater management facility.
- (tt) “Wastewater” means the composite of water and water-carried wastes from residential, commercial, industrial or institutional premises or any other source.
- (uu) “Wastewater quality parameter” means any parameter used to describe the quality of wastewater.
- (vv) “Water” includes surface water, groundwater and ice.
- (ww) “Watercourse” means:
- (i) a river, stream, creek, waterway, lagoon, lake, spring, swamp, marsh or other natural body of fresh water; or
  - (ii) a canal, ditch, reservoir or other man-made surface feature
- in which water flows constantly, intermittently or at any time.
- (xx) “Waterworks” means any works owned or otherwise under the control or jurisdiction of the Regional District or one or more of its member municipalities or the Greater Victoria Water District or an Improvement District that collects, treats, transports, or stores drinking water.

## 2. **Channel of Watercourse**

- (a) Pursuant to S. 589 of the *Municipal Act* the channel or bed of each watercourse or portion of watercourse shown on Schedule “B” to this Bylaw is in the approximate location shown on Schedule “B”.

- (b) The Council may appropriate the channel or bed of the watercourses shown on Schedule “B”, without compensation to the owner for the purpose of constructing any works authorized by S. 587, 588 or 589 of the *Municipal Act* or any successor provision.
- (c) The watercourses shown on Schedule “B” are part of the municipal drainage system.

3. **Obstructing Watercourses**

No person shall foul, obstruct or impede the flow of a stream, creek, waterway, watercourse, waterworks, ditch, drain or sewer, whether or not it is situate on private property.

4. **Enclose of Watercourse**

No person shall enclose any natural watercourse in a drain or culvert without the prior written permission of the Director of Engineering; the Director of Engineering shall not grant such permission unless the enclosure has been approved by the Director of Planning and designed by a professional engineer, provided that this provision may be waived by the Director of Engineering Service and the Director of Planning if, in their discretion, they consider the proposed works to be of a minor nature. Before granting approval under this section, the Director of Planning shall consider the effect of the proposed work on the natural environment of the watercourse.

5. **Work on Municipal Drainage System**

No person shall alter, repair, remove, fill in, reconstruct, divert or carry out any other works on any watercourse shown on Schedule “B” or any sewer, storm sewer, stormwater management facility or watercourse constructed, owned or under the responsibility of the Municipality without the prior written approval of the Director of Engineering. In the case of a natural watercourse the work shall not be carried out without the prior written approval of the Director of Planning. Before granting approval under this section, the Director of Planning shall consider the effect of the proposed work on the natural environment of the watercourse.

6. **Discharges to Storm Sewers and Watercourses**

- (a) No person shall discharge or allow or cause to be discharged into a storm sewer or watercourse any domestic waste, trucked liquid waste or prohibited waste.

- (b) Notwithstanding the prohibition contained in subsection 6(a), a person may discharge into a storm sewer or watercourse water resulting from domestic activities customarily incidental to a residential use of land including:
  - (i) water resulting from natural precipitation, and drainage of such water;
  - (ii) water resulting from garden and lawn maintenance, non-commercial car washing, building washing and driveway washing; and
  - (iii) uncontaminated water.
- (c) Notwithstanding the prohibition contained in subsection 6(a), a person may discharge into a storm sewer or watercourse water resulting from the following non-domestic activities:
  - (i) street, hydrant and water main flushing; and
  - (ii) firefighting activities.

7. **Stormwater Management Facility**

- (a) Where the existing drainage system downstream from a proposed development has insufficient capacity to accommodate the projected increase in stormwater run-off from the proposed development of the lands, a stormwater management facility will be provided on the lands by the developer as part of the development project.
- (b) The stormwater management facility will be designed by a professional engineer and the design approved by the Director of Engineering. Capacity of the stormwater management facility shall be based on the criteria set out in the engineering specifications attached as Schedule "H" to the Subdivision Bylaw, 1987 or any successor specifications.
- (c) The owner of the lands shall keep the stormwater management facility in good operating condition and shall service and repair the facility at least once per year. At the request of the Manager, the owner of the land shall provide satisfactory proof of service by a qualified contractor.

8. **Oil and Grease Interceptor**

- (a) Where a paved or impervious motor vehicle parking lot is constructed as part of any development, other than a single family dwelling or duplex, the developer shall install an in-line oil and grease interceptor to intercept the stormwater run-off from the parking lot before it reaches the municipal drainage system.
- (b) The oil and grease interceptor shall be designed:

- (i) To conform to design drawing SD15 of the engineering specifications attached as Schedule "H" to the Subdivision Bylaw, 1987 or any successor specifications, or
  - (ii) Where the design drawing SD15 of the engineering specifications will not adequately serve the proposed development, to a design prepared by a professional engineer and approved by the Director of Engineering.
- (c) The owner of the land shall keep the oil and grease interceptor in good operating condition and shall maintain and repair the device at least once per year from the date of completion of the interceptor. At the request of the Manager, the owner of the lands shall provide satisfactory proof of service by a qualified contractor.

9. **Inspection**

The Manager, an employee of the Municipality authorized by the Manager, or a bylaw enforcement officer may enter at all reasonable times, on any property that is subject to this Bylaw to ascertain whether the regulations of this Bylaw are being observed or the requirements of this Bylaw are being met.

10. **Offences and Penalties**

- (a) A person who contravenes this Bylaw commits an offence and is liable upon conviction to a fine of not less than \$200.00.
- (b) Each day that a violation occurs or continues shall constitute a separate offence.

11. **General**

- (a) No person shall hinder or prevent the Manager, a person authorized by the Manager, or a bylaw enforcement officer from entering any premises or from carrying out his or her duties with respect to the administration of this Bylaw.
- (b) Nothing in this Bylaw shall be interpreted as relieving a person discharging waste from complying with Federal, Provincial and local government enactments governing the discharge of stormwater into storm sewers and watercourses, and in the event of a conflict between the provisions of this Bylaw and a Federal or Provincial enactment, the provisions of the Federal or Provincial enactment shall prevail.
- (c) In this Bylaw words importing the male gender include the female gender and either includes the neuter and vice versa, and words importing the singular number include the plural number and vice versa.



- (d) The schedules annexed to this Bylaw shall be deemed to be an integral part of this Bylaw.
- (e) If any provision of this Bylaw is found to be invalid by a court of competent jurisdiction it may be severed from the Bylaw.

12. **Repeal**

Bylaw No. 4998, being the “Watercourse and Drainage Regulation Bylaw, 1983, No. 4998” is hereby repealed except insofar as it may repeal any other bylaw.

13. **Citation**

This Bylaw may be cited for all purposes as the “**WATERCOURSE AND DRAINAGE REGULATION BYLAW, 1996, NO. 7501**”.

**Includes Bylaw Amendments No. 7604 and 9044**

**SCHEDULE "A"**

**PROHIBITED WASTE**

Prohibited Waste means:

1. **Special Waste**

Special Waste as defined by the Waste Management Act of British Columbia and its Regulations or any legislation that replaces the Waste Management Act.

2. **Biomedical Waste**

Any of the following categories of Biomedical Waste: human anatomical waste, animal waste, untreated microbiological waste, waste sharps and untreated human blood and body fluids listed in "Risk Group 4" as defined in "Laboratory Biosafety Guidelines", published by Health and Welfare Canada and dated 1990.

3. **Air Contaminant Waste**

Any waste which, by itself or in combination with another substance, is capable of creating, causing or introducing an air contaminant, causing air pollution outside any storm sewer or stormwater management facility or is capable of creating, causing or introducing an air contaminant within any storm sewer or stormwater management facility which would prevent safe entry by authorized personnel.

4. **Flammable or Explosive Waste**

Any waste, which by itself or in combination with another substance, is capable of causing or contributing to an explosion or supporting combustion in any storm sewer, watercourse or stormwater management facility including, but not limited to gasoline, naphtha, propane, diesel, fuel oil, kerosene or alcohol.

5. **Obstructive Waste**

Any waste which by itself or in combination with another substance is capable of obstructing the flow of, or interfering with, the operation, performance or flow of any storm sewer, watercourse or stormwater management facility including, but not limited to earth, sand, sweepings, gardening or agricultural waste, ash, chemicals, paint, metal, glass, sharps, rags, cloth, tar, asphalt, cement-based products, plastic, wood, waste portions of animals, fish or fowl, and solidified fat.

**6. Corrosive Waste**

Any waste with corrosive properties which, by itself, or in combination with any other substance, may cause damage to any storm sewer or stormwater management facility or which may prevent safe entry by authorized personnel.

**7. High Temperature Waste**

- (a) Any waste which, by itself or in combination with another substance, will create heat in amounts which will interfere with the operation and maintenance of a storm sewer or stormwater management facility;
- (b) any waste which will raise the temperature of waste discharged by a storm sewer, watercourse or stormwater management facility by 2 degrees Celsius or more;
- (c) Any waste with a temperature of 40 degrees Celsius or more at the point of discharge.

**8. PCBs, Pesticides**

Any waste containing PCBs or pesticides.

**9. Pool Water**

Any water from a pool containing residual chlorine or chloramine.

**10. Radioactive Waste**

Any waste containing radioactive materials that, prior to the point of discharge into a storm sewer or watercourse, exceeds radioactivity limitations as established by the Atomic Energy Control Board of Canada.

**11. pH Waste**

Any waste which, prior to the point of discharge into a storm sewer or watercourse, has a pH lower than 6.0 or higher than 9.0 as determined by either a grab sample or composite sample.

**12. Dyes and Colouring Material**

Dyes or colouring materials which produce in a grab sample or composite sample a colour value greater than or equal to 50 true colour units, or that causes discolouration of water to such an extent that the colour cannot be determined by

the visual comparison method as set out in Standard Methods except where the dye is used by a municipality or regional district as a tracer.

**13. Miscellaneous Wastes**

Any waste which by itself or in combination with another substance:

- (a) constitutes or may constitute a health or safety hazard to any person;
- (b) causes pollution in any storm sewer, watercourse or stormwater management facility.

**14. Disinfectant Process Water**

Any water from a waterworks containing residual chlorine or chloramine remaining from the disinfection of the waterworks or any part of the waterworks but does not include water containing chlorine or chloramine ordinarily added to a supply of potable water by a municipality, the Regional District, the Greater Victoria Water District or an Improvement District.

**15. Fill**

Soil, sand, clay, gravel, rock or other material of which land is composed.

**Note: Schedule B is available by contacting the Office of the Municipal Clerk at (250) 475-1775 and is comprised mainly of maps.**