THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

COMMITTEE OF THE WHOLE COUNCIL MEETING
OF THE VILLAGE OF LIONS BAY
HELD ON TUESDAY, MARCH 4, 2014 at 3:00 PM
IN THE COUNCIL CHAMBERS, 400 CENTRE ROAD, LIONS BAY

AGENDA

1. Call to Order

2. Approval of Agenda

3. Public Participation

4. Adoption of Minutes

A. Committee of the Whole Council Meeting of December 17, 2013 *(page 3)*

5. Business Arising from the Minutes

6. Unfinished Business

7. New Business

A. 2014 Budget Overview *(page 5)*
   i. Five Year Plan 2013 & Schedule 5
   ii. Discussion

B. Land Use Master Plan Update

8. Public Questions & Comments

9. In Camera

A. Resolution:

That the Committee of the Whole Meeting of March 4, 2014, does close this meeting to the public on the basis of matters to be considered under the following section of the *Community Charter*:

Section 90 Article (1): A part of a council meeting may be closed to the public if the subject matter being considered relates to one or more of the following:

(g) litigation or potential litigation affecting the municipality

(l) discussions with municipal officers and employees respecting municipal objectives, measures and progress reports for the purposes of preparing an annual report under section 98 *[annual municipal report]*;

Section 90 Article (2): A part of a council meeting must be closed to the public if the subject matter being considered relates to one or more of the following:

(b) the consideration of information received and held in confidence relating to negotiations between the municipality and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party;

Section 93: In addition to its application to council meetings, this Division and section 133 *[expulsion from meetings]* also applies to meetings of the following:

(a) council committees

10. Reporting Out

11. Adjournment

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

Item #4A

COMMITTEE OF THE WHOLE COUNCIL MEETING
OF THE COUNCIL OF THE VILLAGE OF LIONS BAY
HELD ON TUESDAY, DECEMBER 17, 2013 at 3:00 PM
IN THE COUNCIL CHAMBERS, 400 CENTRE ROAD, LIONS BAY

MINUTES

Present: Mayor Broughton
Councillor Ando (arrived 3:28 p.m.)
Councillor Bain
Councillor McLaughlin
Councillor Ronsley
Interim CAO / Secretary-Treasurer Grant McRadu
Gerry Longson (Consultant)
Office Coordinator Mandy Koonts (Recorder)

1. Call to Order

Mayor Broughton called the Committee of the Whole Council Meeting of December 17, 2013 to order at 3 p.m.

2. Approval of Agenda

Moved by: Councillor Ronsley
Seconded by: Councillor Bain

BE IT RESOLVED THAT the Village of Lions Bay Council approve the Agenda of the Committee of the Whole Council Meeting of December 17, 2013, as submitted.

CARRIED

3. Adoption of Minutes

Minutes of the September 3, 2013 COTW Meeting were adopted at the November 5, 2013 Regular Council Meeting.

4. Unfinished Business

5. In Camera

Moved: Councillor Bain
Seconded: Councillor Ronsley

A. Resolution:
That the Committee of the Whole Council Meeting of December 17, 2013 does close this meeting to the public on the basis of matters to be considered under the following section of the *Community Charter*:

Section 90 Article (1): A part of a council meeting may be closed to the public if the subject matter being considered relates to one or more of the following:

(l) discussions with municipal officers and employees respecting municipal objectives, measures and progress reports for the purposes of preparing an annual report under section 98 *[annual municipal report]*;

Section 90 Article (2): A part of a council meeting must be closed to the public if the subject matter being considered relates to one or more of the following:

(b) the consideration of information received and held in confidence relating to negotiations between the municipality and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party;

Section 93: In addition to its application to council meetings, this Division and section 133 *[expulsion from meetings]* also applies to meetings of the following:

(a) council committees

CARRIED

6. Adjournment

Moved: Councillor McLaughlin
Seconded: Councillor Ronsley

BE IT RESOLVED THAT the Village of Lions Bay Council adjourn its Committee of the Whole Council Meeting of December 17, 2013 at 5:25 p.m.

CARRIED

Item #7A

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

Type	**2014 Draft Operating Budget**		
Title	**Executive Summary**		
Author	**Hari Suvarna**	**Reviewed By:**	**Grant McRadu**
Date	**January, 31 2014**	**Version**	**1**
Issued for	**The Finance Committee of the Village of Lions Bay**		

The 2014 draft operating budget identifies the operating expenditure needs of the Village of Lions Bay (VOLB) to maintain the level of services.

Financial Issue:

Tax Base:

VOLB has a limited tax base. The annual tax increase of 2.4% for the last three years generated approximately $30,000 in additional tax revenues annually. This is inadequate to meet the annual increase in VOLB's operating expenses. The collective agreement stipulates annual salary increase at a rate of 2.0%. In addition VOLB needs to build its capital reserves to fund its infrastructure replacement. Therefore it is proposed to increase the tax rate by 4% for 2014 which will generate additional $43,000 in tax revenues. It is also proposed that this increase be incorporated in our five year plan to 2018.

Water and Sewer utilities run annual budget deficits due to limited revenue increase from utility and parcel tax rate increase. Therefore it is proposed to increase the utility rates by 10%, an annual increase of $59,000 and to incorporate this increase in our five year plan to 2018.

Budget Highlights:

General Operating Budget (4% tax increase) – The general operating budget reflects the operating expenditures of the Village and excludes water and sewer funds.

Main features of the general operating budget are:

Expenditures:

The total expenditures of $1.87 million, show an increase of 6.1% over the 2013 fiscal year budget mainly in the following expenditure lines.

- Salaries and benefits show an increase of 37.8% over 2013. They reflect the rates in the collective agreement and also staffing levels required to maintain the service levels.
- Professional Services show a reduction of 37.3% mainly in legal services, audit fees and transfers to water fund for Engineer's study.
- Maintenance costs increased for culvert repairs

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

Revenues:

The total revenues at $2.2 million are 5.3% higher than the previous year mainly in the following areas.

- Property tax increase 4% -- This will result in an increase of $43,000 in tax revenues.
- Small Community Grant for 2014 is $298,000 a 51.5% increase over 2013. Ministry has confirmed this funding for the next three years.
- Garbage collection revenues increase of 2.8%.

Departmental net expenditures are as follows.

	2013	2014	% Change
General Government	660,000	541,000	(18.1%)
Protection Services	128,000	190,100	48.3%
Transportation Services	308,300	413,900	34.2%
Planning and Development	32,750	4,000	(87.8%)
Parks and Recreation	103,300	122,500	18.5%
Solid Waste	182,200	187,200	2.7%

- Decrease in general government net expenditures is largely due to decreases in profession fees as explained above and an increase in Small Community Grant.
- Increase in Protection Services is largely due to discontinuation of provincial recoveries of $25,000 budgeted in 2013 but not confirmed by the Province, and increases in costs for uniforms and training.
- Costs in Transportation Services increased as a result of increases in budgeted public works salaries.
- Costs in Planning and Development decreased as a result of reduction in professional fees for land use planning.
- Increase in Parks and Recreation costs is largely due to increases in public works salaries.

Water Utility Budget (10% rate increase) – The total expenditures show an increase of 6.5% over 2013 fiscal year while the revenues increase by 9.8% resulting in a deficit of $88,000 decrease of 11.4% over the previous year. The main item in the expenditures is an increase of 60.4% or $32,000 in professional fees for the Engineer's study of water infrastructure. This is apportioned from the general operating budget therefore the overall effect is nil.

Sewer Utility Budget (10% rate increase) – The total expenditures show an increase of 14.5% over 2013 fiscal year while the revenues increase by 10% resulting in a deficit of $36,000 an increase of 22.7% over the previous year. Increase in expenditures is mainly due to increased allocation of public works salary to sewer utility.

General Operating Budget 2014
4.0% tax increase

	2013	2014	Change %	
Revenues				
Fees, Licenses, Permits and Fines	105,215	103,115	-2.0%	Fire training revenue reduced by $6k
Government Transfers	450,000	445,000	-1.1%	
Small Community Grant	196,742	298,000	51.5%	As confirmed by the Ministry
Other grants	42,350	11,350	-73.2%	Provincial recovery of $25,000 for Fire discontinued as no confirmation received from the Province and Highway call outs reduced by $6,000
Other	7,400	7,400	0.0%	
Taxation	1,103,539	1,146,539	3.9%	
Utility Fees and Rates	181,005	186,005	2.8%	
Grand Total	**2,086,251**	**2,197,409**	**5.3%**	
Expenditures				
Amortization	284,929	284,929	0.0%	
Communications	85,185	90,155	5.8%	Annual software license increase
Debenture Interest Payments	11,254	11,254	0.0%	
Fiscal Charges	1,550	1,550	0.0%	
Grants	22,702	20,226	-10.9%	
Insurance	57,600	62,600	8.7%	
Internal Allocations	(49,000)	(49,000)	0.0%	Admin costs charged to Water and Sewer utlities
Maintenance	139,950	191,990	37.2%	Vehicle lease, culvert repairs, increase for CN rail
Materials, supplies, and equipment	85,900	91,400	6.4%	Uniforms & protective clothing
Professional Fees / Contract Services	491,261	308,261	-37.3%	Reduction in legal fees, audit fees, tranfers to water fund for Engineer's study
Salaries and benefits	552,961	762,105	37.8%	salaries reflect collecive agreement and new org
Sundry	7,850	16,650	112.1%	
Training / Professional Development	60,955	67,705	11.1%	Fire training
Utilities	10,800	11,300	4.6%	
Grand Total	**1,763,897**	**1,871,125**	**6.1%**	
Surplus/(Deficit)	**322,354**	**326,284**	**1.2%**	
Adjustments Required to Balance Financial Plan to Conform With Legislative Requirements				
Non-cash items included in Annual Surplus (Deficit)				
Amortization on tangible capital assets	284,929	284,929	0.0%	
Cash surplus	**607,283**	**611,213**	**0.6%**	
Cash items NOT included in Annual Surplus (Deficit)		-		
Repayment of Debt Principal	(8,395)	(8,395)	0.0%	
Transfer from (to) Water Fund	(5,996)	5,259	-187.7%	
Transfer from (to) Sewer Fund	(7,869)	(14,564)	85.1%	
Transfer to Capital reserve	(450,000)	(445,000)	-1.1%	To fund capital expenditures
Transfer to Unrestricted reserve	(135,023)	(148,512)	10.0%	

Water Utility Budget 2014
10% increase in rates

	2013	2014	Change %	
Revenues				
Parcel Tax	201,020	221,122	10.0%	
Parcel Tax Brunswick Beach	11,020	11,020	0.0%	
Utility Fees and Rates	333,950	367,345	10.0%	
Grand Total	**545,990**	**599,487**	**9.8%**	
Expenditures				
Amortization	145,294	145,294	0.0%	
Communications	2,500	2,500	0.0%	
Debenture Interest Payments	77,914	77,914	0.0%	
Insurance	7,000	7,000	0.0%	
Internal Allocations	45,000	45,000	0.0%	Admin salary allocation
Maintenance	22,500	23,500	4.4%	
Materials, supplies, and equipment	12,250	14,700	20.0%	
Professional Fees / Contract Services	53,000	85,000	60.4%	Eng consulting on infrastructure
Salaries and benefits	262,094	264,054	0.7%	50% PW salary allocation
Sundry	3,750	3,750	0.0%	
Training / Professional Development	1,168	5,000	328.1%	Additional EOCP training
Utilities	12,500	13,500	8.0%	
Grand Total	**644,970**	**687,212**	**6.5%**	
Surplus/(Deficit)	**(98,980)**	**(87,725)**	**-11.4%**	
Adjustments Required to Balance Financial Plan to Conform With Legislative Requirements				
Non-cash items included in Annual Surplus (Deficit)				
Amortization on tangible capital assets	145,294	145,294	0.0%	
Cash Surplus	**46,314**	**57,569**	**24.3%**	
Cash items NOT included in Annual Surplus (Deficit)				
Repayment of Debt Principal	(52,310)	(52,310)	0.0%	
Transfer from (to) general fund	**5,996**	**(5,259)**	**187.7%**	

Sewer Utility Budget 2014
10% rate increase

	2013	2014	Change %	
Revenues				
Sewer				
Taxation	19,950	21,945	10.0%	
Utility Fees and Rates	34,020	37,422	10.0%	
Grand Total	**53,970**	**59,367**	**10.0%**	
Expenditures				
Sewer				
Amortization	21,610	21,610	0.0%	
Insurance	1,240	1,240	0.0%	
Internal Allocations	4,000	4,000	0.0%	
Maintenance	39,000	40,000	2.6%	
Materials, supplies, and equipment	1,000	1,000	0.0%	
Professional Fees / Contract Services	500	3,500	600.0%	Increase to reflect annual line inspection
Salaries and benefits	13,482	21,124	56.7%	Overall increase in PW salary with full benefits
Sundry	317	317	0.0%	
Training / Professional Development	500	750	50.0%	
Utilities	1,800	2,000	11.1%	
Grand Total	**83,449**	**95,541**	**14.5%**	
Deficit	**(29,479)**	**(36,174)**	**22.7%**	
Adjustments Required to Balance Financial Plan to Conform With Legislative Requirements				
Non-cash items included in Annual Surplus (Deficit)				
Amortization of tangible capital assets	21,610	21,610	0.0%	
Cash Surplus	**(7,869)**	**(14,564)**	**85.1%**	
Transfer from (to) general fund	**7,869**	**14,564**	**85.1%**	

Water and Sewer Rate increase of 10%

	Current 2013	Proposed 2014	Change	% Change	
Utilities					
Garbage User Fee	352	361	9	2.60%	Solid waste costs to be recovered $196,005
Water User Fee	617	679	62	10.00%	Water User Fee revenues $376,000 to be recovered (10% increase)
	969	1,040	71	7.31%	
Parcel Taxes					
Water Parcel Tax	380	418	38	10.00%	Water parcel tax revenues of $221,000 to be recovered (10% increase)
Total	**1,349**	**1,458**	**109**	**8.07%**	
Secondary Suites Fee	387	415	28	7.24%	

Utilities and Parcel Taxes - Kelvin Grove

	Current	Proposed	Change	% Change	
Utilities					
Garbage User Fee	352	361	9	2.60%	Solid waste costs to be recovered $196,005
Water User Fee	617	679	62	10.00%	Water User revenues $376,000 to be recovered (10% increase)
	969	1,040	71	7.31%	
Parcel Taxes and Sewer Fees					
Water Parcel Tax	380	418	38	10.00%	Water parcel tax revenues of $221,000 to be recovered (10% increase)
Sewer Parcel Tax	210	231	21	10.00%	Sewer parcel tax revenues of $21,945 to be recovered (10%)
Sewer User Fee	420	462	42	10.00%	Sewer User revenues $37,422 to be recovered (10% increase)
	1,010	1,111	101	10.00%	
Total	**1,979**	**2,151**	**172**	**8.68%**	
Secondary Suites Fee	387	415	28	7.24%	

27-Feb-14

Capital Projects list for 2014

Ref #	Asset Category	Department	2013	2014	Comments	2015	2016	2017	2018
	Capital Grants								
	Provincial Grant for Community Center		330,000	440,000	Provincial grant for Community Center				
	Federal Grant for Community Center		120,000	120,000	Federal Grant for the Community Center				
	Whistler grant for Fire			15,000	For Fire Equipemt				
	Total capital grants		**450,000**	**575,000**					
	Capital Expenditures								
	Buildings								
	Burn Building	Fire				12,000			
	Fire Hall Expansion	Fire					35,000		
	Community Centre Rennovation	Recreation,Programs & Facilities	662,500	950,000	Cost of upgrade	-	-	-	
PW1	Lions Bay Beach Park : Septic field and washroom upgrade	Recreation,Programs & Facilities		50,000			-	-	
PW2	Kelvin Grove Washroom	Recreation,Programs & Facilities	10,000	5,000	Project approved for $10,000 in 2013. Need further $5,000	-	-	-	
	Total Buildings		**672,500**	**1,005,000**		**12,000**	**35,000**	**-**	**-**
	Equipment								
	Computer System	Administration	20,000						
	Municipal Hall General Office Equipment	Administration	1,500						
	Municipal Hall furniture and Fixtures	Administration	2,500						
	Electronic Auto Cad & GPS	Fire		18,000					
	SCBA RIT	Fire	1,500	2,000					
	Hose & Fittings	Fire	5,000	2,000					
	Auto EX Rescue Equipment	Fire		10,000					
	Rope Rescue Equipment	Fire	2,500	1,000					
	Turn Out Gear	Fire		11,000					
	Training Lot	Fire		1,500					
	Interface Firefighting	Fire		1,000					
	Generator Lighting	Fire		2,000					
	Radio Equipment	Fire	5,000						
	Computer Equipment for Trucks	Fire	6,000	-		-	-	-	
	Defibrulator / Pulse Oxymeter	Fire		-		1,000	-	-	
	Props	Fire		-		3,500	-	-	
PW3	Backhoe (used)	Public Works				50,000			
	Total Equipment		**44,000**	**48,500**		**54,500**	**-**	**-**	**-**

	Roads							
PW4	Mountain Drive Slope Containment	Transportation		21,000	-	-	-	
PW5	Bayview Flume replacement/ Road resurfacing	Transportation		-	70,000	-	-	
PW6	Oceanview Road at Highview Resurfacing	Transportation			35,000	-	-	
PW7	Access road above Oceanview gate	Transportation		35,000				
	Timbertop Road Resurfacing (from pump upwards)	Transportation	12,000	-	-	-	-	
	Total Roads		**12,000**	**56,000**	**105,000**	**-**	**-**	**-**
	Total General Capital Expenditures		**728,500**	**1,109,500**	**171,500**	**35,000**	**-**	**-**
	Water Infrastructure Expenditures							
PW8	Fire Hydrant Replacement	Water		9,000	9,000	9,000	9,000	
PW9	Harvey 400,000 Gallon Tank Seismic Upgrade	Water			300,000			
	Water Intakes	Water	15,000	-				
	Timbertop Pump	Water	7,500	-				
	Timbertop Watermain from pump	Water	38,000	-				
PW10	Centre Road to Alberta Creek bridge Watermain Replacement and road pavement	Water			30,000			
PW11	PRV Bypass	Water		-	18,500	18,500	18,500	
PW12	PRV screens/filters	Water		10,000	10,000	10,000	10,000	
PW13	SCADA computer, software and communications upgrade	Water		30,000				
PW14	Wiring to Magnesia Intake	Water			25,000			
PW15	Wiring to Harvey Intake	Water			25,000			
(see PW5)	Bayview Flume Replacement	Water			80,000			
	Chlorine Pump	Water	2,500	-				
PW16	Water Leak Detection Equipment	Water		5,000			20,000	
PW17	Upper bayview road and PI Watermain Replacement GB (Hydrant & Valves)	Water			1,025,000			
PW18	Highview Rd. Watermain Replacement	Water			225,000			
PW19	CreekviewRoad Watermain Replacement	Water			123,000			
PW20	Bypass Mag Reservoir and add PRV between intake	Water		60,000				
PW21	Harvey Intake Road	Water		140,000	-	-	-	
PW22	Magnesia Intake upgrades and rock wall remediation	Water		110,000				
PW23	Harvey 100,000 Gallon tank online	Water			140,000			
PW24	Brunswick Tank 40,000 gal	Water		20,000				
PW25	PRV lids 4,5,6,7	Water		10,000				
	Total Water Infrastructure Capital Expenditures		**63,000**	**394,000**	**2,010,500**	**37,500**	**57,500**	
	Sewer Capital Expenditures							
	Kelvin Grove Sewage Treatment Plan			10,000		0	0	
	Central beach septic field			50,000				
	Total Sewer Capital Expenditures			**60,000**				
	Total capital expenditures cost		**791,500**	**1,563,500**	**2,182,000**	**72,500**	**57,500**	
	Net cost of capital expenditures		**341,500**	**988,500**				

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

www.village.lions-bay.bc.ca

PW1

Capital Budget Request

Department	Public Works					
Description	Lions Bay Beach Park: Septic field and washroom upgrade					
Rationale	**Safety**	X	**Legislative**		**Other**	
	Septic field is plugged/broken due to root intrusion and or poor maintenance Washrooms need hot water and heat, upgrade power from Hydro					
	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date	1980's		
Estimated project cost				$	**50,000**	
	Cost breakdown		**Labour**	$		
			Material	$		
			Other	$		
	External funding		**Trade-in**	$		
	Net costs			$	**50,000**	
Operating budget Impact						
	Depreciation cost			$		
	Other Incremental operating cost			$	Increased hydro	
	Anticipated cost savings			$		
	Payback period					
Comments						

Internal project	X	Some work can be done by PW's
To be contracted out	X	
Project start date:	2014	
Project end date:	2015	

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

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PW2

Capital Budget Request

Department	Public Works					
Description	Kelvin Grove Washroom					
Rationale	**Safety**	X	**Legislative**		**Other**	
	Roof is infested with carpenter ants and covered in moss Washroom stalls are rusted and need rebuilding May contain Asbestos - Hazard assesment needed					
	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date	Early 80's		
Estimated project cost **** does not include removal of Hazardous material**				**$**	**15,000 ****	
	Cost breakdown		**Labour**	**$**		
			Material	**$**		
			Other	**$**		
	External funding		**Trade-in**	**$**		
	Net costs			**$**	**15,000**	
Operating budget Impact						
	Depreciation cost			**$**		
	Other Incremental operating cost			**$**		
	Anticipated cost savings			**$**		
	Payback period					

Comments

Project approved in 2013 for $10,000. Additional request for $5,000

Internal project	
To be contracted out	X
Project start date:	May-14
Project end date:	Jun-14

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

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PW3

Capital Budget Request

Department	Public Works					
Description	Backhoe - used					
Rationale	**Safety**		**Legislative**		**Other**	X
	Larger, more versatile machine Trade in Bobcat Skid-steer as it has potential major mechanical issues Allow public works to take on larger projects					
	New asset		**Replacement**	X	**Upgrade**	
			Original acquisition date	2006		
Estimated project cost				**$**	**50,000**	
	Cost breakdown		**Labour**	**$**		
			Material	**$**		
			Other	**$**		
	External funding		**Trade-in**	**$**	**10,000-20,000**	
	Net costs			**$**	**30,000-40,000**	
Operating budget Impact						
	Depreciation cost			**$**		
	Other Incremental operating cost			**$**		
	Anticipated cost savings			**$**		
	Payback period					
Comments						
Internal project	X					
To be contracted out						
Project start date:	2014					
Project end date:	2014					

Note: Attach engineer's report and pictures if available.

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

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PW4

Capital Budget Request

Department	Public Works					
Description	Mountain Dr Slope Containment					
Rationale	**Safety**	X	**Legislative**		**Other**	

1. Rock outcrop with large tree on top
2. Rocks regularly fall onto Mountain Dr
3. Road barriers needed below

	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date			
Estimated project cost				$	21,000
	Cost breakdown		**Labour**	$	
			Material	$	
			Other	$	
	External funding		**Trade-in**	$	
	Net costs			$	21,000
Operating budget Impact					
	Depreciation cost			$	
	Other Incremental operating cost			$	
	Anticipated cost savings			$	
	Payback period				
Comments					

Internal project	part of the project	X
To be contracted out	part of the project	X

Project start date: 2014

Project end date: 2014

Note: Engineer's report attached.

Fieber report 2011

Project end date: 2014

Note: Attach engineer's report and pictures if available.

FIEBER ROCK ENGINEERING SERVICES

300 – 3665 KINGSWAY, VANCOUVER, B.C. V5R 5W2
TEL: 604-431-8061
FAX: 604-521-7372

July 22, 2011

To: Mr. Chuck Partridge,
Manager of Public Works,
The Municipality of the Village of Lions Bay,
P.O. Box 141,
400 Centre Road,
Lions Bay, BC V0N 2E0

Re: **Rock Slope Stability - 300 Block Mountain Drive, Lions Bay, BC**

On July 19, I accompanied you on an inspection from road grade of the slope on the east side of Mountain Drive. The area of concern was along an approximate 100 m length of slope, from roughly the driveway at 340 Mountain Drive to the driveway at 390 Mountain Drive, where three recent rockfalls have occurred. In two earlier incidents, rocks of about 0.1 m^3 (4 ft. ^{3}) volume fell from the slope, coming to rest on the grassy east shoulder of the road. Photo 1 shows the location of one of these rocks.

More recently a smaller rock fell from a steep rocky portion of the slope. The rock apparently bounced near the toe of the outcrop and rolled across the road and onto the driveway of the house at 350 Mountain Drive.

In addition to the road grade inspection, I also climbed the slope and traversed it from south to north along a small bench about 25 m above the road elevation. Slope angles in the bottom 15 m of the slope are between 45° and 55°, with angles above 15 m in the range of 35° to 45°.

Toward the south end, there are a number of potential rockfall hazards located in an area about 20 to 25 m above the road (see Photo 2). Further north, below the house lot, a heavy cover of small overturned trees and branches prevented a thorough examination of the slope, but it is likely more small rock hazards lay underneath the brush. At the north end, rock outcrops dominate the topography, with potential hazards both on the rock slopes and within the talus layer on top of the rock (see Photo 3).

The rockfalls thus far all appear to be low energy events, and so it is likely that the source areas were near the bottom of the slope, likely no more than 15 m or so above road grade. Since the potential source area for future rockfalls is extensive, I would not recommend any on-slope remedial work at this time.

Rockfall catchment improvements however would likely provide, at a reasonable cost, an increased level of protection for both road users and downslope homeowners.

The existing slope catchment for much of the segment inspected is essentially a level strip of grass approximately 1.5 m wide. Toward the south end a ditch has been excavated to a depth of about 0.5 m. The recommended catchment dimensions for the existing lower slope geometry are 2 m wide and a minimum 1.0 m deep. Since there is little room between the toe of the slope and the pavement to expand the ditch width, I recommend deepening the ditch to approximately 1.0 m and maintaining current distances from toe to edge of pavement. This work could be done by excavating soil and rock or by installing no-post concrete guardrail or by a combination of the two to achieve the total 1.0 m depth.

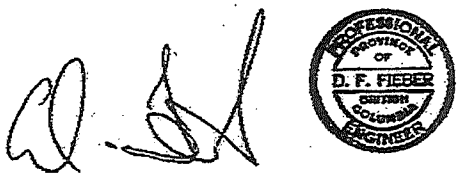
It may be possible to excavate the ditch line in rock by using a hydraulic breaker (hoe-ram). Precautions should be taken to limit flyrock if this technique is used.

In the area of the existing rock cut (opposite 350 Mountain Drive) excavation of the toe should include removal of any bounce features (ledges wider than 0.5 m) on the bottom 2 m of the rock slope, if doing so would not undermine the slope. Front and back slopes of the ditch excavation should be no steeper than 1H:1V in soil.

It should be noted that the recommended ditch improvements will not provide protection from rockfall originating from the higher areas of the mountain slope.

Please call if you have any questions on the above.

Yours sincerely,



Daryl F. Fieber, P.Eng.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

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PW5

Capital Budget Request

Department	Public Works					
Description	Bayview Flume replacement /Road resurfacing					
Rationale	**Safety**	X	**Legislative**		**Other**	

Drainage Culvert is rusted through and is a hazard on the side of the road
Road condition is very bad due to water erroding under blacktop
Hazard to cars or pedestrians falling in

	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date			

Estimated project cost		**Road resurfacing**	**$**	**70,000**
		Flume replacement	**$**	**80,000**
	Cost breakdown	**Labour**	**$**	
		Material	**$**	
		Other	**$**	
	External funding		**$**	
	Net costs		**$**	**150,000**
Operating budget Impact				
	Depreciation cost		**$**	
	Other Incremental operating cost		**$**	
	Anticipated cost savings		**$**	
	Payback period			

Comments

Internal project	
To be contracted out	X
Project start date:	2015
Project end date:	2015

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

PW6

Capital Budget Request

Department	Public Works					
Description	Oceanview and Highview Rd resurfacing PRV 2 to end of Highview					
Rationale	**Safety**		**Legislative**		**Other**	X
	Road condition is poor - part of watermain replacement Culvert on Oceanview needs to be upgraded					
	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date			
Estimated project cost				$	35,000	
	Cost breakdown		**Labour**	$		
			Material	$		
			Other	$		
	External funding			$		
	Net costs			$	35,000	
Operating budget Impact						
	Depreciation cost			$		
	Other Incremental operating cost			$		
	Anticipated cost savings			$		
	Payback period					
Comments						

Internal project	
To be contracted out	X
Project start date:	2015
Project end date:	2015

Note: Attach engineer's report and pictures if available.

Project end date:	2014

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

PW7

Capital Budget Request

Department	Public Works					
Description	Access road above Oceanview gate					
Rationale	**Safety**	X	**Legislative**		**Other**	X

Access road to Harvey water system is creeping
Watermain is situated along this road
Considering the work needed higher up there will be considerable heavy traffic this year
Very high risk to homes below if watermain fails

	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date			

Estimated project cost			$	35,000
	Cost breakdown	**Labour**	$	
		Material	$	
		Other	$	
	External funding		$	
	Net costs		$	35,000
Operating budget Impact				
	Depreciation cost		$	
	Other Incremental operating cost		$	
	Anticipated cost savings		$	
	Payback period			

Comments

Internal project	
To be contracted out	X
Project start date:	2014
Project end date:	2014

Note: Attach engineer's report and pictures if available.
AB Good Report from October 2011

AB GOOD Geotechnical Services

3450 Emerald Drive
North Vancouver, B.C.
V7R 3B7

Reference No: 111142E

October 2, 2011

Village of Lions Bay
PO Box 141
400 Centre Road
LIONS BAY, B.C.
V0N 2E0

Attention: Mr Chuck Partridge

Re: Geotechnical Review and Recommendations
Section of Road at top of Oceanview Drive
LIONS BAY, B.C.

The referenced site has been reviewed on September 27, 2011. The assessment was completed to review the concerns with the wheel rutting of the a section of access road about 150 feet long just uphill of the gate at the end of Oceanview Drive. This letter provides comments from the review and recommendations for upgrading this section of road. The following items summarize some of the observations and concerns made during this review:

1. The outside of this section of road has settled such that there is a 6" to 1' depression along the outside wheel path of the road. The condition of the surface has also deteriorated and the asphalt surface along this wheel path has disintegrated in several areas.

2. It is understood that there is a major water main along the uphill wheel path and that it is in the order of 2 to 3 feet below the surface.

3. The hill side in the area is relatively steep and is steeper than 1:1 down hill of the road where the road fills have been placed in an over steep configuration and where paths have been cut into the hillside down slope.

4. The trees in the area are relatively straight but do show some slight bending likely resulting with minor slope creep during their growth. Trees are estimated to be about 40 to 50 years old.

5. There is some evidence of water runoff passing along the downhill wheel path.

It appears that the settlement noted is primarily from down hill creep of the outside edge of the road fill. There could also be some settlement from organics which may have been left in the subgrade prior to placing road fills. For these reasons it is recommended that the

Email: blaingood@gmail.com
Facsimile 604.904.6674
Cell and Pager 604.803.5338

outside of the road be over-excavated and rebuilt. Because of the presence and importance of the water main under the uphill portion of the road it is recommended that the reconstruction be completed in limited sections, preferably about 15 to 20 feet in maximum length such that the bulk of the water main remains fully supported. The reconstruction should be completed as recommended in Figure 1 attached and is summarized as follows:

- The road fills should be excavated to about 10 feet depth or into undisturbed mineral soils which ever is shallower. Any organics and unsuitable soils shall be removed and disposed of at an acceptable disposal site.

- The exposed subgrade shall be proof compacted with at least 3 passes of hoepack or similar compactor and any soft or spongy areas over excavated and recompacted

- The area should be built up in 1 foot lifts using clean free draining granular fills (3" minus crush gravel) compacted to an equivalent of 98% of Mod Proctor.

- Geogrid (UX1400 or equivalent) shall be placed at 2 foot spacings and should extend at least 10 fee back into the road section subject to keeping the water main in a stable configuration.

- The new section can either be built up with drystack angular rock or the geogrid can be folded back over the slope and the face later hydroseeded.

- A ditch should be cut along the uphill side of the road and a swale placed in the road at the uphill end of the section to divert any surface runoff to the uphill side of the road and direct it past this section. The ditch should be such that it can be easily cleared of snow during the winter.

It should be noted that the intent of this work is to provide a road with several years of service life. There is likely to be continuing creep of the hillside and a survey should be completed to allow checking for any further displacement and to allow warning if the water main becomes threatened. Please call if you have any questions about this assessment or the recommendations for the road restoration at the top of Oceanview Drive in Lions Bay.

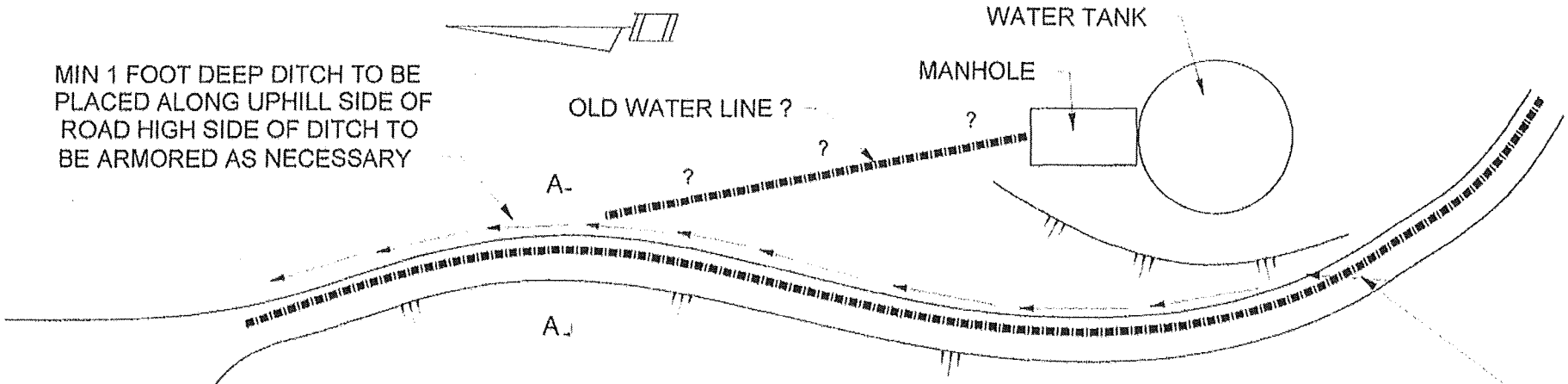
A.B.GOOD Geotechnical Services

per:

A.B. (Blain) Good, P.Eng. / P.Geo.

abg / letter / 111142E –Ocean view support letter 1

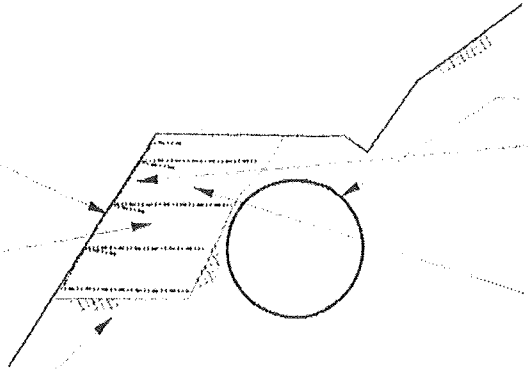
Email: blaingood@gmail.com
Facsimile 604.904.6674
Cell and Pager 604.803.5338



SETTLED SECTION OF ROAD BED TO BE OVER EXCAVATED TO ABOUT 10' DEPTH BUT NOT BELOW THE INVERT OF THE WATER MAIN

BACKFILLS CONSIST OF 3" MINUS WELL GRADED GRANULAR FILLS COMP TO AN EQUIV. OF 98% STANDARD PROCTOR MDD

SUBGRADE IS TO BE PROOF COMPACTED WITH A HOEPACK AND SOFT AREAS OVER-EXCAVATED



ENLARGED SECTION A-A

NOTE EXCAVATED MATERIAL MAY BE REUSED PROVIDED THAT IT IS COMPACTIBLE GRANULAR MATERIAL. EXCAVATION SHOULD ONLY BE COMPLETED IN 15 FOOT SECTIONS

PROFESSIONAL ENGINEER
A. B. GOOD
Oct 21/11
BRITISH COLUMBIA

A.B. GOOD Geotechnical Services

RECOMMENDATIONS FOR ROAD RECONSTRUCTION
TOP OF OCEAN VIEW ROAD
LIONS BAY

Scale NTS	Date: OCT 2011	Made: ABG	Checked:	Acc't: 111142E

FIGURE 1

RAY CONTRACTING LTD.

2477 BELLEVUE AVENUE
WEST VANCOUVER, BC
V7V 1E1
TEL: (604) 980-9415
FAX: (604) 922-2666

February 09, 2012

QUOTATION

Village of Lions Bay
PO Box 141
Lions Bay, BC
V0N 2E0

Attn: Chuck Partridge

Re: **HARVEY ACCESS ROAD REHABILITATION**

We are pleased to submit our quotation on the above project as follows:

Quote I Supply and install one catch basin with pipe work

Price **$4,250.00**

Quote II **Water pipe installation:**
Two 12" wet taps

Price **$11,000.00**

Pipe installation and concrete pad

Price **$9,500.00**

Quote III **Road work at old water tank:**
Supply and install two feet of clear crush (below water main)
8" ductile restrainers
Supply and install Geo-Tec mesh
Re-use existing roadbase and compact

Price **$35,000.00**

Extra: Taxes
Permits and tests

Terms: Net 30 days

Thank you for your consideration. If you have any questions or if we can assist you further please do not hesitate to contact our office.

Yours truly

Alan J. Ray
AJR:cl for Alan Ray

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

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PW8

Capital Budget Request

Department	Public Works					
Description	Fire Hydrant replacements					
Rationale	**Safety**	X	**Legislative**		**Other**	X
	Regular replacement of old hydrants Several cannot be serviced anymore due to age/condition One hydrant per year					
	New asset		**Replacement**	X	**Upgrade**	
			Original acquisition date	Various		
Estimated project cost				$	9,000	
	Cost breakdown		**Labour**	$	4,000	
			Material	$	5,000	
			Other	$		
	External funding			$		
	Net costs			$	9,000	
Operating budget Impact						
	Depreciation cost			$		
	Other Incremental operating cost			$		
	Anticipated cost savings			$		
	Payback period					
Comments						

Internal project	X
To be contracted out	

Project start date: 2014

Project end date: ongoing

Note: Attach engineer's report and pictures if available.

Project end date: 2014

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

PW9

Capital Budget Request

Department	Public Works					
Description	Harvey 400,000 Gallon seismic upgrade					
Rationale	**Safety**	X	**Legislative**		**Other**	X
	Earthtech report recommending improvements Tank Leaking, not designed for seismic forces supplies 70% of water to village Estimiate in 2006 for $234,000					
	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date	1985		
Estimated project cost				$	300,000	
	Cost breakdown		**Labour**	$		
			Material	$		
			Other	$		
	External funding		**Grants***	$		
	Net costs			$	300,000**	
Operating budget Impact						
	Depreciation cost			$		
	Other Incremental operating cost			$		
	Anticipated cost savings			$		
	Payback period					

Comments
*** Grant funding to be explored**
**** Net costs are subject to grant funding**

Internal project	
To be contracted out	X
Project start date:	2015
Project end date:	2015

Note: Attach engineer's report and pictures if available.
Earthtech report from 2006

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PW10

Capital Budget Request

Department	Public Works					
Description	Centre Rd to Alberta Creek bridge watermain replacement and road pavement					
Rationale	**Safety**		**Legislative**		**Other**	X
	Road condition is poor - part of watermain replacement Partial repair done in 2012 - this portion was not done at that time					
	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date			
Estimated project cost				**$**	**30,000** **	
** Best estimate pending costing exercise						
	Cost breakdown		**Labour**	**$**		
			Material	**$**		
			Other	**$**		
	External funding			**$**		
	Net costs			**$**	**30,000**	
Operating budget Impact						
	Depreciation cost			**$**		
	Other Incremental operating cost			**$**		
	Anticipated cost savings			**$**		
	Payback period					
Comments						
Internal project						
To be contracted out	X					
Project start date:	2014					
Project end date:	2014					

Note: Attach engineer's report and pictures if available.

Note: Attach engineer's report and pictures if available.
Earthtech report from 2006

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

PW11

Capital Budget Request

Department	Public Works					
Description	PRV Bypass					
Rationale	**Safety**	X	**Legislative**		**Other**	X

For when working inside PRV as confined space
May be WCB requirement
One Bypass per year

New asset	X	**Replacement**		**Upgrade**	
		Original acquisition date			

Estimated project cost			$	18,500
	Cost breakdown	**Labour**	$	
		Material	$	
		Other	$	
	External funding		$	
	Net costs		$	18,500
Operating budget Impact				
	Depreciation cost		$	
	Other Incremental operating cost		$	
	Anticipated cost savings		$	
	Payback period			

Comments

Internal project	
To be contracted out	X
Project start date:	2015
Project end date:	ongoing

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

PW12

Capital Budget Request

Department	Public Works
Description	PRV screens/filters

Rationale	**Safety**	X	**Legislative**		**Other**	X

Replacment of screens and internal parts of valves
Old/worn parts
Risk of breakage or becoming non-serviceable
One PRV per year - 7 identified

See attached report from Alberto

	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date	1970;s		

Estimated project cost			$	**10,000**
	Cost breakdown	**Labour**	$	
		Material	$	
		Other	$	
	External funding		$	
	Net costs		$	**10,000**

Operating budget Impact

Depreciation cost	$
Other Incremental operating cost	$
Anticipated cost savings	$
Payback period	

Comments

Internal project	
To be contracted out	X
Project start date:	2014
Project end date:	2021

Note: Attach engineer's report and pictures if available.

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PW13

Capital Budget Request

Department	Public Works
Description	SCADA computer, software and communication equipment

Rationale — **Safety** [X] **Legislative** [ ] **Other** [ ]

Software cannot be updated with current computer
Communication system is obsolete
Essential control over system
Will reduce overtime costs

See attached report from Alberto

New asset [ ] **Replacement** [ ] **Upgrade** [X]

Original acquisition date 2009

Estimated project cost		$	**30,000**
Cost breakdown	**Labour**	$	
	Material	$	
	Other	$	
External funding		$	
Net costs		$	**30,000**

Operating budget Impact

Depreciation cost	$	
Other Incremental operating cost	$	
Anticipated cost savings	$	Cost savings from less overtime
Payback period		

Comments

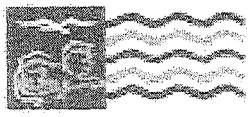
Internal project [ ]

To be contracted out [X]

Project start date: 2014

Project end date: 2014

Note: Attach engineer's report and pictures if available.



100 psi), it is unsafe to try to give maintenance to these Strainers. The strainers that have worn nuts and bolts, are too old, and need to be totally replaced are the ones located in PRV's 1, 2, 3, 4, 6, and 7.

Benefits of Strainer Maintenance:

- Keep always the right pressure
- Constant flow by cleaning the screen retainer
- Safety for the Operator that is performing the maintenance.

2.0 SCADA Software

Risks:

Since the Water Treatment Plants were put in operation in March 2010, we have been experiencing some deficiencies with the software when we are monitoring the operations.

Sometimes the system stops sending emergency calls to the On Call cell phone which results in personnel visits for inspection and adjustments, like resetting alarms that stop the reactors from working and as a result the Storage Tanks start getting empty; There are alarms that we cannot reset from SCADA when the software is designed to perform this task; There are another alarms that the On call cell phone starts receiving and these are false alarms; etc.

The solution to these problems would be to update the software and the equipment that the Village has at the works department, and to improve the communications between the water treatment plants and the SCADA system, the on call laptop, and the on call cell phone.

Benefits of improving the SCADA Software:

- Improves system efficiency
- Improves system performance
- Increases equipment life
- Reduces costly repairs
- Reduces number of onsite man-hours
- Indicates the nature and degree of a problem.

AU/au

3.0 SCADA Communications

Risks:

The Communication between the Water Treatment Plants and SCADA at the works department has been very difficult since 2010. We have experienced a lot of lost of communication with the plants, principally with the Magnesia Plant.

TELUS has sent technicians to take care of this problem, but we continue experiencing the same situation. TELUS says that the problem is in the underground wiring of Magnesia Plant and it makes sense because every time that we have strong rain the communication with the Magnesia Plant is lost.

The contractor that is attending the software and communications with the plants CP-Automation has the same opinion than TELUS regarding the problem with the Magnesia Plant, and the solution that the contractor recommends is to use wireless communication between the Water Treatment Plants and the SCADA system at the shop.

Benefits of wireless SCADA Communication:

- Minimizes operational costs
- Provides direct information of system performance
- Improves system efficiency and performance
- Increases equipment life
- Reduces labor costs required for troubleshooting or servicing the equipment
- Monitors in real time
- Uses advanced technologies.

AU/au

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

PW14

Capital Budget Request

Department	Public Works						
Description	Wiring to Magnesia intake						
Rationale	**Safety**		**Legislative**		**Other**	X	
		Data collection at intake for turbidity lights in rock chambers possibility for heaters on intake grates during winter					
	New asset	X	**Replacement**		**Upgrade**		
			Original acquisition date				
Estimated project cost				$	25,000		
	Cost breakdown		**Labour**	$			
			Material	$			
			Other	$			
	External funding			$			
	Net costs			$	25,000		
Operating budget Impact							
	Depreciation cost			$			
	Other Incremental operating cost			$			
	Anticipated cost savings			$			
	Payback period						
Comments							

Internal project	
To be contracted out	X
Project start date:	2015
Project end date:	2015

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

PW15

Capital Budget Request

Department	Public Works						
Description	Wiring to Harvey intake						
Rationale	**Safety**		**Legislative**		**Other**	X	
		Data collection at intake for turbidity lights in rock chambers possibility for heaters on intake grates during winter					
	New asset	X	**Replacement**		**Upgrade**		
			Original acquisition date				
Estimated project cost				**$**	**25,000**		
	Cost breakdown		**Labour**	**$**			
			Material	**$**			
			Other	**$**			
	External funding			**$**			
	Net costs			**$**	**25,000**		
Operating budget Impact							
	Depreciation cost			**$**			
	Other Incremental operating cost			**$**			
	Anticipated cost savings			**$**			
	Payback period						
Comments							
Internal project							
To be contracted out		X					
Project start date:	2015						
Project end date:	2015						

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

PW16

Capital Budget Request

Department Public Works

Description Water leak detection equipment

Rationale

Safety		**Legislative**		**Other**	X

Replacing old equipment
Can be used to find more water leaks
New equipment can search for plastic pipes
Reducing water leaks will reduce costs of water treatment

New asset		**Replacement**	X	**Upgrade**	
		Original acquisition date	1980's		

Estimated project cost			**$**	**5,000**
	Cost breakdown	**Labour**	**$**	
		Material	**$**	
		Other	**$**	
	External funding		**$**	
	Net costs		**$**	**5,000**

Operating budget Impact

Depreciation cost	**$**
Other Incremental operating cost	**$**
Anticipated cost savings	**$**
Payback period	

Comments

Internal project	X
To be contracted out	

Project start date: 2014

Project end date: 2014

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY
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PW17

Capital Budget Request

Department	Public Works					
Description	Upper Bayview Rd and Pl - watermain replacement					
Rationale	**Safety**	X	**Legislative**		**Other**	X

Some of the oldest pipes in the village
Road condition is in terrible shape
Storm water flows entire length of road
Very high risk rating in this area, significant damage occuring if watermain breaks

	New asset		**Replacement**	X	**Upgrade**
			Original acquisition date	1970's	
Estimated project cost				**$**	**1,025,000**
	Cost breakdown		**Labour**	**$**	
			Material	**$**	
			Other	**$**	
	External funding		**Grants***	**$**	
	Net costs			**$**	**1,025,000****
Operating budget Impact					
	Depreciation cost			**$**	
	Other Incremental operating cost			**$**	
	Anticipated cost savings			**$**	
	Payback period				

Comments
*** Grant funding to be explored**
**** Net costs are subject to grant funding**

Internal project	
To be contracted out	X
Project start date:	2015
Project end date:	2015

Note: Attach engineer's report and pictures if available.

PW18

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY
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Capital Budget Request

Department	Public Works
Description	Highview Rd watermain replacment from PRV 2 Oceanview Road Culvert Redirect to Creek

Rationale	**Safety**		**Legislative**		**Other**	X

Some of the oldest pipes in the village
High pressure main in ditch line

See attached

	New asset		**Replacement**	X	**Upgrade**
			Original acquisition date	1970's	

Estimated project cost			$	**225,000**
	Cost breakdown	**Labour**	$	
		Material	$	
		Other	$	
	External funding	**Grants***	$	
	Net costs		$	**225,000****
Operating budget Impact				
	Depreciation cost		$	
	Other Incremental operating cost		$	
	Anticipated cost savings		$	
	Payback period			

Comments
*** Grant funding to be explored**
**** Net costs are subject to grant funding**

Internal project	
To be contracted out	X
Project start date:	2014
Project end date:	2014

Note: Attach engineer's report and pictures if available.

Highview W/M

The Highview watermain is a 6 inch cast iron pipe installed in 1970. This main is high pressure as it bypasses PRV #2 above it. As such, we have had several water leaks along this line over the past few years. This main services 10 lots and has 2 hydrants on it, one of which at #195 needs replacing and relocating as it is in a bad location below large rocks. There are also many large fir trees growing over top of this main which runs along the ditch line. There is a real risk of one of these trees breaking the line if it were blown over. Also with such an old line and with the high pressure, there will be several leaks contributing to the excessive water loss in the village. A budget of $180,000 was estimated in 2011 and $200,000 in 2013

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY
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PW19

Capital Budget Request

Department	Public Works					
Description	Creekview Rd watermain replacement					
Rationale	**Safety**		**Legislative**		**Other**	X
	Data collection at intake for turbidity lights in rock chambers possibility for heaters on intake grates during winter					
	New asset	X	**Replacement**		**Upgrade**	
			Original acquisition date			
Estimated project cost				$		123,000
	Cost breakdown		**Labour**	$		
			Material	$		
			Other	$		
	External funding		**Grants***	$		
	Net costs			$		123,000**
Operating budget Impact						
	Depreciation cost			$		
	Other Incremental operating cost			$		
	Anticipated cost savings			$		
	Payback period					

Comments
*** Grant funding to be explored**
**** Net costs are subject to grant funding**

Internal project	
To be contracted out	X
Project start date:	2015
Project end date:	2015

Note: Attach engineer's report and pictures if available.

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PW20

Capital Budget Request

Department	Public Works						
Description	Bypass Mag Reservior and add PRV between intake						
Rationale	**Safety**		**Legislative**	X	**Other**	X	
see attched for details	1. Cannot drain and clean tank without putting in bypass 2. Pressure at Plant is almost twice what is rated for 3. Current pressure extremely hard on equipment 4.Required to clean tanks twice a year						
	New asset		**Replacement**		**Upgrade**	X	
			Original acquisition date	2000			
Estimated project cost				$	**60,000**		
Best estimate -- pending costing							
	Cost breakdown		**Labour**	$			
			Material	$			
			Other	$			
	External funding			$			
	Net costs			$	**60,000**		
Operating budget Impact							
	Depreciation cost			$			
	Other Incremental operating cost			$			
	Anticipated cost savings			$			
	Payback period						
Comments							

Internal project	
To be contracted out	X
Project start date:	2014
Project end date:	2014

Note: Attach engineer's report and pictures if available.

1. Bypass Mag Water Tank and PRV above Mag Plant GB

Since the addition of the Brunswick beach water main, there has not been enough pressure from Harvey to supply water to homes on sunset dr. Because of this, the Magnesia water plant cannot be taken off line or else there will be no water or fire suppression to several homes. In order to clean the tank at Mag a bypass needs to be installed around the reservoir so that it can be drained and washed. One option is to install a pressure pump check valve estimated to be $90,000. The other option is to install a bypass around the tank and alter the current PRV as well as install another PRV higher up the road. This additional PRV station is needed in order to drop the pressure from 220psi at the plant down to 120psi thereby creating a much safer work environment around the valves and extending the life expectancy of the pipes and equipment. Once this has been done, treated water can flow around the tank and staff can get inside to clean the tank. This needs to be done before a flushing program can be started.
The cost of installing the bypass is approximately $5000 and the cost for the additional PRV and changes to the current PRV are $45,000.

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PW21

Capital Budget Request

Department	Public Works					
Description	Harvey Intake Rd					
Rationale	**Safety**	X	**Legislative**		**Other**	X
	WCB requirements to improve safety Very steep terrain, high rockfall hazard Road supplies 70% of village water					
	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date	1980's		
Estimated project cost				$	**140,000**	
	Cost breakdown		**Labour**	$		
			Material	$		
			Other	$		
	External funding		**Grants***	$		
	Net costs			$	**140,000** **	
Operating budget Impact						
	Depreciation cost			$		
	Other Incremental operating cost			$		
	Anticipated cost savings			$		
	Payback period					

Comments
*** Grant funding to be explored**
**** Net costs are subject to grant funding**

Internal project	
To be contracted out	X
Project start date:	2014
Project end date:	2014

Note: See attached reports

WCB order
Fieber report 2012
Creus report and estimate 2013

WORK SAFE BC
WORKERS' COMPENSATION BOARD OF BRITISH COLUMBIA
6951 Westminster Highway, Richmond, BC
Mailing Address: PO Box 5350, Vancouver BC, V6B 6L5
WORKING TO MAKE A DIFFERENCE Telephone 604 276-3100 Toll Free 1-888-621-7233 Fax 604 276-3247

INSPECTION REPORT

WORKER AND EMPLOYER SERVICES DIVISION

An employer who fails to comply with the Occupational Health & Safety Regulation or Board orders or directions is subject to sanctions as prescribed in the Workers Compensation Act.

The Occupational Health & Safety Regulation requires that one copy of this report remain posted in a conspicuous place at or near the operation inspected for at least seven days, or until compliance has been achieved, whichever is the longer period.

An affected employer, worker, owner, supplier, union or member of a deceased worker's family may, within 90 calendar days of this report, in writing, request the Review Division of the WCB to conduct a review of an order, or the non-issuance of an order, in this report by contacting the Review Division at the Board's Richmond Office. The time limit may be extended in certain circumstances. Employers requiring assistance can contact the Employers' Advisers at 1-800-925-2233--workers can contact the Workers' Advisers at 1-800-663-4261.

Date of Issue	Number	Number of Orders
2013/03/14	2013165370084	2

Employer	Location	Classification Unit Number	Activity Time Recorded*	Travel Time Recorded*
143355	001	753004	2.50	0.75

The confined space program should be reviewed by a qualified person to ensure compliance with the most recent regulatory changes. The annual rescue exercise is also just about due. I reference the following regulations:

(OHS 9.5) Before a worker is required or permitted to enter a confined space, the employer must prepare and implement a written confined space entry program which includes
(a) an assignment of responsibilities,
(b) a list of each confined space or group of similar spaces and a hazard assessment of those spaces, and
(c) written safe work procedures for entry into and work in the confined space, that address, where applicable
(i) identification and entry permits,
(ii) lockout and isolation,
(iii) verification and testing,
(iv) cleaning, purging, venting or inerting,
(v) ventilation,
(vi) standby persons,
(vii) rescue,
(viii) lifelines, harnesses and lifting equipment,
(ix) personal protective equipment and other precautions, and
(x) coordination of work activities.

(OHS 9.37.(1)) The employer must provide for the services of rescue persons when a worker enters a confined space.

(OHS 9.37.(2)) If the rescue persons are employees of another firm, or an agency such as a fire department, there must be a written agreement detailing the services that are to be provided.

Also during the inspection I reviewed the water intake system for the Kelvin Grove area. Procedures for access to the area were discussed and the hazards specific to this area. The hazards posed by this unique natural area were well outline in April of 2011 by Officer Grant Harris. I was advised that a study of the area was about to be undertaken to determine the most effective way to manage the natural hazards related to this area. I was advised that the area was being monitored and events documented as they occur. Some slope barriers have been installed and worker access is restricted as much as possible but the area must be accessed for maintenance and emergencies.

The following regulations apply (OHS 4.1) A workplace must be planned,

Employer Representative	Officer of the Board
Charles Partridge	Fletcher, Lee

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WORKERS' COMPENSATION BOARD OF BRITISH COLUMBIA
6951 Westminster Highway, Richmond, BC
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INSPECTION REPORT

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Date of Issue	Number	Number of Orders
2013/03/14	2013165370084	2

Employer	Location	Classification Unit Number	Activity Time Recorded*	Travel Time Recorded*
143355	001	753004	2.50	0.75

constructed, used and maintained to protect from danger any person working at the workplace.

(WCA 115.(1)) Every employer must ensure the health and safety of:
(i) all workers working for that employer, and
(ii) any other workers present at a workplace at which that employer's work is being carried out, and

(b) comply with this Part, the regulations and any applicable orders.

Upon completion of the hazard & slope study please submit a copy to this officer for review with a schedule for implementing the recommendations.

If you have any questions or concerns regarding this report please direct all inquiries to the undersigned.

Occupational Safety Officer, Lee Fletcher, CRSP, AScT.

By one of the following options:

Telephone: 604 232 1571

Email: lee.fletcher@worksafebc.com

Fax: 604 233 9791

Mail PO Box 5350 Stn Terminal Vancouver, BC V6B 5L5

Orders

Order No.	1	Decision	A	WCB Reference	OHS6.39.(1)	

During the inspection it was determined that workers were involved with sewage maintenance operations. This leads to the potential exposure to the hepatitis B virus and possibly A.

6.39 2 & 3 state (2) If the Communicable Disease Control Immunization Program Manual issued by the BC Centre for Disease Control, as amended from time to time, lists a vaccine that protects against infection by a biological agent that is designated as a hazardous substance in section 5.1.1, the employer must offer the vaccination to all workers who are at

Employer Representative	Officer of the Board
Charles Partridge	Fletcher, Lee

FIEBER ROCK ENGINEERING SERVICES

300 – 3665 KINGSWAY, VANCOUVER, B.C. V5R 5W2
TEL: 604-431-8061
FAX: 604-521-7372

February 29, 2012

To: Mr. Chuck Partridge,
Manager of Public Works,
The Municipality of the Village of Lions Bay,
P.O. Box 141,
400 Centre Road,
Lions Bay, BC V0N 2E0

Re: **Inspection of Rock Slopes on Harvey Creek Intake Road**

1.0 Introduction

On February 24, 2012 I accompanied you on an inspection at the site of a recent rockfall on the access road into the Harvey Creek water supply intake. The rockfall involved a large slab of rock that blocked the road about 20 m east of the lock-block wall (Area 1).

Earlier inspections of this road in 2004 and 2011 had identified zones where rockfall has been historically frequent, especially during the winter months. Concerns were expressed last year about the safety of workers engaged in maintenance activities at the intake structure and a protocol was established for access travel.

During this latest inspection, options for a program of stabilization of the bluffs were discussed and a general approach for dealing with rockfall onto the access road was suggested as follows:

1. Provide recommendations for stabilization of the slope areas that actively source rockfalls. These high hazard areas tend to be on the cut slopes close to road elevation, rather than on the high natural slopes (although natural slope rockfalls can be expected at a lower frequency).

   During our inspection two of the most significant rockfall areas were examined in detail. Stabilization recommendations were discussed and details are shown in the photographs below. It is recommended that this slope stabilization work be completed before allowing access for routine maintenance work in the area of the intake structures.

up from the east side of the trim. Some hand scaling may have to be done to allow the hoe to work safely under the steep bluffs on this side of Area 2.

A steeper angle (0.33H:1V or 72°) is recommended for this area in order to limit the distance from the existing crest to the top of the proposed cut. This angle should be reviewed as the work progresses, as it will depend on the quality of the rock encountered behind the existing cut crest.

Photos 3 and 4 show two views of the stabilization recommended for Area 2.

3.0 General Rock Slope Stabilization

A program to stabilize the entire slope on the existing access road would start with a detailed inspection of slopes from the locked gate to the intake area. The above trims as well as the meshing recommendations in my report of May 3, 2011 would be a part of this overall program. Additional slope areas would be inspected and prioritized so that the stabilization could be carried out in stages as part of a yearly maintenance plan.

The alternative to this approach is to react to rockfall as it occurs. Since the road is only used intermittently and access by the public can be controlled, this approach to the rockfall problem can be justified. With this approach, the ability to budget funds for any required work may be less than ideal, since the scope of remedial work cannot be easily predicted.

4.0 Road Reconstruction

Another option would be to reconstruct the road by placing fill. This would allow for the road to be moved away from the bluffs and would provide additional rockfall catchment capacity. Any fills would either have to be retained or constructed with 1.5H:1V side slopes. As I indicated in my May 3, 2011 report, the additional catchment would be beneficial for retaining rockfall from the cut portion of the slope, but not from the natural slopes above the cut.

This option may be worth considering as it may reduce the costs of cut stabilization, since larger ditch storage volume would mean that some rockfall can be tolerated. The cost of obtaining, placing and constructing the fill slopes would have to be investigated in greater detail. An estimate of the quantity of fill required would be essential to any cost comparison.

5.0 Alternative Access

An alternative to the current access has been suggested for the opposite side of the Harvey Creek. A route to the intake may be feasible and could affect the level of stabilization and/or reconstruction required for the current access road.

Photo 1 Area 1 slope showing the source of the recent rockfall and the recommended area of slope trimming.

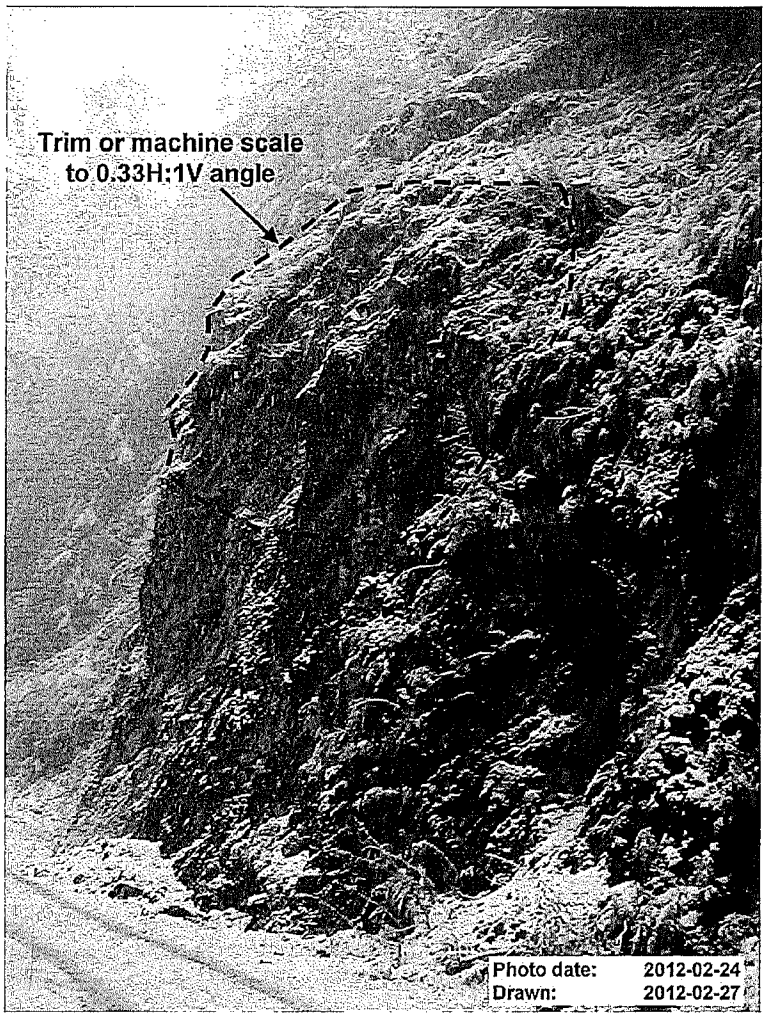

Photo 3 Area 2 rock slope showing the trim recommended for the crest of the cut.

CREUS Engineering Ltd
Civil Engineers

Cost Estimate

Project:	Harvey Creek	File:	13160
Subject:	Access Road Safety Upgrade	Date:	15-Nov-13

ITEM	DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL
1.0	GENERAL				
1.1	Mobilization	1	LS	$1,000	$1,000
1.2	Clear and grub	1	allow	$5,000	$5,000
				SUBTOTAL	$6,000
2.0	Earthworks				
2.1	Cut and fill	320	m3	$15	$4,800
2.2	strip and remove	50	m3	$20	$1,000
2.3	Source on site and fill	1,500	m3	$16	$24,000
2.4	Import Material	50	m3	$40	$2,000
2.5					$0
				SUBTOTAL	$31,800
3.0	Barrier				
3.1	Lockblock	304	ea	$90	$27,360
3.2	450 barrier	260	lm	$30	$7,800
3.3	690 barrier	260	lm	$32	$8,320
3.4	Rehaul and place	512	ea	$50	$25,600
3.5	supervision	40	hrs	$65	$2,600
				SUBTOTAL	$71,680
5.0	Soft Costs				
5.1	allowance	10%	LS	$103,480	$10,348
				SUBTOTAL	$10,348

*estimate does not include landscape

SUBTOTAL	$119,828
CONTINGENCY (25%)	$29,957
GST (5%)	$7,489
TOTAL	$157,274

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PW22

Capital Budget Request

Department	Public Works					
Description	Magnesia intake upgrades and rock wall remediation					
Rationale	**Safety**	X	**Legislative**		**Other**	X
	Improve stack rock wall after washout in 2013 Improve intake basin to reduce staff visits Safety barriers to prevent rock fall entering roadway Implement a safe work plan and entry procedure for intake area					
	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date	2000		
Estimated project cost				**$**	**110,000**	
	Cost breakdown		**Labour**	**$**		
			Material	**$**		
			Other	**$**		
	External funding		**Grants***	**$**		
	Net costs			**$**	**110,000****	
Operating budget Impact						
	Depreciation cost			**$**		
	Other Incremental operating cost			**$**		
	Anticipated cost savings			**$**		
	Payback period					

Comments
*** Grant funding to be explored**
**** Net costs are subject to grant funding**

Internal project	
To be contracted out	X
Project start date:	2014
Project end date:	2014

Draft for Municipal Input

Magnesia Creek Channelization Works

File No. 13217
November 2013

CREUS Engineering Ltd
200 – 901 W 16TH ST NORTH VANCOUVER, BC V7P 1R2
P: 604-987-9070 F: 604-987-9071 www.creus.ca
Civil Engineers & Project Managers

1. BACKGROUND

1.1. LIONS BAY

Lions Bay is an individual municipality located on the West side of Howe Sound within the northwest corner of the Metro Vancouver Regional District, 11 kilometers north of Horseshoe Bay on the Sea to Sky Highway. It is a community of just over 500 homes with a population of 1300-1800 residents making it one of the smallest municipalities in British Columbia.

The village includes over 500 hectares though a large percentage is undeveloped. The municipality is located on steep slopes of the Coast Mountain on the west side of the Howe Sound Fiord. The municipality runs from the shores of Howe Sound the slopes below the Lions which sit above the village

The area has a history of logging and mining from the turn of the previous century. It developed as a cottage get away and village for nearby Britannia mine. With the advent of the railway and later the highway, the area developed into a village in the middle of the last century. It achieved municipal status in early 1970s.

The Lions Bay area contains steep rocky slopes and is broken into steep, largely bed controlled creeks. Howe Sound itself is a glacially carved fiord which extends to its head at Squamish. The side slopes are prone to debris flows due the steep glacial-valley slopes, fractured and weathered rock as well as loose mantle of glacial sediments on those slopes. This is exasperated by the heavy rainfalls in the region. Historic logging and logging roads have further added to the risks. The Lower village is built on the fans created by former debris flows. The terrain is subject to debris torrents and mudslides and has suffered significant events in the past including fatal tragedies in 1981 and 83. There are debris torrent structures on Harvey and Magnesia creek and engineered channels on Alberta Creek.

1.2 MAGNESIA CREEK

Magnesia Creek is a steep flowing creek on the west side of Howe Sound in Lions Bay. Thurber Engineering designed creek flow structures in the creek in the mid-1980s. The Creek has steep run with the upper portions being largely bedrock controlled with several waterfalls. There are gravel deltas at the foreshore but also at higher elevations. The creek is subject to debris torrents and has seen significant movements on the creek. The debris flow hazard is largely below the water intake and above the debris torrent structure.

2. WATER INTAKE ON MAGNESIA CREEK

2.1. ORIGINAL DESIGN

The Magnesia Creek intake was designed by Web Engineering in 1995, tendered in 1996 and we understand completed in 1997. The works were designed for a water intake for the domestic potable water expansion for the village. The works were not fully commissioned and connected for some years later it is understood. The general layout is indicated on Web Drawing – 100 which is included in Appendix A.

3. INVESTIGATION AND DESIGN BY CREUS

Creus engineering was contacted by the Village Public Works staff to review a slope failure below the Magnesia Creek intake. The site was visited by Kevin Healy, P.Eng and Greg Ven Huizen P.Geo. There was a crest failure on the rock armoured slope immediately opposite the dam crest structure. The Rock Armouring was constructed at a 2V:1H to 4V:1H slope. There was no geogrid reinforcing to the armouring nor any concrete infill or rock anchors. From photographic images of the previous installation it was apparent that rock movement occurred not only on the slopes but on the rock infill that was placed in the bowl immediately below the dam crest.

Existing vegetation and photos and video provided by staff confirm that the creek will at times jump immediately above the dam prior to hitting the crest of the dam as well at leaving the channel and heading due west rather than making the 90 degree bend to cross the dam weir.

The Dam crest was rock infilled to approximately 60 cm below the crest height. This has partially blocked the domestic water intake. A screw gear activated drain valve approximately 2 metres below the crest was opened but the outlet was blocked. The drain valve is located such that it has to be operated from a landing immediately above and the east of the crest. There was evidence the creek would overflow and that debris could routinely pass over and through that landing.

It appeared that significant sized boulders were moved in the latest event. The alignment of the channel and the construction of the armouring to date result in a very turbulent flow that is deflected alternately from the bedrock face on the north and the rock armouring on the south.

It was apparent that the slope was at risk of failure where armouring has been disturbed and that this could lead to further failures downstream. The failures could put access to the intake at risk, could undermine and lead to failure of the watermain and could result in debris flows in the creek

The intake structure is such that the overflow of the Weir Crest is directed perpendicular to the south wall of the channel. The Rock armoured slope was not engineered and constructed in such a fashion to withstand the heavy flows resulting for significant rain on snow or other high flow events. The wall has failed twice in less than 16 years. It was apparent that the armouring has never been fully detailed and engineered.

The basin below the crest is of a significant height in the range of 8 -10 metres. The rock slope is very step and not reinforced. The creek alignment is not linear the creek profile is not consistent.

It is likely the embankment will fail again without addressing the channelization and flow in a more significant manner.

The operation of the intake involves activity immediately adjacent to the creek flow could involve workers being in unstable areas during high flows. For the most part there is no need for staff to be at the intake during periods of intense flow.

Creus recommends the following additional design and construction measures to aid with the long term operation and maintenance objectives for the area and to reduce liability. Note these are concepts that we would recommend that would require further design to finalize design solution and construction cost estimates. We would recommend design work move forward over the winter with cost estimates to be updated based on the detailed design solutions. If the works are approved for implementation tender packages could be completed in the spring and works could be done in low flows in the summer. We have provided a rough budget and proposal for initial engineering works is being forwarded in a separate file.

1) Engineering Works
    a. Prepare and Operation and Maintenance Plan as well as Emergency Preparedness Plan for the intake and water system. While this is not a registered dam with Dam Safety Branch, it is recommended that operators of dams have a formal plan for require inspecitons and operational requirements and concise plan for addressing issues as they arise with the dam, the intake, the access road and water system in the immediate facility. This will be a benefit for safety of staff during normal and emergency works and will establish a reasonable protocol to guide staff so that repercussions and any emergency works are mitigated by following a prescribed inspection and emergency notification and procedure process. This work is not related directly to the construction but is work that is recommended for safe and reliable operation of the facility.
    b. Design surface treatment for the rock stack immediately below the dam. This is work that normally would have proceeded with the reconstruction but which was deferred due to time of year and flows in creek. This would likely be a mesh and shotcrete approach which would be done immediately downstream of dam and as a stability aid on both existing and new slopes as determined on site.
    c. Design measures to improve intake. The current intake design requires frequent manual removal of cobble and debris. This is a risk for downstream piping and can lead to plugging of the intake and decrease in the water supply. The location of the intake does not allow for machine access and as such all works are done with manual labour. The intake site has high fall hazards in the vicinity. The intake area is also subject to rock fall and debris movement in the creek. The work deck above the intake is also in a rock fall zone and is subject to creek movement immediately above. Removal of debris from the intake requires work in the stream in a high risk environment. If the intake fills during high flows, it may not be possible to clear the intake safely. The initial design did not allow for a diversion for maintenance and operation. Install an improved inlet design to minimize the requirement for staff to have to access the dam wall for maintenance and operation. Some options available for this would be a) An infiltration gallery with a perforated pipe bedded in gravels tying straight into the intake. This would reduce debris getting into the system and alleviate any need to have personnel clear the intake area as it would be allowed to fill in. A second option that would be reviewed would be a Grizzly bar system at the inlet that would screen out larger material and would allow the existing sluice gate valve to drain finer sediment as it accumulates. Both would be reviewed from a capital cost, operational cost and risk mitigation measure perspective.
    d. Design mitigation measures to minimize damage from rock fall at existing water system bunkers as well as on the route to the intake. Review of access road with the recommendation that road barriers be placed on both sides of the access to protect from falling debris and edge protection in some areas. Protection from

Respectfully yours,

CREUS Engineering Ltd

Niall Byrne, EIT.

Reviewed By: Kevin Healy, P.Eng.

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PW23

Capital Budget Request

Department	Public Works					
Description	Harvey 100,000 Gallon tank online					
Rationale	**Safety**	X	**Legislative**		**Other**	X
	Increased capacity, firefighting ability Need engineer report on condition Option for only supplying KG					
	New asset		**Replacement**	X	**Upgrade**	
			Original acquisition date	1970's		
Estimated project cost				**$**	**140,000**	
	Cost breakdown		**Labour**	**$**		
			Material	**$**		
			Other	**$**		
	External funding		**Grants***	**$**		
	Net costs			**$**	**140,000****	
Operating budget Impact						
	Depreciation cost			**$**		
	Other Incremental operating cost			**$**		
	Anticipated cost savings			**$**		
	Payback period					

Comments
*** Grant funding to be explored**
**** Net costs are subject to grant funding**

Internal project	
To be contracted out	X
Project start date:	2015
Project end date:	2015

Note: Attach engineer's report and pictures if available.

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PW24

Capital Budget Request

Department	Public Works					
Description	Brunswick Water Tank 40,000 Gallon					
Rationale	**Safety**	X	**Legislative**		**Other**	X
	Increased capacity, firefighting ability Need engineer report on condition Option for only supplying Brunswick					
	New asset		**Replacement**	X	**Upgrade**	
			Original acquisition date	1970's		
Estimated project cost				$	**20,000**	
	Cost breakdown		**Labour**	$		
			Material	$		
			Other	$		
	External funding			$		
	Net costs			$	**20,000**	
Operating budget Impact						
	Depreciation cost			$		
	Other Incremental operating cost			$		
	Anticipated cost savings			$		
	Payback period					
Comments						

Internal project	
To be contracted out	X
Project start date:	2014
Project end date:	2015

Note: Attach engineer's report and pictures if available.

THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

PW25

Capital Budget Request

Department	Public Works					
Description	PRV Lids 4,5,6,7					
Rationale	**Safety**	X	**Legislative**		**Other**	
	Lid location make it dangerous when inside of PRV - dificult for rescue Larger lids for safer entry/exit and maintenance WCB regulations					
	New asset		**Replacement**		**Upgrade**	X
			Original acquisition date	1970's		
Estimated project cost				$	10,000	
	Cost breakdown		**Labour**	$		
			Material	$		
			Other	$		
	External funding			$		
	Net costs			$	10,000	
Operating budget Impact						
	Depreciation cost			$		
	Other Incremental operating cost			$		
	Anticipated cost savings			$		
	Payback period					
Comments						

Internal project	
To be contracted out	X
Project start date:	2015
Project end date:	2015

Note: Attach engineer's report and pictures if available.

SCHEDULE 1: 2013 - 2017 FINANCIAL PLAN

	2013	2014	2015	2016	2017
Revenues					
Fees, Licenses, Permits and Fines	105,215	105,215	105,215	105,215	105,215
Government Transfers	687,742	477,742	41,000	41,000	41,000
Grants	1,350	1,350	1,350	1,350	1,350
Other	7,400	7,400	7,400	7,400	7,400
Taxation	1,335,529	1,372,095	1,409,825	1,448,763	1,488,952
Utility Fees and Rates	548,975	567,776	587,516	608,243	630,007
	2,686,211	2,531,578	2,152,307	2,211,972	2,273,925
Expenditures					
General Government	878,004	748,545	754,182	759,918	759,918
Parks Recreation and Culture	128,212	129,422	130,653	131,905	131,905
Planning and Development	49,700	29,948	20,200	20,456	20,456
Protective Services	217,445	218,913	220,406	221,925	221,925
Sewer	83,449	83,685	83,925	84,169	84,418
Solid Waste	182,205	182,205	182,205	182,205	182,205
Transportation	308,331	303,042	304,275	305,529	305,529
Water	644,970	656,389	661,056	665,804	665,804
	2,492,316	2,352,148	2,356,901	2,371,912	2,372,161
Annual Surplus (Deficit)	**193,895**	**179,430**	**(204,594)**	**(159,940)**	**(98,236)**
Adjustments Required to Balance Financial Plan to Conform With Legislative Requirements					
Non-cash items included in Annual Surplus (Deficit)					
Amortization on tangible capital assets	451,833	451,833	451,833	451,833	451,833
Cash items NOT included in Annual Surplus (Deficit)					
Repayment of Debt Principal	(60,705)	(60,705)	(60,705)	(60,705)	(60,705)
Capital Expenditures	(791,500)	(705,200)	(347,000)	(62,500)	(47,500)
Transfer from (to) Reserves	70,000	70,000	-	(168,688)	(245,392)
Transfer from (to) Unrestricted Surplus	136,477	64,642	160,466	-	-
Financial Plan Balance	-	-	-	-	-

SCHEDULE 5: ACCUMULATED SURPLUS 2013 - 2017

	Equity in Tangible Capital Assets	Reserve Funds	Unrestricted Surplus	Total
		2012		
Closing Balance Per 2011 Audited Financial Statements	18,576,858	571,227	275,419	19,423,504
2012 Transfer From Reserves for Community Centre	100,000	(100,000)	-	-
2012 Annual Surplus/Deficit	(451,000)	-	441,000	(10,000)
Projected 2013 Opening Balances	18,225,858	471,227	716,419	19,413,504
		2013		
2013 Land Sale - Transferred to Reserves	-	48,000	-	48,000
2013 Annual Surplus/Deficit	(451,833)	-	645,728	193,895
Capital Asset Additions	791,500	(70,000)	(721,500)	-
Transfer to Reserves	-	-	-	-
	18,565,525	449,227	640,647	19,655,399
		2014		
2014 Annual Surplus/Deficit	(451,833)	-	631,263	179,430
Capital Asset Additions	705,200	(70,000)	(635,200)	-
Transfer to Reserves	-	-	-	-
	18,818,892	379,227	636,710	19,834,829
		2015		
2015 Annual Surplus/Deficit	(451,833)	-	247,239	(204,594)
Capital Asset Additions	347,000	-	(347,000)	-
Transfer to Reserves	-	-	-	-
	18,714,059	379,227	536,948	19,630,234
		2016		
2016 Annual Surplus/Deficit	(451,833)	-	291,893	(159,940)
Capital Asset Additions	62,500	-	(62,500)	-
Transfer to Reserves	-	168,688	(168,688)	-
	18,324,726	547,915	597,653	19,470,294
		2017		
2017 Annual Surplus/Deficit	(451,833)	-	353,597	(98,236)
Capital Asset Additions	47,500	-	(47,500)	-
Transfer to Reserves	-	245,392	(245,392)	-
	17,920,393	793,307	658,358	19,372,058