

THE CORPORATION OF THE CITY OF GRAND FORKS
 AGENDA - COMMITTEE OF THE WHOLE MEETING
 Monday July 21st, 2014, 9:00am
 6641 Industrial Parkway, Meeting Room

	<u>ITEM</u>	<u>SUBJECT MATTER</u>	<u>RECOMMENDATION</u>
1	<u>CALL TO ORDER</u>		
2	<u>COMMITTEE OF THE WHOLE AGENDA</u>		
	Adopt Agenda	July 21st, 2014, Agenda	Adoption of Agenda
3	<u>REGISTERED PETITIONS AND DELEGATIONS</u>		
	Sandy Elzinga Delegation - Grand Forks Mural Committee.pdf	Mural Committee	THAT the Committee of the Whole receives the presentation from the Mural Committee regarding the theme for the Mural Project and refer to the July 21st Regular Meeting for discussion and decision.
	James Wilson Delegation - Boundary Country Regional Chamber of Commerce Highlights 20.pdf	Boundary Country Regional Chamber of Commerce	THAT the Committee of the Whole receives the quarterly report from James Wilson, Executive Director of the Boundary Country Regional Chamber of Commerce.
	Urban Systems - Scott Shepherd and Peter Gigliotti	Waste Water Strategy and Asset Management Program	Presentation to take place at the end of the meeting after a short recess.
4	<u>PRESENTATIONS FROM STAFF</u>		
	Monthly Highlight Reports from Department Managers Building & Bylaw Services.doc Chief Financial Officer June 2014.doc Development & Engineering.doc Operations.doc Fire Chief.doc Corporate & Community Services.doc	Staff request for Council to receive the monthly activity report from department managers	THAT the Committee of the Whole recommends to Council to receive the monthly activity reports
	Chief Financial Officer RFD CFO - Community Works Fund Agreement 2014-2024.pdf	Community Works Fund Agreement 2014-2024	THAT the Committee of the Whole recommends that Council authorize the City of Grand Forks to enter into the

Manager of Development and Engineering
[RFD Mgr. Dev. & Eng. Serv. - Riverside Drive Road Closure.pdf](#)

Riverside Drive Partial Road Closure, disposal and consolidation with 7330 Riverside Drive, to alleviate a 1.8 meter building and canopy encroachment onto the City's right of way.

Community Works Fund Agreement 2014-2024 with the Union of British Columbia Municipalities at the Regular meeting of July 21st, 2014.

THAT the Committee of the Whole recommends to Council to approve the request to close a 3 meter width of that portion of Riverside Drive (portion building and sidewalk), by the length of the building being 24.4 meters, located in front of 7330 Riverside Drive and direct staff to proceed with the statutory requirements necessary to start and complete the road closure and consolidate, with that portion of closed road measuring 73.2 square meters (0.018 acres) and to consolidate that portion of closed road with property legally described as Lot 1, District Lot 108 & 339"S", S.D.Y.D., Plan 34642, and refer it to the July 21st, 2014, Regular Meeting for consideration.

Manager of Development and Engineering
[RFD Mgr. Dev. & Eng. Serv. - Royal Canadian Legion DVP.pdf](#)

Royal Canadian Legion Branch #51 Development Variance Permit Application

THAT the Committee of the Whole recommends that Council approve the development variance permit, requesting a setback variance from 20 feet to 2 feet, to the Royal Canadian Legion Branch #51, located at 7353-6th Street, in order to construct a roof over the existing outdoor patio area and refer it to the July 21st, 2014 Regular Meeting for consideration.

Chief Financial Officer
[RFD CFO - Policy 804-A1 Tangible Capital Assets.pdf](#)

Policy 804 Tangible Capital Asset revision

THAT the Committee of the Whole recommends that Council adopt Policy #804-A1-Tangible Capital Assets at the August 18th, 2014, Regular Meeting of Council.

6 **PROPOSED BYLAWS FOR DISCUSSION**

Chief Financial Officer
[RFD CFO - Repeal Revitalization
Bylaws 1780 1881 1912.pdf](#)

Repeal of Bylaws 1780, 1881
and 1912

THAT the Committee of the
Whole recommends that
Council give first three
readings to
repeal Bylaw 1780R, at the
August 18th, 2014, Regular
Meeting.

THAT the Committee of the
Whole recommends that
Council give first three
readings to repeal Bylaw
1881R at the August 18th,
2014, Regular Meeting of
Council.

THAT the Committee of the
Whole recommends that
Council give first three
readings to repeal Bylaw
1912R at the August 18th,
2014, Regular Meeting

7 **INFORMATION ITEMS**

8 **CORRESPONDENCE ITEMS**

9 **LATE ITEMS**

10 **REPORTS, QUESTIONS AND INQUIRIES
FROM MEMEBERS OF THE COUNCIL
(VERBAL)**

11 **QUESTION PERIOD FROM THE PUBLIC**

12 **SPECIAL PRESENTATION**

Urban Systems - Peter Gigliotti
[Delegation 2014-06-11-Wastewater
Treatment Plant Assessment
Final.pdf](#)

Waste Water Strategy and
Asset Management Program
Treatment Plant Assessment
and Biosolids Management
Plan

Receive for Information

Urban Systems - Scott Shepherd
[Delegation - 2014-07-21-AM Update
for Council-formatted.pdf](#)

Asset Management Update

Receive for Information

13 **ADJOURNMENT**

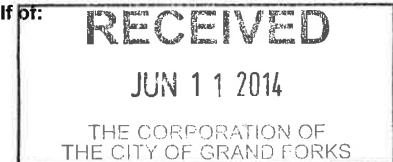
From:  Sandy Elzinga & James Wilson <james@boundarycf.com> 10/... 
Subject: New Online Delegation Form submission from Sandy Elzinga & Jam...
To:  Info City of Grand Forks

Your Worship, Mayor Taylor, and Members of Council, I/We are here this evening on behalf of:

The Grand Forks Mural Committee

To request that you consider:

supporting a mural project for the City of Grand Forks



The reasons that I/We are requesting this action are:

We require Council's support and approval to move forward with a community mural project. The long term plan is to enhance the exterior of several buildings (business and municipal) throughout the community. The initial project would be to create a mural(s) on two buildings located in City Park (washrooms and wash plant). Mural would be based on a theme. Suggested themes are:

Heritage
Culture/Diversity
Youth/Seniors
Wildlife
Outdoor /Recreation
Agriculture
Lifestyle
Other - specify

I/We believe that in approving our request the community will benefit by:

We believe that in approving our request the community will benefit by:

1. Transforming a mundane building into a canvas featuring local artists
2. Creating a legacy that tells a story about our community
3. Instilling "Community Pride"
4. Encouraging collaboration and engagement with community stakeholders
5. Inviting visitors to explore and stay longer

I/We believe that by not approving our request the result will be:

- A missed opportunity to transform and revitalize our community

In conclusion, I/we request that Council for the City of Grand Forks adopt a resolution stating:

We, Council, grant permission to the Grand Forks Mural Committee to create a mural on the exterior walls of 2 buildings (washroom and wash plant) located in City Park. Furthermore, Council will recommend a theme to the Mural Committee, to assist local artists to develop conceptual sketches for Council's approval.

Name

Sandy Elzinga & James Wilson

FILE CODE
Grand Forks Mural
D2 - Committee

Organization

Mural Committee

Mailing Address

box 2949
1647 central ave
v0h1h0, British Columbia Grand Forks
Canada
[Map It](#)

Telephone Number

250-442-2722

Email Address

james@boundarycf.com



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Greenwood BC V0H 1J0
Ph: (250) 445-6618
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Grand Forks
Box 2949, 1647 Central Ave
Grand Forks, BC V0H 1H0
Ph: (250) 442-2722
Fax: (250) 442-5311

June 12, 2014

Corporation of the City of Grand Forks
Box 220
Grand Forks, B.C.
V0H 1H0

Mayor Taylor & Members of City Council:

On behalf of the Grand Forks Mural Committee, this letter is to request Council's support for a proposed mural project in Grand Forks.

The Committee's goal is to carry out a community beautification project, specifically painting murals on building exteriors, in key locations throughout Grand Forks. The long term goal is to create a legacy for our community.

Our goal in 2014 is to complete one mural project. We propose 2 buildings, the new washroom and liftstation, located in City Park. If council is in agreement with this proposal, we ask that Council identify a theme in order to move forward with drafting a mural for Council's approval.

Thank you for your consideration.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Sandy Elzinga".

Sandy Elzinga, Assistant Manager – Community Futures Boundary
James Wilson, Executive Director – Boundary Country Regional Chamber of Commerce
On Behalf of the Grand Forks Mural Committee

Growing communities one idea at a time.



To the Mayor and Council:

Boundary Country Regional Chamber of Commerce report for January to July 2014:

- Biz after Biz events
 - Grand Forks of February 19th 2014 (Jay Wayz Floral Art)
 - Rock Creek on April 27th 2014
 - Grand Forks on July 16th 2014 (Neighbours Computers)
- Ambassador Program
 - 6 volunteers have signed up and participated in the Good Sam event
- Community Calendar
 - Active and has 4 other organization feeding into (Updating) the BCRCC Calendar
- Social Media presence
 - Helping promote City of Grand Forks and events
- Helped organized a LIRN BC (Spark BC) workshop for community organizations in Grand Forks
- Participated in the Grand Forks Community Engagement Conversation
- All Candidates Forum is planned
 - Grand Forks October 22nd 2014
 - Midway April 23rd 2014
- BCRCC Newsletter
- Partnership with the Downtown Business merchants society
 - BCRCC has allocated funds for them to use
- BCRCC working in conjunction with TOTA to update the BC Country tourism website
 - BoundaryBC.com site is complete.
- Partnership with Canada Day committee
 - Supported with funds to purchase the Canada Banner
- Working with Roxanne Shepard in developing a follow up method in regards to Business licences

- Helping deliver the City of Grand Forks profile booklets to all the businesses in the downtown core
- Giving support to local business in planning “Movies in the Park” event
- Regular meetings with BCRCC City of Grand Forks Liaison Bob Kendal
- A part of the Mural, Fall Fair, Canada Day, DTBA, Rotary(Spray Park) and BFISS board/committee

Thank you for your continuing support,

James Wilson
Executive Director
Boundary Country Regional Chamber of Commerce

MONTHLY HIGHLIGHT REPORTS



DATE : July 8, 2014
TO : Committee of the Whole
FROM: Manager of Building Inspection & Bylaw Services
HIGHLIGHTS : For the Month of June, 2014

- ❖ Continue with the development of the City's Bylaws
- ❖ Processing new Building Permits *(30 permits issued in 2014 and 5 pending awaiting documentation)*
- ❖ *The month of June saw, 2 new Single Family Dwellings*
- ❖ *1 Commercial permit*
- ❖ *1 Fire Restoration of a Single Family Dwelling*
- ❖ *1 Addition of a sundeck*
- ❖ Permits for 2014 are now over 2.46 million in construction value
- ❖ Following up on Existing Permits transferred from the RDKB
- ❖ The Fire Damaged property located at 721 65th Avenue is currently being review by the City's legal advisors.
- ❖ Several of the Unsightly Properties are currently in the clean up process
- ❖ The Sea Can behind the Fields Store location has been removed

MONTHLY HIGHLIGHT REPORTS



- ❖ With more notices going out with regards to Sea Cans in the downtown core



MONTHLY HIGHLIGHT REPORTS



DATE : July 9, 2014
TO : Committee of the Whole
FROM: Chief Financial Officer
HIGHLIGHTS : For the Month of June, 2014

- ❖ Property tax due date July 2nd
 - ❖ Posted casual internal position to cover Accounts Receivable Clerk
 - ❖ Most Property Tax and Utility Billing software issues on City website finally fixed by Vadim
 - ❖ Attended June 18th – Land Use Management at Art Gallery
 - ❖ Attended June 20th – Sneak Peak City Hall
 - ❖ Starting Vadim side of water meter implementation
 - ❖ Working on Contaminated Sites strategy with auditors and Engineering
 - ❖ Began working with Head Start program
 - ❖ Revising Tangible Capital Assets policy to clarify wording
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MONTHLY HIGHLIGHT REPORTS



DATE : July 21, 2014
TO : Committee of the Whole
FROM: Manager of Development & Engineering
HIGHLIGHTS : For the Month of June, 2014

- ❖ Tender for the City Hall Reconstruction Project Closed and Was Awarded to Hil-Tech Contracting Ltd. – Construction commenced July 7, 2014
- ❖ RFP out for the Downtown Beautification Upgrades Project
- ❖ RFP out for the 68th Ave. Paving Project
- ❖ Held Lands Optimization and Development Showcase Open House
- ❖ Held a Ribbon Cutting for the New Kiosks at Observation Mountain
- ❖ Held a Ribbon Cutting for the New Bat Houses Near Clifton Estates
- ❖ Held a Ribbon Cutting for the New Riparian Area Sign at City Park
- ❖ Attended an Economic Development Workshop in Oliver
- ❖ Commenced 2nd and Sagamore Road Closure
- ❖ Hosted an Open House to View City Hall Prior to Construction
- ❖ Drafted a License of Occupation for the ATV Club for their Staging Area up Motocross

MONTHLY HIGHLIGHT REPORTS



DATE : July 10, 2014
TO : Committee of the Whole
FROM: Manager of Operations
HIGHLIGHTS : For the Month of June, 2014

- ❖ Support events – GFI, Good Sams, Canada Day
 - ❖ Kiosk and Bat House installations – Ribbon cutting ceremony
 - ❖ Completion of the Observation Mountain fence for the beacon site.
 - ❖ Shouldering on Grandby Road for drainage purposes (ongoing program)
 - ❖ Irrigation turned on for all parks
 - ❖ Hanging baskets, flower beds and planters installed
 - ❖ Campground Entrance flower bed designed and planted
 - ❖ Water valve repair maintenance (ongoing)
 - ❖ Market Street – Irrigation, brick work and tree well restoration commenced
 - ❖ Graffiti maintenance on the Black Train Bridge.
-

MONTHLY HIGHLIGHT REPORTS



DATE : July 11, 2014
TO : Committee of the Whole
FROM: Fire Chief
HIGHLIGHTS : For the Month of June, 2014

- ❖ Total calls for June, 37 – 9 Fire, 1 Rescue, 27 First Responder
 - ❖ Explosion and structure fire at residence on Darcy Road early morning June 30 with 21 personnel in attendance.
 - ❖ Group of six volunteers attended S-115 “Sprinkler Protection Unit” training at Big White as organized by Kootenay-Boundary Regional Fire Rescue.
 - ❖ By invitation, volunteers attended Fathers Day event at Harry Saini’s residence with Ladder 4, which resulted in a substantial donation to the Volunteer Firefighters Association.
 - ❖ Public Education – Fire Hall tour and fire safety presentation to Sunshine Valley Little Peoples Center group.
-

MONTHLY HIGHLIGHT REPORTS



DATE : July 21st, 2014
TO : Committee of the Whole
FROM: Corporate & Community Services
HIGHLIGHTS: For the Month of June, 2014

- ❖ Event coordination for Good Sam Samboree, GFI, and all Canada day events
- ❖ Preparation of Environment week advertising
- ❖ Coordination of Artist Street Banner Program
- ❖ Coordination of Street Banner Program with downtown businesses
- ❖ Provided communications support to Neptune and Manager of Operations in regard to the installation of meters and public information
- ❖ Preparation of Agendas, Minutes and Summaries for Scheduled Meetings and information purposes
- ❖ Development of monthly newsletter
- ❖ Organization of and attendance at the Sneak Peak at City Hall on June 20th and the Development Showcase and PNP on June 18th, the Ribbon Cutting events at Observation Mountain and City Park.
- ❖ Development of the Elections page on the City website
- ❖ Performed various Human Resources requirements for the organization

MONTHLY HIGHLIGHT REPORTS



REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



To: Committee of the Whole
From: Chief Financial Officer
Date: June 18, 2014
Subject: Community Works Fund Agreement 2014-2024
Recommendation: **THAT the Committee of the Whole recommends that Council authorize the City of Grand Forks to enter into the Community Works Fund Agreement 2014-2024 with the Union of British Columbia Municipalities at the regular meeting of July 21, 2014**

BACKGROUND:

In late 2005, the Union of British Columbia Municipalities entered into a ten year agreement with Canada and British Columbia to transfer a portion of federal gas tax funds to local governments by establishing a Community Works Fund. This fund is one of three programs used to distribute federal gas tax. The amount the City receives is based on a per capita formula and is paid out twice per year. In 2013 the City received \$212,622 from the Community Works Fund. In 2014 the City is expected to receive \$210,100. This year, the City must sign a renewal agreement with UBCM to receive funding from 2014 to 2024.

Initially, these funds could be used for capital projects including public transit, local roads and bridges, active transportation, community energy, water, wastewater or solid waste infrastructure that reduced greenhouse gas emissions or provided cleaner air or water. As of April 1, 2014 the eligible categories were expanded to include capital projects such as Brownfield redevelopment, Sports, Recreation, Cultural, and Tourism infrastructure, and disaster mitigation.

Benefits or Impacts of the Recommendation:

General: Entering into the agreement allows the City to take advantage of the Community Works funding.
Strategic Impact: These funds can be used to strengthen the City's asset management program
Financial: The City will receive approximately \$200,000 per year in Community Works Funds
Attachments: 2014-2024 Community Works Fund Agreement

Recommendation: **THAT the Committee of the Whole recommends that Council authorize the City of Grand Forks to enter into the**

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



Community Works Fund Agreement 2014-2024 with the
Union of British Columbia Municipalities at the regular
meeting of July 21, 2014

-
- OPTIONS:**
- 1. COTW COULD CHOOSE TO SUPPORT THE RECOMMENDATION.**
 - 2. COTW COULD CHOOSE TO NOT SUPPORT THE RECOMMENDATION.**
 - 3. COTW COULD CHOOSE TO REFER THE REPORT BACK TO STAFF FOR MORE INFORMATION.**

2014-2024 COMMUNITY WORKS FUND AGREEMENT
under the
ADMINISTRATIVE AGREEMENT
ON THE FEDERAL GAS TAX FUND IN BRITISH COLUMBIA

This Agreement made as of _____, 201__,

BETWEEN:

City of Grand Forks (the Local Government)

AND

The **UNION OF BRITISH COLUMBIA MUNICIPALITIES** (UBCM) as continued by section 2 of the *Union of British Columbia Municipalities Act RSBC 2006, c. 1*, as represented by the President

WHEREAS:

- A. Canada, British Columbia and UBCM wish to help communities build and revitalize their public infrastructure that supports national objectives of productivity and economic growth, a clean environment and strong cities and communities;
- B. Canada, British Columbia and UBCM have entered into the Agreement setting out the roles and responsibilities of the Parties for the administration of the Federal Gas Tax Fund (GTF) in British Columbia;
- C. The Agreement provides for delivery of funding that may be received by UBCM from Canada, including interest thereon, through three programs, one of which is Community Works Fund;
- D. The Agreement sets out the purpose, terms and conditions of the Community Works Fund, and requires that in order to receive Community Works Fund funding, a Local Government must sign a Funding Agreement with UBCM;

NOW THEREFORE, in consideration of the mutual promises herein, UBCM and the Local Government agree as follows:

1. PURPOSE

The purpose of this Community Works Fund Agreement is to set out the roles and responsibilities of the Local Government and UBCM related to any Community Works Fund funds that may be delivered to the Local Government by UBCM:

2. SCHEDULES

The following Schedules, originating in whole or part from the Agreement, are attached to and form part of this Community Works Fund Agreement:

- Schedule A - Definitions
- Schedule B - Eligible Project Categories
- Schedule C - Eligible and Ineligible Expenditures

Schedule D - Reporting and Audits
Schedule E - Communications Protocol

3. ROLE OF UBCM

- 3.1 UBCM has, pursuant to the Agreement, agreed with Canada and British Columbia to:
- A. receive GTF funding from Canada and allocate funds so received from Canada pursuant to the Agreement, including allocating Community Works Funds to the Local Government to be spent on Eligible Projects and Eligible Expenditures in accordance with the terms and conditions of this Community Works Fund Agreement;
 - B. report to Canada and British Columbia, including Annual Reports and Outcome Reports, as required by the Agreement; and
 - C. fulfill other roles and responsibilities as set out in the Agreement.

4. CONTRIBUTION PROVISIONS

- 4.1 Over the term of this Community Works Fund Agreement, UBCM will pay the Local Government its annual allocation within 30 days of receipt of such funds from Canada.
- 4.2 Payments under section 4.1 are subject to UBCM receiving sufficient GTF funds from Canada, and Local Government compliance with this Community Works Fund Agreement and any other Funding Agreement under the First Agreement.
- 4.3 Annual allocation is based on a formula set out in section 3.4 of Annex B of the Agreement. In the first year of this Community Works Fund Agreement, the Local Government will receive \$210,100.63, in two equal instalments which, subject to section 4.2, are expected to be delivered in the month following July 15 and November 15, 2014.
- 4.4 Annual allocation to the Local Government for all subsequent years under this Community Works Fund Agreement continue to be based on the funding formula set out in the Agreement, but are subject to change by UBCM from the amount set out in section 4.3 due to such circumstances as local government boundary changes and new Local Government incorporations, changes in Census populations and changes in amounts that may be received by UBCM from Canada.
- 4.5 Timing of payments in subsequent years under this Community Works Fund Agreement to the Local Government by UBCM are subject to change due to any changes in timing of payments to UBCM by Canada.

5. USE OF FUNDS BY LOCAL GOVERNMENT

- 5.1 Any GTF funding that may be received by the Local Government and any Unspent Funds, and any interest earned thereon held by the Local Government must be used by the Local Government in accordance with this Community Works Fund Agreement, including specifically Section 6. (Commitments of the Local Government).
- 5.2 Any GTF funding that may be received by the Local Government and any Unspent Funds, and any interest earned thereon held by the Local Government will be treated as federal funds with respect to other federal infrastructure programs.

6. COMMITMENTS OF THE LOCAL GOVERNMENT

- 6.1 The Local Government shall:
- A. Ensure that any Unspent Funds and any GTF funding received from UBCM, as well as any interest earned thereon are expended and used in accordance with Schedule B (Eligible Project Categories) and Schedule C (Eligible and Ineligible Expenditures).
 - B. Treat any Unspent Funds and any GTF funding received from UBCM, as well as any interest earned thereon as federal funds with respect to other federal infrastructure programs.
 - C. Over the term of this Community Works Fund Agreement, ensure that any Unspent Funds and any GTF funding received from UBCM, as well as any interest earned thereon result in incremental spending as measured by the methodology, which will include a Base Amount, approved by the Partnership Committee.
 - D. Comply with all Ultimate Recipient requirements outlined in Schedule E (Communications Protocol).
 - E. During the term of this Community Works Fund Agreement work to strengthen Asset Management, in accordance with the Asset Management framework developed by the Partnership Committee.
 - F. Invest, in a distinct account, GTF funding received from UBCM in advance of paying Eligible Expenditures.
 - G. With respect to Contracts, award and manage all Contracts in accordance with the Local Government's relevant policies and procedures and, if applicable, in accordance with the Agreement on Internal Trade and applicable international trade agreements, and all other applicable laws.
 - H. Invest into Eligible Projects, any revenue that is generated from the sale, lease, encumbrance or other disposal of an asset resulting from an Eligible Project where such disposal takes place within five (5) years of the date of completion of the Eligible Project.
 - I. Submit a report to UBCM, in a format acceptable to UBCM, by June 1 in each year, which includes:
 - GTF transactions of the Local Government for the previous calendar year, in sufficient detail to allow UBCM to produce the Annual Report required by Schedule D (Reporting and Audits);
 - a declaration from the Chief Financial Officer that the Local Government has complied with all Funding Agreements between it and UBCM; and

- any other information required by UBCM to fulfill its responsibilities under the Agreement, including, but not limited to project outcomes in relation to anticipated program benefits, expenditures made for tangible capital assets, and progress made towards Asset Management improvements.

J. Allow Canada and UBCM reasonable and timely access to all of its documentation, records and accounts and those of their respective agents or Third Parties related to the use of any Unspent Funds and any GTF funding, as well as any interest earned thereon, and all other relevant information and documentation requested by Canada or UBCM or its designated representatives for the purposes of audit, evaluation, and ensuring compliance with this Community Works Fund Agreement.

K. Ensure that no current or former public servant or public office holder to whom any post-employment, ethics and conflict of interest legislation, guidelines, codes or policies of Canada applies will derive direct benefit from GTF funding, Unspent Funds and interest earned thereon, unless the provision or receipt of such benefits is in compliance with such legislation, guidelines, policies or codes.

L. Keep proper and accurate accounts and records in respect of all Eligible Projects for at least six (6) years after completion of the Eligible Project and, upon reasonable notice, make them available to Canada or UBCM.

M. Ensure actions do not establish or be deemed to establish a partnership, joint venture, principal-agent relationship or employer-employee relationship in any way or for any purpose whatsoever between Canada, British Columbia, or UBCM and the Local Government, or between Canada, British Columbia, or UBCM and a Third Party.

N. Ensure the Local Government does not represent themselves, including in any agreement with a Third Party, as a partner, employee or agent of Canada, British Columbia or UBCM.

O. Ensure that the Local Government will not, at any time, hold the Government of Canada or British Columbia or any of their respective officers, servants, employees or agents responsible for any claims or losses of any kind that they, Third Parties or any other person or entity may suffer in relation to any matter related to GTF funding or an Eligible Project and that they will, at all times, compensate the Government of Canada or British Columbia and their respective officers, servants, employees and agents for any claims or losses of any kind that any of them may suffer in relation to any matter related to GTF funding or an Eligible Project, except to the extent to which such claims or losses relate to the negligence of an officer, employee, or agent of Canada in the performance of his or her duties.

P. Ensure that the Local Government will not, at any time, hold UBCM or any of its officers, servants, employees or agents responsible for any claims or losses of any kind that they, Third Parties or any other person or entity may suffer in relation to any matter related to GTF funding or an Eligible Project and that they will, at all times, compensate UBCM and its officers, servants, employees and agents for any claims or losses of any kind that any of them may suffer in relation to any matter related to GTF funding or an Eligible Project, except to the extent to which such claims or losses relate to the act of negligence of an officer, employee, or agent of UBCM in the performance of his or her duties.

Q. Agree that the above requirements which, by their nature, should extend beyond the expiration or termination of this Agreement will extend beyond such expiration or termination.

7. TRANSITION

- 7.1 As of the effective date of this Community Works Fund Agreement, the First Community Works Fund Agreement is terminated.
- 7.2 Notwithstanding section 7.1, the Parties agree that prior to its termination, the First Community Works Fund Agreement is amended to add to section 6.2 of that agreement: Schedule A (Eligible Project Categories and Project Examples); Schedule B (Eligible Costs for Eligible Recipients) and Schedule E (Reporting and Audit).
- 7.3 Notwithstanding section 7.1, the Parties agree that the survival rights and obligations in Section 6.2 of the First Community Works Fund Agreement (including those added to that section by virtue of Section 7.2), and any other section of the First Community Works Fund Agreement that is required to give effect to that survival section, will continue to apply beyond the termination of the First Community Works Fund Agreement subject to the following:
- A. Regardless of any wording in the First Community Works Fund Agreement with another effect, Unspent Funds, including interest earned thereon, will, as of the effective date of this Community Works Fund Agreement, be subject to this Community Works Fund Agreement;
 - B. Unspent Funds that fall within the reporting period of the 2013 Annual Expenditure Report (as defined in the First Community Works Fund Agreement) will be reported by the Local Government to UBCM in accordance with the First Community Works Fund Agreement;
 - C. Unspent Funds that fall within the reporting period that includes January 1, 2014 to the effective date of this Community Works Fund Agreement will be reported by the Local Government to UBCM in accordance with this Community Works Fund Agreement;
 - D. The survival of the reporting obligations under Section 3.2 and section 1.1 of Schedule E (Reporting and Audits) of the First Community Works Fund Agreement extends only until these obligations are fulfilled by the Local Government for the 2013 reporting year, after which, the reporting obligations under Section 6.1(i) and Schedule D of this Community Works Fund Agreement will apply; and
 - E. Any matters that Section 3.1 (iv) and Schedule G of the First Community Works Fund Agreement would have applied to will be dealt with under Section 6.1(d) and Schedule E (Communications Protocol) of this Community Works Fund Agreement.

8. TERM

This Community Works Fund Agreement will be effective as of April 1, 2014 and will be in effect until March 31, 2024 unless the Parties agree to renew it. In the event where this Community Works Fund Agreement is not renewed, any GTF funding and Unspent Funds, and any interest earned thereon held by the Local Government, that have not been expended on Eligible Projects or other expenditures authorized by this Community Works Fund Agreement as of March 31, 2024 will nevertheless continue to be subject to this Community Works Fund Agreement until such time as may be determined by the Parties.

9. SURVIVAL

The rights and obligations, set out in Sections 5.1, 5.2 and 6.1 will survive the expiry or early termination of this Community Works Fund Agreement and any other section which is required to give effect to the termination or to its consequences shall survive the termination or early termination of this Community Works Fund Agreement.

10. AMENDMENT

The Local Government acknowledges that the Agreement may from time to time be amended by agreement of Canada, British Columbia and UBCM and if and whenever such amendments to the Agreement are made, the Local Government agrees that UBCM may require this Community Works Fund Agreement to be amended to reflect, at the sole discretion of UBCM, the amendments made to the Agreement. Where UBCM requires this Community Works Fund Agreement to be so amended, it will provide to the Local Government notice in writing of the amendments it requires. Such amendments shall from part of this Community Works Fund Agreement and be binding on the Local Government and UBCM thirty (30) days after such notice, unless before then the Local Government elects in writing to give written notice of termination of this Community Works Fund Agreement to UBCM.

11. WAIVER

No provision of this Community Works Fund Agreement shall be deemed to be waived by UBCM, unless waived in writing with express reference to the waived provisions and no excusing, condoning or earlier waiver of any default by the Local Government shall be operative as a waiver, or in any way limit the rights and remedies of UBCM or Canada.

12. NO ASSIGNMENT

This Community Works Fund Agreement is not assignable by the Local Government and the Local Government shall not assign, pledge, or otherwise transfer any entitlement to allocation of funds under this Community Works Fund Agreement to any person and shall upon receipt of any allocation of funds hereunder pay and expend such funds thereafter only in accordance with the terms of this Community Works Fund Agreement.

13. NOTICE

Any notice, information or document provided for under this Community Works Fund Agreement must be in writing and will be effectively given if delivered or sent by mail, postage or other charges prepaid, or by facsimile or email. Any notice that is delivered will have been received on delivery; and any notice mailed will be deemed to have been received eight (8) calendar days after being mailed.

Any notice to UBCM will be addressed to:

Executive Director
525 Government Street
Victoria, British Columbia
V8V 0A8
Facsimile: 250 356-5119
Email: ubcm@ubcm.ca

Any notice to the Local Government will be addressed to:

The Corporate Officer at the place designated as the Local Government office.

SIGNATURES

This Community Works Fund Agreement has been executed on behalf of the Local Government by those officers indicated below and each person signing the agreement represents and warrants that they are duly authorized and have the legal capacity to execute the agreement.

City of Grand Forks

UNION OF BC MUNICIPALITIES

Original signed by:

Original signed by:

Mayor_____
Corporate Officer_____
Corporate Officer_____
General Manager, Victoria OperationsSigned by City of Grand Forks on the
_____ day of _____, 201__.The Community Works Fund Agreement have
been executed by UBCM on the _____ day
of _____, 201__.

Schedule A – Definitions

“Agreement” means the Administrative Agreement on the Federal Gas Tax Fund in British Columbia.

“Annual Report” means the duly completed annual report to be prepared and delivered by UBCM to Canada and British Columbia, as described in Schedule D (Reporting and Audits).

“Asset Management” (AM) includes planning processes, approaches or plans that support integrated, lifecycle approaches to effective stewardship of infrastructure assets in order to maximize benefits and manage risk. AM is further described in Schedule F (Asset Management) of the Agreement, and can include:

- an inventory of assets;
- the condition of assets;
- level of service;
- risk assessment;
- a cost analysis;
- community priority setting;
- long-term financial planning.

“Base Amount” means an amount established over a time-period, reflecting non-federal investments in Infrastructure and against which GTF investments will be measured to ensure that GTF investments are incremental.

“Chief Financial Officer” means in the case of a municipality, the officer assigned financial administration responsibility under S. 149 of the *Community Charter*, and in the case of a Regional District, the officer assigned financial administration responsibility under S. 199 of the *Local Government Act*, R.S.B.C. 1996, c.323.

“Communications Protocol” means the protocol by which all communications activities related to GTF funding will be delivered as described in Schedule E (Communications Protocol).

“Community Works Fund” means the fund provided from the Federal gas tax revenues to be dispersed to local governments based on a percentage of the per capita allocation for local spending priorities in accordance with the terms and conditions set out in the Agreement.

“Community Works Fund Agreement” means this Agreement made between UBCM and Local Government.

“Contract” means an agreement between an Ultimate Recipient and a Third Party whereby the latter agrees to supply a product or service to an Eligible Project in return for financial consideration.

“Eligible Expenditures” means those expenditures described as eligible in Schedule C (Eligible and Ineligible Expenditures).

“Eligible Projects” means projects as described in Schedule B (Eligible Project Categories).

“First Agreement” means the agreement for the transfer of federal gas tax revenues entered into on September 19, 2005 by the Government of Canada, British Columbia and UBCM, with an expiry date of March 31, 2019, as amended.

“First Community Works Fund Agreement” means the agreement entered between UBCM and Local Government in order to administer the Community Works Fund under the First Agreement.

“Funding Agreement” means an agreement between UBCM and an Ultimate Recipient setting out the terms and conditions of the GTF funding to be provided to the Ultimate Recipient as entered under the First Agreement or the Agreement.

“GTF” means the Gas Tax Fund, a program established by the Government of Canada setting out the terms and conditions for the administration of funding that may be provided by Canada to recipients under section 161 of the *Keeping Canada's Economy and Jobs Growing Act*, S.C. 2011, c. 24 as amended by section 233 of the *Economic Action Plan 2013 Act, No. 1*, S.C. 2013, c. 33, or any other source of funding as determined by Canada.

“Ineligible Expenditures” means those expenditures described as ineligible in Schedule C (Eligible and Ineligible Expenditures).

“Infrastructure” means municipal or regional, publicly or privately owned tangible capital assets in British Columbia primarily for public use or benefit.

“Local Government” means a municipality as defined in the *Community Charter* [SBC 2003] Chapter 26, a regional district as defined in the *Local Government Act* [RSBC 1996] Chapter 323, and the City of Vancouver as continued under the *Vancouver Charter* [SBC 1953] Chapter 55.

“Outcomes Report” means the report to be delivered by March 31, 2018 and again by March 31, 2023 by UBCM to Canada and British Columbia which reports on how GTF investments are supporting progress towards achieving the program benefits, more specifically described in Schedule D (Reporting and Audits).

“Partnership Committee” means the Committee required to be established by the Agreement to govern the implementation of the Agreement and further described in Annex C of the Agreement.

“Party” means Canada, British Columbia or UBCM when referred to individually and collectively referred to as “Parties”.

“Third Party” means any person or legal entity, other than Canada, British Columbia, UBCM or an Ultimate Recipient, who participates in the implementation of an Eligible Project by means of a Contract.

“Ultimate Recipient” means a Local Government.

“Unspent Funds” means Funds (as defined by the First Agreement) that have not been spent towards an Eligible Project (as defined under the First Agreement) prior to the effective date of the Agreement.

Schedule B – Eligible Project Categories

Eligible Projects include investments in Infrastructure for its construction, renewal or material enhancement in each of the following categories:

A. Local roads, bridges – roads, bridges and active transportation infrastructure (active transportation refers to investments that support active methods of travel. This can include: cycling lanes and paths, sidewalks, hiking and walking trails).

B. Highways – highway infrastructure.

C. Short-sea shipping – infrastructure related to the movement of cargo and passengers around the coast and on inland waterways, without directly crossing an ocean.

D. Short-line rail – railway related infrastructure for carriage of passengers or freight.

E. Regional and local airports – airport-related infrastructure (excludes the National Airport System).

F. Broadband connectivity – infrastructure that provides internet access to residents, businesses, and/or institutions in Canadian communities.

G. Public transit – infrastructure that supports a shared passenger transport system which is available for public use.

H. Drinking water – infrastructure that supports drinking water conservation, collection, treatment and distribution systems.

I. Wastewater – infrastructure that supports wastewater and storm water collection, treatment and management systems.

J. Solid waste – infrastructure that supports solid waste management systems including the collection, diversion and disposal of recyclables, compostable materials and garbage.

K. Community energy systems – infrastructure that generates or increases the efficient usage of energy.

L. Brownfield Redevelopment – remediation or decontamination and redevelopment of a brownfield site within Local Governments boundaries, where the redevelopment includes:

- the construction of public infrastructure as identified in the context of any other eligible project category under the GTF, and/or;
- the construction of Local Government public parks and publicly-owned social housing.

M. Sport Infrastructure – amateur sport infrastructure (excludes facilities, including arenas, which would be used as the home of professional sports teams or major junior hockey teams (e.g. Western Hockey League)).

N. Recreational infrastructure – recreational facilities or networks.

O. Cultural infrastructure – infrastructure that supports arts, humanities, and heritage.

P. Tourism infrastructure – infrastructure that attract travelers for recreation, leisure, business or other purposes.

Q. Disaster mitigation – infrastructure that reduces or eliminates long-term impacts and risks associated with natural disasters.

Eligible Projects also include:

R. Capacity building – includes investments related to strengthening the ability of Local Governments to develop long-term planning practices.

Note: Investments in health infrastructure (hospitals, convalescent and senior centres) are not eligible.

Schedule C – Eligible and Ineligible Expenditures**1. ELIGIBLE EXPENDITURES**

1.1 Eligible Expenditures of Ultimate Recipients will be limited to the following:

A. the expenditures associated with acquiring, planning, designing, constructing or renovating a tangible capital asset, as defined by Generally Accepted Accounting Principles (GAAP), and any related debt financing charges specifically identified with that asset;

B. for capacity building category only, the expenditures related to strengthening the ability of Local Governments to improve local and regional planning including capital investment plans, integrated community sustainability plans, life-cycle cost assessments, and Asset Management Plans. The expenditures could include developing and implementing:

- studies, strategies, or systems related to asset management, which may include software acquisition and implementation;
- training directly related to asset management planning; and,
- long-term infrastructure plans.

C. the expenditures directly associated with joint communication activities and with federal project signage for GTF-funded projects.

1.2 Employee and Equipment Costs: The incremental costs of the Ultimate Recipient's employees or leasing of equipment may be included as Eligible Expenditures under the following conditions:

- the Ultimate Recipient is able to demonstrate that it is not economically feasible to tender a contract;
- the employee or equipment is engaged directly in respect of the work that would have been the subject of the contract; and
- the arrangement is approved in advance and in writing by UBCM.

1.3 Administration expenses of UBCM related to program delivery and implementation of this Agreement, in accordance with Section 9 (Use and Recording of Funds by UBCM) of Annex B (Terms and Conditions).

2. INELIGIBLE EXPENDITURES

The following are deemed Ineligible Expenditures:

- A. project expenditures incurred before April 1, 2005;
- B. project expenditures incurred before April 1, 2014 for the following investment categories:
 - highways;
 - regional and local airports;
 - short-line rail;
 - short-sea shipping;
 - disaster mitigation;
 - broadband connectivity;
 - brownfield redevelopment;
 - cultural infrastructure;
 - tourism infrastructure;
 - sport infrastructure; and
 - recreational infrastructure.
- C. the cost of leasing of equipment by the Ultimate Recipient, any overhead costs, including salaries and other employment benefits of any employees of the Ultimate Recipient, its direct or indirect operating or administrative costs of Ultimate Recipients, and more specifically its costs related to planning, engineering, architecture, supervision, management and other activities normally carried out by its staff, except in accordance with Eligible Expenditures above;
- D. taxes for which the Ultimate Recipient is eligible for a tax rebate and all other costs eligible for rebates;
- E. purchase of land or any interest therein, and related costs;
- F. legal fees; and
- G. routine repair and maintenance costs.

Schedule D –Reporting and Audits

1. REPORTING

Reporting requirements under the GTF will consist of an Annual Report and an Outcomes Report that will be submitted to Canada and British Columbia for review and acceptance. The reporting year is January 1st to December 31st.

1.1 ANNUAL REPORT

By September 30th of each year, UBCM will provide to Canada and British Columbia an Annual Report in an electronic format deemed acceptable by Canada consisting of the following in relation to the previous reporting year:

Financial Report Table: The financial report table will be submitted in accordance with the following template.

Annual Report Financial Table	Annual	Cumulative
	20xx - 20xx	2014 - 20xx
UBCM		
Opening Balance ¹¹³	\$xxx	
Received from Canada	\$xxx	\$xxx
Interest Earned	\$xxx	\$xxx
Administrative Cost	(\$xxx)	(\$xxx)
Transferred to Ultimate Recipients	(\$xxx)	(\$xxx)
Closing Balance of unspent funds	\$xxx	
Ultimate Recipients in aggregate		
Opening Balance ¹¹⁴	\$xxx	
Received from UBCM	\$xxx	\$xxx
Interest Earned	\$xxx	\$xxx
Spent on Eligible Expenditures	(\$xxx)	(\$xxx)
Closing Balance of unspent funds	\$xxx	

¹¹³ For the 2014 Annual Report this means the amount reported as unspent by UBCM the 2013 Annual Expenditure Report (as defined under the First Agreement).

¹¹⁴ For the 2014 Annual Report this means the amount reported as unspent by Eligible Recipients (as defined under the First Agreement) in the 2013 Annual Expenditure Report (as defined under the First Agreement).

Independent Audit or Audit Based Attestation:

UBCM will provide an independent audit opinion, or an attestation based on an independent audit and signed by a senior official designated in writing by British Columbia and UBCM, as to:

- A. the accuracy of the information submitted in the Financial Report Table; and
- B. that Funds were expended for the purposes intended.

Project List

UBCM will maintain, and provide to Canada and British Columbia a project list submitted in accordance with the following template.

Annual Report - GTF Project List Template

Project ID	Ultimate Recipient	Project Title	Project Description	Investment category	Total Project Cost	Funds (GTF) Spent	Completed

1.2 OUTCOMES REPORT

By March 31, 2018 and March 31, 2023, UBCM will provide to Canada and British Columbia and make publicly available, an Outcomes Report that will report in aggregate on the degree to which investments are supporting the progress in British Columbia towards achieving the following program benefits:

- A. Beneficial impacts on communities of completed Eligible Projects;
- B. Enhanced impact of GTF as a predictable source of funding including incremental spending; and
- C. Progress made on improving Local Government Asset Management.

The Outcomes Report will present performance data and a narrative on program benefits. The partnership committee will develop and approve a methodology for reporting on performance in respect of each of the program benefits

2. AUDITS

Canada may, at its expense, carry out any audit in relation to the Agreement, and for this purpose, reasonable and timely access to all documentation, records and accounts that are related to the Agreement and the use of GTF funding, and any interest earned thereon, and to all other relevant information and documentation requested by Canada or its designated representatives, will be provided to Canada and its designated representatives by:

- British Columbia and UBCM, as applicable, where these are held by British Columbia, UBCM, or their respective agents or Third Parties; and
- Ultimate Recipients where these are held by the Ultimate Recipient or a Third Party or their respective agents.

Canada may, at its expense, complete a periodic evaluation of the GTF to review the relevance and performance (i.e. effectiveness, efficiency and economy) of the GTF. British Columbia and UBCM will provide Canada with information on program performance and may be asked to participate in the evaluation process. The results of the evaluation will be made publicly available.

Schedule E – Communications Protocol

1. PURPOSE

1.1 The provisions of this Communications Protocol apply to all communications activities related to any GTF funding which may be delivered by Canada, including allocations, and Eligible Projects funded under this Agreement. Communications activities may include, but are not limited to, public or media events, news releases, reports, web articles, blogs, project signs, digital signs, publications, success stories and vignettes, photo compilations, videos, advertising campaigns, awareness campaigns, editorials, awards programs, and multi-media products.

1.2 Through collaboration, the Parties agree to work to ensure clarity and consistency in the communications activities meant for the public.

2. JOINT COMMUNICATIONS APPROACH

2.1 The Parties agree to work in collaboration to develop a joint communications approach that identifies guiding principles, including those related to the provision of upfront project information, project signage, and planned communications activities throughout the year. This joint communications approach will have the objective of ensuring that communications activities undertaken each calendar year communicate a mix of Eligible Project types from both large and small communities, span the full calendar year and use a wide range of communications mediums.

2.2 The Parties agree that the initial annual joint communications approach will be finalized and approved by the partnership committee within 60 working days following the inaugural meeting of the partnership committee.

2.3 The Parties agree that achievements under the joint communications approach will be reported to the partnership committee once a year, or more frequently as requested by the partnership committee.

2.4 The Parties agree to assess the effectiveness of the joint communications approach on an annual basis and, as required, update and propose modifications to the joint communications approach. Any modifications will be brought to the partnership committee for approval.

3. INFORM CANADA ON ALLOCATION AND INTENDED USE OF GTF FUNDING FOR COMMUNICATIONS PLANNING PURPOSES

3.1 UBCM agrees to provide to Canada upfront information on planned Eligible Projects and Eligible Projects in progress on an annual basis, prior to the construction season. The Parties will agree, in the joint communications approach, on the date this information will be provided. The information will include, at a minimum:

Ultimate Recipient name; Eligible Project name; Eligible Project category, a brief but meaningful Eligible Project description; amount of Funds being used toward the Eligible Project; and anticipated start date.

3.2 The Parties agree that the above information will be delivered to Canada in an electronic format deemed acceptable by Canada. This information will only be used for communications planning purposes and not for program reporting purposes.

3.3 The Parties agree that the joint communications approach will define a mechanism to ensure the most up-to-date Eligible Project information is available to Canada to support media events and announcements for Eligible Projects.

4. PROJECT SIGNAGE

4.1 The Parties and Ultimate Recipients may each have a sign recognizing their contribution to Eligible Projects.

4.2 At Canada's request, Ultimate Recipients will install a federal sign to recognize federal funding at Eligible Project site(s). Federal sign design, content, and installation guidelines will be provided by Canada and included in the joint communications approach.

4.3 Where British Columbia, UBCM or an Ultimate Recipient decides to install a permanent plaque or other suitable marker with respect to an Eligible Project, it must recognize the federal contribution to the Eligible Project(s) and be approved by Canada.

4.4 The Ultimate Recipient is responsible for the production and installation of Eligible Project signage, or as otherwise agreed upon.

4.5 British Columbia or UBCM agree to inform Canada of signage installations on a basis mutually agreed upon in the joint communications approach.

5. MEDIA EVENTS AND ANNOUNCEMENTS FOR ELIGIBLE PROJECTS

5.1 The Parties agree to have regular announcements of Eligible Projects that are benefiting from GTF funding that may be provided by Canada. Key milestones may be marked by public events, news releases and/or other mechanisms.

5.2 Media events include, but are not limited to, news conferences, public announcements, official events or ceremonies, and news releases.

5.3 A Party or an Ultimate Recipient may request a media event.

5.4 Media events related to Eligible Projects will not occur without the prior knowledge and agreement of the Parties and the Ultimate Recipient.

5.5 The Party or Ultimate Recipient requesting a media event will provide at least 15 working days' notice to the other Parties or Ultimate Recipient of their intention to undertake such an event. The event will take place at a mutually agreed date and location. The Parties and the Ultimate Recipient will have the opportunity to participate in such events through a designated representative. The Parties will each designate their own representative.

5.6 The conduct of all joint media events and products will follow the *Table of Precedence for Canada* as outlined at <http://www.pch.gc.ca/pgm/ceem-cced/prtcl/precedence-eng.cfm>.

5.7 All joint communications material related to media events must be approved by Canada and recognize the funding of the Parties.

5.8 All joint communications material must reflect Canada's policy on official languages and the federal identity program.

6. PROGRAM COMMUNICATIONS

6.1 The Parties and Ultimate Recipients may include messaging in their own communications products and activities with regard to the GTF.

6.2 The Party or Ultimate Recipient undertaking these activities will provide the opportunity for the other Parties and Ultimate Recipient to participate, where appropriate, and will recognize the funding of all contributors.

6.3 The Parties agree that they will not unreasonably restrict the other Parties or Ultimate Recipient from using, for their own purposes, public communications products related to the GTF prepared by a Party or Ultimate Recipients, or, if web-based, from linking to it.

6.4 Notwithstanding Section 5 (Communications Protocol), Canada retains the right to meet its obligations to communicate information to Canadians about the GTF and the use of funding through communications products and activities.

7. OPERATIONAL COMMUNICATIONS

7.1 The Ultimate Recipient is solely responsible for operational communications with respect to Eligible Projects, including but not limited to, calls for tender, construction, and public safety notices. Operational communications as described above are not subject to the federal official language policy.

7.2 Canada, British Columbia, UBCM or the Ultimate Recipient will share information promptly with the Parties should significant emerging media or stakeholder issues relating to an Eligible Project arise. The Parties will advise Ultimate Recipients, when appropriate, about media inquiries received concerning an Eligible Project.

8. COMMUNICATING SUCCESS STORIES

British Columbia and UBCM agree to facilitate communications between Canada and Ultimate Recipients for the purposes of collaborating on communications activities and products including but not limited to Eligible Project success stories, Eligible Project vignettes, and Eligible Project start-to-finish features.

9. ADVERTISING CAMPAIGNS

Recognizing that advertising can be an effective means of communicating with the public, a Party or an Ultimate Recipient may, at their own cost, organize an advertising or public information campaign related to the GTF or Eligible Projects. However, such a campaign must respect the provisions of this Agreement. In the event of such a campaign, the sponsoring Party or Ultimate Recipient agrees to inform the other Parties of its intention, and to inform them no less than 21 working days prior to the campaign launch.

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



To: Committee of the Whole

From: Sasha Bird, Manager of Development & Engineering Services

Date: July 21, 2014

Subject: Riverside Drive Partial Road Closure, disposal and consolidation with 7330 Riverside Drive, to alleviate a 1.8 meter building and canopy encroachment onto the City's right of way.

Recommendation: **RESOLVED THAT** the Committee of the Whole recommends to Council to approve the request to close a 3 meter width of that portion of Riverside Drive (portion building and sidewalk), by the length of the building being 24.4 meters, located in front of 7330 Riverside Drive and direct Staff to proceed with the statutory requirements necessary to start and complete the road closure and consolidate, with that portion of closed road measuring ~73.2 square meters (0.018 acres) and to consolidate that portion of closed road with property legally described as Lot 1, District Lot 108 & 339"S", S.D.Y.D., Plan 34642.

BACKGROUND: Valley Heights Developments submitted a Strata Conversion application for an existing commercial/residential building located at 7330 Riverside Drive and legally described at Lot 1, District Lot 108 & 339"S", S.D.Y.D., Plan 34642.

The applicant also submitted a site plan prepared by Art Hoefsloot, B.C. Land Surveyor, that shows the footprint of the existing building and a portion of existing City sidewalk in front of the building. The plan shows a portion of the building and the overhead canopy to be encroaching onto Riverside Drive and a 1.8 meter encroachment onto the City's sidewalk. In normal situations, overhead canopies are allowed (like the downtown commercial buildings on Market Avenue); however, to do a Strata Conversion, there can be NO encroachments as to land and/or air space. Along with the road closure and consolidation, Staff will prepare a right of way agreement over that portion of closed road (which will eventually become private property), giving the City access to that portion of property and with a statement that the property owner will save the City harmless with respect to any occurrence that may result on that portion of property. The right of way will be registered on the title of the property at 7330 Riverside Drive, in perpetuity.

The size of the proposed area to be closed is ~73.2 square meters (~0.018 acres). The 2014 assessed value of the total area of land is \$84,800.00 which calculates to \$1,526.40 for that portion of closed road.

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



Benefits or Impacts of the Recommendation:

General: The benefit of the closure of that portion of road would alleviate the encroachment and allow the developer to proceed with the strata conversion of his building and the City would be seen as following their Road Closure Policy #1501.

Strategic Impact: N/A

Financial: The City of Grand Forks would see no cost to the taxpayers for the closure and consolidation of that portion of Riverside Drive and there would be a benefit from a potential increased tax base for the City once the building is stratified and the residential and commercial units are sold. The City's Road Closure Policy #1501 states that a deposit is required in the amount of \$2,500.00 prior to beginning a road closure and the applicant has paid the required amount, and the City can proceed with acquiring a legal plan showing the encroachment area, which becomes part of the Road Closure Bylaw.

Policy/Legislation: The Community Charter governs this legislation under Section 40.

Attachments:

- Request from Valley Heights Developments requesting the City to close a portion of Riverside Drive adjacent to his building located at 7330 Riverside Drive;
- Copy of Plan 34642;
- Copy of a site plan showing the footprint of the building and the canopy overhang;
- Copy of the Zoning Map showing the location and zoning of the property in question;
- Street view of the building and the landscaping of the property after renovations were done;
- Excerpt from the Community Charter, Section 40;
- Copy of the Road Closure Policy #1501.

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



Recommendation: **RESOLVED THAT** the Committee of the Whole recommends to Council to approve the request to close a 3 meter width of that portion of Riverside Drive (portion building and sidewalk) by the length of the building being 24.4 meters, located in front of 7330 Riverside Drive and direct Staff to proceed with the statutory requirements necessary to start and complete the road closure and consolidate with that portion of closed road measuring ~73.2 square meters (0.018 acres) and to consolidate that portion of closed road with property legally described as Lot 1, District Lot 108 & 339"S", S.D.Y.D., Plan 34642.

-
- OPTIONS:**
- 1. COTW COULD CHOOSE TO SUPPORT THE RECOMMENDATION.**
 - 2. COTW COULD CHOOSE TO NOT SUPPORT THE RECOMMENDATION.**
 - 3. COTW COULD CHOOSE TO REFER THE REPORT BACK TO STAFF FOR MORE INFORMATION.**
-

VALLEY HEIGHTS DEVELOPMENTS INC.

P.O. BOX 714

GRAND FORKS, B.C.

VOH 1H0

Dear Mayor and Council:

I, Bill Ling of Valley Heights Developments Inc. would like to request that Council close a portion of Riverside Drive (sidewalk) adjacent to my commercial/residential building located at 7330 Riverside Drive, so that I can then proceed with the stratification of the building.

Thank you.



Bill Ling

PLAN 34642

J.C. GROVES

Registrar


Approving Officer for the Corporation
of the City of Grand Forks.

Owner of Lot A
R & S ENTERPRISES LTD.
(INCORPORATION No. 32709)

Authorized Signatory

Authorized Signatory

ASSISTANT GENERAL MANAGER
WITNESS
Address: 2001 West 1st Avenue, D.C.
Occupation: Secretary
(As to Party Signature)
Power of Attorney Filing No: 50944

I, A. F. Hoefsloot, a British Columbia Land Surveyor of Grand Forks in British Columbia, certify that I was present at and personally superintended the survey represented by this plan and that the survey and plan are correct. The survey was completed on the 21st day of November 1983

A. H. H. H. H.

J 54 - 83

LEGEND

Bearings are astronomic, derived from PLAN 33152.

OIP denotes standard iron post found

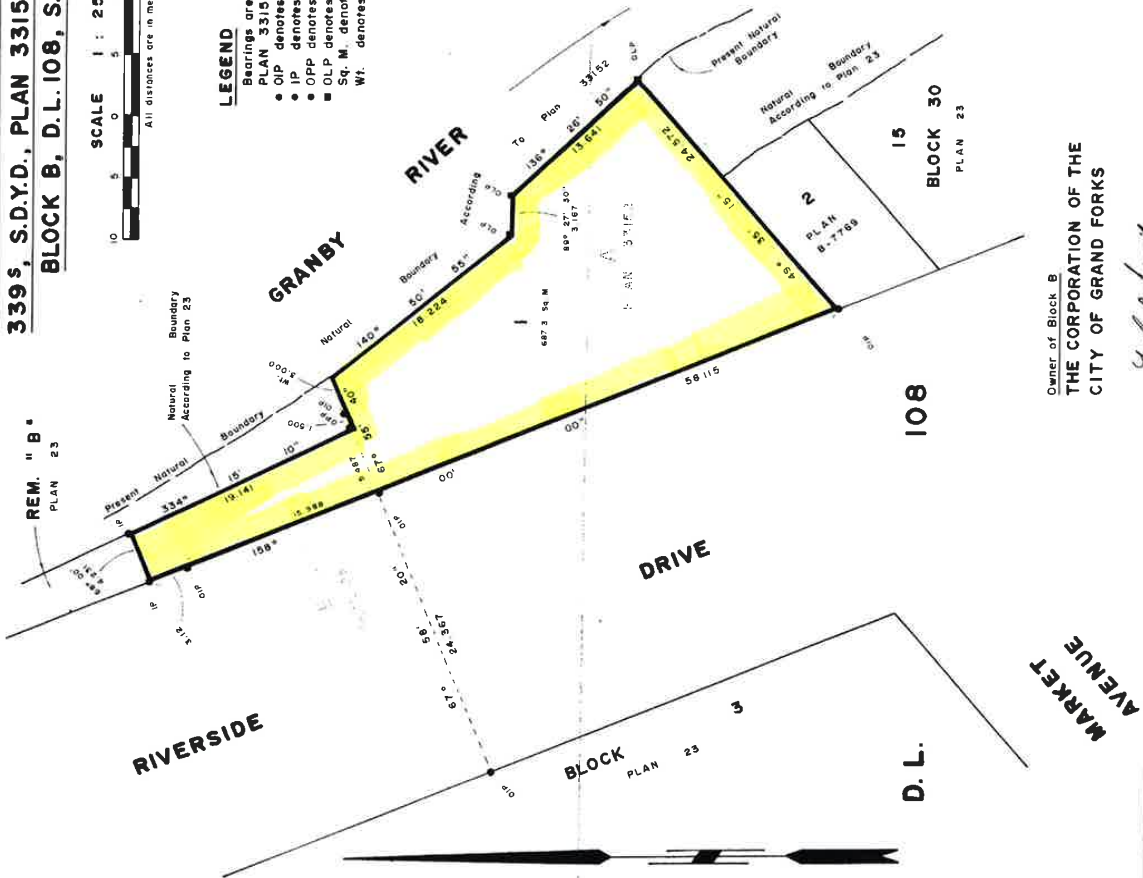
IP denotes standard iron post set

OOP denotes standard pipe post found.

OLP denotes lead plug found.

Sq. M. denotes square metres.

Wt. denotes witness



Owner of L. P59070
B & B SPORTS LTD.
(INCORPORATION No. 194582)

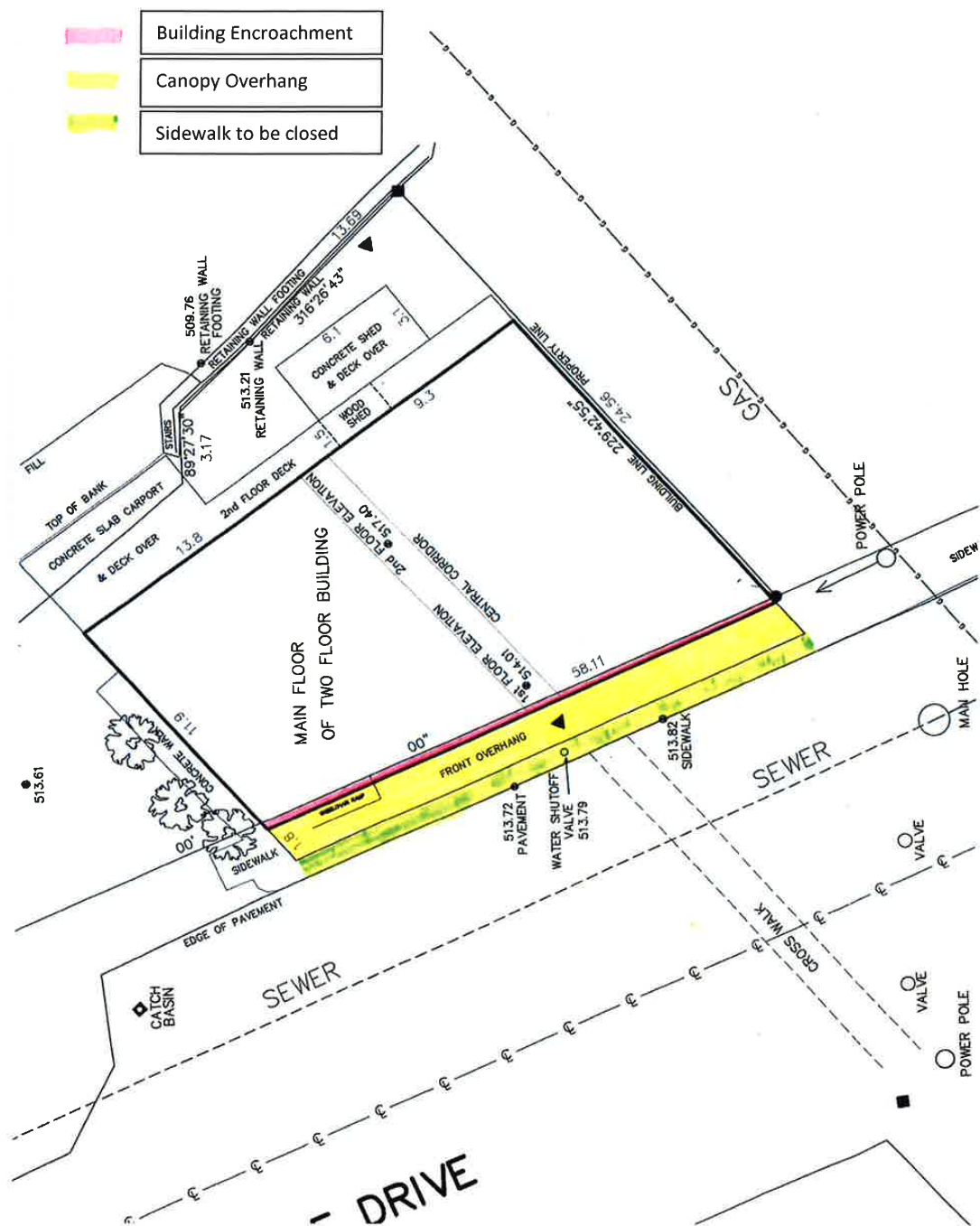
Authorized Signatory

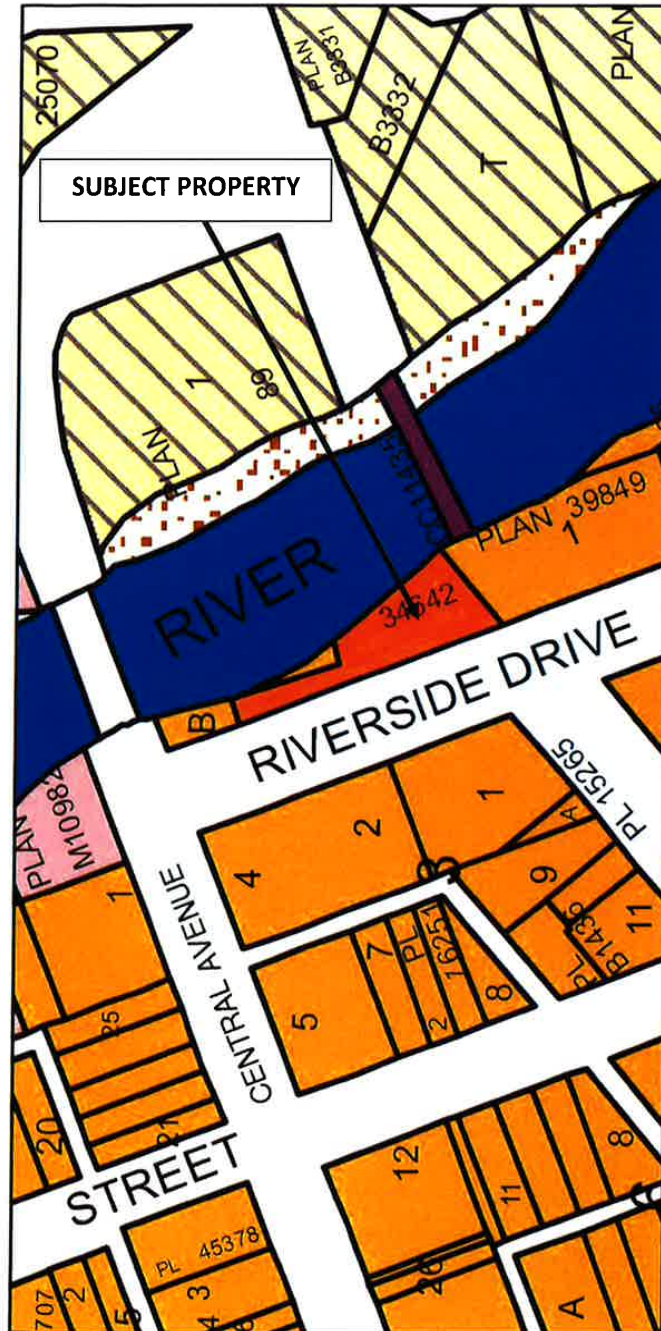
Authorized Signatory

Owner of Block B
THE CORPORATION OF THE
CITY OF GRAND Forks

<i>Yoshimi Sugimoto</i>	YOSHIMI Sugimoto	Mayor
<i>Walter Sloyer</i>	Walter Sloyer	Clerk

A. F. Hoefsloot
B. C. Land Surveyor
Box 2740
Grand Forks, B. C.
VOH 1HO 442-5597







Temporary traffic restriction and traffic control

38. (1) A council may temporarily restrict or prohibit all or some types of traffic on a highway.
- (2) In addition to the authority under section 154 [*delegation of council authority*], a council may, by bylaw, authorize a municipal employee or any other person to control traffic on a highway, or to temporarily restrict or prohibit all or some types of traffic on a highway, in relation to matters specified in the bylaw.

2003-26-38.

Additional powers in relation to highways

39. A council may, by bylaw, do one or more of the following:
- (a) assign a name or number to a highway;
 - (b) assign numbers to buildings and other structures;
 - (c) require owners or occupiers of real property to place assigned numbers in a conspicuous place on or near the property;
 - (d) require owners of private highways to maintain them in a clean, fit and safe state and to post suitable private thoroughfare signs;
 - (e) require persons to take specified actions for the purposes of maintaining the cleanliness or safety of a highway that is next to property that they own or occupy, or that is affected by property that they own or occupy;
 - (f) require owners or occupiers of land to fence any part of it abutting on a highway.

2003-26-39.

Permanent closure and removal of highway dedication

40. (1) A council may, by bylaw,
- (a) close all or part of a highway that is vested in the municipality to all or some types of traffic, or
 - (b) reopen all or part of such a highway that has been closed.
- (2) A council may, by bylaw, remove the dedication of a highway
- (a) that has been closed by a bylaw under subsection (1) (a), or
 - (b) that is to be closed by the same bylaw, or by a bylaw adopted by the council at the same time.
- (3) Before adopting a bylaw under this section, the council must
- (a) give notice of its intention in accordance with **section 94** [*public notice*], and
 - (b) provide an opportunity for persons who consider they are affected by the bylaw to make representations to council.
- (4) In addition to the requirement under subsection (3), before adopting a bylaw under subsection (1) (a), the council must deliver notice of its intention to the operators of utilities whose transmission or distribution facilities or works the council considers will be affected by the closure.
- (5) A bylaw under subsection (2) must be filed in accordance with section 120 of the *Land Title Act* and, on filing, the property subject to the bylaw **ceases to be a highway, its dedication as a highway is cancelled and title to the property may be registered in the name of the municipality** in accordance with section 120 of the *Land Title Act*.
- (6) As a limit on subsection (2), a council may not remove the dedication of a highway that was dedicated by the deposit of a subdivision or reference plan in the land title office if
- (a) the highway has not been developed for its intended purpose, and
 - (b) the owner of the land at the time the plan was deposited is the owner of all of the parcels created by the plan, unless the owner of the parcels consents.
- (7) This section, and not section 30 [*reservation and dedication of municipal property*], applies to cancelling the dedication of a highway.
- (8) For certainty, this section applies to public highways under section 42 of the *Transportation Act*.

2003-26-40; 2003-52-534; 2004-44-97.

(Am) Dec 31/04

CITY OF GRAND FORKS

POLICY TITLE:	Road Closure Policy	POLICY NO:	1501
EFFECTIVE DATE:	July 20, 2009	SUPERSEDES:	
APPROVAL:	Council	PAGE:	1 of 1

Purpose:

To have money on hand for the recovery of costs for expenses involved in a permanent road closure and ensure that the City does not incur any costs relative to another party's request for road closure.

Policy:

It is Council's policy that all applications for permanent road closures from applicants wishing to take title to the property in question shall be accompanied by a deposit of \$2,500.00. All costs relative to the road closure and payment of market value for any property transferred will be at the sole cost of the purchaser. The City will establish the market value price for the property.

Policy Procedure:

1. \$2,500.00 deposit and a fair market value appraisal, agreed to by the applicant, will be required prior to the City taking any action to initiate road closure.
2. Should the Applicant decide not to proceed with the road closure, at any time during the process, the deposit will be refunded to the applicant, less any related costs incurred by the City. Should the City decide not to proceed with the Road Closure, at any time during the process, the deposit will be refunded to the Applicant.
3. Where the costs of the road closure exceed the amount of the deposit, the applicant will be required to pay such excess costs, as calculated by the City and will include all legal, survey, appraisal, advertising and land title fees.
4. Where the total final costs of the road closure are less than the deposited amount, the overpayment will be refunded to the applicant.
5. As a condition of the road closure, the closed portion of road must either be consolidated with the adjoining property, or another road must be constructed to replace the closed road.
6. The process for the road closure must follow the Provincial Government regulations.

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



To: Committee of the Whole
From: Sasha Bird, Manager of Development & Engineering Services
Date: July 21, 2014
Subject: Royal Canadian Legion Branch #51 Development Variance Permit application.
Recommendation: **RESOLVED THAT THE COMMITTEE OF WHOLE** recommend that Council approve the development variance permit, requesting a setback variance from 20 feet to 2 feet, to the Royal Canadian Legion Branch #51, located at 7353-6th Street, in order to construct a roof over the existing outdoor patio area and refer it to the July 21, 2014 Regular meeting.

BACKGROUND: At the June 24, 2013 Regular meeting, Council supported the Legion's request to the Liquor Control and Licensing Branch, to permanently amend their liquor licence permit to include the addition of a 390 square foot fenced outdoor area and forwarded their support to the Liquor Control and Licensing Branch.

The Legion would like to construct a roof over the 390 square foot outdoor area so they can complete the new outdoor area and protect their patrons from the rain and snow while using the outdoor patio area. Enclosed with this report is a site plan showing the location and height of the proposed new roof.

The variance application is requesting Council to vary the rear setback from the required 20 feet to 2 feet so that a roof can be constructed over the new 3,200 square foot patio area.

There is an undeveloped lane located adjacent to this area and is at the rear of the property, so the roof cannot be seen from 6th Street. Adjacent to the undeveloped lane is a swampy area and the City's storm main runs through two parcels, making this property undevelopable, and the vacant property southeast of the Legion building is used as a parking lot for the patrons.

The Local Government Act governs what the City is required to do when they receive and application for a development variance permit. Advertising is not required, as the application affects only the surrounding property owners who have been informed of the application.

Letters were sent to the property owners within a 100 foot radius, informing them of the variance application and inviting them to attend the July 21, 2014 Committee of the Whole meeting, if they have any comments or concerns.

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



Benefits or Impacts of the Recommendation:

General: By approving the development variance request for a setback variance from 20 feet to 2 feet this would allow the Legion to complete their plans to construct a roof over their 390 outdoor patio area.

Strategic Impact: N/A

Financial: There is no cost to the taxpayers with regard to the development variance. The applicants pay \$350.00 for a Development Variance application.

Policy/Legislation: Section 901 of the Local Government Act governs development variance applications and procedures.

Attachments:

- Royal Canadian Legion #51 Development Variance Application;
- June 24, 2013 Regular meeting resolution of Council;
- Site plan showing the subject property;
- Aerial view of the area in question and a copy of the zoning map showing the zoning of the property and surrounding area;
- Aerial drawing showing the 390 square foot concrete patio;
- Street view showing the proposed roof over the patio;
- Section 901 of the Local Government Act.

Recommendation: **RESOLVED THAT THE COMMITTEE OF WHOLE** recommend that Council approve the development variance permit, requesting a setback variance from 20 feet to 2 feet, to the Royal Canadian Legion Branch #51, located at 7353-6th Street, in order to construct a roof over the existing outdoor patio area and refer it to the July 21, 2014 Regular meeting.

OPTIONS:

1. COTW COULD CHOOSE TO SUPPORT THE RECOMMENDATION.
2. COTW COULD CHOOSE TO NOT SUPPORT THE RECOMMENDATION.
3. COTW COULD CHOOSE TO REFER THE REPORT BACK TO STAFF FOR MORE INFORMATION.

THE CORPORATION OF THE CITY OF GRAND FORKS

7217-4th STREET, BOX 220, GRAND FORKS, B.C. V0H 1H0 TELEPHONE: 250-442-8266 FAX: 250-442-8000



DEVELOPMENT VARIANCE PERMIT APPLICATION

APPLICATION FEE

\$350.00

Receipt No. _____

LOCAL GOVERNMENT ACT, SECTION 922

Registered Owner(s): ROYAL CANADIAN LEGION

BR # 59 GRAND FORKS

Mailing Address: PO BOX # 943 G.F.B.C.

V0H-1H0

Telephone: Home: 442-8400 Work _____

Legal Description:

LOT 24-26 BLOCK 29 DIS/LOT 108
PLAN 121

P.I.D. 0126 79623 012679 631 012 679 640

Civic Address: 7353-6th Street

DECLARATION PURSUANT TO THE WASTE MANAGEMENT ACT

I, Steve McGibbon, owner of the subject property described on this application form, hereby declare that the land which is the subject of this application has not, to my knowledge been used for industrial or commercial activity as defined in the list of "Industrial Purposes and Activities" (Schedule 2) of the *Contaminated Sites Regulation* (B.C. Reg. 375/96). I therefore declare that I am not required to submit a Site Profile under Section 26.1 or any other section of the *Waste Management Act*.

(signature)

JUNE 125 / 2014

(date)

Page 1 of 3

THE CORPORATION OF THE CITY OF GRAND FORKS



7217-4th STREET, BOX 220, GRAND FORKS, B.C. V0H 1H0 TELEPHONE: 250-442-8266 FAX: 250-442-8000

Outline the provisions of the respective Bylaw(s) that you wish to vary and give your reasons for making this request:

BUILD PATIO COVERED AREA TO PROPERTY LINE


Submit the following information with the application:

1. A legible site plan showing the following:

- (a) The boundaries and dimensions of the subject property.
- (b) The location of permanent or proposed buildings and structures existing on the property.
- (c) The location of any proposed access roads, parking, screening, landscaping or fencing.
- (d) The location and nature of any physical or topographic constraints on the property (stream, ravines, marshes, steep slopes, etc.)

Other information or more detailed information may be requested by the City of Grand Forks upon review of your application.

The information provided is full and complete and to the best of knowledge to be a true statement of the facts relating to this application.



Signature of Owner

JUNE 25 2014

Date

FOR NOMINATIONS FROM THE PUBLIC FOR EXCEPTIONAL VOLUNTEER SERVICES IN THE CITY OF GRAND FORKS IN ACCORDANCE WITH COUNCIL POLICY #204.

CARRIED.

b) Royal Canadian Legion Branch #59

Request for approval – for the Royal Canadian Legion to add a New Outdoor Patio. The Royal Canadian Legion has submitted an application to the Liquor Control and Licensing Branch for a permanent change to their Liquor License for the premises located at 7353 – 6th Street, as outlined in the application, and further adopts the following resolution to be sent to the Liquor Control and Licensing Branch in order for the application to be finalized.

MOTION: O'DOHERTY / WYERS

RESOLVED THAT COUNCIL RECEIVES THE MANAGER OF TECHNICAL SERVICES REPORT, DATED JUNE 6, 2013 WITH REGARD TO THE ROYAL CANADIAN LEGION, BRANCH #59 APPLICATION TO THE LIQUOR CONTROL AND LICENSING BRANCH FOR A PERMANENT CHANGE TO THEIR LIQUOR LICENCE FOR THE PREMISES LOCATED AT 7353 6TH STREET, AS OUTLINED IN THE APPLICATION, AND FURTHER ADOPTS THE FOLLOWING RESOLUTION TO BE SENT TO THE LIQUOR CONTROL AND LICENSING BRANCH:

"WHERE AS THE ROYAL CANADIAN LEGION HOLDS A VALID LIQUOR LICENSE FOR THE ORGANIZATION, LOCATED AT 7353 – 6TH STREET, PERMITTING THE SALE OF LIQUOR;"

"AND WHEREAS THE ROYAL CANADIAN LEGION HAS APPLIED TO THE LIQUOR CONTROL AND LICENSING BRANCH TO PERMANENTLY AMEND THEIR PERMIT TO INCLUDE A 3,200 SQUARE FOOT FENCED OUTDOOR AREA FOR THE SEATING CAPACITY OF NO MORE THAN 185 SEATS;"

"AND WHEREAS THE CITY OF GRAND FORKS HAS NOTIFIED THE SURROUNDING PROPERTY OWNERS BY WRITTEN CORRESPONDENCE, OF THE ROYAL CANADIAN LEGION'S APPLICATION TO CHANGE THEIR PERMANENT LIQUOR LICENSE TO INCLUDE A 3,200 SQUARE FOOT FENCED OUTDOOR PATIO AREA TO ACCOMMODATE A TOTAL OF 185 SEATS FOR THEIR PATRONS AND THAT SAID PROPERTY OWNERS WERE INVITED TO HEARD BY COUNCIL AND TO ADDRESS ANY CONCERNS OR COMMENTS AT THE REGULAR MEETING OF COUNCIL ON JUNE 24TH, 2013;"

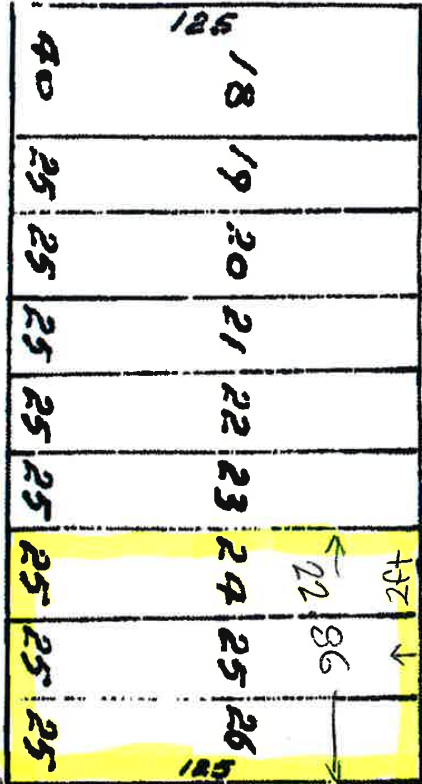
"BE IT RESOLVED THAT COUNCIL ADVISES THE LIQUOR CONTROL AND LICENSING BRANCH THAT (AFTER HEARING FROM ANY MEMBERS OF THE PUBLIC) DETERMINES THAT ANY NEGATIVE IMPACT AND POTENTIAL FOR NOISE TO THE SURROUNDING BUSINESSES WOULD BE CONSIDERED STANDARD FOR THIS AREA OF THE CITY AND THAT THE APPLICATION MADE BY THE ROYAL CANADIAN LEGION BE APPROVED AS APPLIED FOR.

CARRIED.

-
- c) Chief Financial Officer - **Request for approval to write off uncollectible taxes for folio 210-71382.61, Mobile Home Registration #34383, #6 6491 Highway 3 East, Mayflower Mobile Home Park (Folio 210-01382.000)**

Avenue

125



20

267

7.62

4075 1 v ä B.L.K.29

RECEIVED UNDER

2007

100-1-1



Regional District of Kootenay Boundary
Interactive Mapping System

Regional District of Kootenay Boundary



Datum: NAD 1983 Projection: UTM Zone 11N

Printed on 26-Jun-2014

Notes: Grand Forks Royal Canadian Legion

This map is for general information only. The RDKB does not guarantee its accuracy or correctness. All information should be verified.

Selkirk College



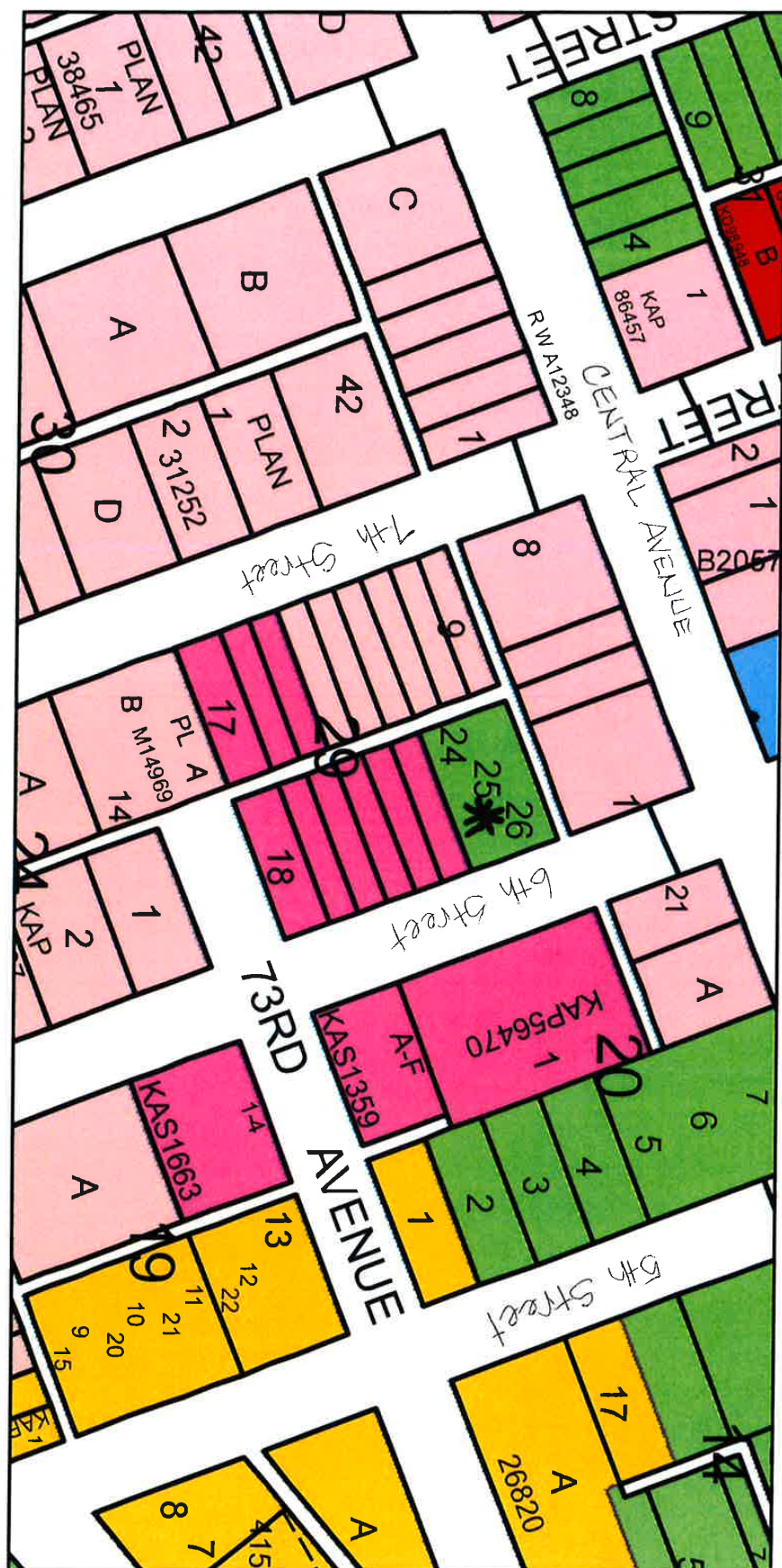
Legend

- Admin
- Parcels
- Provincial Park
- Lakes
- Rivers
- Streets
- Orthophoto 2005
- Red: Band_1
- Green: Band_2
- Blue: Band_3

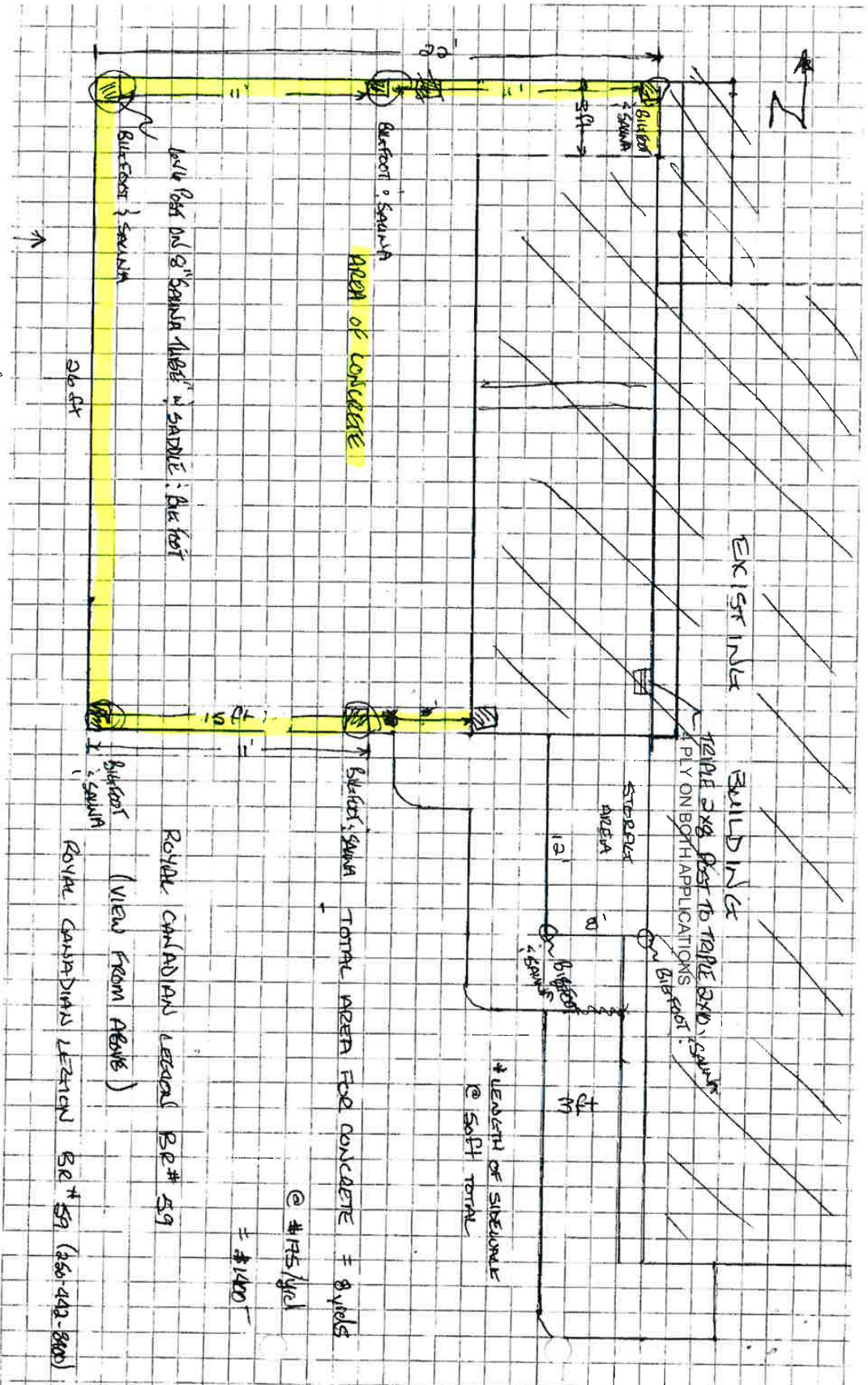
Scale: 1:2,445

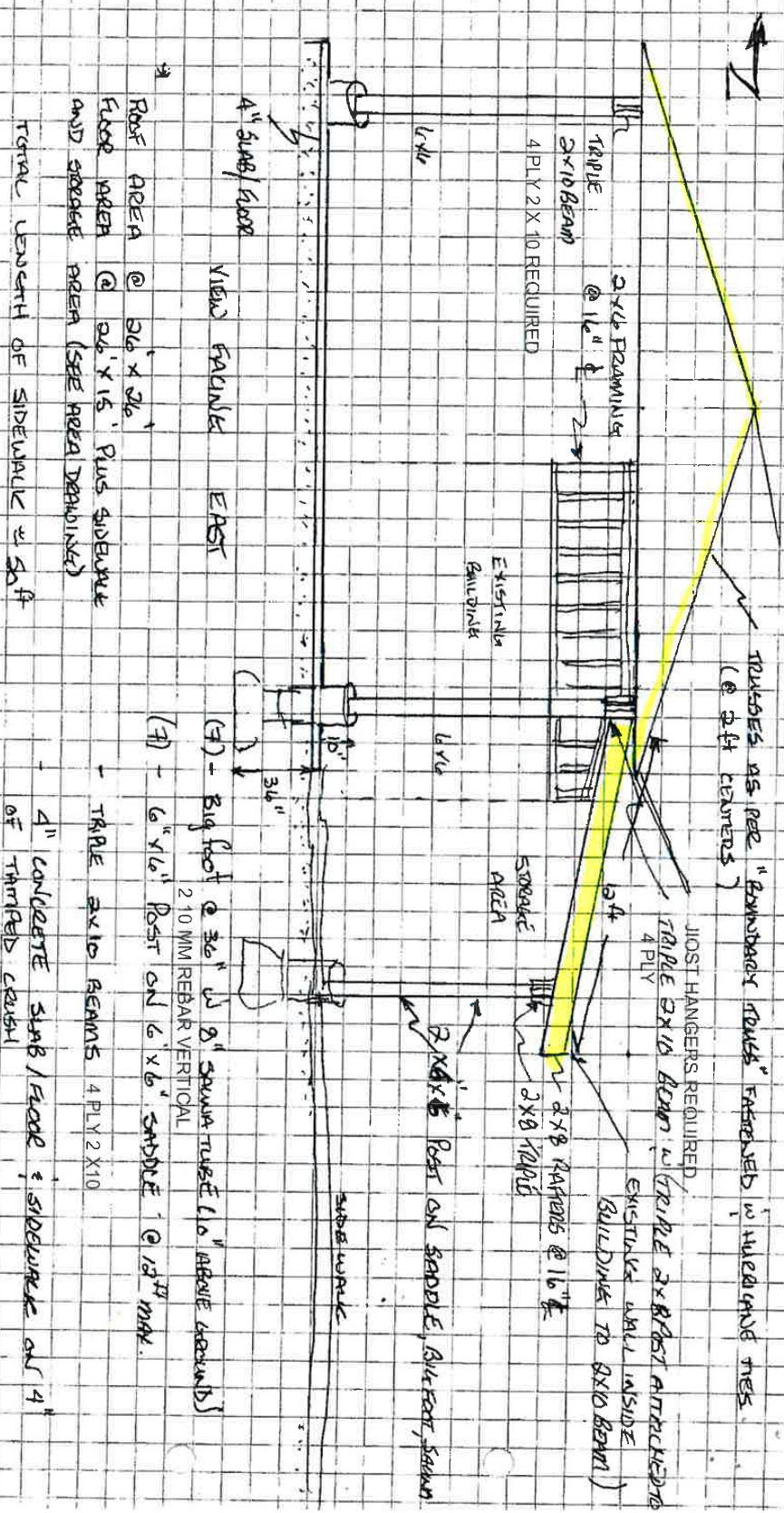
1 cm represents 24.45 m





2 ft setback
undeveloped lane





4" sub/floor

VIEW FACILITY EAST

Roof AREA @ 24' x 24'

FLOOR AREA @ 24' x 15' PLUS SIDEWALK AND SADDLE AREA (SEE AREA DEPENDENT)

TOTAL LENGTH OF SIDEWALK ≈ 50'

(1) - Big foot @ 36" w/ 8" square truss (10" above ground)

(2) - 6" x 10" Post on 6" x 6" saddle @ 10" max.

2 10 MM REBAR VERTICAL

TABLE 2x10 BEAMS 4 PLY 2x10

4" CONCRETE SLAB / FLOOR & SIDEWALK AND 4" OF TAMPED GRAVEL

ROYAL CANADIAN LEGION BR # 59 (260-442-8400)

CONTACT = STEVE MCDONNELL

(Rep) Mar 27/03

(10) *Repealed.* [2003–15–15 (g)]

(11) Members of a board of variance must not receive compensation for their services as members, but must be paid reasonable and necessary expenses that arise directly out of the performance of their duties.

(12) A local government must provide in its annual budget for the necessary funds to pay for the costs of the board.

RS1979–290–961(1) to (6), (9) to (11), (13), (14); 1985–79–8; 1987–14–25; 2000–7–148; 2003–15–15.

Chair and procedures

900. (1) The members of a board of variance must elect one of their number as chair.

(2) The chair may appoint a member of the board of variance as acting chair to preside in the absence of the chair.

(3) A bylaw establishing a board of variance must set out the procedures to be followed by the board of variance, including the manner by which appeals are to be brought and notices under section 901 (4) are to be given.

(4) A board of variance must maintain a record of all its decisions and must ensure that the record is available for public inspection during normal business hours.

RS1979–290–961(7), (8), (12), 962(10); 1985–79–8; 1987–14–25.

Variance or exemption to relieve hardship

901. (1) A person may apply to a board of variance for an order under subsection (2) if the person alleges that compliance with any of the following would cause the person hardship:

- (a) a bylaw respecting the siting, dimensions or size of a building or structure, or the siting of a manufactured home in a manufactured home park;
- (b) a bylaw under section 8 (3) (c) [*fundamental powers – trees*] of the *Community Charter*, other than a bylaw that has an effect referred to in section 50 (2) [*restrictions on authority – preventing all uses*] of that Act if the council has taken action under subsection (3) of that section to compensate or mitigate the hardship that is caused to the person;
- (c) the prohibition of a structural alteration or addition under section 911 (5);
- (d) a subdivision servicing requirement under section 938 (1) (c) in an area zoned for agricultural or industrial use.

(2) On an application under subsection (1), the board of variance may order that a minor variance be permitted from the requirements of the bylaw, or that the applicant be exempted from section 911 (5), if the board of variance

- (a) has heard the applicant and any person notified under subsection (4),
- (b) finds that undue hardship would be caused to the applicant if the bylaw or section 911 (5) is complied with, and
- (c) is of the opinion that the variance or exemption does not

- (i) result in inappropriate development of the site,
- (i.1) adversely affect the natural environment,
- (ii) substantially affect the use and enjoyment of adjacent land,
- (iii) vary permitted uses and densities under the applicable bylaw, or
- (iv) defeat the intent of the bylaw.

(3) The board of variance must not make an order under subsection (2) that would do any of the following:

- (a) be in conflict with a covenant registered under section 219 of the *Land Title Act* or section 24A of the *Land Registry Act*, R.S.B.C. 1960, c. 208;
- (b) deal with a matter that is covered in a permit under Division 9 of this Part or covered in a land use contract;
- (b.1) deal with a matter that is covered by a phased development agreement under section 905.1 [*phased development agreements*];
- (c) deal with a flood plain specification under section 910 (2);

(Add) Oct 20/97

(Add) Jun 21/07

- (d) apply to a property
- (i) for which an authorization for alterations is required under Part 27,
 - (ii) that is scheduled under section 970.1 (3) (b) or contains a feature or characteristic identified under section 970.1 (3) (c), or
 - (iii) for which a heritage revitalization agreement under section 966 is in effect.

(4) If a person makes an application under subsection (1), the board of variance must notify all owners and tenants in occupation of

- (a) the land that is the subject of the application, and
- (b) the land that is adjacent to land that is the subject of the application.

(5) A notice under subsection (4) must state the subject matter of the application and the time and place where the application will be heard.

(6) The obligation to give notice under subsection (4) must be considered satisfied if the board of variance made a reasonable effort to mail or otherwise deliver the notice.

(7) In relation to an order under subsection (2),

- (a) if the order sets a time within which the construction of the building, structure or manufactured home park must be completed and the construction is not completed within that time, or
 - (b) if that construction is not substantially started within 2 years after the order was made, or within a longer or shorter time period established by the order,
- the permission or exemption terminates and the bylaw or section 911 (5), as the case may be, applies.

(8) A decision of the board of variance under subsection (2) is final.

RS1979-290-962(1), (2), (4) to (7), (9); 1985-79-8; 1987-14-26; 1989-40-161; 1990-53-12; 1992-18-90; 1992-79-7; 1994-43-69; 1994-52-109; 1997-24-9 (B.C. Reg. 354/97); 2000-7-149(b) and (c); 2003-52-384; 2007-6-22 (B.C. Reg. 190/2007).

Extent of damage preventing

reconstruction as non-conforming use

902. (1) A person may apply to a board of variance for an order under subsection (2) if the person alleges that the determination by a building inspector of the amount of damage under section 911 (8) is in error.

(2) On an application under subsection (1), the board of variance may set aside the determination of the building inspector and make the determination under section 911 (8) in its place.

(3) The applicant or the local government may appeal a decision of the board of variance under subsection (2) to the Supreme Court.

RS1979-290-962(1)(b), (3), (8); 1985-79-8; 1987-14-26; 1989-40-161; 1990-53-12; 1992-18-90; 1992-79-7; 1994-43-69; 1994-52-109.

Division 7 – Zoning and Other Development Regulation

Zoning bylaws

903. (1) A local government may, by bylaw, do one or more of the following:

- (a) divide the whole or part of the municipality or regional district into zones, name each zone and establish the boundaries of the zones;
- (b) limit the vertical extent of a zone and provide other zones above or below it;
- (c) regulate within a zone
 - (i) the use of land, buildings and other structures,
 - (ii) the density of the use of land, buildings and other structures,
 - (iii) the siting, size and dimensions of
 - (A) buildings and other structures, and
 - (B) uses that are permitted on the land, and
 - (iv) the location of uses on the land and within buildings and other structures;
- (d) regulate the shape, dimensions and area, including the establishment of minimum and maximum sizes, of all parcels of land that may be created by subdivision, in which case
 - (i) the regulations may be different for different areas, and

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



To: Committee of the Whole
From: Chief Financial Officer
Date: June 25, 2014
Subject: Policy 804 Tangible Capital Assets revision
Recommendation: **THAT the Committee of the Whole recommends that Council adopt Policy #804-A1- Tangible Capital Assets**

BACKGROUND:

In 2010, the Public Sector Accounting Board passed a Tangible Capital Asset standard known as PSAB3150. This standard requires municipalities to record, report and amortize their physical assets.

As a result of this new standard, in November 2013 Council adopted Policy 804 Tangible Capital Assets. This policy ensured consistent treatment of capital assets by providing guidelines for which assets to capitalize, useful life expectancies, and accounting procedures to be followed.

As we work with this new policy, it is evident that clarification is needed with regard to pooling of assets for furniture, equipment and technology as seen on Page 7 of the Policy. We are proposing that the description under 'Level of Segmentation and/or Pooling' be replaced with less ambiguous wording.

We are also adding the *Living Document* clause at the end of the policy to ensure that the resulting information from recording of tangible capital assets is relevant and assists in decision making.

Benefits or Impacts of the Recommendation:

General: Revision will clarify how to record furniture, equipment and technology assets. It will also give the City discretion in certain cases to ensure the resulting information is relevant.

Attachments: Policy 804-A1 Tangible Capital Assets
Policy 804 Tangible Capital Assets

Recommendation: **THAT the Committee of the Whole recommends that Council adopt Policy #804-A1- Tangible Capital Assets**

OPTIONS: 1. COTW COULD CHOOSE TO SUPPORT THE RECOMMENDATION.

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



2. COTW COULD CHOOSE TO NOT SUPPORT THE RECOMMENDATION.
3. COTW COULD CHOOSE TO REFER THE REPORT BACK TO STAFF FOR MORE INFORMATION.

THE CITY OF GRAND FORKS			
POLICY TITLE: Tangible Capital Assets		POLICY NO:	804-A1
EFFECTIVE DATE:		SUPERSEDES:	804
APPROVAL: Council		PAGE:	1 of 12

POLICY:

The City of Grand Forks will record, account and disclose of its capital assets in accordance with the Public Sector Accounting Board (PSAB) requirements and this policy.

POLICY OBJECTIVE:

Under the *Community Charter*, the Municipality is required to comply with the financial reporting requirements of the Public Sector Accounting Board (PSAB).

The objective of this policy is to promote sound asset management and accounting for tangible capital assets ("TCA") by establishing a framework for the accounting of the Municipality's TCAs in accordance with PSAB 3150 Tangible Capital Assets. Accordingly, this policy should be considered within the overall context, constraints and requirements of PS3150, which remains the senior authoritative document.

DEFINITIONS

All definitions are taken from PSAB 3150 (as at June 24, 2009) and are included here for ease of reference only; the reader should refer to section 3150 to ensure the definitions remain current.

Tangible Capital Assets: Are non-financial assets having physical substance that:

- Are held for use in the production or supply of goods or services, for rental to others, for administrative purposes or for the development, construction, maintenance or repair of other tangible capital assets,
- Have useful economic lives extending beyond an accounting period,
- Are to be used on a continuing basis, and
- Are not for sale in the ordinary course of operations.

Cost: The gross amount of consideration given up, and directly attributable to, the acquisition, construction, development or betterment of a TCA. Capital grants would not be netted against the cost of the related TCA.

Betterments: A cost incurred to enhance the service potential of a TCA. Service potential is the output or service capacity of the TCA. Service potential may be enhanced when:

- There is an increase in the previously assessed physical output or service capacity,
- Where associated operating costs are lowered,
- The useful life of the property is extended, or
- The quality of the output is improved.

Fair Value: The amount of the consideration that would be agreed upon in an arms length transaction between knowledgeable, willing parties who are under no compulsion to act.

Useful Life: An estimate of either the period over which a TCA is expected to be used, or the number of production or similar units that can be obtained from the TCA. The life of a TCA can extend beyond an asset's useful life to the government. In general the life of a TCA, other than land, is finite and is normally the shortest of the physical, technological, commercial or legal life.

Amortization: A charge to expenditures for the use of a capital asset.

PRINCIPLES

Overarching principles that guide development, interpretation and implementation of the policy.

- The purpose of this policy is for the benefit of the City as a whole; for the users of the City's financial statements and managers of the City's tangible capital assets.
- The cost associated with data collection and storage is balanced with the benefits achieved by users of the data and reports. Materiality and costs vs. benefits is considered.
- The City's capital budget items comply with PSAB 3150 and criteria in this policy.
- All legislation applicable to municipalities will be complied with.
- Financial, operational and information limitations are considered.
- Reporting requirements and deadlines will be met.

POLICY FRAMEWORK

Included in this framework are policies for

- financial accountability
- valuation and measurement
- classification
- recognition

- capitalization thresholds
- segregation and pooling
- work in progress
- write-downs, write-offs, betterments
- amortization
- trade-ins and
- disposal
- presentation and disclosure.

Additional guidelines relating to the purchase and disposal of assets are contained in the City's Contracting Authority and Purchasing Policy 802 and Asset Disposal 804/805.

Financial Accountability

1. Departments are responsible for maintaining tangible capital asset information as provided through the application of these policies.
2. Departments are required to record and report periodic changes in tangible capital assets to the Finance Department consistent with the application of these policies.
3. Departments are required to verify tangible capital assets under their control through the completion of periodic physical counts. A reconciliation of each physical count to the Finance Department's accounting records should be completed as a part of this process.
4. It is policy that physical counts on moveable tangible capital assets are conducted at least annually and verification of non-moveable tangible capital assets be conducted at least every three years.
5. Departments are required to maintain tangible capital information such as location, usage, condition and maintenance records and ensure that proper control of tangible capital assets is maintained.
6. Departments are required to submit periodic tangible capital asset information in the designated format as requested by the Finance Department.
7. The Finance Department is responsible for monitoring the application of this policy and updating the policy on a regular basis.
8. The Finance Department is responsible for facilitating the approval of the capital budget and accounting for tangible capital assets in accordance with this policy, including the application of proper capitalization, categorization and amortization policies of the tangible capital assets.

9. The Finance Department is responsible for the accurate recording and reporting of tangible capital assets in the financial statements of the Corporation of the City of Grand Forks.

Valuation and Measurement

Purchased and constructed TCAs are valued and recorded at cost.

1. Costs for a purchase would include all direct purchase costs such as: purchase price, cost of installation, design and engineering fees, legal fees, survey costs, site preparation costs, freight charges, transportation insurance costs and duties.
 2. Cost for constructed assets would include all direct construction costs (equipment, material and labor charges) and directly related overhead.
 3. Direct costs DO NOT include:
 - General studies not related to a specific capital works (such as Service Master Plans that detail how to maintain an asset or asset category, or future capital works planning).
 - Carrying costs, such as interest charges on debt incurred to finance the construction, during the period of active construction to the date of substantial completion.
 - Costs for staff (and related operating costs) that perform administrative and managerial functions with respect to the capital works. This would include the management of the overall capital works program including the planning and tendering of works, grant application completion and development and management of related funding structures such as development cost charges.
- Direct costs DO include:
 - Third party costs incurred in anticipation of specific projects such as grant applications (whether approved or not), preliminary design or engineering works, appraisal costs, applications fees, handling and storage costs, advertising, public open houses etc.. These costs may be incurred a number of years prior to the works being approved and started. These costs are capitalized as Work In Progress until such time as the works are completed, or the costs are written off.
 - Costs for City staff who work directly on the construction of the capital works, such as installing a new water main. Costs would include salary, benefits and an allocation of directly related overhead (public works cost center costs for management, building & equipment, training etc.).
 - Costs for City equipment used directly on the construction of the capital works. Such costs are allocated through the use of equipment charge out rates times actual time spent on the capital work.

4. Costs of betterments are considered to be part of the cost of a TCA and are added to the recorded cost of the related asset.
5. Leased TCAs are valued and recorded in accordance with Public Sector Guidelines PSG-2 -Leased Tangible Capital Assets.
6. Contributed or donated TCAs are
 - Valued and recorded at **fair value** at the date of contribution. Where an estimate of fair value cannot be made, the TCA is valued and recorded at \$1.00.
 - TCAs contributed in lieu of a developer charge or as part of the normal development process (contribution of infrastructure upon development of a subdivision)

Classification

The level of detail of capital assets maintained by the City is dependent on costs of data collection and storage vs benefit.

1. Primary Asset Classification:

The primary classification breaks down the assets into the various government functions as follows:

- General Government
- Protective Services – Fire
- Protective Services - Other
- Transportation
- Sanitary Sewer System
- Storm Sewer System
- Water System
- Electrical System
- Recreation & Culture
- Development Services
- Cemetery
- Other

2. Secondary Asset Classification:

The secondary classification breaks down each asset function into various asset types. The asset types and the assets included in each type, are the same* as that detailed in the Ministry of Municipal Affairs, Local Government Infrastructure and Finance Division, May 2008, *Guide to the Amortization of Tangible Capital Assets*.

The asset types are summarized below (see Attachment A for more details).

- Land
- Land Improvements
- Buildings & Other Structures
- Furniture, Equipment and Technology
- Vehicles
- Transportation Infrastructure
- Water Infrastructure
- Sanitary Sewer Infrastructure
- Electrical Infrastructure
- Storm Sewer Infrastructure
- Other.

Recognition and Capitalization Thresholds

1. Tangible capital assets are recognized on the date of receipt of the capital goods, or when the asset is put into use for capital construction projects referred to as the “in-service date”. During construction capital work is classified as Work in Progress.
2. Capitalization Thresholds – Thresholds apply to the total cost of the purchased or constructed asset put into use. Future refinement to threshold levels may be necessary

<u>Asset Classification</u>	<u>Threshold</u>
Land	All
Land Improvements	>= \$5,000.00
Buildings & Other Structures	>= \$5,000.00
Furniture, Equipment and Technology	>= \$5,000.00
Vehicles	>= \$5,000.00
Infrastructure Assets	>=\$10,000.00
Other	>= \$5,000.00
Work-in-Progress	All

3. TCAs not meeting the above thresholds are expensed.

Segmentation and Pooling

The total aggregate cost of a capital asset is segmented into components based on useful life. See following table for asset segmentation.

<u>Asset Classification</u>	<u>Level of Segmentation and/or Pooling</u>
Land	Segment by each legal parcel held.
Land Improvements	Segment by individual asset.
Buildings & Other Structures	<p><u>Generally</u> pooled by envelope, roof cover, interior finishes, and services (see Attachment A for a summary of what is included in each pool). May elect to further segment material, distinct components (eg.: electrical, flooring, interior finish etc.) to partially or fully replace the respective pool.</p> <p>The degree of segmentation for each building should be based on the value of the building (net book value) and variances in the useful lives of the various components. In general, a higher value and significant variances in useful lives would lead to greater segmentation.</p> <p>Older buildings owned prior to Jan/1/2009 will be initially accounted for on a single asset basis and converted to a component basis (pooled components or individual material components) as the components are replaced in future years.</p>
Furniture, Equipment and Technology	Similar assets will be pooled when the individual asset value is less than \$5,000 but when acquired in the same year as other like assets where the total value of the like assets purchased in the year exceeds \$5,000. Assets in these pools will be disposed of using the deemed disposition method.**
Motor Vehicles	<p>Segment by individual asset.</p> <p>Apparatus and equipment added to a vehicle will be accounted for as part of the Vehicle (single asset) if it is expected to have a useful life similar to that of the Vehicle. If its useful life is significantly different it may be recorded as a separate asset and classified under Furniture, Equipment and Technology.</p>
Infrastructure Assets	<p>Vertical Assets – segment by individual asset and further break into components as deemed appropriate by the Finance Officer.</p> <p>Linear Assets – segment by:</p> <ul style="list-style-type: none"> • Major type as defined in terms of the assets specifications (ex. collector road, rural road etc.) • Then breakdown by length (typically road name measured from center line to centerline)

*****Deemed disposition*** – assets in this pool may be replaced on a regular basis but the administrative costs to separately track and account for each acquisition and disposal

transaction would be prohibitive. In these situations, the total additions are recorded and amortized over the applicable estimated useful life. The asset is assumed or deemed to have been disposed of in the last year of its estimated useful life. At the deemed disposition, the full cost of the addition and the related accumulated amortization is removed from the accounting records.

Work in Progress

1. Work-in-progress includes all current construction or development in progress on all tangible capital assets. These are costs incurred to construct a tangible capital asset before it is available for use. Accumulation of these costs cease when the asset is put into service.
2. All work-in-progress costs are to be reported separately under the work-in-progress asset category. As assets or significant portions of assets become available for service, they must be transferred to the regular asset categories for similar assets.
3. Where an asset has been constructed or developed, the estimated cost of the asset to final completion should be compared with the threshold for the asset category, to determine whether the asset would meet the minimum requirements to be considered a tangible capital asset.
4. Interest costs, incurred during the construction or development of tangible capital assets until the asset is ready for use and the asset is transferred to a regular asset category, may be added to the capitalized asset cost base.
5. Where a tangible capital asset is being constructed the department will clearly identify all costs related to the work and communicate these costs to the Finance Department.

Write-Downs

1. Where it can be objectively estimated that a reduction in a tangible capital asset's useful life or service potential has occurred, and the reduction is expected to be permanent, then the tangible capital asset should be written down to the revised estimate.
2. A write-down shall not be reversed.
3. All write-downs must be approved by Council, with a copy of the approval forwarded to the Finance Department.

Write-Offs

1. When an asset is no longer useful or it is obsolete then it may be written off. When a write-off occurs, the historic cost of the asset and the related accumulated amortization are reduced to zero. Any remaining net book value of the asset becomes an expense in the accounting period.
2. Costs of projects that have been abandoned or indefinitely postponed should be written off in the period of abandonment or indefinite postponement.
3. All write-downs must be approved by Council, with a copy of the approval forwarded to the Finance Department.

Betterments

1. Betterments, which extend the useful life or improve the efficiency of the asset and meet the capitalization threshold of the asset class to which it relates, must be added to the historical cost and amortized.

Amortization

1. Amortization is a non cash expense for the use of the capital asset and is allocated based on its useful life. See Attachment A for Useful Life Estimates.
2. All assets, except land and work in progress assets, are amortized.
3. The amortization basis is straight line basis over the assets useful life, less salvage value if material.
4. Amortization begins on the first day of the month following purchase or construction completion.

Trade-Ins

1. Capital assets may be disposed of by trading them in.

Disposals

1. On disposal of a tangible capital asset, the asset and its associated accumulated amortization are reduced to zero, and any gain or loss on disposal is recorded as a revenue or expense for the period.

Presentation and Disclosure

1. The City will present in accordance with PSAB
 - a. Cost of the asset
 - b. Additions to the assets
 - c. Disposals of the asset
 - d. Write downs
 - e. Amortization
 - f. Net book value
2. The City's annual audited financial statements will disclose
 - a. Method used to determine asset costs
 - b. Amortization
 - c. Estimated useful life of asset

Living Document

This policy is established to set guidelines for determining the valuation, classification, amortization rates and life expectancy of assets. It is recognized that not all assets will fall within the guidelines established, and from time to time there may be value in capitalizing assets that fall below the established thresholds, or to change the amortization method and expected useful economic life, or to account for an asset outside of an established pool. When determining the method for recording an asset, the City will consider the usefulness of the resulting information and the cost versus the benefit of collecting and maintaining it.

RELATED POLICIES

Policy No#	Policy Name
802	Contracting Authority & Purchasing
805	Asset Disposal

APPROVED BY:

DATE:

ATTACHMENT A

SECONDARY ASSET CLASSIFICATION DETAILS

- Land - All land, except held for resale. Includes parkland, land for City facilities and land under roads and sidewalks.
- Land Improvements - All land improvements which will generally decay or break-down over time. Includes: landscaping, lighting (not street-lights), park infrastructure (tennis courts, outdoor pool, playing fields, playground equipment, fencing etc.), etc.
- Buildings & Other Structures - All buildings, arenas, stadiums etc. Includes the envelope/structure (including all studies, architectural and engineering services etc.), roof cover, services (plumbing, HVAC electrical etc.), and interiors (fittings and fixtures, elevators, ceiling/floor/wall finishes, doors etc.). Other structures include: retaining walls and parking structures (parkades).
- Furniture, Equipment and Technology - Includes tools, apparatus, computer equipment, office equipment, furniture and fixtures, vehicle attachments, library books, phone system, etc. May be installed in a building but can be moved and re-installed in another location.
- Vehicles – Insured, means of transportation.
- Transportation Infrastructure – Includes roads (roadway, sidewalks, meridians, signage and curb and gutter), street lights, parking lots (but not parkades), alleys, bike and jogging paths, tunnels, bridges, and noise reduction berms.
- Water Infrastructure – Includes supply, distribution and treatment infrastructure.
- Sanitary Sewer Infrastructure – Includes collection, treatment and discharge infrastructure.
- Storm Sewer Infrastructure – Includes culverts and storm drains.
- Other – Includes assets not included in the other categories.

<u>Secondary Asset Classification</u>	<u>Useful Life</u>
Land Improvements	
Playground Equipment	15-20
Fencing	40-50
Artificial Turf Field	10-12
Washrooms	40-50
Building Structure	40-75
Building Improvements	
Exterior envelope	30-40
Services - HVAC systems, Electric/Plumbing/Fire	10-20
Roofs	15-20
Furniture, Equipment and Technology	
Public Works and Parks Equipment	7-10
Fire Services Equipment	15-20
Office Furniture, Fixtures & Equipment	5-20
Information Systems - Hardware	4-5
Information Systems - Software	5-10
Telephone System	7-10
Motor Vehicles	
Cars and Trucks	5-10
Fire Trucks	15-20
Infrastructure Assets	
Transportation	10-100
Water	10-100
Sewer	10-100
Storm Sewer	10-100

THE CITY OF GRAND FORKS			
POLICY TITLE: Tangible Capital Assets		POLICY NO:	804
EFFECTIVE DATE:	November 1, 2013	SUPERSEDES:	New
APPROVAL:	Council	PAGE:	1 of 12

POLICY:

The City of Grand Forks will record, account and disclose of its capital assets in accordance with the Public Sector Accounting Board (PSAB) requirements and this policy.

POLICY OBJECTIVE:

Under the *Community Charter*, the Municipality is required to comply with the financial reporting requirements of the Public Sector Accounting Board (PSAB).

The objective of this policy is to promote sound asset management and accounting for tangible capital assets ("TCA") by establishing a framework for the accounting of the Municipality's TCAs in accordance with PSAB 3150 Tangible Capital Assets. Accordingly, this policy should be considered within the overall context, constraints and requirements of PS3150, which remains the senior authoritative document.

DEFINITIONS

All definitions are taken from PSAB 3150 (as at June 24, 2009) and are included here for ease of reference only; the reader should refer to section 3150 to ensure the definitions remain current.

Tangible Capital Assets: Are non-financial assets having physical substance that:

- Are held for use in the production or supply of goods or services, for rental to others, for administrative purposes or for the development, construction, maintenance or repair of other tangible capital assets,
- Have useful economic lives extending beyond an accounting period,
- Are to be used on a continuing basis, and
- Are not for sale in the ordinary course of operations.

Cost: The gross amount of consideration given up, and directly attributable to, the acquisition, construction, development or betterment of a TCA. Capital grants would not be netted against the cost of the related TCA.

Betterments: A cost incurred to enhance the service potential of a TCA. Service potential is the output or service capacity of the TCA. Service potential may be enhanced when:

- There is an increase in the previously assessed physical output or service capacity,
- Where associated operating costs are lowered,
- The useful life of the property is extended, or
- The quality of the output is improved.

Fair Value: The amount of the consideration that would be agreed upon in an arms length transaction between knowledgeable, willing parties who are under no compulsion to act.

Useful Life: An estimate of either the period over which a TCA is expected to be used, or the number of production or similar units that can be obtained from the TCA. The life of a TCA can extend beyond an asset's useful life to the government. In general the life of a TCA, other than land, is finite and is normally the shortest of the physical, technological, commercial or legal life.

Amortization: A charge to expenditures for the use of a capital asset.

PRINCIPLES

Overarching principles that guide development, interpretation and implementation of the policy.

- The purpose of this policy is for the benefit of the City as a whole; for the users of the City's financial statements and managers of the City's tangible capital assets.
- The cost associated with data collection and storage is balanced with the benefits achieved by users of the data and reports. Materiality and costs vs. benefits is considered.
- The City's capital budget items comply with PSAB 3150 and criteria in this policy.
- All legislation applicable to municipalities will be complied with.
- Financial, operational and information limitations are considered.
- Reporting requirements and deadlines will be met.

POLICY FRAMEWORK

Included in this framework are policies for

- financial accountability
- valuation and measurement
- classification
- recognition

- capitalization thresholds
- segregation and pooling
- work in progress
- write-downs, write-offs, betterments
- amortization
- trade-ins and
- disposal
- presentation and disclosure.

Additional guidelines relating to the purchase and disposal of assets are contained in the City's Contracting Authority and Purchasing Policy 802 and Asset Disposal 804/805.

Financial Accountability

1. Departments are responsible for maintaining tangible capital asset information as provided through the application of these policies.
2. Departments are required to record and report periodic changes in tangible capital assets to the Finance Department consistent with the application of these policies.
3. Departments are required to verify tangible capital assets under their control through the completion of periodic physical counts. A reconciliation of each physical count to the Finance Department's accounting records should be completed as a part of this process.
4. It is policy that physical counts on moveable tangible capital assets are conducted at least annually and verification of non-moveable tangible capital assets be conducted at least every three years.
5. Departments are required to maintain tangible capital information such as location, usage, condition and maintenance records and ensure that proper control of tangible capital assets is maintained.
6. Departments are required to submit periodic tangible capital asset information in the designated format as requested by the Finance Department.
7. The Finance Department is responsible for monitoring the application of this policy and updating the policy on a regular basis.
8. The Finance Department is responsible for facilitating the approval of the capital budget and accounting for tangible capital assets in accordance with this policy, including the application of proper capitalization, categorization and amortization policies of the tangible capital assets.

9. The Finance Department is responsible for the accurate recording and reporting of tangible capital assets in the financial statements of the Corporation of the City of Grand Forks.

Valuation and Measurement

Purchased and constructed TCAs are valued and recorded at cost.

1. Costs for a purchase would include all direct purchase costs such as: purchase price, cost of installation, design and engineering fees, legal fees, survey costs, site preparation costs, freight charges, transportation insurance costs and duties.
 2. Cost for constructed assets would include all direct construction costs (equipment, material and labor charges) and directly related overhead.
 3. Direct costs DO NOT include:
 - General studies not related to a specific capital works (such as Service Master Plans that detail how to maintain an asset or asset category, or future capital works planning).
 - Carrying costs, such as interest charges on debt incurred to finance the construction, during the period of active construction to the date of substantial completion.
 - Costs for staff (and related operating costs) that perform administrative and managerial functions with respect to the capital works. This would include the management of the overall capital works program including the planning and tendering of works, grant application completion and development and management of related funding structures such as development cost charges.
- Direct costs DO include:
 - Third party costs incurred in anticipation of specific projects such as grant applications (whether approved or not), preliminary design or engineering works, appraisal costs, applications fees, handling and storage costs, advertising, public open houses etc.. These costs may be incurred a number of years prior to the works being approved and started. These costs are capitalized as Work In Progress until such time as the works are completed, or the costs are written off.
 - Costs for City staff who work directly on the construction of the capital works, such as installing a new water main. Costs would include salary, benefits and an allocation of directly related overhead (public works cost center costs for management, building & equipment, training etc.).
 - Costs for City equipment used directly on the construction of the capital works. Such costs are allocated through the use of equipment charge out rates times actual time spent on the capital work.

4. Costs of betterments are considered to be part of the cost of a TCA and are added to the recorded cost of the related asset.
5. Leased TCAs are valued and recorded in accordance with Public Sector Guidelines PSG-2 -Leased Tangible Capital Assets.
6. Contributed or donated TCAs are
 - Valued and recorded at **fair value** at the date of contribution. Where an estimate of fair value cannot be made, the TCA is valued and recorded at \$1.00.
 - TCAs contributed in lieu of a developer charge or as part of the normal development process (contribution of infrastructure upon development of a subdivision)

Classification

The level of detail of capital assets maintained by the City is dependent on costs of data collection and storage vs benefit.

1. Primary Asset Classification:

The primary classification breaks down the assets into the various government functions as follows:

- General Government
- Protective Services – Fire
- Protective Services - Other
- Transportation
- Sanitary Sewer System
- Storm Sewer System
- Water System
- Electrical System
- Recreation & Culture
- Development Services
- Cemetery
- Other

2. Secondary Asset Classification:

The secondary classification breaks down each asset function into various asset types. The asset types and the assets included in each type, are the same* as that detailed in the Ministry of Municipal Affairs, Local Government Infrastructure and Finance Division, May 2008, *Guide to the Amortization of Tangible Capital Assets*.

The asset types are summarized below (see Attachment A for more details).

- Land
- Land Improvements
- Buildings & Other Structures
- Furniture, Equipment and Technology
- Vehicles
- Transportation Infrastructure
- Water Infrastructure
- Sanitary Sewer Infrastructure
- Electrical Infrastructure
- Storm Sewer Infrastructure
- Other.

Recognition and Capitalization Thresholds

1. Tangible capital assets are recognized on the date of receipt of the capital goods, or when the asset is put into use for capital construction projects referred to as the “in-service date”. During construction capital work is classified as Work in Progress.
2. Capitalization Thresholds – Thresholds apply to the total cost of the purchased or constructed asset put into use. Future refinement to threshold levels may be necessary

<u>Asset Classification</u>	<u>Threshold</u>
Land	All
Land Improvements	>= \$5,000.00
Buildings & Other Structures	>= \$5,000.00
Furniture, Equipment and Technology	>= \$5,000.00
Vehicles	>= \$5,000.00
Infrastructure Assets	>=\$10,000.00
Other	>= \$5,000.00
Work-in-Progress	All

3. TCAs not meeting the above thresholds are expensed.

Segmentation and Pooling

The total aggregate cost of a capital asset is segmented into components based on useful life. See following table for asset segmentation.

<u>Asset Classification</u>	<u>Level of Segmentation and/or Pooling</u>
Land	Segment by each legal parcel held.
Land Improvements	Segment by individual asset.
Buildings & Other Structures	<p><u>Generally</u> pooled by envelope, roof cover, interior finishes, and services (see Attachment A for a summary of what is included in each pool). May elect to further segment material, distinct components (eg.: electrical, flooring, interior finish etc.) to partially or fully replace the respective pool.</p> <p>The degree of segmentation for each building should be based on the value of the building (net book value) and variances in the useful lives of the various components. In general, a higher value and significant variances in useful lives would lead to greater segmentation.</p> <p>Older buildings owned prior to Jan/1/2009 will be initially accounted for on a single asset basis and converted to a component basis (pooled components or individual material components) as the components are replaced in future years.</p>
Furniture, Equipment and Technology	<p>Individual assets with a value greater than \$15,000.00 would <u>generally</u> be recorded as single asset.</p> <p>Other assets with individual values less than \$15,000.00, but where more than one unit exists and the total of the units exceeds \$5,000.00, will <u>generally</u> be accounted for on a pooled asset basis, utilizing the deemed disposition approach.</p>
Motor Vehicles	<p>Segment by individual asset.</p> <p>Apparatus and equipment added to a vehicle will be accounted for as part of the Vehicle (single asset) if it is expected to have a useful life similar to that of the Vehicle. If its useful life is significantly different it may be recorded as a separate asset and classified under Furniture, Equipment and Technology.</p>
Infrastructure Assets	<p>Vertical Assets – segment by individual asset and further break into components as deemed appropriate by the Finance Officer.</p> <p>Linear Assets – segment by:</p> <ul style="list-style-type: none"> • Major type as defined in terms of the assets specifications (ex. collector road, rural road etc.) • Then breakdown by length (typically road name measured from center line to centerline)

Work in Progress

1. Work-in-progress includes all current construction or development in progress on all tangible capital assets. These are costs incurred to construct a tangible capital asset before it is available for use. Accumulation of these costs cease when the asset is put into service.
2. All work-in-progress costs are to be reported separately under the work-in-progress asset category. As assets or significant portions of assets become available for service, they must be transferred to the regular asset categories for similar assets.
3. Where an asset has been constructed or developed, the estimated cost of the asset to final completion should be compared with the threshold for the asset category, to determine whether the asset would meet the minimum requirements to be considered a tangible capital asset.
4. Interest costs, incurred during the construction or development of tangible capital assets until the asset is ready for use and the asset is transferred to a regular asset category, may be added to the capitalized asset cost base.
5. Where a tangible capital asset is being constructed the department will clearly identify all costs related to the work and communicate these costs to the Finance Department.

Write-Downs

1. Where it can be objectively estimated that a reduction in a tangible capital asset's useful life or service potential has occurred, and the reduction is expected to be permanent, then the tangible capital asset should be written down to the revised estimate.
2. A write-down shall not be reversed.
3. All write-downs must be approved by Council, with a copy of the approval forwarded to the Finance Department.

Write-Offs

1. When an asset is no longer useful or it is obsolete then it may be written off. When a write-off occurs, the historic cost of the asset and the related accumulated amortization are reduced to zero. Any remaining net book value of the asset becomes an expense in the accounting period.
2. Costs of projects that have been abandoned or indefinitely postponed should be written off in the period of abandonment or indefinite postponement.

3. All write-downs must be approved by Council, with a copy of the approval forwarded to the Finance Department.

Betterments

1. Betterments, which extend the useful life or improve the efficiency of the asset and meet the capitalization threshold of the asset class to which it relates, must be added to the historical cost and amortized.

Amortization

1. Amortization is a non cash expense for the use of the capital asset and is allocated based on its useful life. See Attachment A for Useful Life Estimates.
2. All assets, except land and work in progress assets, are amortized.
3. The amortization basis is straight line basis over the assets useful life, less salvage value if material.
4. Amortization begins on the first day of the month following purchase or construction completion.

Trade-Ins

1. Capital assets may be disposed of by trading them in.

Disposals

1. On disposal of a tangible capital asset, the asset and its associated accumulated amortization are reduced to zero, and any gain or loss on disposal is recorded as a revenue or expense for the period.

Presentation and Disclosure

1. The City will present in accordance with PSAB
 - a. Cost of the asset
 - b. Additions to the assets
 - c. Disposals of the asset
 - d. Write downs
 - e. Amortization
 - f. Net book value

2. The City's annual audited financial statements will disclose

- a. Method used to determine asset costs
- b. Amortization
- c. Estimated useful life of asset

RELATED POLICIES

Policy No#	Policy Name
802	Contracting Authority & Purchasing
805	Asset Disposal

APPROVED BY:

DATE:

ATTACHMENT A

SECONDARY ASSET CLASSIFICATION DETAILS

- Land - All land, except held for resale. Includes parkland, land for City facilities and land under roads and sidewalks.
- Land Improvements - All land improvements which will generally decay or break-down over time. Includes: landscaping, lighting (not street-lights), park infrastructure (tennis courts, outdoor pool, playing fields, playground equipment, fencing etc.), etc.
- Buildings & Other Structures - All buildings, arenas, stadiums etc. Includes the envelope/structure (including all studies, architectural and engineering services etc.), roof cover, services (plumbing, HVAC electrical etc.), and interiors (fittings and fixtures, elevators, ceiling/floor/wall finishes, doors etc.). Other structures include: retaining walls and parking structures (parkades).
- Furniture, Equipment and Technology - Includes tools, apparatus, computer equipment, office equipment, furniture and fixtures, vehicle attachments, library books, phone system, etc. May be installed in a building but can be moved and re-installed in another location.
- Vehicles – Insured, means of transportation.
- Transportation Infrastructure – Includes roads (roadway, sidewalks, meridians, signage and curb and gutter), street lights, parking lots (but not parkades), alleys, bike and jogging paths, tunnels, bridges, and noise reduction berms.
- Water Infrastructure – Includes supply, distribution and treatment infrastructure.
- Sanitary Sewer Infrastructure – Includes collection, treatment and discharge infrastructure.
- Storm Sewer Infrastructure – Includes culverts and storm drains.
- Other – Includes assets not included in the other categories.

<u>Secondary Asset Classification</u>	<u>Useful Life</u>
Land Improvements	
Playground Equipment	15-20
Fencing	40-50
Artificial Turf Field	10-12
Washrooms	40-50
Building Structure	40-75
Building Improvements	
Exterior envelope	30-40
Services - HVAC systems, Electric/Plumbing/Fire	10-20
Roofs	15-20
Furniture, Equipment and Technology	
Public Works and Parks Equipment	7-10
Fire Services Equipment	15-20
Office Furniture, Fixtures & Equipment	5-20
Information Systems - Hardware	4-5
Information Systems - Software	5-10
Telephone System	7-10
Motor Vehicles	
Cars and Trucks	5-10
Fire Trucks	15-20
Infrastructure Assets	
Transportation	10-100
Water	10-100
Sewer	10-100
Storm Sewer	10-100

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



To: Committee of the Whole
From: Chief Financial Officer
Date: June 18, 2014
Subject: Repeal of Bylaws 1780, 1881 and 1912
Recommendation: **THAT the Committee of the Whole recommends that Council give first three readings to repeal Bylaw 1780R**
THAT the Committee of the Whole recommends that Council give first three readings to repeal Bylaw 1881R
THAT the Committee of the Whole recommends that Council give first three readings to repeal Bylaw 1912R

BACKGROUND:

The three bylaws mentioned above were all related to the Revitalization Tax Exemption program that was initiated in 2005. Bylaw 1780 amended the 2005-2009 Financial Plan and established the Revitalization Tax Exemption Program for all Class 4 properties. This bylaw established the maximum term for the exemption at five years plus a single renewal option for an additional five years. Interfor was the only participant. Bylaw 1881, 2009 renewed the program for Interfor for an additional five years. In 2011, Bylaw 1912 amended 1881 Schedule A, the Tax Exemption Certificate to account for Interfor's new consolidated legal description. 2014 is the final year of exemption for Interfor.

These three bylaws were intended to be in effect for five years with a possible five year extension. However, there was no end date indicated on these bylaws so it is now necessary to repeal them. If Council wishes to initiate another revitalization tax exemption program, a new bylaw should be drafted that will achieve the current Council's objectives.

Benefits or Impacts of the Recommendation:

General: Repealing these bylaws will clarify that the Revitalization Tax Exemption Program offered in these bylaws is no longer available.

Strategic Impact: If Council chooses to offer a new Revitalization Tax Exemption Program, they can ensure the program meets the municipality's current strategic objectives.

Attachments: Bylaw 1780R Year 2005-2009 Financial Plan Amendment Repeal Bylaw
Bylaw 1780 Year 2005-2009 Financial Plan Amendment Bylaw

REQUEST FOR DECISION

— COMMITTEE OF THE WHOLE —



Bylaw 1881R Major Industrial Revitalization Area Tax Exemption
Renewal (Interfor) Repeal Bylaw

Bylaw 1881 Major Industrial Revitalization Area Tax Exemption Renewal
(Interfor) Bylaw

Bylaw 1912R Amendment to the Major Industrial Revitalization Area Tax
Exemption Repeal Bylaw

Bylaw 1912 Amendment to the Major Industrial Revitalization Area Tax
Exemption Bylaw

Recommendation:

THAT the Committee of the Whole recommends that Council
give first three readings to repeal Bylaw 1780R

THAT the Committee of the Whole recommends that Council
give first three readings to repeal Bylaw 1881R

THAT the Committee of the Whole recommends that Council
give first three readings to repeal Bylaw 1912R

OPTIONS:

1. COTW COULD CHOOSE TO SUPPORT THE RECOMMENDATION.
2. COTW COULD CHOOSE TO NOT SUPPORT THE RECOMMENDATION.
3. COTW COULD CHOOSE TO REFER THE REPORT BACK TO STAFF
FOR MORE INFORMATION.

THE CORPORATION OF THE CITY OF GRAND FORKS

BYLAW NO. 1780R

A Bylaw to Repeal Bylaw No. 1780 and all Amendments Thereto

=====

WHEREAS it is deemed necessary and expedient to repeal Bylaw No. 1780 and all its amendments thereto in its entirety;

NOW THEREFORE, the Council of the Corporation of the City of Grand Forks in open meeting assembled, **ENACTS** as follows:

1. That Bylaw No. 1780, cited for all purposes as the "Year 2005-2009 Financial Plan Amendment Bylaw No. 1780" and any amendments thereto, be hereby repealed.
2. This bylaw may be cited as "**The City of Grand Forks Year 2005-2009 Financial Plan Amendment Repeal Bylaw No. 1780R, 2014**".

INTRODUCED on the 21st day of July, 2014

Read a **FIRST** time this ____ day of ____, 2014.

Read a **SECOND** time this ____ day of ____, 2014.

Read a **THIRD** time this ____ day of ____, 2014.

FINALLY ADOPTED this _____ day of ____, 2014.

Mayor Brian Taylor

Diane Heinrich – Corporate Officer

C E R T I F I C A T E

I hereby certify the foregoing to be a true copy of Bylaw No. 1780R as adopted by the Municipal Council of the City of Grand Forks on the _____ day of _____, 2014.

Corporate Officer of the Municipal Council of the
City of Grand Forks

THE CORPORATION OF THE CITY OF GRAND FORKS

BYLAW NO. 1780

A BYLAW TO AMEND THE FIVE YEAR FINANCIAL PLAN
FOR THE YEARS 2005 - 2009

WHEREAS the Community Charter provides that Council may amend a Five Year Financial Plan by bylaw at any time;

AND WHEREAS Council may, by bylaw, pursuant to the Community Charter provide for a revitalization tax exemption program;

AND WHEREAS Council wishes to establish a major industry revitalization tax exemption program for all property of Class 4, "Major Industry", as defined in Section 4 of the Prescribed Class of Property Regulation B.C. Reg. 438/81 as amended.

AND WHEREAS the Community Charter provides that a revitalization tax exemption program bylaw may only be adopted after notice of the proposed bylaw has been given in accordance with Section 227 of the Community Charter and Council has given this notice;

NOW THEREFORE Council for the Corporation of the City of Grand Forks, in open meeting assembled, **ENACTS** as follows:

1. This bylaw may be cited, for all purposes, as the "**Year 2005 – 2009 Financial Plan Amendment Bylaw No. 1780**".
2. That Bylaw No. 1768, "Year 2005 – 2009 Financial Plan Bylaw", be amended by attaching "Appendix B" attached hereto and identified as "Schedule A" and declared to be the "Major Industrial Revitalization Tax Exemption Area and Program".
3. In this bylaw:

"Base Amount" means an assessed value of land and improvements used to calculate Municipal property tax payable on a parcel located in the Revitalization Area during the Base Amount Year;

"Base Amount Year" means the calendar year prior to the first calendar year in respect of which an Agreement set out in Schedule "B" applies to a parcel in the Revitalization Area;

“Full Assessment” means the amount of Municipal property tax that would be payable in respect of a parcel in the revitalization area after the calendar year during which an Agreement set out in Schedule “B” is made, as if the Agreement had never been made;

“Revitalization Area” means the properties shown on Schedule “A”.

4. There is established a revitalization tax exemption program which includes the following:

- (1) Property tax exemptions prescribed by this bylaw in respect of
 - (a) construction of a new improvement, in excess of 10% of the existing assessment for improvementsin respect of parcels located within the Revitalization Area shown on Schedule “A”;
- (2) the maximum exemption under this bylaw must not exceed the increase in the assessed value of improvements on the parcel between:
 - (a) the year before the construction or alteration began, and
 - (b) the year in which the tax exemption certificate under this bylaw is issued;
- (3) the maximum term of a revitalization tax exemption is:
 - (a) 5 years, plus
 - (b) a single renewal, subject to this bylaw and the Agreement set out in Schedule “B”, for a term of an additional 5 years, subject to Council approval;
- (4) In respect of the Revitalization Area shown in Schedule “A”:

The amounts of exemptions provided under this bylaw are such that the Municipal property tax payable is the Municipal tax rate for Class 4 multiplied by:

Years 1-5: “base amount”

- (i) Year 6: base amount plus 20% of difference between base amount and full assessment;
- (ii) Year 7: base amount plus 40% of difference between base amount and full assessment;

- (iii) Year 8: base amount plus 60% of difference between amount and full assessment;
 - (iv) Year 9: base amount plus 80% of difference between base amount and full assessment;
 - (v) Year 10: full assessment.
- 5. The bylaw does not apply to a parcel unless:
 - (1) The parcel is located in one of the areas shown on Schedule "A";
 - (2) The Parcel is Class 4; and
 - (3) The owner of the parcel has entered into an Agreement with the City substantially in the form of and with the content of the Agreement attached as Schedule "B".
- 6. Once the conditions established under Section 3 and the Agreement set out in Schedule "B" have been met, a revitalization tax exemption certificate must be issued for the parcel in accordance with the Agreement;
- 7. The revitalization tax exemption certificate must, in accordance with the conditions established in Section 3 and the Agreement set out in Schedule "B", specify the following:
 - (1) the amount of the tax exemption or the formula for determining the exemption;
 - (2) the term of the tax exemption;
 - (3) the conditions on which the tax exemption is provided.
- 8. If an Owner requests a tax exemption under the bylaw, the Owner must apply to the City Clerk, in writing and must submit the following with the application:
 - (1) A certificate that all taxes assessed and rates, charges and fees imposed on the Land have been paid and where taxes, rates or assessments are payable by installments, that all installments owing at the date of the certificate have been paid,
 - (2) A completed written application in a form prescribed by Council and available in the office of the City Clerk,

- (3) Description of the new improvements or the alteration of the existing improvement that would be eligible under the bylaw for a Municipal tax exemption,
- (4) An examination fee in the amount of \$100.00,
- (5) A copy of the Agreement duly executed by and on behalf of the Owner.

Read a **FIRST** time this 2nd day of May, 2005.

Read a **SECOND** time this 2nd day of May, 2005.

Read a **THIRD** time this 2nd day of May, 2005.

PUBLIC NOTICE posted at City Hall and published in the Grand Forks Gazette on May 4th, 2005 and on May 11th, 2005, in accordance with the requirements of Section 227 of the Community Charter.

FINALLY ADOPTED this 16th day of May, 2005.

Mayor Jake Raven

City Clerk Lynne Burch

C E R T I F I C A T E

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1780,
as passed by the Municipal Council of the City of Grand Forks
on the 16th day of May, 2005.

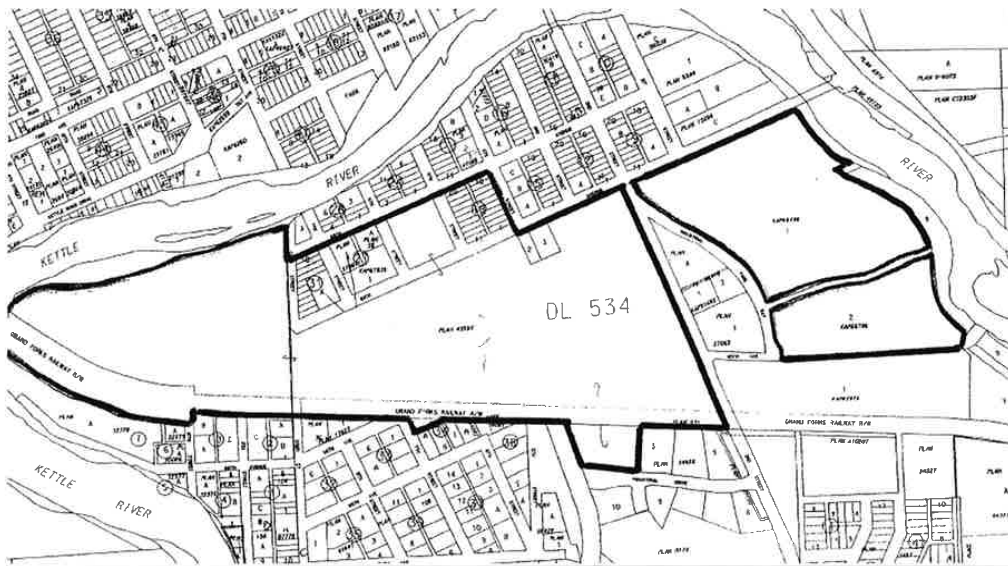
Clerk of the Municipal Council of the
City of Grand Forks

Schedule A

Appendix "B"

Major Industrial Revitalization Tax Exemption Area & Program

- Lot A, D.L. 382, S.D.Y.D., Plan 32378
- Lot 1-20, Block 19, D.L. 534, S.D.Y.D., Plan 36
- Lot 1, D.L. 382 & 534, S.D.Y.D., Plan 43597 – 570-68th Avenue
- Lot 1, D.L. 534, S.D.Y.D., Plan KAP67835
- Parcel A, Block 27, D.L. 534, S.D.Y.D., Plan 36
- Lot A, Block 27, D.L. 534, S.D.Y.D., Plan 37967
- Parcel A, Block 31, D.L. 534, S.D.Y.D., Plan 36
- Lot 7-10, Block 31, D.L. 534, S.D.Y.D., Plan 36
- Lot 5, Block 34, D.L. 534, S.D.Y.D., Plan 108
- Parcel 1, D.L. 534, S.D.Y.D., Plan KAP66796 – 6641 Industrial Park Way
- Lot 2, D.L. 534, S.D.Y.D., Plan KAP67972 – 6526 Industrial Park Way



REASONS AND OBJECTIVES:

The ***Major Industrial Revitalization Tax Exemption Area*** is created in an effort to encourage major industry to expand and upgrade their production facilities, stabilizing the local economy and maintaining employment levels.

Objectives of the tax exemption area include:

- Keeping these production facilities updated with modern technology, with minimal impact on the environment.
- Encouraging spin-off employment opportunities for other local suppliers.
- Expanding the municipal assessment base.
- Maintaining or increasing jobs.

Schedule B

Revitalization Tax Exemption Agreement

THIS AGREEMENT dated for reference the day of , 2005.

BETWEEN

Address
GRAND FORKS, B. C.
V0H 1H0

("Owner")

AND

CITY OF GRAND FORKS
420 Market Avenue
P.O. BOX 220
GRAND FORKS, BC
V0H 1H0

("City")

GIVEN THAT

- A. The City has under the bylaw defined in this Agreement established a revitalization tax exemption program, for the purpose of encouraging revitalization of an area of the Municipality,
- B. The Lands that are the subject of this Agreement are located in an area designated by the City's Council as a revitalization area,
- C. The Owner is a registered Owner of the Lands defined in this agreement,
- D. This Agreement contains the terms and conditions respecting the provision of a Municipal property tax exemption under the bylaw defined in this Agreement,
- E. The Owner and the Municipality wish to enter into this Agreement and register it against the title to the Lands as a covenant under Section 219 of the Land Title Act,

THIS AGREEMENT WITNESSES that in consideration of the mutual covenants and agreements contained in this Agreement and the payment by the Owner to the City of consideration in the amount of \$10,00 (Ten) Dollars, the receipt and

sufficiency of which are acknowledged by the City, the City and Owner covenant and agree with each other as follows:

DEFINITIONS

1. In this Agreement the following words have the following meanings:

“Agreement” means this Agreement, including the standard charge terms contained in this Agreement, together with the General Instrument defined in this Agreement;

“Bylaw” means “Year 2005-2009 Financial Plan Amendment Bylaw No. 1780”, which designated the Major Industry Revitalization Tax Exemption Area and outlined the Program and is in force from time to time;

“Dispose” means to transfer by any method and includes assign, give, sell, grant, charge, convey, bequeath, devise, lease, rent or sublet, divest, release or agree to do any of those things;

“General Instrument” means the Form C under the Land Title (Transfer Forms) Regulation, as amended and all schedules and addends to the Form C charging the Lands and citing the terms and conditions of this Agreement as the “standard charge terms” for the purposes of the Form C;

“Lands” means the lands legally described in Item 2 of the General Instrument and any part into which the Lands are subdivided;

“Land Title Office” means the Kamloops Land Title Office or its successor;

“Owner” means the transferor described in the General Instrument and any subsequent owner of the Lands or any parts into which the Lands are subdivided and includes any person who is a registered owner in fee simple of the Lands from time to time;

TERM

2. The Owner covenants and agrees with the City that the term of this Agreement is:

- (1) 5 years commencing on January 1 of the first calendar year after the calendar year referred to in the reference date of this Agreement was made,

- (2) a renewal term of an additional 5 years, subject to Council approval.

APPLICABLE IMPROVEMENTS

- 3. The tax exemption provided for under the bylaw applies in respect of:

- (1) a construction of a new improvement, or

REVITALIZATION TAX EXEMPTION CERTIFICATE

- 4. (1) Once the Owner has completed the construction of the new improvement referred to in Section 3, and the City has issued an occupancy permit under the City's Building Regulation Bylaw, in force from time to time, in respect of the new improvement, the City's Council must issue a revitalization tax exemption certificate to the Owner for the Lands of the Owner and the Lands are otherwise in compliance with this Agreement.
- (2) A revitalization tax exemption certificate must, in accordance with the bylaw and this Agreement, specify the following:
 - (a) the amount of the tax exemption or the formula for determining the exemption;
 - (b) the term of the tax exemption;
 - (c) the conditions on which the tax exemption is provided;

TAX EXEMPTION

- 5. So long as a revitalization tax exemption certificate in respect of the Lands has not been cancelled, the Lands are exempt to the extent, for the period and subject to the conditions provided in the certificate, from Municipal property taxation.
- 6. The revitalization tax exemption certificate may be cancelled by the Council of the City:
 - (1) On the request of the Owner, or
 - (2) If any of the conditions in the certificate are not met.

CONDITIONS

7. *[For the purposes of Section 6(2) of this Agreement, describe any conditions whereby the certificate will be cancelled. These could include such matters as maintenance of employment levels or other performance baselines that the City requires to be met in order for this to proceed.]*

OWNERS OBLIGATIONS

8. The Owner must pay to the City the cost of all tie-ins of works and services associated with the new improvements or alteration to improvements, to existing storm and sanitary sewers, water mains, water meters, driveways and other Municipal services.
9. The Owner must comply with
 - (1) all enactments, laws, statutes, regulations and Order of any authority having jurisdiction, including bylaws of the City, and
 - (2) all federal, provincial, municipal and environmental licenses, permits and approvals required under applicable enactments relating to the Lands and Improvements

OBLIGATIONS OF CITY

10. The City must issue a revitalization tax exemption certificate to the Owner in respect of the Lands once the Owner has applied for and obtained an occupancy permit from the City under the City's Building Regulation Bylaw, in force from time to time, in relation to the new improvements or alterations to an existing improvements, so long as the Owner and the Lands are otherwise in compliance with the Bylaw and this Agreement.

CITY'S RIGHTS AND POWERS

11. Nothing contained or implied in this Agreement prejudices or affects the City's rights and powers in the exercise of its functions or its rights and powers under any public and private statutes, bylaws, orders or regulations to the extent the same are applicable to the Lands, all of which may be fully and effectively exercised in relation to the Lands as if the Agreement had not been executed and delivered by the Owner.

GENERAL PROVISIONS

12. It is mutually understood, agreed and declared by and between the parties, that the City has made no representations, covenants, warranties, guarantees, promises or agreements (oral or otherwise), express or implied with the Owner other than those expressly contained in this Agreement.

13. The Owner covenants and agrees to use best efforts to do or cause to be done, at the expense of the Owner, all acts reasonably necessary to grant priority to this Agreement as a covenant over all charges and encumbrances which may have been registered against the title to the Lands in the Land Title Office, save and except those specifically approved in writing by the City or in favour of the City.
14. The covenants set forth in this Agreement shall charge the Lands pursuant to Section 219 of the Land Title Act and shall be covenants the burden of which shall run with the Lands and bind the Lands and every part or parts thereof, and every part to which the Lands may be divided or subdivided, whether by subdivision plan, strata plan, or otherwise.
15. The covenants set forth in this Agreement shall not terminate if and when a purchaser becomes an owner in fee simple of the Lands or any portion thereof, but shall charge the whole of the interest of such purchaser and shall continue to run with the Lands and bind the Lands and all future owners for the time being of the Lands or any portion thereof, except the Owner will be entitled to a partial discharge of this Agreement with respect to any subdivided parcel of the Lands on acceptance of the works and on compliance by the Owner with all requirements under this Agreement with respect to the subdivided portion of the Lands.
16. It is further expressly agreed that the benefit of all covenants made by the Owner herein shall accrue solely to the City and this Agreement may only be modified by agreement of the City with the Owner, or discharged by the City pursuant to the provisions of Section 219 of the Land Title Act and this Agreement. All of the costs of the preparation, execution, and registration of any amendments or discharges shall be borne by the Owner.
17. This Agreement shall enure to the benefit of and is binding on the parties and their respective heirs, executors, administrators, successors and assigns.
18. The Owner shall, on the request of the City, execute and deliver or cause to be executed and delivered, all such further transfers, agreements, documents, instruments, easements, statutory rights of way, deeds and assurances and do and perform, or cause to be done and performed, all such acts and things as may be, in the opinion of the City, necessary to give full effect to the intent of this Agreement.
19. Time is of the essence of this Agreement.

20. This Agreement constitutes the entire agreement between the Owner and the City with regard to the subject matter hereof and supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written of the City with the Owner.
21. Any notice or other communication required or contemplated to be given or made by any provision of this Agreement shall be given or made in writing and whether delivered personally (and if so shall be deemed to be received when delivered) or mailed by prepaid registered mail in any Canada Post Office (and if so, shall be deemed to be delivered on the sixth business day following such mailing except that, in the event of interruption of mail service notice shall be deemed to be delivered only when actually received by the party to whom it is addressed), so long as the notice is addressed as follows:

to the Owner at:

Address
Grand Forks, B. C.
V0H 1H0
Attention: [insert contact]

and: **to the City at:**

City of Grand Forks
7217 4th Street
P.O.BOX 220
Grand Forks, BC
V0H 1H0
Attention: City Clerk

or to such other address to which a party hereto from time to time notifies the other parties in writing.

22. (a) No amendment or waiver of any portion of this Agreement shall be valid unless in writing and executed by the parties to this Agreement.
- (b) Waiver of any default by a party shall not be deemed to be a waiver of any subsequent default by that party.
23. This Agreement is not intended to create a partnership, joint venture, or agency between the Owner and the City.
24. This Agreement shall be construed according to the laws of the Province of British Columbia.

25. A reference in this Agreement to the City or the Owner includes their permitted assigns, heirs, successors, officers, employees, and agents.
26. This Agreement is effective from and after the reference date in this Agreement, but only if this Agreement has been executed and delivered by the Owner and executed by the City.
27. The parties intend, by their execution and delivery of this Agreement, to create a covenant granted to the City under Section 219 of the Land Title Act and a contract executed and delivered to the City under seal.
28. Unless otherwise expressly provided in this Agreement, whenever the City is permitted to make or give any decision, direction, determination or consent, the City may act in its sole discretion, but will act reasonably.
29. Unless otherwise expressly provided in this Agreement, the expense of performing the obligations and covenants of the Owner contained in this Agreement and of all matters incidental to them, is solely that of the Owner.
30. The Owner represents and warrants to the City that:
 - (1) all necessary corporate actions and proceedings have been taken by the Owner to authorize its entry into performance of this Agreement;
 - (2) upon execution and delivery on behalf of the Owner, this Agreement constitutes a valid and binding contractual obligation of the Owner;
 - (3) neither the execution and delivery, nor the performance of this Agreement shall breach any other Agreement or obligation or cause the Owner to be in default of any other Agreement or obligation, respecting the Lands, and
 - (4) the Owner has the corporate capacity and authority to enter into and perform this Agreement.

As evidence of their agreement to be bound by the terms of this instrument, the parties hereto have executed the Land Title Office Form C which is attached hereto and forms part of this Agreement.

END OF DOCUMENT

THE CORPORATION OF THE CITY OF GRAND FORKS

BYLAW NO. 1881R

A Bylaw to Repeal Bylaw No. 1881 and all Amendments Thereto

=====

WHEREAS it is deemed necessary and expedient to repeal Bylaw No. 1881 and all its amendments thereto in its entirety;

NOW THEREFORE, the Council of the Corporation of the City of Grand Forks in open meeting assembled, **ENACTS** as follows:

1. That Bylaw No. 1881, cited for all purposes as the "Major Industrial Revitalization Area Tax Exemption Renewal (Interfor) Bylaw No. 1881" and any amendments thereto, be hereby repealed.
2. This bylaw may be cited as "**The City of Grand Forks Major Industrial Revitalization Area Tax Exemption Renewal (Interfor) Repeal Bylaw No. 1881R, 2014**".

INTRODUCED on the 21st day of July, 2014

Read a **FIRST** time this ____ day of ____, 2014.

Read a **SECOND** time this ____ day of ____, 2014.

Read a **THIRD** time this ____ day of ____, 2014.

FINALLY ADOPTED this _____ day of ____, 2014.

Mayor Brian Taylor

Diane Heinrich – Corporate Officer

C E R T I F I C A T E

I hereby certify the foregoing to be a true copy of Bylaw No. 1881R as adopted by the Municipal Council of the City of Grand Forks on the _____ day of _____, 2014.

Corporate Officer of the Municipal Council of the
City of Grand Forks

THE CORPORATION OF THE CITY OF GRAND FORKS

BYLAW NO. 1881

A BYLAW TO RENEW THE MAJOR INDUSTRIAL REVITALIZATION AREA
TAX EXEMPTION AS PROVIDED FOR IN BYLAW NO. 1780
FOR PROPERTY LEGALLY DESCRIBED AS
LOT 1, DISTRICT LOTS 382 AND 534, S.D.Y.D., PLAN 43597 AND
PARCEL A, DISTRICT LOT 534, S.D.Y.D., PLAN KAP77809
=====

WHEREAS Section 226 of the Community Charter allows Council to provide for a Revitalization Tax Exemption by amending the financial plan;

AND WHEREAS Bylaw No. 1780 was adopted in 2005 which amended the Five Year Financial Plan to provide for a Major Industrial Revitalization Tax Exemption Area and Program;

AND WHEREAS a Major Industrial Revitalization Area Tax Exemption Certificate was issued with respect to lands described as:

Lot 1, D.L. 382 and 534, S.D.Y.D., Plan 43597
Parcel A, D.L. 534, S.D.Y.D., Plan KAP77809

NOW THEREFORE the Council of the Corporation of the City of Grand Forks, in open meeting assembled, **ENACTS** as follows:

1. That the Major Industrial Revitalization Area Tax Exemption provided for Lot 1, District Lots 382 and 534, S.D.Y.D., Plan 43597 and Parcel A, District Lot 534, S.D.Y.D., Plan KAP77809, under the Major Industrial Revitalization Area Tax Exemption Certificate, issued October 18, 2005 and identified as Schedule "A", attached to this bylaw, be renewed for an additional 5-year term, upon expiry of the current term.
2. This bylaw may be cited, for all purposes, as the "**Major Industrial Revitalization Area Tax Exemption Renewal (Interfor) Bylaw No. 1881**".

Read a **FIRST** time this 17th day of August, 2009.

Read a **SECOND** time this 17th day of August, 2009.

Read a **THIRD** time this 17th day of August, 2009.

FINALLY ADOPTED this 8th day of September, 2009.

Brian Taylor - Mayor

Lynne Burch - City Clerk

C E R T I F I C A T E

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1881,
as passed by the Municipal Council of the Corporation
of the City of Grand Forks on the 8th day of September, 2009.

Clerk of the Municipal Council of the Corporation
of the City of Grand Forks

SCHEDULE "A"



Community Charter
(Section 226)

**MAJOR INDUSTRIAL REVITALIZATION AREA TAX EXEMPTION
CERTIFICATE**

- Take Notice that the lands described as follows:

Parcel Identifier: - 016 341 911
- 026 249 944

Legal Description: - Lot 1, District Lots 382 and 534, S.D.Y.D., Plan 43597
- Parcel A, District Lot 534, S.D.Y.D., Plan KAP77809

Which said lands are the subject of a Revitalization Tax Exemption Agreement between the Corporation of the City of Grand Forks and Pope & Talbot Ltd.

- Take notice that the amounts of exemptions provided under this bylaw are such that the municipal property tax payable is the Municipal tax rate for Class 4 multiplied by:

Years 1-5: "base amount"

Year 6: base amount plus 20% of difference between base amount and full assessment

Year 7: base amount plus 40% of difference between base amount and full assessment

Year 8: base amount plus 60% of difference between base amount and full assessment

Year 9: base amount plus 80 % of difference between base amount and full assessment

Year 10: full assessment

- Take notice that the term of the tax exemption is 5 years commencing on January 1 of the first calendar year after the calendar year identified in this certificate, plus one renewal term of an additional 5 years, subject to Council approval.

- Take notice that this tax exemption is conditional upon:

The property owner agreeing to invest significant capital into the manufacturing facilities on the owner's property in the tax exemption area. The improvements will consist of upgraded lumber manufacturing equipment, installation of lumber drying kilns to maximize the drying capacity, construction of an approximate 37,000 square foot addition to the planer mill, and upgraded shipping facilities. The additional improvements to the planer mill must remain in an operational state on property occupied by Pope & Talbot Ltd. and in the event that the improvements are dismantled or removed, they must be replaced

with other equipment, buildings or technology that further enhances the original goals of the project.

This certificate is dated this 18th day of October, 2005.

Dan Zabinsky, CMA
DEPUTY CLERK / TREASURER
Corporation of the City of Grand Forks

THE CORPORATION OF THE CITY OF GRAND FORKS

BYLAW NO. 1912R

A Bylaw to Repeal Bylaw No. 1912 and all Amendments Thereto

=====

WHEREAS it is deemed necessary and expedient to repeal Bylaw No. 1912 and all its amendments thereto in its entirety;

NOW THEREFORE, the Council of the Corporation of the City of Grand Forks in open meeting assembled, **ENACTS** as follows:

1. That Bylaw No. 1912, cited for all purposes as the "Amendment to the Major Industrial Revitalization Area Tax Exemption Renewal (Interfor) Bylaw No. 1912" and any amendments thereto, be hereby repealed.
2. This bylaw may be cited as "**The City of Grand Forks Amendment to the Major Industrial Revitalization Area Tax Exemption Renewal (Interfor) Repeal Bylaw No. 1912R, 2014**".

INTRODUCED on the 21st day of July, 2014

Read a **FIRST** time this ____ day of ____, 2014.

Read a **SECOND** time this ____ day of ____, 2014.

Read a **THIRD** time this ____ day of ____, 2014.

FINALLY ADOPTED this _____ day of ____, 2014.

Mayor Brian Taylor

Diane Heinrich – Corporate Officer

C E R T I F I C A T E

I hereby certify the foregoing to be a true copy of Bylaw No. 1912R as adopted by the Municipal Council of the City of Grand Forks on the _____ day of _____, 2014.

Corporate Officer of the Municipal Council of the
City of Grand Forks

THE CORPORATION OF THE CITY OF GRAND FORKS

BYLAW NO. 1912

**A BYLAW TO AMEND THE MAJOR INDUSTRIAL REVITALIZATION AREA
TAX EXEMPTION RENEWAL (INTERFOR) BYLAW NO. 1881**

=====

WHEREAS Section 226 of the Community Charter allows Council to provide for a Revitalization Tax Exemption by amending the financial plan;

AND WHEREAS Bylaw No. 1780 was adopted in 2005, which amended the Five Year Financial Plan to provide for a Major Industrial Revitalization Tax Exemption Area and Program;

AND WHEREAS Bylaw No. 1881 was adopted in 2009, renewing the Major Industrial Revitalization Area Tax Exemption Certificate for an addition five year term;

NOW THEREFORE the Council of the Corporation of the City of Grand Forks, in open meeting assembled, **ENACTS** as follows:

1. That the Major Industrial Revitalization Area Tax Exemption Renewal (Interfor) Bylaw No. 1881 be amended by deleting Schedule "A" in its entirety and replacing it with a new Schedule "A", identified as Appendix 1 attached to this bylaw
2. This bylaw may be cited, for all purposes, as the "**Amendment to the Major Industrial Revitalization Area Tax Exemption Renewal (Interfor) Bylaw No. 1912**".

Read a **FIRST** time this 14th day of February, 2011.

Read a **SECOND** time this 14th day of February, 2011.

Read a **THIRD** time this 14th day of February, 2011.

FINALLY ADOPTED this 28th day of February, 2011.

Brian Taylor – Mayor

Diane Heinrich, Corporate Officer

CERTIFICATE

I hereby certify the foregoing to be a true and correct copy of Bylaw No. 1912
as passed by the Municipal Council of the Corporation
of the City of Grand Forks on the 28th day of February, 2011.

Corporate Officer
of the Municipal Council of the Corporation
of the City of Grand Forks

APPENDIX 1
attached to Bylaw No. 1912

SCHEDULE "A"



Community Charter
(Section 226)

**MAJOR INDUSTRIAL REVITALIZATION AREA TAX EXEMPTION
CERTIFICATE**

- Take Notice that the lands described as follows:

Parcel Identifier: - 028 356 691

Legal Description: - Lot 1, District Lots 382 and 534, S.D.Y.D., Plan KAP91480

Which said lands are the subject of a Revitalization Tax Exemption Agreement between the Corporation of the City of Grand Forks and International Forest Products Ltd.

- Take notice that the amounts of exemptions provided under this bylaw are such that the municipal property tax payable is the municipal tax rate for Class 4 multiplied by:
- Years 1-5: "base amount"
 - Year 6: base amount plus 20% of difference between base amount and full assessment
 - Year 7: base amount plus 40% of difference between base amount and full assessment
 - Year 8: base amount plus 60% of difference between base amount and full assessment
 - Year 9: base amount plus 80 % of difference between base amount and full assessment
 - Year 10: full assessment
- Take notice that the term of the tax exemption is 5 years commencing on January 1 of the first calendar year after the calendar year identified in this certificate, plus one renewal term of an additional 5 years, subject to Council approval.
- Take notice that this tax exemption is conditional upon:

The property owner agreeing to invest significant capital into the manufacturing facilities on the owner's property in the tax exemption area. The improvements will consist of upgraded lumber manufacturing equipment, installation of lumber drying kilns to maximize the drying capacity, construction of an approximate 37,000 square foot addition to the

planer mill, and upgraded shipping facilities. The additional improvements to the planer mill must remain in an operational state on property occupied by Pope & Talbot Ltd., and in the event that the improvements are dismantled or removed, they must be replaced with other equipment, buildings or technology that further enhances the original goals of the project.

This certificate is dated this 18th day of October, 2005

Diane Heinrich
CORPORATE OFFICER
for the Corporation of the City of Grand Forks



City of Grand Forks

Wastewater Treatment Plant Assessment



This report is prepared for the sole use of the City of Grand Forks. No representations of any kind are made by Urban Systems Ltd. or its employees to any party with whom Urban Systems Ltd. does not have a contract. Copyright 2014.

0788.0033.01

304 - 1353 Ellis Street,
Kelowna, BC V1Y 1Z9
T: 250.762.2517

Contact: Peter Gigliotti, P.Eng.
pgigliotti@urbansystems.ca

urbansystems.ca
October 2013

June 10, 2014

File: 0788.0033.01

City of Grand Forks, BC
6641 Industrial Park Way
V0H 1H0

Attention: Sasha Bird, ASCT, Manager of Technical Services and Utilities

RE: Wastewater Treatment Plant Assessment

The following report provides an assessment of the existing wastewater treatment plant servicing the City of Grand Forks. In addition to the site reconnaissance and discussion with Dean Chapman, the recorded flow data is summarized and compared to the maximum allowable in the City's Permit to Discharge. To further the analysis, water consumption data, precipitation and river level data are plotted in parallel.

Each unit process is evaluated in terms of conventional design loadings and expected loadings both now and in the projected 20-year horizon. Appended to the report, as requested, is an assessment of the biosolids management, with recommendations for dealing with biosolids in the near term and a strategy for the long term.

This report is intended to merge with other utility assessments in the context of your overall Asset Management Plan. It provides estimates of both near term and long term investments to sustain the functionality of the City's wastewater treatment system. We trust it meets with your approval and will be pleased to present the findings to Council at the appropriate time.

Prepared by:

Urban Systems
304-1353 Ellis Street,
Kelowna, BC
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CONTENTS

LIST OF ABBREVIATIONS.....	1
EXECUTIVE SUMMARY	2
1.0 INTRODUCTION	4
2.0 THE EXISTING WASTEWATER TREATMENT FACILITY.....	5
2.1 Wastewater Delivery	5
2.2 Flow Splitting.....	5
2.3 Grit Removal	5
2.4 Maceration	5
2.5 Bio-Reactor	6
2.6 Clarifier	6
2.7 Digester	6
2.8 Effluent Disinfection.....	7
2.9 Provisions Of Discharge Permit	7
3.0 WASTEWATER TREATMENT PLANT ASSESSMENT	10
3.1 Condition of Components	10
3.2 Compliance	10
3.3 Reliability Category and Redundancy Provisions	12
3.4 Performance and Efficiency	13
3.5 Energy Efficiency	14
3.6 Flow Analysis	14
4.0 Summary of Concerns	17
4.1 The Biosolids Island in Cell # 2.....	17
4.2 Annual Biosolids Generated by the Mechanical Plant	18
4.3 Modifications to the WWTP	19
5.0 Conclusions and Recommendations	23
5.1 Conclusions	23
5.2 Recommended Short Term Action Plan.....	23
5.3 Capital Investments.....	24
Appendix A: Biosolids Management Plan	25

Figure 2-1 Wastewater Treatment Plant Assessment Process Schematic	8
Figure 2-2 Wastewater Treatment Plant Assessment Flow Diagram.....	9
Figure 3-1 Flow Records.....	16
Figure 4-1 Proposed WWTP Upgrade Schematic	21
Figure 4-2 Wastewater Treatment Plant Assessment Proposed Upgrade.....	22
 Table 3-1 – MWR and WSER Effluent Constituent Concentrations.....	 11

LIST OF ABBREVIATIONS

BOD ₅	5-day Biochemical Oxygen Demand (Total)
CBOD ₅	5-day Biochemical Oxygen Demand (Carbonaceous)
CCME	Canadian Council of Ministers of the Environment
IDZ	Initial Dilution Zone
LWMP	Liquid Waste Management Plan
MOE	Ministry of Environment
MWR	Municipal Wastewater Regulation
m	metre
m ²	square metre
m ³ /d	cubic metre per day
mg/L	milligrams per Litre
mpn/100mL	most probable number per 100 mL
TSS	total suspended solids
WSER	Wastewater Systems Effluent Regulations
WWTP	Wastewater Treatment Plant
UV	Ultra-Violet

EXECUTIVE SUMMARY

This Wastewater Treatment Plant Assessment study was authorized by the City of Grand Forks as part of their overall Asset Management Plan, which includes their waterworks system, sewage collection system, storm drainage system and road network.

The report presents an evaluation of the unit processes at the existing treatment plant and an assessment of condition, capacity and compliance for each of the unit processes. The management and disposition of waste sludge from the plant is also assessed, and the findings provided in an appended report.

Records of flows from 2011 through 2013 are examined and projections are made for future flows in the 20 –year horizon.

A summary of the concerns identified is as follows:

1. **Sludge wasting:** the plant produces waste sludge and the current practice for dealing with waste sludge is to divert it into the old lagoon. As a consequence, the old lagoon now has an “island” of accumulated sludge. The management of waste sludge needs changing to a sustainable long term plan.
2. **Disinfection:** while the original Permit to Discharge allows chlorination of the treated effluent, current provincial and federal regulations require that discharges into surface waters such as the Kettle River be de-chlorinated to protect fish.
3. **Equipment Condition:** the plant mechanical components have been well maintained. They have been in service for 15 years, and with continued excellent maintenance should have an additional 20 years of service life.
4. **Processing Capacity:** the current plant overall capacity is 2500 m³/d (1750 for the mechanical plant and 750 for the lagoons). Flow records indicate that this value is exceeded regularly through the months of June and July, largely due to rainfall. Flows through the remainder of the year are typically below 2,000 m³/d. The design horizon in the Stage 2 Permit provision for discharge is 3,500 m³/d.

A summary of recommended actions is as follows:

The Near Term

1. Meet with the Ministry of Environment to clarify the way forward to achieving compliance.
2. De-sludge the “sludge island” in the lagoon and prepare and submit a Land Application Plan for application of the sludge on the airfield land.
3. Test the effluent for UV Transmittance, and implement UV disinfection to replace the chlorination.

The Longer Term

1. Convert the facility to two parallel trains, one mechanical plant and the lagoon parallel train, each rated to process 1750 m³/d, for a total of 3,500 m³/d.
2. Implement the sludge dewatering system using geotextile bags.

The estimated investments are:

Short term activities	EIS and LAP	\$90,000
	De-sludging estimate:	150,000
Medium term capital investments:	UV disinfection:	\$450,000
	Parallel trains	2,400,000

1.0 INTRODUCTION

This report presents a brief overview of the wastewater treatment plant (WWTP) in the City of Grand Forks. The purpose of the assessment is to identify any investments required for the facility to maintain its function and comply with the Ministry of Environment Discharge Permit parameters.

The approach to the assessment is to evaluate each unit process and assess the units capacity to deal with projected flows as well as comply with the provisions of the B.C. Municipal Wastewater Regulation (MWR).

The WWTP facility was originally authorized to discharge treated effluent to the Kettle River in 1969 through a discharge permit (Permit PE 00280). The facility consisted of two lagoons: an initial aerated lagoon followed by a shallower facultative lagoon.

The WWTP facility was upgraded in 1998 with the addition of an “activated sludge plant” and disinfection facilities (chlorination). The Permit Amendment was issued on April 6, 1998. The lagoons were left to handle excess flows and to provide storage for plant sludge.

The purpose of this document is to merge with other assessments in the City’s Multi-utility Priorities Asset Management exercise and provide the City with a practical tool for budgeting appropriate capital expenditures for the facility to meet the demands of projected flows and comply with BC Regulations.

2.0 THE EXISTING WASTEWATER TREATMENT FACILITY

2.1 Wastewater Delivery

The City's sanitary wastewater is transmitted to the plant via the Industrial Avenue pump station. The condition and assessment of the pump station is part of a separate report on the City's sewage pump stations and the collection system infrastructure.

2.2 Flow Splitting

The flow from the Industrial Avenue pump station is directed to the WWTP through a 200 mm diameter forcemain. A flow splitting mechanism is installed on the forcemain near the original aerated lagoon (off 65th Avenue). The flow splitting system is set up to modulate the flow to the activated sludge plant by diverting excess flow to the aerated lagoon.

The diverter valves at the splitter station are controlled by the plant through the SCADA system. The system diverts flows in excess of a pre-set amount to the aerated lagoon. This protects the mechanical activated sludge plant from the effects of peak flow surges.

The current valve setting is reported to divert an average of 300 m³/d to the lagoon, regardless of incoming flow rate. The diversion rate increases when the incoming flow increases.

The flow splitting is reported to be effective at shaving the peak flows to the mechanical plant. The level of treatment of the diverted flow is unknown, since the effluent samples are taken from the combined stream prior to discharge to the Kettle River. The combined effluent has consistently met the effluent BOD₅ and TSS parameters specified in Permit PE -00280.

2.3 Grit Removal

Grit removal is carried out through the use of a long grit settling channel. The principle of the channel is to achieve a flow velocity that is slow enough to allow heavier grit particles to settle, but high enough to allow lighter organic particles and floating materials to pass through. The grit channel is used only for the mechanical plant. The grit is removed manually by diverting flow into a second channel. The grit is loaded on a truck and hauled to landfill. Since there is no grit removal on the lagoon flow, grit accumulates in the lagoon sludge.

2.4 Maceration

Raw sewage is chopped with the use of a macerator; trade named "Muffin Monster". The cutting teeth on the macerator cut particles down to 12 mm size. This includes organic material as well as plastics, paper, rubber and metals. There is no screening after maceration, so all the macerated particles pass through to the bio-reactor. There is no maceration applied to the lagoon flow, so debris accumulates in the sludge and along the berms at the waterline.

2.5 Bio-Reactor

The bio-reactor is integrated with the overall circular tankage of the plant, and consists of a chamber on the segmented periphery of the tank. The liquid volume is approximately 1100 m³. Aeration in the bio-reactor is achieved with subsurface coarse bubble diffusers. Air is supplied by 100 horsepower centrifugal blowers.

The bio-reactor was originally sized for an "Extended Aeration" process. Extended aeration requires a hydraulic detention time of 18-24 hours. Current flows average approximately 1200 m³/d, so with a reactor volume of 1100 m³, the extended aeration criteria are being met. As flows increase, the detention time in the bio-reactor will decrease, and the process will become more like a conventional activated sludge process. The conventional activated sludge process utilizes a hydraulic detention time of 6 to 8 hours.

The purpose of the bio-reactor is to provide sufficient oxygen (by aeration) and food (by sludge return) to maintain a healthy colony of micro-organisms that consume the organic material in the incoming wastewater. The aeration process results in "flocculation", whereby particles agglomerate to form "flocs" which can readily settle. The flocculated mixture is passed through to the clarifier for settling out the flocs.

2.6 Clarifier

The purpose of the clarifier is to settle the flocs and separate these solids from the liquid. The clear liquid rises to the top of the clarifier and is decanted for discharge. Floatable material is skimmed at the surface by means of a mechanical skimmer and wasted to the digester.

The sludge that settles to the bottom of the clarifier is returned to the bio-reactor at a measured rate to ensure there is sufficient food for the micro-organisms. Sludge not required for this purpose is wasted to the digester. The Extended Aeration process utilizes a 80- 100% sludge recycle. The long detention time allows for volatile solids to convert to gas and results in a relatively small quantity of waste sludge. The conventional activated sludge process uses a 50% sludge recycle. The shorter detention time results in a larger quantity of excess sludge.

The clarifier is circular and located at the centre of the tank. A central pivot operates a slowly turning sludge scraper located in a hopper-shaped clarifier bottom. The sludge is withdrawn using an air lift pump. The surface area of the clarifier is approximately 170 m².

2.7 Digester

The excess sludge wasted from the clarifier (as well as the skimmed floating scum) is diverted to the digesters. The digesters are located on the perimeter of the tank. The two digester chambers were designed originally to operate in parallel. However, the operation has reportedly been changed into a two step process. The first chamber carries out the "digestion", a process that consumes micro-organisms in addition to conversion of volatile organics to gas. The second chamber is used for settling and decanting of the clearer liquid. The settled sludge is removed from the process, and the decant water is returned to the head of the plant. Currently the settled sludge is pumped to the centre of the facultative lagoon. This practice has resulted in formation of an island of sludge in the middle of the lagoon.

2.8 Effluent Disinfection

The clarifier effluent is disinfected with the use of chlorine. A chlorine contact tank is located east of the facultative lagoon, between the lagoon and the Kettle River. The contact tank receives effluent from both the plant clarifier and the facultative lagoon. Both streams are blended in the contact tank for disinfection prior to discharge into the Kettle River. Dechlorination is not being practised at this time.

2.9 Provisions Of Discharge Permit

The Ministry of Environment Discharge Permit (PE 00280) was amended and issued on April 6, 1998. The discharge must comply with the following provisions:

- Maximum rate of discharge is 2,500 m³/d for Stage I and 3500 m³/d for Stage II
- Maximum 5-day Biochemical Oxygen Demand (BOD₅) is 45 mg/L (assumed to be Carbonaceous in keeping with current federal and provincial regulations).
- Maximum Total Suspended Solids (TSS) is 60 mg/L
- Free chlorine residual between 0.1 to 1.0 mg/L (0.01 mg/L after dechlorination)
- Facility classification is Level 1 from the Environmental Operators' Certification Program (EOCP)
- Operator Certification is Level 1; chief operator must be Level 2 or higher
- A Sludge Management Plan is required
- A Contingency Plan is required
- Notification required when Kettle River dilution ratio is less than 100:1.
- Monitoring and reporting is to include daily flow data and monthly sampling for BOD₅, TSS, and Faecal Coliforms
- Toxicity testing on effluent prior to chlorination (96 hr LC50) once per year
- Kettle River sampling and testing for a listed set of parameters six times per year at a point upstream of the discharge and a point 100 m downstream of the discharge
- Annual report to Regional Waste Manager.

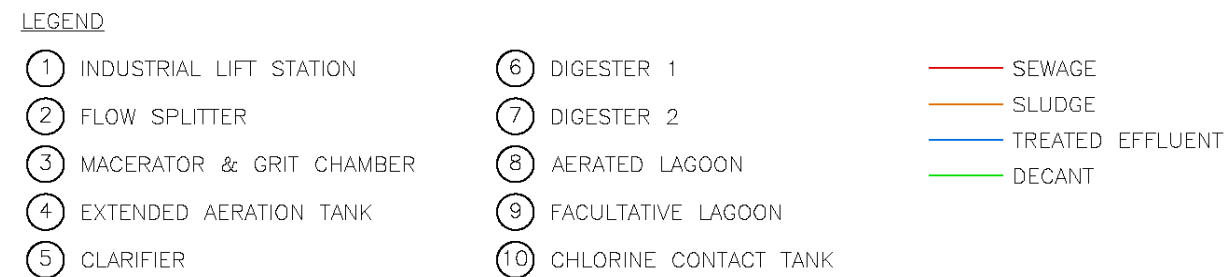
The design capacity of the mechanical plant is reported to be 1750 m³/d, operating with a 15-hour detention time. The lagoon system can be used to divert up to 750 m³/d, yielding an overall capacity of 2500 m³/d. **Figures 2.1 and 2.2** which follow provide schematic flow diagrams of the plant unit processes.

MULTI-UTILITY PRIORITIES ASSET MANAGEMENT



Client/Project		
CITY OF GRAND FORKS		
MULTI-UTILITY PRIORITIES ASSET MANAGEMENT		
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MULTI-UTILITY PRIORITIES ASSET MANAGEMENT



3.0 WASTEWATER TREATMENT PLANT ASSESSMENT

3.1 Condition of Components

The mechanical plant was constructed in 1998; the plant has been well maintained, so most of the major components are in good condition. The major components have a 20 to 25 year service life. Since they have been in service for 15 years, they have approximately 10 years of remaining life. The exception includes equipment with a high wear factor such as the macerator, air diffusers and sludge pumps. Other equipment such as the clarifier scraper and drive mechanism, blowers and air lifts and the standby generator should be serviceable for 25 years or longer.

3.2 Compliance

The plant effluent has consistently met the Discharge Permit effluent quality parameters. The Permit makes reference to an allowable Stage II expansion to 3,500 m³/d capacity. This would result in two mechanical plants, each rated at 1750 m³/d, and conversion of the lagoon to a sludge storage pond (with no discharge to the river). The Stage II expansion provisions also require that chlorination be followed by dechlorination or that chlorination be replaced by UV disinfection. The Faecal Coliform level for Stage II discharge is stated as a maximum of 50 mpn/100 mL.

The BC Municipal Sewage Regulation (MSR) was adopted in 1999; it was recently revised to the Municipal Wastewater Regulation (MWR) in April 2012. The advice from the BC Ministry of Environment is that Permits will no longer be issued and dischargers will be required to register their facility under the procedure described in the MWR. A capacity increase of 10% or less is allowed as a "Minor Permit Amendment". "Major" Permit amendments may also be allowed in certain circumstances. If a local government undertakes and completes a Liquid Waste Management Plan (LWMP), it can operate the facility under an "Operating Certificate", which is prepared and issued by the Ministry of Environment upon completion and ratification of the LWMP.

Over the last several years, the federal government has been examining its role in effluent discharges to surface waters through meetings of the CCME (Canadian Council of Ministers of the Environment). This process has resulted in passing a federal regulation for effluent discharges, referred to as the Wastewater Systems Effluent Regulations (WSER), as a Canadian National Performance Standard.

Table 3.1 provides a list of the effluent constituent concentrations under the respective regulations. Note that the BC MWR concentrations are expressed as maximum levels, while the Canadian WSER concentrations are expressed as average values.

Table 3-1 – MWR and WSER Effluent Constituent Concentrations

Parameter	Units	BC MWR		CAN WSER
		>40:1 dilution ¹	>10:1 dilution ¹	
CBOD ₅	mg/L	45 (max)	10 (max)	25 (avg)
TSS	mg/L	45 (max)	10 (max)	25 (avg)
pH	unitless	6-9	6 - 9	6 - 9
Total Phosphorous	mg/L	<1.0	<1.0	n/a
Ortho Phosphorous	mg/L	<0.5	0.5	n/a
Ammonia	mg/L	Back calc. ²	Back calc. ²	1.25 (max) ²
Residual Chlorine	mg/L	0.01(max)	0.01(max)	0.02 (avg)
Toxicity (LC ₅₀)	% Passing	n/a	n/a	100
Faecal Coliforms	MPN/100mL	200 @ IDZ ³	200 @ IDZ ³	n/a
Recreational Waters				

Notes:

1. The BC MSR values relate to the dilution ratio of the receiving environment. The Kettle River will typically provide greater than 40:1 dilution
2. The maximum Ammonia concentration in the BC MWR is to be calculated at the end of pipe by a back calculation from the edge of the initial dilution zone ambient temperature and pH characteristics of the receiving water. The CAN WSER is the concentration of un-ionized ammonia in the effluent, expressed as nitrogen (N) at 15 deg C.
3. The IDZ is the Initial Dilution Zone as defined by the Regulation.

The presence of two regulations gives rise to the question of which regulation applies in specific circumstances. Queries to both the federal and provincial ministries, elicit the response that the more stringent value for any given parameter should be used. For example, even if the BC MWR does not require toxicity testing, the process should ensure that the effluent will pass the LC₅₀ toxicity test.

The implication of compliance with the MWR and the WSER are significant. For example, the MWR requires a maximum of 1 mg/L total phosphorus, which will mean addition of a nutrient removal step in the treatment process, unless an Environmental Impact study would indicate otherwise. Reduction of phosphorus can be achieved either chemically or biologically. A biological nutrient removal (BNR) plant is considerably more complex and requires more attention to operate. Chemical phosphorus removal is also available, but adds the cost of the chemicals required for the process.

The current disinfection practice is not acceptable under either the provincial or federal regulations, since chlorine residual is harmful to fish. The disinfection process should either add de-chlorination to the process, or switch to Ultra-Violet light disinfection instead of chlorine.

The current Permit is worded to include a Stage II expansion to 3,500 m³/d capacity. So it may be possible to expand the plant to a 3,500 m³/d capacity without amending the Permit. However, the interpretation of the clauses in the existing Permit should be confirmed with the Regional Waste Manager of the Ministry of Environment.

3.3 Reliability Category and Redundancy Provisions

The Municipal Wastewater Regulation uses three “Reliability” categories for wastewater treatment facilities. The reliability categories are briefly described as follows:

- Category I where short term effluent degradation could cause permanent or unacceptable damage to the receiving environment, including discharges near drinking water sources, shellfish waters or recreational waters in which direct human contact occurs;
- Category II where short term effluent degradation would not cause permanent or unacceptable damage to the receiving environment, including discharges to recreational waters and land, but long term effluent degradation could result in permanent or unacceptable damage;
- Category III where wastewater facilities do not fall within reliability category I or II.

In order to make a clear determination of the reliability category, an Environmental Impact Assessment of the Kettle River discharge would be required. For the purpose of this report, it has been assumed that a Reliability Category II will result.

The MWR specifies the level of redundancy required for each unit operation on the basis of the reliability category. Table 1 of the Regulation makes the following provisions for the process units:

- Aeration Basins: the remaining capacity with the largest unit out of service: 75% of design flow.
- Disinfection basins: the remaining capacity with the largest unit out of service: 50% of design flow.
- Final sedimentation: the remaining capacity with the largest unit out of service: 50% of design flow.
- Aerobic digesters: the remaining capacity with the largest unit out of service: 50% of design flow
- Facultative lagoons: 2 cells minimum; no percentage redundancy specified
- Aerated lagoons: 2 cells minimum; no percentage redundancy specified.

Other functions such as screening and grit removal are not specified for redundancy requirements.

3.4 Performance and Efficiency

The plant performs well and continues to meet the effluent quality parameters in the Permit. Some of the processes, however, could be undertaken more efficiently. The units under consideration are as follows:

1. Grit removal: the removal of grit using a long narrow channel is simple, but not quite as effective as more modern cyclone chambers or aerated grit tanks. Scooping out grit manually is also more labour intensive than automated grit removal systems. There is no provision for a grit washer, so grit that is removed is hauled to landfill. With the use of a grit washer, the grit could be used for winter road sanding.
2. Maceration: the existing macerator achieves grinding of solids to 12 mm size, but has no ability to screen out the non-organic material. A brief report was completed in 2004, examining the concept of adding an in-channel screening device to supplement the macerator. The options were to replace the macerator with a combined maceration/screening unit, or to add a screening unit in the channel, downstream of the macerator. The screening of inorganic particles such as plastics, paper and rubber would greatly improve the plant operation and reduce the labour of manually skimming these products from the clarifier. The package maceration/screening unit includes screenings washing and compacting as well as placement in a bag for disposal.
3. The aeration tank and clarifier appear to work well and the equipment has not reached its service life.
4. The sludge digester operation is satisfactory. However, the sludge report indicates no significant volatile solids reduction, so the reactor may be behaving more like a thickener than a digester.
5. The disposal of waste sludge to the lagoon was likely adopted as a low cost temporary measure in 1998. The subsequent sludge accumulation in the lagoon hampers the effectiveness of the lagoon and now requires that the sludge be removed and disposed of. This is the subject of a separate report on biosolids management.
6. The lagoons are currently used to provide treatment for diverted excess flow and the lagoon effluent is blended with the mechanical plant effluent. This is not a true flow equalization as it does not return the wastewater to the plant during low flow periods, but allows it to continue through to the river. While the blended effluent has met the effluent quality requirements in the past, the procedure may not be as effective as flows increase and sludge accumulates in the facultative pond.
7. The activated sludge plant has only one aeration tank and one clarifier, so there is no redundancy achieved.

3.5 Energy Efficiency

An energy assessment was conducted in August 2012 for the Community Energy Association for several communities in BC, including the Grand Forks WWTP. The recommended measures for energy conservation include:

1. Dissolved Oxygen control in the aeration reactor: cost \$18,000, predicted savings \$8,200.
2. Dissolved Oxygen control in the digesters: cost \$16,000, predicted savings \$2,800
3. Influent flow balancing: cost \$135,000, predicted savings \$11,900
4. Optimize blower operation: cost \$500, predicted savings \$400
5. More efficient aeration system: cost \$100,000, predicted savings \$13,400

The predicted savings are on an annual basis, resulting in an average of simple payback of 7.4 years. The report recommends that a process audit be undertaken to verify the feasibility of these measures and more closely estimate the energy savings.

It can be added that the City should consider switching to turbo blowers when the time comes to replace the existing centrifugal blowers. Turbo blowers are considerably more energy efficient, significantly quieter, and have an internal variable frequency drive to optimize their operation.

3.6 Flow Analysis

Figure 3.1 plots the flows recorded at Industrial pump station, the final pump station prior to the treatment plant. The same graphic also plots the recorded overall water consumption, Kettle River water elevation and rainfall records for the period October 25, 2011 through August 27, 2013.

The sewage flow pattern for “dry weather” conditions, which prevail from September through April, is consistent each year, and runs at an average of 1500 m³/d. The months of May through August exhibit the influence of higher river levels and more intense rainfall events.

The river starts to rise in April and remains high through April and May, dropping in early June. The corresponding increase in sewage flow rises slowly and peaks several weeks after the river peak. This indicates a 3-4 week delay in sewer flow increase when related to river levels. It is possible that the water table rise has the same delay; as the water table height increases, there is more driving head to force water through the joints.

Rainfall has a similar effect on sewer flows, but the impact is more immediate. Sewer flows appear to peak a day or two after a significant storm. So the sewer is subject to both infiltration and inflow.

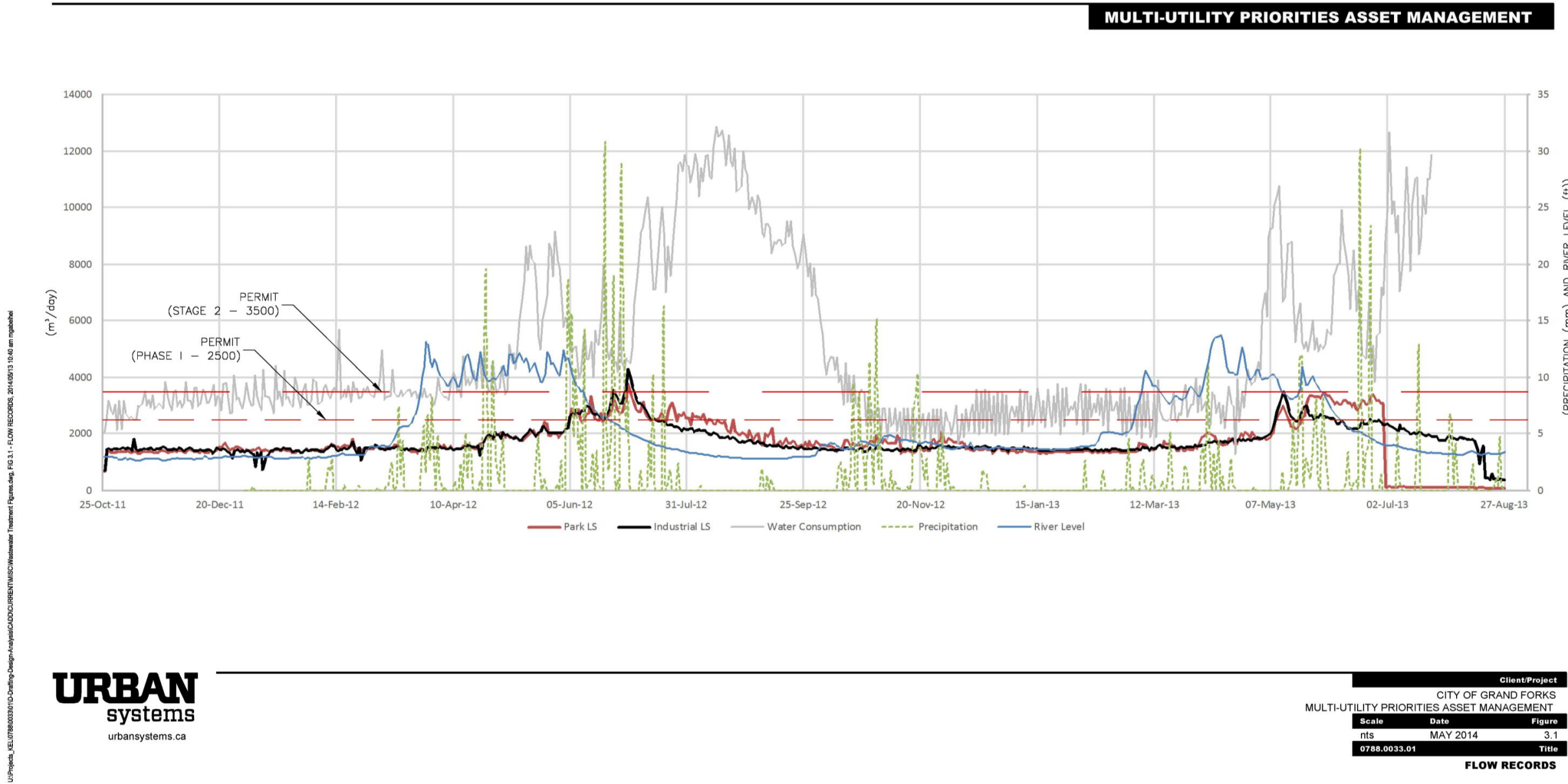
Sewer flows are recorded to peak at a flow of approximately 4,000 m³/d. This was a single day event with the combined effect of high river level and intense rainstorm. The average flow over the May through August period is approximately 2,500 m³/d. This is the maximum allowable discharge for Stage I in the current Permit.

It should be noted that water consumption data for the “dry weather” period (September through April) appears to average 3,000 m³/d, or double the average sewer flow. This may be due to leakage in the water distribution network.

The plant has a rated overall capacity of 2,500 m³/d if both the mechanical plant and the lagoons are utilized. This can deal with the current Average Dry Weather Flow (ADWF) of 1,500 m³/d and has spare capacity for the 20-year horizon with growth at 1% per annum.

The flow figures indicate, however, that the Permit rate is exceeded when wet weather flows occur in the system. The flow records show that flows exceeded 2,500 m³/d in 2012 from June 5 to July 24, or 50 days. In 2013, the period of exceedance was from May 8 to June 15, almost 40 days.

Figure 3-1 Flow Records



4.0 SUMMARY OF CONCERNS

There are a number of concerns in the plant operation identified in the assessment. These include:

- The current practice of disposing of waste sludge to the facultative lagoon has reached its limit, and resulted in an “island” of sludge in the facultative lagoon.
- The accumulated sludge in the facultative lagoon must be removed and disposed of.
- Regular sludge wasting from the activated sludge plant requires a sustainable plan.
- The system suffers from significant Infiltration/Inflow and exceeds the design capacity of 2,500 m³/d in 40-50 days out of each year.
- Chlorination is toxic to fish in the Kettle River and de-chlorination must be implemented, or the chlorination replaced with a non-toxic disinfection method such as ultra-violet light.
- The aeration reactor and the clarifier do not meet any the MWR redundancy provisions.
- The lagoon process train does not have screening or grit removal
- Flows reach and exceed the Permit value of 2500 m³/d through June and July, so the Stage 2 flow horizon of 3500 m³/d should be considered.

The following sections discuss potential approaches to addressing the above-listed concerns.

4.1 The Biosolids Island in Cell # 2

The biosolids report determined that the stored material could qualify as Class B biosolids as defined by the BC OMRR (Organic Matter Recycling Regulation). One area that has a high probability of absorbing this organic matter is the green area surrounding the airstrip at the Grand Forks Airport. There are roughly 12 hectares of land available, within a fenced compound and restricted access to the public. The area also affords low risk of runoff into local drainage ditches.

The biosolids can be applied to the ground in semi-liquid form (at their current solids content of approximately 5%), or in a dewatered form (minimum of 12% solids content). It was estimated that there are about 21,000 m³ of material at 5% solids content. Given that a typical truckload can haul approximately 10 m³, this would require 2,100 loads. If the material is dewatered to 20% solids content, the number of loads could be reduced by 4 times, or 525 loads.

Dewatering can be achieved mechanically with the use of a centrifuge; this is a commonly used process and can achieve a solids content in the order of 16%. Companies that undertake de-sludging typically use a truck-mounted or trailer-mounted centrifuge unit. The dewatered product will result in a stockpile of about 5,300 m³. Managing the stockpile will entail some effort, this includes the need for odour and leachate management, rodents, and erosion protection from rainfall or snowmelt. A stockpile designation will require containment and cover.

The other method of dewatering is to use large porous geotextile bags (Geotubes). The advantage of the bags is that the dewatering process is passive and the bags can be stored on-site for a long period with very little risk of odour. The disadvantage is that the bag must be ripped open in order to access the material and load it onto a truck. This bagging approach to dewatering achieves an initial solids content of approximately 12%, increasing to up to 30% over a two-year storage period.

If dewatered biosolids can be immediately applied to the airport land, centrifuge dewatering would be effective. However, the application of 5,300 m³ over 12 hectares will result in a thickness of 4 to 5 cm of material. This may not be an acceptable rate for the specific soil conditions, and the application may have to be spread over two or more years.

If a lower application rate is required, the bag dewatering approach will provide more flexibility in timing of the land application. With the bag approach, the material can be stored on site in the bags. Long-term storage will achieve further dewatering and a lower volume of material.

In order to use the airport land, a Land Application Plan must be filed with MOE. The Land Application Plan must include characterization of the material and quantity, characterization of the soils and groundwater regime in the application area, and detail the method of application (spreading, tilling, or other). Preparation of the Land Application Plan, including the site hydrogeological investigation is estimated at approximately \$10,000.

The de-sludging procedure depends on the equipment that companies have available. It is typically prudent to engage a company to undertake its own probing and estimating of the quantity of sludge. In this case, the de-sludging company would be asked to withdraw the sludge directly from Cells 1 and 2, and pump it to a Geotube bag system for dewatering. The water that filters through the bag pores should be directed to a sump and pumped through the mechanical treatment plant, or discharged back to the lagoons. The bags can be allowed to further dewater over one or more years and then trucked to the airport for land application.

4.2 Annual Biosolids Generated by the Mechanical Plant

The daily production of biosolids from the digester is roughly 13-15 m³/d at 2% solids content. The most likely product that the City could make available to interested agricultural or horticultural concerns is a composted product. In order to compost, dewatered biosolids (mostly nitrogen) must be mixed with wood chips (mostly carbon) and allowed to reach composting temperatures. If a Class A compost is achieved, a Land Application Plan is not required.

The composting process results in odours and noise, so finding a composting site may take some time. In the meantime, a plan for daily management of sludge at the treatment plant should be developed.

Mechanical dewatering (centrifuge) is labour intensive for small daily quantities. It may be more practical to consider storage of the digester sludge and using a dewatering process periodically, say twice per year. The Geotube bags lend themselves to periodic dewatering and also provide the ability to store dewatered sludge.

The following plan is suggested:

- a) Waste sludge from the digester to Cell #1 (after conversion to an aerated sludge storage pond).
- b) Withdraw sludge from cell #1 to a Geotube bag twice per year
- c) Allow further dewatering in the bags over 7-10 years
- d) Apply dewatered biosolids to the airport land at 7-10 year intervals

The Geotube bags can also be used to de-sludge cell #2, but this would be at 15-20 year intervals.

This concept would make use of cell#1 for sludge storage. If at some point, it is decided to implement mechanical dewatering with a centrifuge, the same process can be used to periodically withdraw sludge from cell #1.

The complete Biosolids Management Plan is provided in Appendix A.

4.3 Modifications to the WWTP

The concerns with the WWTP include:

- The exceedance of the Permit maximum flow during the summer months
- The inability to waste sludge from the mechanical plant.
- Non-compliance with the MWR redundancy provisions
- The discharge of chlorinated water to the Kettle River

a) Plant Processing Capacity

The concept to increase plant capacity is to achieve two parallel trains, each with a capacity of 1750 m³/d, for a total of 3500 m³/d. This is the authorized amount for Stage 2 under the current Permit.

The existing mechanical plant remains in its current configuration and used to process its design flow of 1750 m³/d. Cell #2 would be converted to a partial mix aerated lagoon. It would have to be deepened (or the berms raised) to provide a liquid depth of at least 3m, and subsurface diffusers installed.

The concept involves building a concrete tank to function as a complete mix bio-reactor. All incoming flow would be directed to this tank. The tank would act as the complete mix reactor as well as a flow balancing tank. The outlet from the complete mix tank would be split 50/50 to the mechanical plant and to the lagoon. The complete mix tank is designed for sufficient detention time to reduce BOD by approximately 50%. In this way, the mechanical plant and the lagoon would each be capable of handling 1750 m³/d, for a total of 3500 m³/d.

The complete mix reactor process is a flow through process, and would not require any return sludge. It will, however, consume more power as additional blowers will be needed. It may be cost effective to replace the current blowers with more efficient turbo blower.

It should be noted that on-going investigation and repair of infiltration and inflow sources will reduce excess flows in the long term and help to keep peak flows down.

b) Meeting Redundancy Provisions

Figure 4.1 depicts the proposed arrangement and flow splitting configuration. The use of two parallel trains of equal capacity affords a 50% redundancy in the process. This falls somewhat short of the MWR provision for 75% redundancy for the aeration reactor. However, an argument can be made for the role of the complete mix tank which will act as pre-aeration and could serve as a temporary redundant component should downstream units go out of service.

c) Sludge wasting ability

The concept to normalize sludge wasting involves retaining the existing digester and wasting sludge to the existing Cell #1. Cell #1 would need to be modified with the installation of subsurface diffusers. It would act as a sludge storage and thickening facility. A decant overflow would be connected to Cell #2.

Sludge from this facility would periodically be pumped to a "Geotube" for passive dewatering. It's estimated that this would occur twice per year, once in the fall and once in the spring. The dewatered biosolids can be trucked to the airport site every few years, or trucked to a suitable composting site if one is located.

d) Implementing De-chlorination or converting to ultra-violet.

The current method of chlorination can be followed by dosing with a chemical that will consume any residual chlorine in the water. The most commonly used gaseous state chemical is Sulphur Dioxide (SO_2). De-chlorination can also be achieved by dosing with Hydrogen Peroxide, but operators find this product too hazardous to handle at the required concentrations. Another form of de-chlorination is achieved with the use of Sodium Thiosulphate. This product comes in dry crystalline form and is mixed with water to form a slurry which is then dosed after the chlorination process.

In more recent times, Ultra-Violet light has been found to be an effective disinfectant and leaves no harmful residual. The relative costs of installing these processes can be summarized as follows:

Process	Capital Cost	Annual Operating Cost	NPW
Sulphur Dioxide	\$790,000	\$30,000	\$1,236,000
Sodium Thiosulphate	\$680,000	\$25,000	\$1,052,000
Ultra-Violet	\$450,000	\$37,000	\$1,000,000

The use of Sulphur Dioxide has some inherent risks in that the gas is corrosive and can cause respiratory damage if it leaks into the atmosphere. Sodium Thiosulphate is less risky, but involves another manual operation to mix and slake the product in order to form a slurry.

It is evident that Ultra-Violet light disinfection provides the most cost effective approach. However, the effectiveness of UV light needs to be confirmed by undertaking UV Transmittance (UVT) testing on the effluent. If the effluent UVT is sufficient for UV light to inactivate bacteria, the use of UV can be pursued. It has been assumed in the cost estimates, that the existing chlorine contact tank can be converted to a vessel for the UV lamps. It has also been assumed that a small building would be constructed near the contact tank to accommodate the electrical panels and controls for the UV system.

Figure 4-1 Proposed WWTP Upgrade Schematic

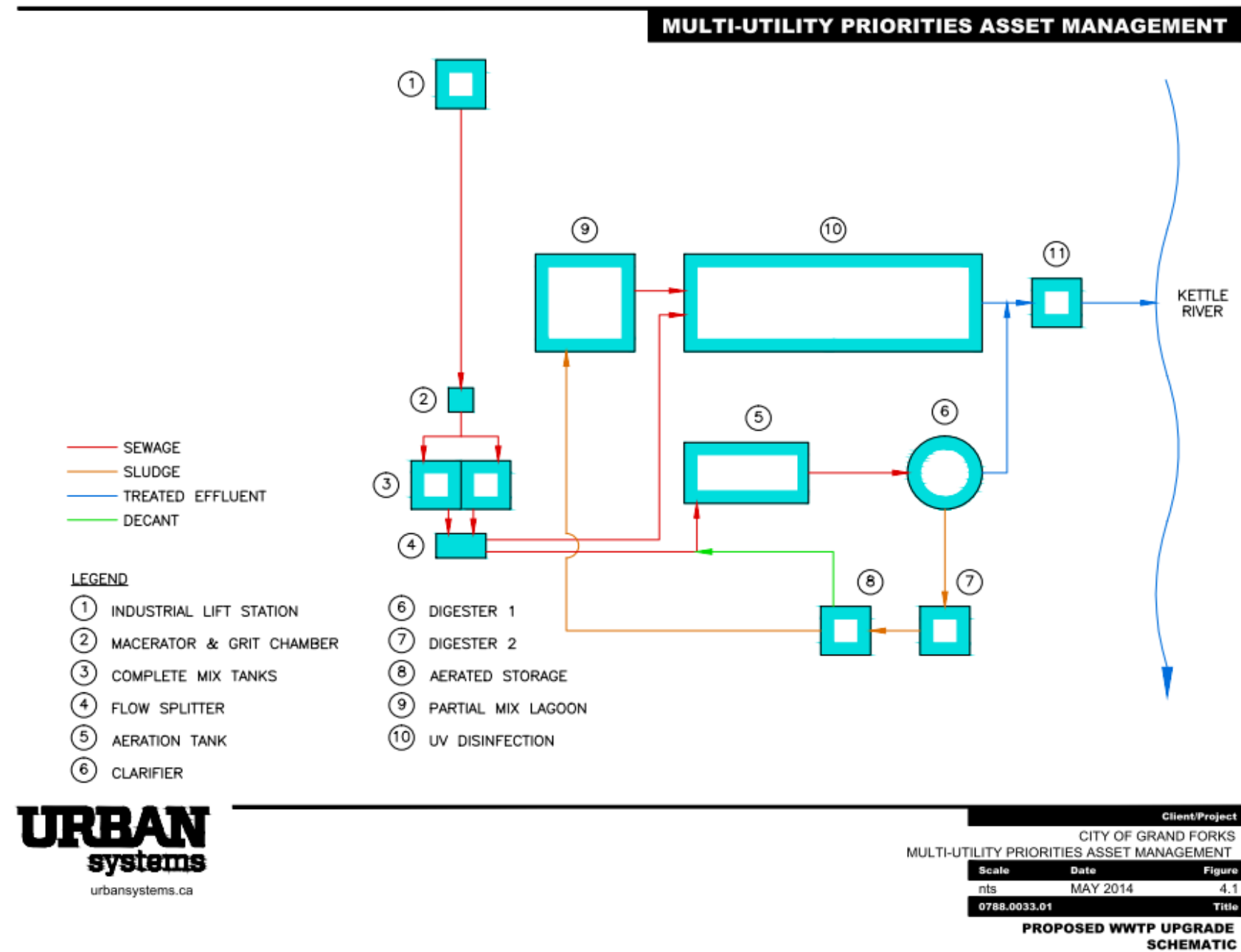
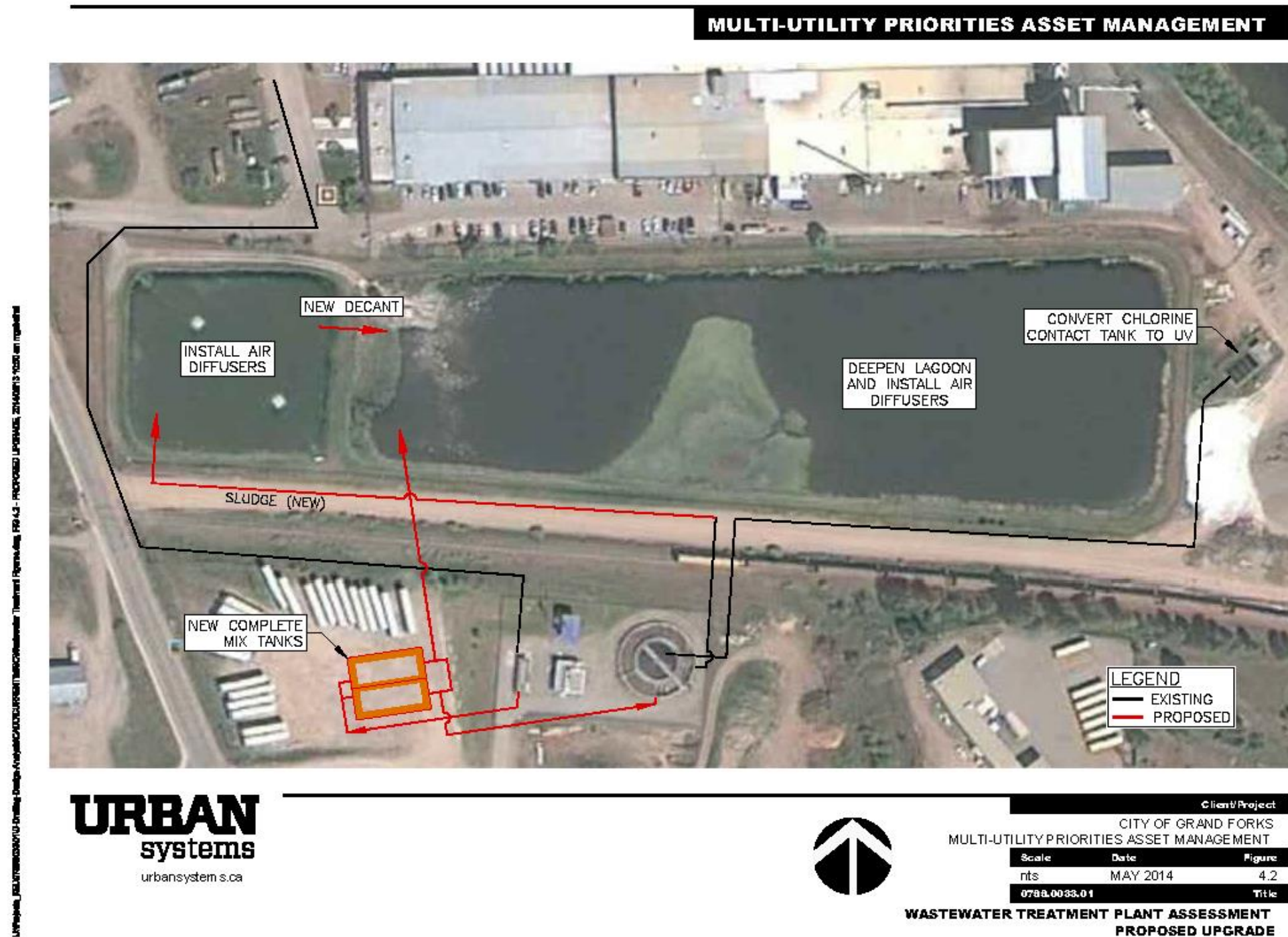


Figure 4-2 Wastewater Treatment Plant Assessment Proposed Upgrade



5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

1. The WWTP performs adequately and produces effluent that conforms to the Permit parameters, with the exception of the summer months when flows exceed the Permit maximum for periods of up to 50 days.
2. The unit processes at the WWTP do not meet the redundancy requirement of the BC Municipal Wastewater Regulation
3. The practice of dumping waste sludge into the old facultative lagoon has reached its limit and the lagoon has an “island” of sludge which needs to be removed.
4. The practice of chlorination without de-chlorination can no longer be practice because of the risk to fish in the Kettle River.

5.2 Recommended Short Term Action Plan

1. Schedule a meeting with the Regional Manager at the Ministry of Environment to clarify the best way to proceed with the Permit. If plant improvements can be carried out under the Stage 2 provisions of the current Permit, the City can proceed on that basis. The Ministry may deem that a Permit Amendment will require an Environmental Impact Study. The estimated fee to prepare for and attend a meeting with the Ministry of Environment is \$6,000.00.
2. The Ministry may decide that the facility needs to comply with the Municipal Wastewater Regulation. In that case, the discharge to the Kettle River will definitely become the subject of an Environmental Impact Study. The environmental impact study will need to determine if nutrients such as phosphorus and nitrogen must be reduced prior to discharge. If that is the case, the plant will require major modifications to provide nutrient removal in addition to the conventional BOD and TSS reductions. The estimated cost of an Environmental Impact Study on the Kettle River is \$40,000.00.
3. Solicit tenders for the de-sludging of the sludge island in Cell #2. The estimate to prepare the solicitation is approximately \$3,000. A very rough approximation of the de-sludging cost is \$150,000.
4. Prepare a Land Application Plan for the Cell #2 sludge and submit to Ministry of Environment for approval. \$12,000
5. Start an effluent sampling program for UV Transmittance testing, weekly over approximately 3 months. \$1,000
6. Prepare a conceptual design for UV disinfection and refine the capital cost estimate. \$10,000
7. Undertake the energy saving initiatives which provide the best return. \$ 18,000

5.3 Capital Investments

The breakdown of capital cost estimates is provided in Appendix (A). The following are based on the assumption that capital works can be undertaken under the provisions for Stage II in the current Permit.

1. Conversion of disinfection process to UV	\$450,000
2. Installation of new complete mix bio-reactor.	\$1,100,000
3. Conversion of WWTP to two parallel trains, each with a capacity of 1750 m ³ /d.	\$1,300,000

Appendix A: Biosolids Management Plan



City of Grand Forks

Biosolids Management Plan – Final Report



URBAN
systems

May, 2014 / 0788.0033.01

Suite 200 – 286 St. Paul Street,
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Contact: Dr. Joanne Harkness, R.P.Bio.

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May 08, 2014

File: 0788.0033.01

City of Grand Forks
Box 220 - 6350 2nd Street
Grand Forks, BC V0H 1H0

Attention: Sasha Bird, ASCT, Manager of Technical Services and Utilities

RE: FINAL REPORT – BIOSOLIDS MANAGEMENT PLAN

Please find attached the final report for the Biosolids Management Plan. The report has been amended to incorporate the outcomes of the Wastewater Treatment Plant Assessment and the follow up discussions with the City.

The report is intended to build on the earlier work which was completed in 1995. Therefore, the report provides an update on the regulatory status for biosolids in BC and outlines the status of the City's organic solids with respect to the ability to comply with the Organic Matter Recycling Regulation. Three management options have been discussed in greater detail as part of this report: landfill reuse or disposal, energy generation and land application. The direction for the next steps in biosolids management is land application of the solids accumulating in the facultative lagoon and modification of the process train to allow the current aerobic lagoon to be used as an aerated sludge storage pond.

Please do not hesitate to contact us if you have any further questions.

Sincerely,

URBAN SYSTEMS LTD.

A handwritten signature in blue ink, appearing to read "JHarkness".

Dr. Joanne Harkness, R.P.Bio.
Water and Wastewater Specialist

/JH/crb

Encls.

A handwritten signature in blue ink, appearing to read "P. Gigliotti".

Peter Gigliotti, P.Eng.
Senior Environmental Engineer

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION.....	1
2.0 OVERVIEW TO THE REGULATORY REQUIREMENTS	3
2.1 OVERVIEW TO THE REGULATORY FRAMEWORK.....	3
2.2 REGULATORY FRAMEWORK FOR THE DISPOSAL OF SLUDGE AND BIOSOLIDS	3
2.3 REGULATORY FRAMEWORK FOR REUSE – VEGETATIVE GROWTH.....	4
2.3.1 Introduction to the OMRR	4
2.3.2 Quality Requirements.....	4
2.3.3 Process Requirements.....	6
2.3.4 Use Requirements	6
2.4 REGULATORY FRAMEWORK FOR INDUSTRIAL USES	7
3.0 CLASSIFICATION OF THE CITY’S SLUDGE AND BIOSOLIDS UNDER THE OMRR.....	8
3.1 OVERVIEW TO THE CITY’S SEWAGE TREATMENT PLANT	8
3.2 SOLIDS VOLUMES	10
3.2.1 Volume of Solids Present in the Facultative Lagoon	10
3.2.2 Solids Production Rates.....	13
3.3 SOLIDS QUALITY	14
3.4 SOLIDS TREATMENT	17
3.4.1 Overview.....	17
3.4.2 Pathogen Reduction.....	17
3.4.3 Vector Attraction Reduction	18
3.5 SUMMARY – COMPLIANCE WITH THE OMRR	19
4.0 SOLIDS MANAGEMENT OPTIONS	20
4.1 INTRODUCTION.....	20
4.2 DISPOSAL TO LANDFILL	20
4.3 USE AS AN ENERGY SOURCE	21
4.4 LAND APPLICATION FOR THE GROWTH OF PLANTS	23
5.0 SUMMARY AND RECOMMENDATIONS.....	26

EXECUTIVE SUMMARY

The City of Grand Forks operates a sewage treatment plant which consists of a combined lagoon and activated sludge plant. All of the waste organic solids which are produced during the sewage treatment process are diverted to a large facultative lagoon, which was originally intended to be used solely for the polishing and storage of effluent before release to the Kettle River. Over time, the waste solids have been accumulating in the facultative lagoon. With the previous studies which have already been completed to outline management approaches for the City's sludge, the scope of this report is to:

- Provide an update on the current regulatory status for biosolids in BC;
- Outline the status of the current solids (lagoon and digester) and the ability to comply with the BC Organic Matter Recycling Regulation (OMRR).
- Provide guidance with respect to the operation of the aerobic digester in terms of compliance with the OMRR;
- Provide an update on the quantity and quality of the sludge/biosolids;
- Depending on the data, provide an update on the approach/agreement from the BC Ministry of Environment on land application in the event that there is an elevated concentration of molybdenum;
- Provide an update on the potential implications for the landfill option (reuse or disposal);
- Summarise the potential for the solids to be used for energy generation;
- Outline the potential options for land application, the requirements under the OMRR and the considerations with respect to land ownership, contractors and City operations.

An assessment of the current conditions was made, based on available information and the additional sampling which was undertaken in August, 2013. It is estimated that there is approximately 21,000 m³ of solids in the facultative lagoon. At an average solids content of 5%, this would equate to 1,050 m³ dried solids (or 1,050 tonnes). The solids in the facultative lagoon consist of approximately 50% organic matter and 50% inorganic matter. Although the organic matter may continue to biodegrade slowly, the inorganic matter will only continue to accumulate. Based on City information with respect to wasting from the aerobic digester, and using the assumption that the bulk of the solids released to the facultative lagoon will be from the aerobic digester, the solids in the facultative lagoon will continue to accumulate at a rate of 88 m³/year. Approximately 67 m³ of these incoming solids are in the form of organic matter, which can degrade over an extended period of time. The remaining 21 m³ are in the form of inorganic matter, which cannot degrade and will continue to accumulate in the lagoon. There will be additional solids input from the aerobic lagoon, although the rate of the input from this source is expected to be low compared with the waste digested sludge. Over time, solids have been accumulating in the aerobic lagoon. The quantity and quality of the solids in the aerobic lagoon are not known.

Compliance with the OMRR requires both quality and treatment process to be confirmed. The solids from both the aerobic digester and the facultative lagoon meet a Class B biosolids quality classification. The data for the solids from the aerobic digester indicate a higher metals quality, compared with the solids from the facultative lagoon. However, the reverse is true for the faecal coliform concentration. There are no data available for foreign matter, but this can be managed through screening, if required, prior to reuse. With respect to the OMRR process requirements, the limited data indicate that the aerobic digester operation is not optimised and limited digestion of the solids is occurring. However, the conditions for the facultative lagoon are indicative that, if required, it could be proven that the OMRR process conditions have been met for a Class B product. Under the current operations, the solids from the aerobic digester would be classified as “sludge”. The solids from the facultative lagoon could be classified as “biosolids”, although there are complications with respect to the concept that a wastewater treatment process cannot be used for sludge treatment.

The focus of management options were disposal to landfill, use as an energy source and land application to enhance vegetation. Disposal to landfill is a potential option, but concerns have been raised by the Regional District with respect to the potential volume of sludge/biosolids and the landfill size. The option of using the sludge/biosolids as an energy source is not a feasible approach to managing the City's sludge/biosolids. With respect to land application, the most viable option appears to be application to lands within the airport site or the berms around the sewage treatment plant site. The area requirements for a land application site can only be determined through calculating the appropriate application rates based on the quality of the material to be applied and the existing soil conditions. As such, it is not known whether there is sufficient area available to accommodate the volume of sludge/biosolids which is present in the facultative lagoon.

Based on the information presented in this report, outcomes of the Wastewater Treatment Plant Assessment, and the follow up discussions with the City, the following recommendations are made:

- Review the operation of the aerobic digester to determine if it is feasible to amend operations to allow the OMRR process requirements to be met.
- Review the operation of the wastewater and sludge aspects of facultative lagoon to determine the feasibility of separating the current wastewater and sludge treatment processes.
- Complete a comprehensive sludge survey for the facultative lagoon before undertaking any desludging or sludge management activities.
- Enter further discussions with the Regional District with respect to disposal, composting or application activities at the landfill site.
- For the management of the sludge in the facultative lagoon, complete a Land Application Plan under the OMRR. The assessment will include a determination of the application area requirements through calculating the appropriate application rates based on the quality of the material to be applied and the existing soil conditions. This assessment is to be completed for the airport site and/or the

sewage treatment plant site. A budget of \$10,000 is to be assigned for the completion of the Land Application Plan, although this should be reviewed just prior to the initiation of the assessment.

- For the management of the solids which are being generated by the activated sludge plant, these solids are to be diverted away from the facultative lagoon, with the aerobic lagoon to be used as an aerated sludge storage pond. Desludging is to be periodic, using a Geotube bag type of operation.

1.0 INTRODUCTION

The City of Grand Forks operates a sewage treatment plant which consists of a combined lagoon and activated sludge plant. All of the waste organic solids which are produced during the sewage treatment process are diverted to a large facultative lagoon, which was originally intended to be used solely for the polishing and storage of effluent before release to the Kettle River. Over time, the waste solids have been accumulating in the facultative lagoon.

In 1995, two reports were completed for the City of Grand Forks to provide direction with respect to the lagoon wastewater treatment system and the biosolids management options. Since the completion of these reports, there has been significant change with respect to the regulation of sludge and biosolids in British Columbia, through the promulgation of the Organic Matter Recycling Regulation (OMRR) in 2002. In addition, a Canada-wide approach for the management of biosolids has been developed through the Canadian Council of Ministers of the Environment (CCME).

With the previous studies which have already been completed, and the change in higher government policies, the scope of this report is to:

- Provide an update on the regulatory status for biosolids in BC;
- Outline the status of the current sewage treatment plant solids (lagoon and digester) and the ability to comply with the OMRR.
- Provide guidance with respect to the operation of the aerobic digester in terms of compliance with the OMRR;
- Provide an update on the quantity and quality of the sludge/biosolids;
- Depending on the data, provide an update on the approach/agreement from the BC Ministry of Environment on land application in the event that there is an elevated concentration of molybdenum;
- Provide an update on the potential implications for the landfill option (reuse or disposal);
- Summarise the potential for the solids to be used for energy generation;
- Outline the potential options for land application, the requirements under the OMRR and the considerations with respect to land ownership, contractors and City operations.

Terms “sludge” and “biosolids” are both used when describing the excess solids which are produced at the City’s sewage treatment plant. For the purpose of this report, the following definitions will be used:

Sludge	The excess organic solids which are produced as a result of treating liquid wastes. These organic solids have not been treated by any recognised solids treatment process in order to produce biosolids. Therefore, the health and environmental risks associated with sludge can be high.
Biosolids	Excess organic solids which have been treated in order to achieve vector attraction reduction (e.g. flies, birds, rodents, etc.) and a reduction in pathogen concentrations. The treatment of sludge in order to produce biosolids can result in a final product with low health and environmental risks.

2.0 OVERVIEW TO THE REGULATORY REQUIREMENTS

2.1 Overview to the Regulatory Framework

The options for managing the waste organic solids from a sewage treatment plant are either reuse or disposal to landfill, regardless of whether these solids are in the form of sludge or biosolids. Disposal to landfill or application to agricultural lands has been a classic approach to managing sludge/biosolids throughout Canada. In BC, the potential benefits associated with sludge and biosolids has been recognised for many years. As a result, it is becoming harder to dispose of sludge/biosolids to landfill, with the focus being to encourage the approach of transforming sludge into biosolids followed by reuse. Much of the direction for reuse focuses on the enhancement of vegetation and plant growth. Reuse for vegetation and plant growth is managed under the BC Organic Matter Recycling Regulation (OMRR). However, there are other potential forms of reuse such as the use in industrial processes (e.g. cement manufacture) or as an energy source (e.g. incineration or gasification).

On a Federal level, while there is no regulation in place with respect to sludge/biosolids treatment and disposal/reuse, the development of the Biosolids Management Strategy in 2012 through the CCME clearly indicates policy throughout Canada to encourage the development and reuse of biosolids, rather than the disposal approach.

2.2 Regulatory Framework for the Disposal of Sludge and Biosolids

Disposal is typically to a registered disposal area, such as a landfill. Disposal to landfill is authorised by the BC Ministry of Environment through the existing landfill permit or operational certificate. In BC, most of the landfill operations are owned by Regional Districts, and require the agreement of the landfill owner before the sludge or biosolids can be accepted for disposal. It is the responsibility of the landfill owner to ensure that the decision to accept the sludge or biosolids is in accordance with the conditions of the landfill operating permit. In most cases, the decision to accept sludge or biosolids is not a concern with respect to permit compliance, with the only issue tending to be the inability to accept sludge or biosolids which are in the liquid form. However, there are pressures to terminate the disposal of sludge and biosolids to landfills, in recognition of the potential valuable nature of this type of material and the need to conserve landfill space for materials which truly do require disposal. These pressures are not only from the Provincial government, but are also being led by the landfill owners, and are more acute for biosolids than sludge, due to the greater opportunities for reuse that are associated with the treated form of sludge.

2.3 Regulatory Framework for Reuse – Vegetative Growth

2.3.1 Introduction to the OMRR

As indicated above, the OMRR was developed to facilitate and encourage the reuse of organic matter in BC, and includes management for sludge and biosolids produced during the treatment of sewage. There are three aspects to the regulation:

1. Quality requirements
2. Treatment requirements
3. Requirements for the application to land

2.3.2 Quality Requirements

Under the OMRR, organic matter is separated into five different categories:

- Class A compost;
- Class B compost;
- Class A biosolids;
- Class B biosolids; and,
- A biosolids growing medium.

Table 2.1 summarises the quality of the 5 organic products, as defined by the OMRR.

The highest quality and most stringent processing requirements relate to the biosolids growing medium and Class A compost categories. These products have no restrictions regarding their uses or access by the public. As a result of the high quality, there are examples where these products have been sold to the public, allowing a recovery of some of the processing costs. There are differences between the quality of material which is acceptable to be a biosolids growing medium, compared with a Class A compost. These differences relate to the intended use. The quality requirements for a biosolids growing medium are higher than a Class A compost, as the intent is for a biosolids growing medium to be used in place of a soil. By contrast, the intent with a Class A compost is to use this material as an organic amendment to enhance soil nutrient content.

A Class A biosolids is still a high quality product, and is only subject to reuse constraints when used in quantities exceeding 5 m³. For quantities less than 5 m³, the conditions for use of a Class A biosolids are exactly the same as those for a biosolids growing medium and a Class A compost. The lowest quality categories apply to a Class B compost and Class B biosolids, and the use of these materials is subject to a number of constraints. Even though restrictions can apply to a Class A biosolids, a Class B biosolids

and a Class B compost, these materials should still be regarded as valuable for the enhancement of vegetative growth.

Table 2.1: Summary of Material Quality Under the BC OMRR

Parameter	Medium Type				
	Biosolids Growing Medium	Class A Compost	Class B Compost	Class A Biosolids (Note 1)	Class B Biosolids
Access	Unrestricted	Unrestricted	Restricted	Some restrictions	Restricted
Foreign Matter Content (% dry weight)	< 1	< 1	<1	<1	< 1
Sharp Foreign Matter	None present	None present	None present	None present	None present
C:N Ratio	> 15:1	> 15:1 and < 35:1	N/A	N/A	N/A
Faecal Coliforms (MPN/g dry weight)	< 1,000	< 1,000	< 2,000,000	< 1,000	< 2,000,000
Maximum Element Concentration (µg/g dry weight)					
Arsenic	13	13	75	75	75
Cadmium	1.5	3	20	20	20
Chromium	100	100	1,060	1,060	1,060
Cobalt	34	34	150	150	150
Copper	150	400	2,200	757	2,200
Lead	150	150	500	500	500
Mercury	0.8	2	15	5	15
Molybdenum	5	5	20	20	20
Nickel	62	62	180	180	180
Selenium	2	2	14	14	14
Zinc	150	500	1,850	1,850	1,850

Note 1: The quality criteria for a Class A biosolids is based on Federal requirements, stated in the Trade Memorandum T-4-93. This trade memorandum has no standards for copper or chromium, both of which are important for biosolids and biosolids products. The values stated in Table 2.1 for these metals are the proposed standards which have been indicated as reasonable by the BC Ministry of Environment.

2.3.3 Process Requirements

In addition to quality requirements, the OMRR also outlines the treatment requirements for each type of organic matter. The treatment requirements relate to pathogen reduction and vector attraction reduction. Pathogen reduction is the decrease in micro-organisms which may have the potential to cause illness or disease and vector attraction reduction is the reduction in the potential for nuisance conditions (e.g. odour, attracting flies, etc.).

The requirements for pathogen reduction are outlined in Schedule 1 of the OMRR. In each case, the requirements for pathogen reduction are based on a temperature-time relationship for the destruction of enteric micro-organisms. The temperature-time relationship allows for either short periods of time when the material is exposed to elevated temperature or long periods of time when the material is exposed to low or ambient temperatures. The higher quality biosolids products (biosolids growing medium, Class A compost and Class A biosolids) all require a period of elevated temperature (i.e. ≥ 50 °C). Class B products only require low or ambient temperature conditions.

Vector attraction reduction is the process by which the organic matter undergoes a change which will result in a material which is (theoretically) not biologically active. In reality, the final product has a lower biological activity. Once vector attraction reduction has been achieved, the final product is stable organically and has a low odour potential. The acceptable vector attraction reduction methods are outlined in Schedule 2 of the OMRR. There are a number of acceptable methods by which vector attraction reduction can be achieved and, unlike the pathogen reduction processes, there is little difference between a Class A process and a Class B process. The most common methods of vector attraction reduction involve biodegradation, mainly composting and digestion (aerobic or anaerobic). Chemicals can also be used for vector attraction reduction, with the most common being an alkaline substance, such as lime.

2.3.4 Use Requirements

Under the OMRR, the intent is that the resulting organic matter will be used to enhance vegetation or plant growth. The acceptable uses range from agricultural lands for crop growth, through to urban settings, which can include use of these materials in residential gardens. A Class A compost, a biosolids growing medium and a Class A biosolids (for volumes less than 5 m³/parcel of land) can be used without restriction. However, for a Class B compost, a Class B biosolids or a Class A biosolids (of volumes greater than 5 m³/parcel of land), there is the need to complete a Land Application Plan under the OMRR. The Land Application Plan is to be prepared by a qualified professional and submitted to the BC Ministry of Environment before the organic matter is used. There is one exception to this – the potential to reuse organic matter at a landfill site for intermediate or final cover. In this case, the use of the organic matter can be authorised through the landfill operating permit or closure plan.

2.4 Regulatory Framework for Industrial Uses

With respect to the use of sludge or biosolids in industrial processes (e.g. cement manufacture) or for an energy source (e.g. incineration or gasification), these approaches are limited in BC, but would be the responsibility of the industry to ensure that the organic matter is being managed appropriately. The regulatory pathway for any reuse options which do not include the enhancement of vegetative growth would need to be clarified on a case by case basis, but is likely to focus on the responsibilities being placed with the end user, not the sewage treatment plant owner. If the intent is to use sludge or biosolids for the production of energy, it is possible that sludge would have a higher calorific value, depending on the extent to which organic degradation occurs during the production of biosolids. However, the desire for an industry to handle sludge is likely to be limited, due to the pathogen concerns and the increased risk of nuisance conditions, such as odour production.

3.0 CLASSIFICATION OF THE CITY'S SLUDGE AND BIOSOLIDS UNDER THE OMRR

3.1 Overview to the City's Sewage Treatment Plant

The City's sewage treatment plant was first constructed in the late 1950's, with upgrades being completed in the mid 1990's. The current facility consists of the following processes:

- A headworks consisting of a macerator and grit channel.
- An activated sludge plant, which consists of an aeration tank, a secondary clarifier and two aerobic sludge digesters.
- An aerobic lagoon.
- A facultative lagoon.
- Disinfection with chlorine gas.
- An outfall to the Kettle River.

Figure 3.1 shows the lay-out of the sewage treatment plant site.

The facility operates under permit PE-00280, which was first issued by the BC Ministry of Environment in 1969, and was last amended in 1998. Under the permit, the following conditions are stipulated:

- The maximum effluent 5 day biochemical oxygen demand (BOD_5) concentration is to be ≤ 45 mg/L;
- The maximum effluent total suspended solids (TSS) concentration is to be ≤ 60 mg/L;
- The maximum effluent release rate is to be $\leq 2,500$ m³/d, for Stage 1, which is defined in the permit as consisting of an activated sludge plant, a two stage lagoon system and chlorination.
- The maximum effluent release rate is to be $\leq 3,500$ m³/d, for Stage 2, which is defined in the permit as consisting of upgrades to the mechanical plant to enable all flow to be handled by mechanical treatment, and conversion of the lagoons to sludge storage.

The City currently operates the lagoons and the activated sludge process as two different treatment trains. Depending on incoming flows, a portion of the flow is diverted to the two lagoons, which are operated in series, and a portion of the flow is diverted to the activated sludge plant. The effluent from the lagoon train and the effluent from the activated sludge plant are combined prior to the chlorination building, for release to the Kettle River.



SEPTEMBER 2013
1:2,500

Legend
Municipal
Boundary



**OVERVIEW TO
SEWAGE TREATMENT PLANT**

FIGURE

3.1

THE ACCURACY & COMPLETENESS OF INFORMATION SHOWN ON THIS DRAWING IS NOT GUARANTEED. IT WILL BE THE RESPONSIBILITY OF THE USER OF THE INFORMATION SHOWN ON THIS DRAWING TO LOCATE & ESTABLISH THE PRECISE LOCATION OF ALL EXISTING INFORMATION WHETHER SHOWN OR NOT.

Sludge is produced by both the aerobic and facultative lagoons and the activated sludge process. The rate of sludge production for a lagoon system is low, and the operation of a lagoon system can allow for the sludge to slowly accumulate over an extended period of time before the ability for wastewater treatment is compromised. There will be a higher sludge production rate in the aerobic lagoon than the facultative lagoon, as the bulk of the wastewater treatment will occur in the aerobic lagoon. In addition, it is also possible that sludge will carry over from the aerobic lagoon to the facultative lagoon, depending on the mixing/ability for sludge settlement in the aerobic lagoon and also the volume of sludge which is present in the lagoon.

For the activated sludge process, sludge is wasted and recirculated throughout the day to allow for a healthy microbial population to be maintained. The recirculated sludge is returned to the aeration tank and the excess sludge is wasted to the aerobic digesters, which can be operated in parallel or in series. The current operation is to waste the sludge to digester #1 for aerobic digestion. Periodically, the digesting sludge is pumped into digester #2, and is allowed to settle. The clarified liquid from digester #2 is decanted to the aeration tank and the settled solids from the bottom of the digester are pumped into the facultative lagoon.

In addition to receiving raw sewage from the community, there was a period of time when trucked waste was also received at the sewage treatment plant. The receiving point for the trucked waste was the north-west corner of the facultative lagoon. The receipt of trucked waste was terminated in August, 2012.

3.2 Solids Volumes

3.2.1 Volume of Solids Present in the Facultative Lagoon

The volume of solids present in the facultative lagoon was estimated through measurements taken by City staff in August, 2013. There was a total of 11 monitoring stations, located throughout the lagoon, as indicated in Figure 3.2. One of the monitoring stations (Site 1) was located near the old receiving area for trucked waste. Three of the monitoring stations were located in the area where digested solids are being released (Sites 9, 10 and 11).

The data indicate that the depth of solids in the lagoon varies from 0.3 m (Site 1) to 1.65 m (Site 10). The average depth of the solids is 0.99 m. The depth to the bottom of the lagoon was measured for each site, and indicated an average depth of 1.71 m. Based on these depths and an assumption that the lagoon volume is in the order of 36,000 m³, approximately 58% of the lagoon is taken up by solids, which equates to a solids volume in the order of 21,000 m³. An indication of the magnitude of the accumulating solids in the facultative lagoon is shown in Figures 3.3 and 3.4. One photograph was taken in 2013 when the level in the lagoon was high, due to effluent storage (Figure 3.3). One photograph was taken in 2012 during a period of effluent release (Figure 3.4).



SEPTEMBER 2013
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Legend

- Municipal Boundary
- Lagoon Sample Sites
- Sanitary Gravity Main
- Force mains
- Manholes
- Pump Stations

LAGOON SAMPLE SITES

FIGURE

3.2



Figure 3.3: Surfacing Sludge – High Lagoon Water Level



Figure 3.4: Sludge Accumulation Area – Low Lagoon Water Level



Samples were also taken to provide an indication of the solids content. The data indicated that the solids content varied from 2% (Site 1) to 9% (Site 4). The solids content around the area where digested solids are received is in the order of 5%, which is also the average solids concentration for the whole lagoon. Using an average solids content of 5% and a solids volume of 21,000 m³, it is estimated that the mass of dried solids in the lagoon is in the order of 1,050 m³ (which is also approximately equivalent to 1,050 tonnes of dried solids).

The volatile solids content was also measured for each sample. Sludge and biosolids consist of two types of solids – volatile solids, which are indicative of the presence of organic material such as micro-organisms, and non-volatile solids, which are indicative of inorganic material such as grit. The volatile solids content of sludge and biosolids will decrease somewhat over time as the organic matter naturally biodegrades. The data indicate that the volatile solids concentration in the lagoon varies from 32% to 56%, with an average of 48%. The highest concentrations were generally associated with area close to the digested sludge release. The lowest concentrations were by Site 1 (trucked waste area). A volatile solids content of 48% is low for a wastewater sludge/biosolids and is indicative of a well degraded sludge/biosolids or a high inorganic content, e.g. excessive inputs of grit to the system.

The estimations outlined above are intended to be a crude guideline to the solids content of the facultative lagoon. Prior to any desludging or related sludge activities for the lagoon, a more accurate solids profile needs to be undertaken. In addition, solids will also have been accumulating over time in the aerobic lagoon. The quantity and quality of the solids in the aerobic lagoon are not known, but it is possible that sludge may also need to be removed from this lagoon.

3.2.2 Solids Production Rates

City operations indicate that approximately 104 m³ of digested solids are transferred each week from the aerobic digester to the facultative lagoon. City operations indicate that the solids content of the transferred material is in the range of 1 to 2%, with the average in the order of 1.5%. This concentration is consistent with the solids content of the single grab sample which was taken in August 2013 (1.6% dry solids). For this grab sample, the volatile solids content was approximately 76%.

From the above information, approximately 1.7 m³ of dry solids are being transferred to the facultative lagoon on a weekly basis. This equates to an annual transfer of 88 m³ of solids, of which approximately 67 m³ are in the form of organic matter, which can biodegrade over an extended period of time. The remaining 21 m³ are in the form of inorganic matter, which cannot degrade and will continue to accumulate in the lagoon.

There is no indication of the input of solids from the aerobic lagoon into the facultative lagoon. This will be largely dependent on mixing rates in the aerobic lagoon and the volume of solids which are present in the aerobic lagoon. However, given the nature of a lagoon system compared with a mechanical sewage

treatment plant, it is reasonable to assume that the bulk of the fresh incoming solids will be from the activated sludge plant.

3.3 Solids Quality

The quality of the solids present in the aerobic digester and the facultative lagoon was assessed, focusing on the element and faecal coliform requirements outlined in the OMRR. The element data relate to sampling events which occurred in August 2012 and the faecal coliform data relate to samples which were taken in August, 2013. The data are summarised in Tables 3.1 and 3.2, with comparison to the standards stipulated in the OMRR. For the element concentration (Table 3.1), the data relate to the average concentration of 4 samples taken from the facultative lagoon and an average concentration of 2 samples taken from the aerobic digester. For the faecal coliform concentration (Table 3.2), the data relate to the average of 7 samples taken from the facultative lagoon and a single grab sample from the aerobic digester.

For the element quality, the highest quality in the OMRR is associated with a biosolids growing medium, with the lowest quality being associated with a Class B compost/Class B biosolids. The ranking of quality from highest to lowest is:

Biosolids growing medium > Class A compost > Class A biosolids > Class B compost/biosolids.

There is some cross-over for the quality for certain parameters and the different classifications for organic matter. For example, the quality criterion for cadmium is the same for a Class A biosolids, Class B biosolids and Class B compost.

From the data summarised in Table 3.1, the solids in the facultative lagoon met the quality criteria for a Class B compost/Class B biosolids. The solids in the aerobic digester were consistently at lower concentrations than the lagoon solids, resulting in the ability to meet the quality criteria for a Class A biosolids. For both the facultative lagoon and the aerobic digester, some parameters were found to be present in very low concentrations. For the facultative lagoon, 4 parameters were present at concentrations which were consistent with the requirement of a biosolids growing medium. For the aerobic digester, 8 parameters were present at concentrations which were consistent with a biosolids growing medium.

The data only present the average concentrations, which would be the primary focus for a land application, on the assumption that all of the solids will be applied to a single area. However, the maximum concentration of one substance (molybdenum) for the facultative lagoon solids was higher than the highest concentration stipulated in the OMRR (20 µg/g dry weight for a Class B biosolids/Class B compost/Class A biosolids, compared with an actual measurement of 26 µg/g dry weight for one of the facultative lagoon samples). For the data set of 4 samples, the recorded concentration of 26 µg/g dry weight was an abnormality, with the remaining 3 samples all having a concentration in the order of 16

Table 3.1: Comparison of Solids Quality – OMRR Element Concentrations

Parameter	Concentration (µg/g dry weight)	OMRR Medium Type (Lowest Quality to Highest Quality)				
		Class B Biosolids	Class B Compost	Class A Biosolids	Class A Compost	Biosolids Growing Medium
Facultative Lagoon						
Arsenic	13.6	√			X	
Cadmium	2.9	√			√	X
Chromium	35	√			√	
Cobalt	4.2	√			√	
Copper	825	√		X	X	X
Lead	73	√			√	
Mercury	9.0	√		X	X	X
Molybdenum	18.5	√			X	
Nickel	24	√			√	
Selenium	9.5	√			X	
Zinc	1,020	√			X	X
Aerobic Digester						
Arsenic	2.8	√			√	
Cadmium	0.7	√			√	√
Chromium	13	√			√	
Cobalt	2.0	√			√	
Copper	290	√		√	√	√
Lead	21	√			√	
Mercury	1.8	√		√	√	X
Molybdenum	5.4	√			X	
Nickel	11	√			√	
Selenium	5.1	√			X	
Zinc	430	√			√	√

√ = conforms to the corresponding OMRR quality classification

X = does not conform to the corresponding OMRR quality classification

µg/g dry weight. It is possible that the elevated concentration of molybdenum in the single sample was either a sample error or related to the receipt of trucked waste. The quality of trucked waste is hard to control and could contain elevated concentrations of many different substances, including molybdenum.

However, elevated concentrations of molybdenum were also recorded in the 1995 sludge studies, and further investigations were undertaken in the attempt to help understand the source of this metal. The information in the 1995 study indicated that there was no clear point source of molybdenum entering the system and, therefore, it was likely that the source of molybdenum was the City's drinking water. Metals will accumulate in the wastewater solids over time, and it is possible that what could be considered as low concentrations in a water source could cause elevated concentrations in a wastewater solids. There is a greater risk of metal accumulation if the source of water is from an aquifer, compared with surface water, due to generally higher concentrations of metals in groundwater.

For the faecal coliform quality, the highest quality is associated with a biosolids growing medium/Class A compost/Class A biosolids, with the lowest quality being associated with a Class B compost/Class B biosolids. From the data summarised in Table 3.2, the solids in the facultative lagoon and the aerobic digester both met the quality criteria for a Class B compost/Class B biosolids. A lower faecal coliform concentration was associated with the facultative lagoon, compared with the digested sludge. This is quite common, as storage time is one of the factors which can affect faecal coliform survival and solids can be stored in lagoons for many years. It is possible for data from lagoon sludges to indicate faecal coliform concentrations below the analytical detection limit (e.g. 1 to 3 MPN/g dry weight, depending on the laboratory capabilities). For the samples from the City's facultative lagoon, 5 out of the 7 samples were below the Class A/biosolids growing medium criterion of 1,000 MPN/g dry weight, with the lowest concentration being recorded as < 35 MPN/g dry weight.

Table 3.2: Comparison of Solids Quality – OMRR Faecal Coliform Concentrations

Parameter	Faecal Coliform Concentration (MPN/g dry weight)	OMRR Medium Type (Lowest Quality to Highest Quality)				
		Class B Biosolids	Class B Compost	Class A Biosolids	Class A Compost	Biosolids Growing Medium
Facultative Lagoon	1,067	√			X	
Aerobic Digester	130,000	√			X	

√ = conforms to the corresponding OMRR quality classification

X = does not conform to the corresponding OMRR quality classification

To summarise, both the facultative lagoon solids and the aerobic digester solids would be classified as a Class B biosolids, even though there are some parameters which are present in low concentrations.

In the OMRR, foreign matter content also needs to be considered. Foreign matter relates to substances such as sharps (glass, needles, razor blades, etc.) and inorganic material such as plastics. There are no data available for foreign matter for the City's sludge/biosolids, but the presence of foreign matter is easy to address through screening prior to the reuse of the solids. It is reasonable to assume that foreign matter will be present due to the historical receipt of trucked wastes and the lack of screening.

3.4 Solids Treatment

3.4.1 Overview

The focus for defining treatment in the OMRR is pathogen reduction and vector attraction reduction. When developing the OMRR, the agreement within BC was that the concepts in the OMRR were to be based on the United States framework for regulating biosolids. The classic definitions used as the basis for the regulatory framework in the United States make a distinction between wastewater treatment and solids treatment. Under these definitions and also relating these definitions to the situation for the City of Grand Forks, the activated sludge aeration tank, the aerobic lagoon and the facultative lagoon will all be classified as wastewater treatment processes. Only the aerobic digesters will be classified under the distinction of solids treatment processes. Using these definitions in the purest terms means that any solids which are present in the lagoons but have not passed through the aerobic digester can only be classified as "sludge" not biosolids, as these solids have not been treated by a recognised solids treatment process. However, depending on the treatment which the solids have received during time in the aerobic digester, it is possible that some of the waste activated sludge could be classified as "biosolids".

The City is not alone with facing the issues of these definitions. There are many sites in BC which rely solely on lagoons for sewage treatment and the resulting solids in these lagoons can reach a high quality which is consistent with a biosolids growing medium as a result of the long duration when digestion and pathogen die-off can occur. However, there is a measure of flexibility in the OMRR which can allow for alternative approaches to treatment and the ability to recognise an end product as a "biosolids" rather than a "sludge".

3.4.2 Pathogen Reduction

In the OMRR, treatment for pathogen reduction is based on a temperature-time relationship, with a longer time being required for pathogen reduction as the temperature decreases. Unless a process is capable of reaching a controlled temperature of at least 50 °C, the resulting product cannot meet a Class A designation or be used to create a biosolids growing medium. In the case of the City's sewage treatment plant, there is no ability to achieve or maintain an elevated temperature. Therefore, regardless of whether a low measured pathogen concentration is found, the resulting product can only be classified as a Class B biosolids.

It is evident that pathogen reduction occurs both in the aerobic digester and the lagoon. Data from grab samples taken in August 2013 indicated a faecal coliform concentration of 9,400,000 MPN/g dry weight for the waste activated sludge. This decreased to 130,000 MPN/g dry weight at the end of the aerobic digester. Further decreases in the faecal coliform concentration are evident during storage in the facultative pond, with the historical data indicating concentrations between < 35 MPN/g dry weight and 4,800 MPN/g dry weight.

The clause relating to pathogen treatment by aerobic digestion to produce a Class B biosolids would apply to the City's activated sludge plant. Under this clause, the solids treatment process has to be aerated with the mean cell residence time to vary between 40 days at 20 °C and 60 days at 15 °C. Given the challenges with respect to ambient temperatures in BC and the typical tank sizes for digesters, it is possible that this mean cell residence time may not be met during the cooler months of the year. If this is the case, the pathogen reduction process requirements may not be met year-round.

The clause relating to pathogen treatment by anaerobic digestion to produce a Class B biosolids would apply to the City's facultative lagoon, as there is no mechanical aeration in the facultative lagoon and the oxygen demand within a sludge would quickly result in anaerobic conditions. Under this clause, the mean cell residence time must be between 15 days at 35 °C to 55 °C and 60 days at 20 °C. The first temperature range relates to constructed anaerobic digesters where the temperature can be controlled. The second temperature condition is more relevant to lagoons and ambient uncontrolled conditions. Given the length of time that the solids have been stored in the facultative lagoon, the conditions required in the OMRR for pathogen reduction would have been met.

3.4.3 Vector Attraction Reduction

In the OMRR, there are a range of treatment options for vector attraction reduction. For the purposes of this report, the focus will be on the digestion process, where a volatile solids reduction of at least 38% is required for either aerobic or anaerobic digestion.

For the aerobic digester, the volatile solids concentration of the waste activated sludge is in the order of 81%. This relates to a single grab sample taken in August, 2013, but this concentration is in line with what would typically be expected for untreated waste activated sludge. Data from the same sampling event indicate that the volatile solids content of the digested sludge is in the order of 76%. This is high for a digested sludge, so it is not surprising that the calculated volatile solids reduction is in the order of 7%. These data indicate that the digester operation is not optimised. The resulting sludge from the digester would not be compliant with the OMRR for vector attraction reduction based on the definitions used for digester operation. It is possible that sufficient vector attraction reduction could be proven under the OMRR, using one of the alternative approaches such as laboratory testing to confirm the specific oxygen uptake rate. However, given the high volatile solids content, there is a risk that the tests would confirm that adequate vector attraction reduction had not occurred in the aerobic digester.

For the facultative lagoon, assuming an incoming volatile solids content in the order of 80%, which is consistent with both the data from the aerobic digester and also a typical raw sludge from a biological wastewater treatment process, and taking the average volatile solids content for the solids which are being stored in the facultative lagoon (48% approximately), the volatile solids reduction would be approximately 67%. This indicates that a significant reduction in the volatile solids content has occurred over time. Based on these data, the solids which are accumulating in the facultative lagoon are expected to be stable biologically with a low risk of causing odour issues. The solids in the lagoon meet the requirements for vector attraction reduction, as defined by the OMRR.

3.5 Summary – Compliance with the OMRR

Compliance with the OMRR requires both quality and treatment process to be confirmed. The solids from both the aerobic digester and the facultative lagoon meet a Class B biosolids quality classification. The data for the solids from the aerobic digester indicate a higher quality for metals, compared with the solids from the facultative lagoon. However, the reverse is true for the faecal coliform concentration. There are no data available for foreign matter, but this can be managed through screening, if required, prior to reuse.

The data indicate that the aerobic digester operation is not optimised, with limited digestion of the solids occurring. This observation is based on a single data point, which may not be representative of true operational conditions. The conditions for the facultative lagoon are indicative that, if required, it could be proven that OMRR process conditions have been met for a Class B product.

To summarise, under the current operations, the solids from the aerobic digester would be classified as “sludge”. The solids from the facultative lagoon could be classified as “biosolids”, although there are complications with respect to the concept that a wastewater treatment process cannot be used for sludge treatment.

4.0 SOLIDS MANAGEMENT OPTIONS

4.1 Introduction

With consideration to the information presented in the early study which was completed in 1995, the following options are available for managing the solids which are produced at the City's sewage treatment plant:

Option 1: Disposal to landfill

Option 2: Use as an energy source

Option 3: Land application for the growth of plants

These three options are discussed further below.

4.2 Disposal to Landfill

Disposal of sludge and biosolids to landfill does not need authorisation from the BC Ministry of Environment, nor would this activity fall under the OMRR. However, agreement to receive the material must be received from the landfill owner and there is the need to ensure that the receipt of the material would not contravene the existing landfill operational permit.

Typically, a landfill focuses on receiving solid wastes, so any sludge/biosolids which are received at a landfill must have been through a dewatering process first, whether this is a mechanical process such as a centrifuge, belt press or geotube, or whether this is a simple air-drying approach. Although typically no strict number is given with respect to the desired solids content of sludge/biosolids for disposal to landfill, a good rule of thumb is a minimum of 12% for solids content, as this can be achieved by simple dewatering process and resulting material can be handled as a solid. For a comparison, the solids content of the digested sludge is in the order of 1.6%, and the solids content of the biosolids in the facultative lagoon is in the order of 5%. Therefore, dewatering would be required in either case before transportation to the local landfill. The receipt of sludge/biosolids at landfill sites will incur trucking costs and tipping fees. Moisture content associated with the sludge/biosolids is an important factor with respect to the both costs. A wetter sludge/biosolids will result in higher trucking and tipping fees, so there is an advantage to achieving a higher solids content during dewatering.

Generally, the disposal of sludge/biosolids to landfill is becoming less acceptable. In BC, this is due to the direction and the desire to divert materials away from the landfill. As many landfills are owned and operated through a Regional District rather than a municipality, the decision to receive sludge/biosolids is often out of the hands of the sewage treatment plant owner.

The Regional District of Kootenay Boundary was contacted regarding the potential for the sludge/biosolids to be received for disposal at the local Grand Forks landfill, which is located to the north-west of the sewage treatment plant (Figure 4.1). The discussions indicated that the Regional District does have concerns regarding the receipt of the sludge/biosolids at the site, due to the small scale of the landfill. In the event that the sludge/biosolids are received, a tipping fee would be applied, and would be based on the standard fee scale, with the standard tipping fee for mixed refuse being \$95/tonne. In addition to the tipping fee, the City would also need to cover all dewatering and trucking costs.

Although disposal to landfill may not be a favourable option, the Regional District may be willing to explore the potential of mixing the sludge/biosolids with woodchips for composting. It is not known at this point whether this approach would be possible. Further discussions with respect to volume, sludge/biosolids quality and the levy of any tipping fees are needed.

4.3 Use as an Energy Source

Many industrial processes burn fuel in order to produce the some or all of the energy required at the site for operations. The organic content of the sludge/biosolids can result in this form of organic matter being a suitable potential alternative energy source. The presence of organic matter and water content are both important when considering the calorific value of a potential fuel source. Ideally, a potential energy source should have a high organic matter and low water content.

In the untreated form, sludge has a high organic content, which would make it suitable as a potential fuel. However, the organic content will decrease as the sludge naturally biodegrades (e.g. through treatment such as aerobic or anaerobic digestion). Therefore, an old sludge/biosolids will not be as energy efficient as a young untreated biological sludge. However, there will be lower concerns with respect to human health and odours for an old and well degraded sludge/biosolids.

A sludge/biosolids does not have to have significant water removed before it can be considered as a suitable energy source. Depending on the burning process, it is possible that a solids content as low as 15% could be suitable, but this would require a sufficient balance with dry material. It is important that this balance is maintained, as the potential result could be the need to supplement the heating process with propane or electricity. For sites where sludge/biosolids is the primary source of fuel, a minimum solids content of 35% is preferred.

Discussions were held with Roxul Inc., regarding the potential for the City's sludge/biosolids to be received at the site located next to the sewage treatment plant (Figure 4.1). The response indicated that there is a reluctance to receive the sludge/biosolids at the Grand Forks site due to specific concerns with the added carbon being detrimental to the melting process and general concerns with respect to the environmental conditions of their permit.

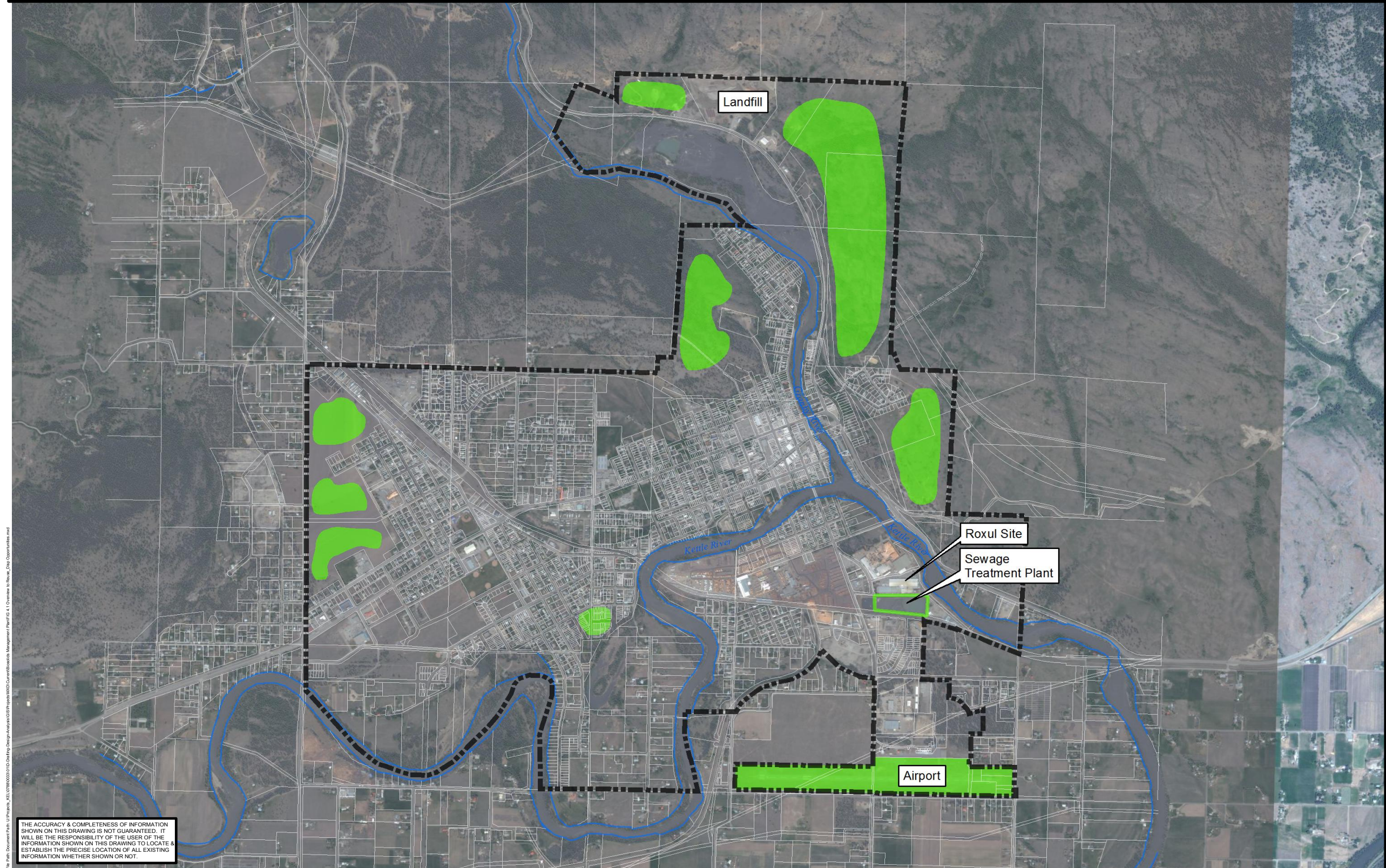


SEPTEMBER 2013
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Legend
Municipal
Boundary
Potential
Biosolids
Application
Area

OVERVIEW TO
REUSE/DISPOSAL OPPORTUNITIES

FIGURE
4.1



4.4 Land Application for the Growth of Plants

In theory, there are a number of different types of lands to which a Class B biosolids can be applied. These lands can be privately or municipal-owned properties, and the land uses can include agricultural, forestry, disturbed areas, recreational areas, etc. However, for a Class B biosolids, access restrictions to protect public health must be considered along with constraints which are required to protect the environment.

In May 2013, a site visit was completed to gain an overview to the areas which may have the potential for the land application of Class B biosolids. The preference was to focus on lands which were owned by the City or were within the City boundary. It was recognised that there may be significant lands available for a Class B biosolids application outside of the City boundary, but this would have the potential for increased trucking costs, which the City would prefer to avoid. In addition, the heavy agricultural activities outside of the City boundary have resulted in concerns with respect to groundwater protection and the use of fertilizers, which could include both chemical and organic fertilizers. This could result in additional complications for a biosolids application.

The lands which were identified as being possible application areas are shown in Figure 4.1. In addition to the concern with historical fertilizer use, there was also concern with some areas with respect to shallow groundwater levels, close proximity to wells, current land use, current growth of crops for human consumption, open access to the public, grade of slope and zoning for future residential use. The most promising site for land application appears to be the airport. This site is located to the south-east of the City (south of the sewage treatment plant) and is fully fenced to restrict public access. The airport parcel has a level aspect and there is an open area with some basic vegetation growth. In addition, this site is owned by the City. An alternative application area is the berms located around the sewage treatment plant site. This area would be ideal, due to the close proximity resulting in minimal trucking requirements, the current land usage and access restrictions. However, the area around the sewage smaller than the airport site, and it is possible that not all of the sludge/biosolids could be accommodated for application within this footprint. The area requirements can only be determined through calculating the appropriate application rates based on the quality of the material to be applied and the existing soil conditions.

For the application of a Class B biosolids to the sewage treatment plant berms or airport lands, a Land Application Plan must be developed by a qualified professional and submitted to the BC Ministry of Environment for approval. The Land Application Plan must outline the following:

- Application rates based on the characteristics of the material to be applied, the soils and proposed vegetation. This is typically calculated based on the nitrogen concentration, although it is possible that this could be amended in the event that there is an elevated concentration of a substance (e.g. a metal) in the biosolids.
- Application requirements, e.g. methodology, tilling, etc.

- Identification of public health and environmental concerns.
- The determination of appropriate setbacks and mitigative measures. Setbacks apply to a range of different factors such as property lines, roads, streams and wells, etc.
- Monitoring requirements before, during and after application.

There are different ways in which to manage the preparation of the Land Application Plan and the actual application of the material. With the focus being an application to the sewage treatment plant berms or airport lands, where the City has ownership, the following options could be pursued:

1. The City could both prepare the Land Application Plan (through a qualified professional) and apply the organic matter. In this scenario, the City would have full control over the application and bear the full responsibilities of both the Plan and the application activities.
2. The City could prepare the Plan (through a qualified professional) but allow a contractor to apply the organic matter. In this scenario, the City would have little control over the application activities but would likely still bear the full responsibilities.
3. The City could use a contractor who is responsible for preparing the Plan and applying the organic matter. In this scenario, the City would have little control over the application activities and the contractor would likely bear the full responsibilities for the land application activities.

If the City was to pursue land application, the following costs would need to be considered:

- Development of the land application plan;
- Screening of the biosolids, if there is a concern with foreign matter;
- Site signage;
- Monitoring before, during and after the application;
- Transportation to site;
- Application of the biosolids, which may require both spreading and tilling; and
- Re-vegetation of the area;

Biosolids can be applied to land either as a liquid or solid. There are advantages and disadvantages to both approaches. The key advantage with respect to using a liquid biosolids is an increased ease of application, depending on the application method. However, the application of a liquid will increase trucking costs and additional care will need to be taken with respect to preventing run-off. There is also a greater potential for liquid biosolids to affect shallow groundwater, due to the ability of the liquid portion to migrate down into the soils at a quicker rate than the vegetation is able to use the available nutrients.

It is possible to use sludge/biosolids at a landfill for daily, intermediate and final cover. This is especially advantageous if the landfill site has limited cover material available and is actively trucking in cover material on a regular basis. However, the operation of many landfills does not distinguish between the receipt of sludge/biosolids as a waste and the receipt of biosolids as a resource for cover material. Therefore, a tipping fee may still be incurred, depending on the direction set by the local regional district. Additional discussion would be needed with the Regional District of Kootenay Boundary to determine if this approach would be acceptable.

5.0 SUMMARY AND RECOMMENDATIONS

Based on the information provided in this report, the following summary is made:

- It is estimated that there is approximately 21,000 m³ of solids in the facultative lagoon. Using a solids content of 5%, this would equate to 1,050 m³ of dried solids (or 1,050 tonnes of dried solids). These estimations are to be considered as a guide only, and a full sludge survey is required prior to initiating any desludging activities.
- The solids in the facultative lagoon consist of approximately 50% organic matter and 50% inorganic matter. Although the organic matter may continue to biodegrade slowly, the inorganic matter will only continue to accumulate.
- Based on City information for wasting rates from the aerobic digester, the solids in the facultative lagoon will continue to accumulate at a rate of 88 m³/year. Approximately 67 m³ of the solids are in the form of organic matter, which can biodegrade over an extended period of time. The remaining 21 m³ are in the form of inorganic matter, which cannot degrade and will continue to accumulate in the lagoon. There will be additional solids input from the aerobic lagoon, although the rate of the input from this source is expected to be low compared with the waste digested sludge. Over time, solids have been accumulating in the aerobic lagoon. The quantity and quality of the solids in the aerobic lagoon are not known.
- Compliance with the OMRR requires both quality and treatment process to be confirmed. The solids from both the aerobic digester and the facultative lagoon meet a Class B biosolids quality classification. The data for the solids from the aerobic digester indicate a higher metals quality compared with the solids from the facultative lagoon. However, the reverse is true for the faecal coliform concentration. There are no data available for foreign matter, but this can be managed through screening, if required, prior to reuse.
- The limited data indicate that the aerobic digester operation is not optimised and limited digestion of the solids is occurring. However, the conditions for the facultative lagoon are indicative that, if required, it could be proven that OMRR process conditions have been met for a Class B product.
- Under the current operations, the solids from the aerobic digester would be classified as “sludge”. The solids from the facultative lagoon could be classified as “biosolids”, although there are complications with respect to the concept that a wastewater treatment process cannot be used for sludge treatment.
- Disposal to landfill is a potential option, but concerns have been raised by the Regional District with respect to the potential volume of sludge/biosolids and the landfill size.
- The option of using the sludge/biosolids as an energy source is not a feasible approach to managing the City's sludge/biosolids.

- The most viable option for land application appears to be the airport site or the berms around the sewage treatment plant.

Based on the information presented in this report, outcomes of the Wastewater Treatment Plant Assessment, and the follow up discussions with the City, the following recommendations are made:

- Review the operation of the aerobic digester to determine if it is feasible to amend operations to allow the OMRR process requirements to be met.
- Review the operation of the wastewater and sludge aspects of facultative lagoon to determine the feasibility of separating the current wastewater and sludge treatment processes.
- Complete a comprehensive sludge survey for the facultative lagoon before undertaking any desludging or sludge management activities.
- Enter further discussions with the Regional District with respect to disposal, composting or application activities at the landfill site.
- For the management of the sludge in the facultative lagoon, complete a Land Application Plan under the OMRR. The assessment will include a determination of the application area requirements through calculating the appropriate application rates based on the quality of the material to be applied and the existing soil conditions. This assessment is to be completed for the airport site and/or the sewage treatment plant site. A budget of \$10,000 is to be assigned for the completion of the Land Application Plan, although this should be reviewed just prior to the initiation of the assessment.
- For the management of the solids which are being generated by the activated sludge plant, these solids are to be diverted away from the facultative lagoon, with the aerobic lagoon to be used as an aerated sludge storage pond. Desludging is to be periodic, using a Geotube bag type of operation.

MEMORANDUM

Date: July 16, 2014
To: Doug Allin
cc:
From: Scott Shepherd
File: 0788.0033.01
Subject: Asset Management Update

The following memo is intended to provide a brief update on the City's Asset Management Program, to be shared with Grand Forks Council on July 21st. The key takeaways from the program are listed below:

1. Grand Forks's Infrastructure has a replacement value of \$127 million
2. There is approximately \$32 million in infrastructure that has passed its service life (\$20 million of this amount is for roads)
3. An annual investment of \$3.85 million is needed for asset renewal
4. The projected revenues for Grand Forks over the next 20 years are not sufficient to achieve asset renewal investment targets and planned capital investments
5. Addressing immediate and future renewal needs will result in significant cash flow challenges given current revenue generating potential
6. Using a risk-based approach, the asset renewal projects have been prioritized based on likelihood and consequence of failure, resulting in a target investment of \$700,000 annually for the capital renewal of highest priority assets
7. The information developed in the asset management program will be utilized in the City's 2015 Capital planning process and discussions with Council around future policies to increase revenues and reduce costs.

Background

The City of Grand Forks has taken a proactive approach to planning for financial sustainability of community infrastructure. Grand Forks is responsible for operating and maintaining almost \$127 million of infrastructure consisting of the: *water system, wastewater (sanitary sewer) system, stormwater system, roadway network, buildings and facilities, electrical, fleet, and parks*. This infrastructure is vital to the well-being of the residents and businesses in the community; however, a significant proportion has reached, or will be reaching, the end of its service life over the next few decades and will require major investments to maintain existing levels of service, meet regulatory requirements for public health and to support future growth of the community. The AMIP indicated an infrastructure backlog of nearly \$32 million (\$20 million is allocated to roads). The following table provides a snap shot of the City's assets.

MEMORANDUM

Date: July 16, 2014
File: 0788.0033.01
Subject: Asset Management Update
Page: 2 of 16

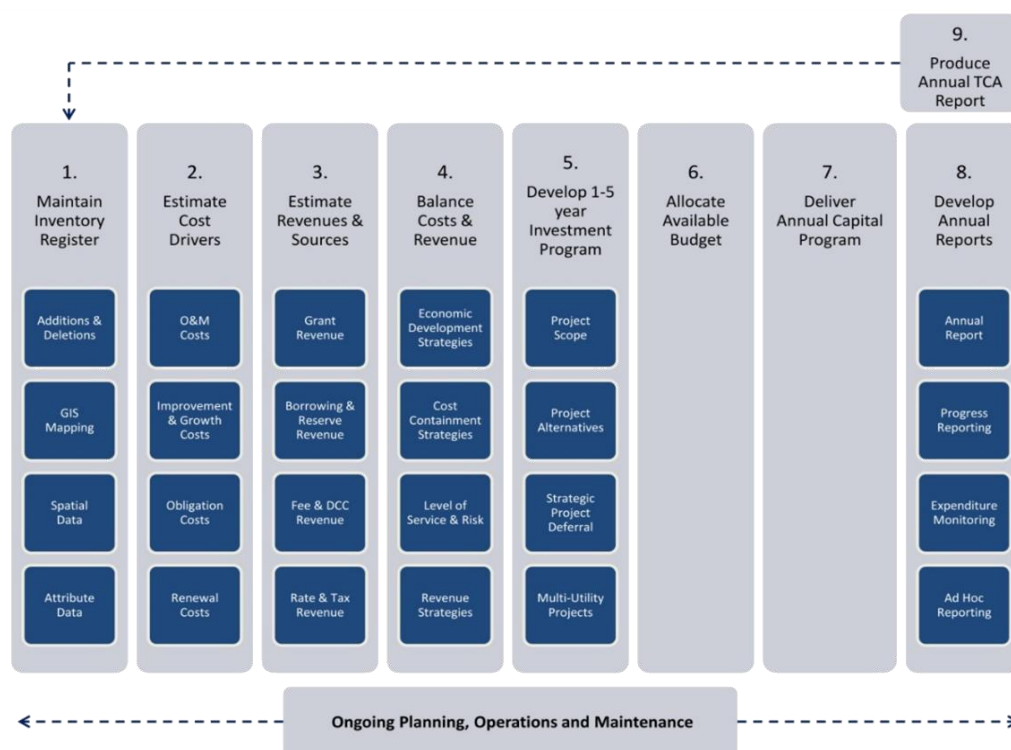


Asset Category		Replacement Value	Remaining Life
Water System		\$27,200,000	52%
Sanitary Sewer System		\$25,994,000	40%
Stormwater System		\$5,201,000	31%
Electrical System		\$9,700,000	53%
Roadway		\$34,533,000	17%
Building & Facilities		\$20,053,000	42%
Fleet		\$4,382,000	70%
Total		\$127,063,000	38%

Table 1 – Grand Forks Assets

Grand Forks' approach to asset management integrates all of a community's long term infrastructure costs and available funding, with a focus on infrastructure being the framework for a vibrant community. The City's asset management program is founded on an on-going process of infrastructure decision making. This process is illustrated in the following figure.

Figure 1: Infrastructure Decision Making



MEMORANDUM

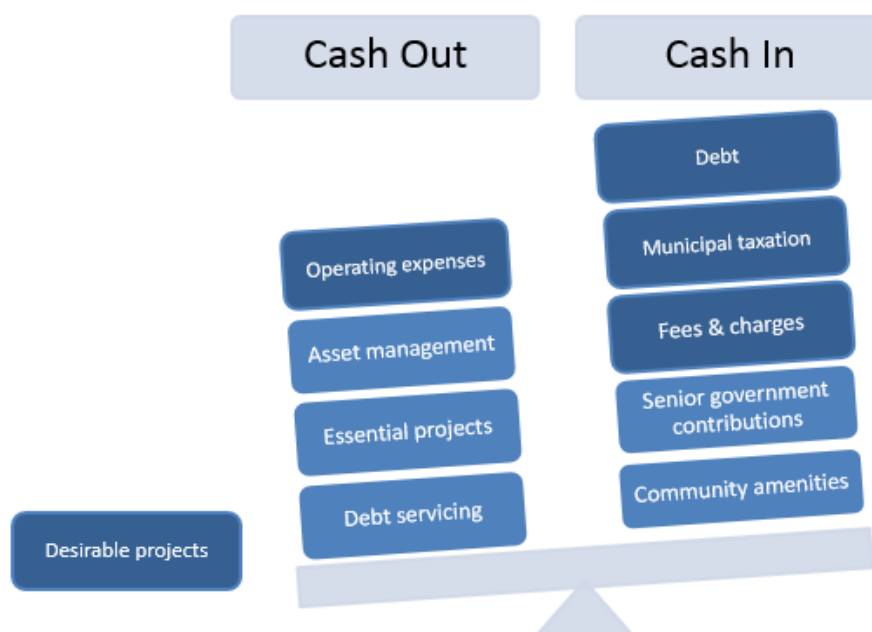
Date: July 16, 2014
File: 0788.0033.01
Subject: Asset Management Update
Page: 3 of 16



The first step in this program was the Asset Management Investment Plan (AMIP), also known as a cost cash flow analysis. The AMIP was created in 2010, and encompasses Steps 1 and 2 of the process outlined above. The AMIP analysis identified that an average annual life cycle investment amount of \$3.85 million (\$2.9 million allocated to roads, water and sewer) was required for the renewal of the City's existing infrastructure and building of reserve funds.

Step 3 was the development in 2011 of a long term Asset Management Financial Plan (AMFP), which identified and modelled the revenue generation capabilities of the City and sets the stage for balancing of costs and revenues to take place in Step 4. The analysis in the AMFP also included a comparison of identified infrastructure expenditures (e.g. renewal, new capital, planning and design, operations and maintenance, debt servicing) to the revenue anticipated (e.g. rates, fees, taxes, grants, borrowing), as illustrated in the figure below.

Figure 2: Balancing Revenues and Expenses



The key findings from the analysis indicate that there is a sustainability gap between current and anticipated revenues compared to planned expenditures. The model indicated that the City could generate \$222 million in revenue whereas expenditures are expected to be \$278 million over the next 20 years (a financial sustainability gap of \$2.8 million/year).

With an infrastructure deficit of \$32 million and a short fall of \$2.8million/year in revenue, this means that the cost burden to renew infrastructure is going to grow over the next two or three decades more than the City's revenue.

MEMORANDUM

Date: July 16, 2014
File: 0788.0033.01
Subject: Asset Management Update
Page: 4 of 16



In addition, there are several essential capital projects to address regulatory requirements (as outlined in the water and wastewater strategies). Anticipated failures and declining service levels, associated with the infrastructure backlog, will also contribute to this cost burden. This has long term implications, which are compounded by the demands that will be placed on the City for further asset renewal as the remainder of existing assets reach their life expectancy. As a result, the analysis recommended that Grand Forks undertake cost containment measures and develop revenue generation strategies to create an ideal funding model (essentially balancing future revenues and expenditures).

To balance revenues and expenditures, some trade-offs will have to be considered such as:

- Building Reserves (dedicated for renewal)
- Undertake borrowing
- Increasing revenue (tax and rate increases)
- Investing in alternative revenue sources
- Cost Containment through increasing risk, adjusting level of services, etc.)
- Prioritized Capital Planning

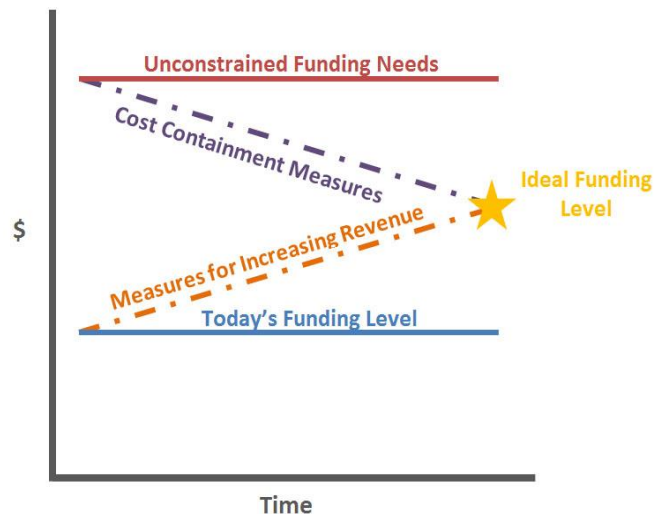


Figure 3: Funding Levels

Some of these trade-offs are using tools already available and in use within the City, while others will require further consideration of how to increase revenues, and contain costs. This will allow the City to close the financial sustainability gap so that each utility/fund can be operated independently and in a fiscally responsible manner into the future, thereby achieving community-wide financial sustainability.

The next step (completed in 2014) in the City's Asset Management Program was to take major steps towards balancing costs and revenues by exploring cost containment strategies.

Cost Containment Strategies

Cost containment measures provide a variety of options for balancing costs and revenues over the long term. This could include approaches such as alternate maintenance management practices, adjusting levels of service, increasing risk where appropriate (resulting in project deferral), refining system capacity, protecting reserves, economies of scale, and applying these measures to a triple bottom line approach to capital planning.

As infrastructure investments are delayed, risks grow exponentially. Some assets could be run to failure (for example many local roads or water mains on dead end roads), while others will need to be replaced before they fail (for example water mains in commercial areas).

MEMORANDUM

Date: July 16, 2014
File: 0788.0033.01
Subject: Asset Management Update
Page: 5 of 16



By understanding the risk (consequence and likelihood of failure) and condition, projects can be strategically prioritized to address infrastructure investment needs while minimizing risk.

A multi-utility risk assessment for water, sewer and roads was undertaken in 2013/14 in order to refine the required annual infrastructure investment to a more affordable level that Grand Forks can sustain (reduce the \$3.85 million annual investment as identified in the AMIP).

The methodology incorporated four main components into the project selection criteria as outlined below:

- An assessment of the infrastructure **likelihoods of failure** (i.e., probability)
- An assessment of the infrastructure **consequences of failure** (i.e. environmental, social or economic impacts)
- **Risk scores** (i.e., combination of probability and consequence) for each individual asset
- **Prioritization** of projects based on risk score rankings

The likelihood of failure, consequence of failure, and risk score components mentioned above were utilized for each asset category in the analysis to develop a prioritized list of projects based on an assessment of both condition and capacity of the infrastructure. As part of this process, the City's hydraulic models for water and sewer were updated and each systems capacity was refined with the most current growth information and data from Grand Forks.

The three priority levels were used in the infrastructure planning process in order to distinguish between urgent and non-urgent investments. For example; based on funding limitations, the priority 1 projects would take precedence over the priority 2 projects. The assets that have empirical data such as modeling results to support their risk score are pushed to the top of the priority list and the assets that are based on assumptions such as asset age and service life are pushed to the bottom of the priority list. Assets that are triggered by either existing capacity or condition risk scores are scheduled for replacement within a 10 year horizon and assets that are triggered by future capacity parameters are scheduled for replacements within the 10-20 year horizon. It is important to note that some projects could advance to the 0-10 year timeframe based on actual growth patterns.

A prioritized list of capital renewal upgrades was compiled based on the outputs of the risk assessment for linear and facility assets (a copy of the priority 1 list is included at the end of this document). The table on the next page summarizes the total amount of investment that is recommended to be made in the linear infrastructure over the next 20 years.

MEMORANDUM

Date: July 16, 2014
 File: 0788.0033.01
 Subject: Asset Management Update
 Page: 6 of 16



Table 2: Prioritized Investment by Asset Category

Prioritized Investment Summary			
Priority	0-10	10-20	Total
Priority 1			
Roads	\$2,392,700	\$2,686,065	\$5,078,765
Water	\$426,466	\$2,190,028	\$2,616,494
Sewer	\$761,298	\$5,545,011	\$6,306,309
Total*	\$3,580,464	\$10,421,104	\$14,001,568
Priority 2			
Roads	\$6,541,337	\$7,368,089	\$13,909,426
Water	\$4,041,835	\$924,677	\$4,966,512
Sewer	\$145,074	\$13,325,031	\$13,470,105
Total	\$10,728,246	\$21,617,797	\$32,346,043
Priority 3			
Roads	\$9,872,501	\$499,918	\$10,372,419
Water	\$0	\$777,158	\$777,158
Sewer	\$0	\$862,643	\$862,643
Total	\$9,872,501	\$2,139,719	\$12,012,220
Total			\$58,359,831
<i>*Average Annual Investment is \$700,000 over 20 years</i>			

There is over \$58 million in priority 1-3 projects required in the 20 year horizon. The average annual amount of investment for priority one projects is \$700,000 (significantly lower than the AMIP). Based on the revenue capacity of the City, it is recommended that investments in renewal focus on the priority one projects.

Revenue Generation Strategies

Revenue generation measures provide a variety of options for balancing costs and revenues over the long term. This could include approaches such as lobbying for support from senior levels of government for increased financial support, providing support for economic development and increased growth, investigating alternative revenue streams from non-traditional sources, increased levels of borrowing for capital projects, adjustments to cost recovery bylaws (such as the DCC bylaw) and increase to fees, charges, rates and taxes.

MEMORANDUM

Date: July 16, 2014
File: 0788.0033.01
Subject: Asset Management Update
Page: 7 of 16



Next Steps

Based on discussions with staff, the following next steps were developed to assist the City in developing a sustainable financing model for funding asset management and delivery of the essential capital projects.

1. Develop policies (set parameters) for:
 - Approach to funding asset management (i.e. renewal)
 - Building *dedicated* asset renewal reserves
 - When to consider borrowing
 - Alternate financing (grants, new funding sources)
2. Focus on Priority 1 needs for asset renewal
3. Save for ~50% of AMIP valuation
 - Long term budgeting for renewal needs and build reserves
4. Develop a strategy for setting sustainable rates and tax levels
 - Review of water and sewer fees and rates (self-funded utilities)
 - Work toward a solution that is not reliant on grants
 - Consider ability to pay before implementing changes
5. Explore alternate revenue and cost recovery strategies
6. Ensure revenue is sufficient to sustain desired levels of service

It is anticipated that staff will utilize the asset management program results and models to inform decision-making and discussions with Council for the 2015 financial plan process and in the development of policies to support planning for financial sustainability of community infrastructure.

Please contact the undersigned if you have any questions or any clarification of the above information.

URBAN SYSTEMS LTD.

A handwritten signature in blue ink, appearing to be "Scott Shepherd", with a horizontal line extending to the right.

Scott Shepherd, BA, ASCT
Principal, Asset Management Consultant

/ss

MEMORANDUM

Date: July 16, 2014
 File: 0788.0033.01
 Subject: Asset Management Update
 Page: 8 of 16



Priority One Watermain Replacements		
Road ID	Pipe ID	Road Name
RD-0239	WM-0091	2nd Street
RD-0239	WM-0127	2nd Street
RD-0239	WM-0141	2nd Street
RD-0019	WM-0132	6th Street
RD-0019	WM-0133	6th Street
RD-0123	WM-0092	6th Street
RD-0123	WM-0093	6th Street
RD-0123	WM-0144	6th Street
RD-0402	WM-0508	3rd Street
RD-0243	WM-0066	2nd Street
RD-0034	WM-0074	2nd Street
RD-0260	WM-0119	Donaldson Drive
RD-0260	WM-0489	Donaldson Drive
RD-0034	WM-2546	2nd Street
RD-0034	WM-2547	2nd Street
RD-0325	WM-0075	2nd Street
RD-0325	WM-0076	2nd Street
RD-0341	WM-0310	2nd Street
RD-0218	WM-0126	Riverside Drive
RD-0153	WM-0271	73rd Avenue
RD-0402	WM-0143	3rd Street
RD-0402	WM-2543	3rd Street
RD-0280	WM-0284	7th Street
RD-0358	WM-0040	9th Street
RD-0034	WM-0069	2nd Street
RD-0200	WM-0282	72nd Avenue
RD-0237	WM-2579	73rd Avenue
RD-0492	WM-0118	67th Avenue
RD-0090	WM-0031	20th Street
RD-0161	WM-0280	8th Street
RD-0280	WM-0283	7th Street
RD-0435	WM-0307	3rd Street
RD-0435	WM-2600	3rd Street
RD-0324	WM-0134	5th Street
RD-0073	WM-2506	5th Street
RD-0388	WM-2645	5th Street

MEMORANDUM

Date: July 16, 2014
 File: 0788.0033.01
 Subject: Asset Management Update
 Page: 9 of 16



Priority One Watermain Replacements		
Road ID	Pipe ID	Road Name
RD-0125	WM-2646	5th Street
RD-0239	WM-0130	2nd Street
RD-0260	WM-0121	Donaldson Drive
RD-0243	WM-0342	2nd Street
RD-0421	WM-2519	68th Avenue
RD-0435	WM-2599	3rd Street
RD-0408	WM-0023	19th Street
RD-0408	WM-0024	19th Street
RD-0112	WM-0026	Central Avenue
RD-0028	WM-0029	19th Street
RD-0110	WM-0210	19th Street
RD-0028	WM-0234	19th Street
RD-0028	WM-0527	19th Street
RD-0028	WM-0528	19th Street
RD-0450	WM-2664	72nd Avenue
RD-0425	WM-0138	82nd Avenue
RD-0158	WM-0139	81st Avenue
Not on a road	WM-0316	Not on a road
RD-0243	WM-0341	2nd Street
RD-0109	WM-0028	19th Street
RD-0317	WM-0239	68th Avenue
RD-0282	WM-0027	68th Avenue
RD-0271	WM-0270	73rd Avenue
RD-0484	WM-0137	None
RD-0508	WM-0340	Industrial Park Way

Priority One Sewer main Replacements		
Road ID	Pipe ID	Road Name
RD-0299	SGM-0171	None
RD-0235	SGM-0031	Industrial Park Way
RD-0235	SGM-0032	Industrial Park Way
RD-0235	SGM-0273	Industrial Park Way
RD-0385	SGM-0318	Boundary Drive
RD-0299	SGM-0339	None
RD-0229	SGM-0270	2nd Street

MEMORANDUM

Date: July 16, 2014
 File: 0788.0033.01
 Subject: Asset Management Update
 Page: 10 of 16



Priority One Sewer main Replacements		
Road ID	Pipe ID	Road Name
RD-0229	SGM-0271	2nd Street
Not on a Road	SGM-0338	Not on a Road
RD-0263	SGM-0272	68th Avenue
RD-0385	SGM-0172	Boundary Drive
RD-0161	SGM-0220	8th Street
RD-0161	SGM-0333	8th Street
RD-0399	SGM-0334	9th Street
RD-0380	SGM-0236	75th Avenue
RD-0239	SGM-0043	2nd Street
RD-0424	SGM-0073	2nd Street
RD-0510	SGM-0098	Central Avenue
RD-0071	SGM-0099	27th Street
RD-0071	SGM-0101	27th Street
RD-0071	SGM-0102	27th Street
RD-0041	SGM-0104	27th Street
RD-0041	SGM-0105	27th Street
RD-0235	SGM-0274	Industrial Park Way
RD-0435	SGM-0302	3rd Street
RD-0435	SGM-0304	3rd Street
RD-0235	SGM-0389	Industrial Park Way
RD-0235	SGM-0390	Industrial Park Way
RD-0264	SGM-0244	3rd Street
RD-0264	SGM-0247	3rd Street
RD-0375	SGM-0348	5th Street
RD-0231	SGM-0349	75th Avenue
RD-0102	SGM-0026	5th Street
RD-0102	SGM-0027	5th Street
RD-0324	SGM-0029	5th Street
RD-0109	SGM-0176	19th Street
RD-0161	SGM-0219	8th Street
RD-0268	SGM-0228	6th Street
RD-0372	SGM-0231	3rd Street
RD-0266	SGM-0239	4th Street
RD-0011	SGM-0240	73rd Avenue
RD-0011	SGM-0241	73rd Avenue
RD-0059	SGM-0242	5th Street

MEMORANDUM

Date: July 16, 2014
 File: 0788.0033.01
 Subject: Asset Management Update
 Page: 11 of 16



Priority One Sewer main Replacements		
Road ID	Pipe ID	Road Name
RD-0102	SGM-0243	5th Street
RD-0104	SGM-0245	Market Avenue
RD-0266	SGM-0246	4th Street
RD-0372	SGM-0248	3rd Street
RD-0163	SGM-0253	2nd Street
RD-0349	SGM-0261	4th Street
RD-0399	SGM-0332	9th Street
RD-0215	SGM-0340	10th Street
RD-0458	SGM-0357	4th Street
RD-0322	SGM-0359	4th Street
RD-0322	SGM-0360	4th Street
RD-0322	SGM-0361	4th Street
RD-0507	SGM-0363	73rd Street
RD-0266	SGM-0372	4th Street
RD-0206	SGM-0003	72nd Avenue
RD-0358	SGM-0024	9th Street
RD-0130	SGM-0071	75th Avenue
RD-0263	SGM-0258	68th Avenue
RD-0355	SGM-0263	3rd Street
Not on a Road	SGM-0036	Not on a Road
Not on a Road	SGM-0072	Not on a Road
Not on a Road	SGM-0074	Not on a Road
Not on a Road	SGM-0103	Not on a Road
Not on a Road	SGM-0223	Not on a Road
Not on a Road	SGM-0238	Not on a Road
Not on a Road	SGM-0303	Not on a Road
Not on a Road	SGM-0354	Not on a Road
Not on a Road	SGM-0370	Not on a Road
Not on a Road	SGM-0371	Not on a Road
RD-0435	SGM-0249	3rd Street
RD-0334	SGM-0311	Donaldson Drive
RD-0375	SGM-0229	5th Street
RD-0402	SGM-0086	3rd Street
RD-0215	SGM-0345	10th Street
RD-0133	SGM-0225	7th Street
RD-0202	SGM-0002	72nd Avenue

MEMORANDUM

Date: July 16, 2014
 File: 0788.0033.01
 Subject: Asset Management Update
 Page: 12 of 16



Priority One Sewer main Replacements

Road ID	Pipe ID	Road Name
RD-0019	SGM-0075	6th Street
RD-0019	SGM-0076	6th Street
RD-0373	SGM-0237	75th Avenue
RD-0310	SGM-0347	75th Avenue
RD-0402	SGM-0358	3rd Street
RD-0169	SGM-0168	77th Avenue

Priority One Roadway Replacements

Asset ID	Road Name	From	To
RD-0021	None	21st Street	19th Street
RD-0036	22nd Street	76th Avenue	75th Avenue
RD-0041	27th Street	72nd Avenue	Central Avenue
RD-0063	19th Street	Central Avenue	75th Avenue
RD-0071	27th Street	75th Avenue	Central Avenue
RD-0034	2nd Street	Industrial	Sagamore
RD-0092	68th Avenue	27th	Dead End
RD-0100	12th Street	73rd	72nd
RD-0119	68th Avenue	Boundary	16th
RD-0126	Kettle River Drive	72nd Avenue	9th Street
RD-0239	2nd Street	72nd	Market
RD-0150	Donaldson Drive	78th Avenue	21st Street
RD-0151	Columbia Drive	McCallum View	18th
RD-0168	76th Avenue	23rd	22nd
RD-0175	Boundary Drive	77th	78th
RD-0176	68th Avenue	16th	17th
RD-0203	22nd Street	77th	76th
RD-0209	21st Street	Central Avenue South	Central Avenue North
RD-0243	2nd Street	65th	Industrial
RD-0424	2nd Street	Market	Central
RD-0244	Donaldson Drive	21st Street	Municipal Boundary
RD-0253	Donaldson Drive	75th Avenue	McCallum View Drive
RD-0435	3rd Street	Hwy 3	Market
RD-0275	68th Avenue	Kettle River Dr.	Lane
RD-0294	Central Avenue	25th Street	22nd Street
RD-0297	68th Avenue	14th Street	Lane

MEMORANDUM

Date: July 16, 2014
 File: 0788.0033.01
 Subject: Asset Management Update
 Page: 13 of 16



Priority One Roadway Replacements			
Asset ID	Road Name	From	To
RD-0298	4th Street	Central	75th
RD-0304	Como Street	66th Avenue	Dead End
RD-0421	68th Avenue	24th Street	Along 68th Avenue
RD-0376	Riverside Drive	75th Avenue	Dead End
RD-0385	Boundary Drive	Hwy 3	77th
RD-0400	Industrial Drive	WWTP	PW
RD-0404	22nd Street	75th	Central
RD-0418	Kettle River Drive	9th Street	10th Street
RD-0510	Central Avenue	72nd Avenue	Central Avenue
RD-0260	Donaldson Drive	72nd Avenue	Central Avenue
RD-0334	Donaldson Drive	Central Avenue	19th Street
RD-0471	2nd Street	Industrial	65th
RD-0235	Industrial Park Way	65th Avenue	2nd Street
RD-0527	Sagamore Avenue	2nd Street	Dead End
RD-0004	None	Richmond Avenue	Dead End
RD-0024	21st Street	Central Avenue	Access Road
RD-0025	66th Avenue	17th Street	Van Ness Way
RD-0030	66th Avenue	Van Ness Way	Boundary Drive
RD-0031	Donaldson Drive	78th Avenue	77th Avenue
RD-0090	20th Street	68th	66th
RD-0037	Donaldson Drive	76th Avenue	77th Avenue
RD-0043	66th Avenue	Boundary	14th
RD-0051	69th Avenue	4th	5th
RD-0057	76th Avenue	23rd Street	Access Road
RD-0058	8th Street	66th	65th
RD-0077	Como Street	63rd	62nd
RD-0082	27th Street	72nd Avenue	68th Avenue
RD-0091	Como Street	62nd	Jasper
RD-0097	2nd Street	Sagamore Avenue	Jasper Avenue
RD-0101	66th Avenue	20th Street	19th Street
RD-0103	72nd Avenue	18th Street	19th Street
RD-0117	Valley Heights Drive	Granby Road	Valley Heights Drive
RD-0120	2nd Street	Sagamore Avenue	Sagamore Ave Intersection
RD-0134	63rd Avenue	Como	64th
RD-0137	Como Street	65th Avenue	64th Avenue
RD-0141	12th Street	59th Avenue	66th Avenue

MEMORANDUM

Date: July 16, 2014
 File: 0788.0033.01
 Subject: Asset Management Update
 Page: 14 of 16



Priority One Roadway Replacements			
Asset ID	Road Name	From	To
RD-0146	25th Street	Central	75th
RD-0174	7th Street	65th	64th
RD-0184	18th Street	70th	68th
RD-0187	78th Avenue	Boundary	Dead End
RD-0192	18th Street	60th Avenue	61st Avenue
RD-0193	22nd Street	Central Avenue	72nd Avenue
RD-0194	72nd Avenue	4th	5th
RD-0210	78th Avenue	23rd Street	22nd Street
RD-0219	Coronation Place	Sagamore Avenue	Dead End
RD-0228	21st Street	75th Avenue	76th Avenue
RD-0232	6th Street	75th Avenue	End
RD-0233	64th Avenue	9th	Como
RD-0325	2nd Street	Airport Access Road	Jasper Avenue
RD-0341	2nd Street	72nd	Bridge
RD-0251	72nd Avenue	12th	Boundary
RD-0264	3rd Street	Market	72nd
RD-0283	16th Street	68th Avenue	70th Avenue
RD-0285	20th Street	76th Avenue	77th Avenue
RD-0288	76th Avenue	End of 76th Avenue Pavement	End
RD-0292	78th Avenue	78th Avenue	Donaldson Drive
RD-0300	69th Avenue	69th Avenue	5th Street
RD-0303	None	WWTP	Industrial Drive
RD-0313	68th Avenue	14th Street West	14th Street East
RD-0375	5th Street	Central	75th
RD-0231	75th Avenue	5th	4th
RD-0343	75th Avenue	25th	27th
RD-0346	Como Street	66th Avenue	65th Avenue
RD-0352	Sagamore Avenue	2nd Street	Coronation Place
RD-0353	5th Street	65th	64th
RD-0360	13th Street	Kettle River Drive	71st Avenue
RD-0364	68th Avenue	Boundary Drive	14th Street
RD-0366	Kettle River Drive	13th Street	68th Avenue
RD-0133	7th Street	73rd Avenue	Central Avenue
RD-0378	17th Street	68th Avenue	66th Avenue
RD-0381	Donaldson Drive	Boundary Drive	16th Street
RD-0389	72nd Avenue	18th Street	70th Avenue

MEMORANDUM

Date: July 16, 2014
 File: 0788.0033.01
 Subject: Asset Management Update
 Page: 15 of 16



Priority One Roadway Replacements			
Asset ID	Road Name	From	To
RD-0394	Sunshine Way	72nd Avenue	Cul-de-sac
RD-0397	18th Street	Kettle River Drive	61st Avenue
RD-0405	68th Avenue	17th	18th
RD-0413	68th Avenue	18th	19th
RD-0427	60th Avenue	19th street	18th Street
RD-0431	Donaldson Drive	70th Avenue	72nd Avenue
RD-0432	22nd Street	Central Avenue South	Central Avenue North
RD-0461	66th Avenue	18th Street	17th Street
RD-0482	Pine View Crescent	McCallum View Drive	Cul-de-sac
RD-0502	66th Avenue	66th	Dead End
RD-0517	2nd Street	End of 2nd Street Pavement	Wildlife Assoc
RD-0520	Boundary Drive	78th	Dead End

Potential Multi-Utility Projects					
Asset ID	Road Name	From	To	Water Priority 1	Sanitary Priority 1
RD-0090	20th Street	68th	66th	WM-0031	
RD-0041	27th Street	72nd Avenue	Central Avenue		SGM-0104
RD-0071	27th Street	75th Avenue	Central Avenue		SGM-0099
RD-0034	2nd Street	Industrial	Sagamore	WM-0074	
RD-0239	2nd Street	72nd	Market	WM-0091	SGM-0043
RD-0243	2nd Street	65th	Industrial	WM-0066	
RD-0325	2nd Street	Airport Access Road	Jasper Avenue	WM-0075	
RD-0341	2nd Street	72nd	Bridge	WM-0310	
RD-0424	2nd Street	Market	Central		SGM-0073
RD-0264	3rd Street	Market	72nd		SGM-0244
RD-0435	3rd Street	Hwy 3	Market	WM-0307	SGM-0302
RD-0375	5th Street	Central	75th		SGM-0348
RD-0421	68th Avenue	24th Street	Along 68th Avenue	WM-2519	
RD-0231	75th Avenue	5th	4th		SGM-0349
RD-0133	7th Street	73rd Avenue	Central Avenue		SGM-0225
RD-0385	Boundary Drive	Hwy 3	77th		SGM-0318
RD-0510	Central Avenue	72nd Avenue	Central Avenue		SGM-0098

MEMORANDUM

Date: July 16, 2014
File: 0788.0033.01
Subject: Asset Management Update
Page: 16 of 16



Potential Multi-Utility Projects					
Asset ID	Road Name	From	To	Water Priority 1	Sanitary Priority 1
RD-0260	Donaldson Drive	72nd Avenue	Central Avenue	WM-0119	
RD-0334	Donaldson Drive	Central Avenue	19th Street		SGM-0311
RD-0235	Industrial Park Way	65th Avenue	2nd Street		SGM-0031