



REGIONAL DISTRICT OF NORTH OKANAGAN

MINUTES of a **SPECIAL** meeting of the **GREATER VERNON ADVISORY COMMITTEE** held in the Board Room at the Regional District Office on Thursday, May 30, 2013

Members:	Director M. Macnabb Councillor G. Kiss Director J. Cunningham Alt. Director B. Spiers Alt. Director C. Lord Alt. Director J. Garlick Director B. Fleming T. Osborn	Electoral Area "C" (Chair) District of Coldstream (Vice Chair) City of Vernon City of Vernon City of Vernon District of Coldstream Electoral Area "B" Agricultural Representative
Staff:	T. Hall D. Sewell D. McTaggart Z. Marcolin P. Juniper	Administrator General Manager Finance General Manager Engineering Utilities Engineer Executive Assistant (taking minutes)
Also Present:	Director P. Nicol Councillor M. Besso Councillor P. Maclean M. Stamhuis Councillor R. Enns R. Dickinson B. Connor J. Kidston Director D. Dirk	Board Chair District of Coldstream District of Coldstream District of Coldstream District of Coldstream City of Vernon City of Vernon Alt. Agricultural Representative District of Coldstream
Others:	B. deWynter	Engineering Consultant, AECOM

CALL MEETING TO ORDER

The Chair called the meeting to order at 8:04 a.m.

APPROVAL OF AGENDA

Moved and seconded by Alt. Directors Lord and Garlick
That the Agenda of the May 30, 2013 Greater Vernon Advisory Committee - Special Meeting be approved.

CARRIED

UNFINISHED BUSINESS

Master Water Plan - System Separation Option Analysis

The Consultant provided a review of the following Options to the Committee:

- Option 1 – Existing System Separation Only, Treatment at Mission Hill and Duteau Creek
- Option 2 – Partial System Separation, Water Treatment Plant at Mission Hill and Duteau Creek
- Option 3 – Complete System Separation, Treatment at Mission Hill and Duteau Creek
- Option 7 – Complete System Separation, Mission Hill Water Treatment Only, Licence Transfer

The following was noted:

- There is no additional benefit to constructing a completely separate agricultural distribution system relative to the other long term water supply options.
- Options 3 & 7 would require complete system separation prior to the construction of treatment plants, construction of \$ 80 M of system separation in the next 5 – 10 years is probably unrealistic.
- Given the configuration of the existing network there is no cost benefit to one centralized water treatment plant.
- Option 7 would rely on transfer of water licenses which is technically questionable and means insufficient water license.

Review continued with regard to proposed capital and annual operating costs for the shortlisted Options. The following was presented:

Net Present Value Summary	Total NPV (2% inflation rate & 5% discount rate)	Capital Cost	Annual incremental O&M cost per Option	Total Annual O&M	Capital Cost Premium	Operating Cost Savings	Payback (no interest), years
Option 1 - Treatment at Duteau & Mission Hill, No New System Separation	\$111,000,000	\$86,510,000	\$1,830,000	\$11,570,000			
Option 2 - Treatment at Duteau & Mission Hill, Partial System Separation	\$121,000,000	\$105,610,000	\$1,450,000	\$11,190,000	\$9,100,000	\$(382,000)	50
Option 3 - Treatment at Duteau & Mission Hill, Complete System Separation	\$156,000,000	\$146,210,000	\$1,250,000	\$10,990,000	\$59,700,000	\$(581,000)	103
Option 7 - Centralized Mission Hill WTP, License Transfer	\$169,000,000	\$151,860,000	\$880,000	\$10,620,000	\$65,350,000	(948,000)	69

It was noted that the correct capital cost for Option 7 is \$148,100,000 and the Total NPV = \$163,500,000.

Review continued with regard the methodology and assumptions used to estimate the impact to water rates. The following was presented:

- | | |
|---|----------------------------------|
| - Existing operating costs | \$ 11.1 M |
| - Sustaining Capital Expenditure | \$ 1.9 M |
| - Existing Debt Servicing | \$ 2.7 M |
| - Reserves Contributions | \$ 1.1 M |
| - Total Annual Funding Required | \$ 16.8 M |
| - Approximate existing domestic customer consumption of 350 m ³ / year | \$ 625 (per year) based on water |

The Consultant provided a review of the non cost benefits of Options 1, 2, 3 and 7 and the evaluation and weighting factors that the Technical Advisory Committee considered when evaluating the Options. The following evaluation factors and weighting considerations were reviewed:

- System Operational Ease & Flexibility
- Governance & Administration
- Emergency Preparedness
- Average Finished Water Quality
- Reliability & Availability of Supply
- Ease of Implementation
- Future Expansion
- Environmental Impacts

It was noted that Option 2 provides Greater Vernon Water customers the highest benefit to cost based on Net Present Value.

The Consultant provided further review with a focus on Option 2. The following was presented:

Option 2 - Challenges and Solutions, Environmental

- Option 2 versus Option 3 (more system separation)
- Option 2:
 - 7,000 ML of treated water used for agriculture
 - 1 - 2 truck of additional coagulant per year
 - 5 - 10 additional loads of sludge (currently have 2 loads per week in the winter and summer is 1-2 loads per day)
- Option 3:
 - 158 km of new transmission and distribution pipes
 - Carbon footprint ~ every 25 - 50 m of watermain construction results in comparable GHG production to a load of chemicals
- PVC pipe green challenges (reference EPA)
 - Base products are oil and chlorine
 - Dioxine is created in the manufacturing of PVC – highly toxic manmade poison
 - Phthalates (PVC additive) are toxic to humans

Option 2 - Challenges and Solutions, Governance and Implementation

- Dedicated agricultural irrigation system – Lavington and Goose Lake service areas
- Lavington service area – raw, gravity water primarily from Duteau Creek and King Edward Lake, bases of establishing a water rate for the remaining combined distribution system

- Improved financial records since the completion of the 2002 Master Water Plan – allows for the fair allocation of cost
- Dramatically improved flow records
 - Universal water metering allows for the consumption based allocation of cost
 - Water balance throughout entire Greater Vernon Water network
- With dedicated agricultural irrigation service areas, better cost and water demand information there are several governance options available to Greater Vernon Water.

Option 2 - Implementation and Optimization

- Maximizes use of existing infrastructure
- Provides flexibility for future water supply options
- Provides options for implementation allowing for the deferral of capital projects (less financing cost)
- Can support system separating in the future in the north Swan Lake area or complete system separation in the future
- Compatible with current construction plans

It was noted that both Option 1 and 2 include the Okanagan Lake Raw Water Pump Station to fill Goose Lake.

Option 2 - Water Sources

- Duteau Creek: The supply of both agricultural irrigation water and potable water – peak total water demand is ~ 180 ML/d (no raw water supply infrastructure or license improvements).
- Kalamalka Lake: Potable water source ~ 58 ML/d.
- King Edward Lake: Agricultural water supply for the dedicate service area Lavington/Coldstream areas ~ 30 ML/d.
 - Recommended that the water be held in King Edward until release during July and August to optimize flow. Advantage with using King Edward is that it is gravity fed.
- Groundwater: Ranch Well 1 & 2, and Antwerp Springs are available sources for agricultural supplemental flow.
- Okanagan Lake: Raw water pump station for the supply of agricultural water to Goose Lake (2,390 ML/year). Obtain a potable water license reserve (greater than the 50 year). Assumption is that a licence would be applied for, and approved, to receive water from Okanagan Lake.
The consultant noted that it is assumed the request for short term water license would be granted and that a long term licence may require negotiation.

Option 2 – Water Treatment Plant - Size and Mission Hill Deferral

- Build a 110 ML/d Duteau Creek Water Treatment Plant within the next 5 years.
- Continue to monitor the flow and the allocation of the flow within the distribution system.
- Build the Mission Hill filtration facility in 10 years if required (try to manage the maximum daily demand to delay filtration).
- Complete Lavington/Coldstream system separation in the next 10 years.
- Maximize the use of King Edward Lake, the Ranch wells and raw Duteau Creek water to supply the Lavington system separation area.

The presentation concluded with a discussion regarding next steps required:

- Greater Vernon Advisory Committee to provide a recommendation regarding preferred Option
- Finalize Technical Memorandums 9 and 10
- Complete summary plan for the Master Water Plan
- Obtain Interior Health support
- Complete a detailed financial plan
- Figure-out a workable governance model based on the optimum technical solution – Option 2

Meeting recessed at 9:20

Meeting reconvened at 9:52

Discussion regarding a preferred Option continued. The following was noted:

- The Technical Advisory Committee has recommended Option 2 as the best technical option
- Governance options need to be provided for both Options 2 and 3
- Technical Memorandum 10 had not been provided to the Committee, however, the intent is that it will provide the financial analysis for the preferred Options recommended by the Committee.
- One extension has been received from Interior Health and the deadline is June 30 to move forward with an update to the Master Water Plan that has been endorsed by the Board of Directors.

Moved and seconded by Directors Lord and Cunningham

That it be recommended to the Board of Directors that the consultant be directed to pursue and present the financial options of Options 1, 2 and 3 under Technical Memorandum 10; and further

That the Draft Master Water Plan proceed under the general direction provided under Option 2 – Treatment at Duteau and Mission Hill with Partial System Separation under the subject that the trunk irrigation line be sized for Option 3 - Treatment at Duteau and Mission Hill with Complete System Separation

CARRIED

ADJOURNMENT

There being no further business, the meeting was adjourned at 10:27 p.m.

Certified Correct:


Chair


Corporate Officer

**JEANNE BYRON
CORPORATE OFFICER**