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REPORT TO BEDDIS WATER SERVICE COMMISSION
MEETING OF FRIDAY 16 JULY 2010

SUBJECT **STRATEGY FOR UPGRADE PROJECT COMPLETION**

ISSUE

To present a proposed strategy for completion of the full scope of the upgrade project, and for development of a strategic asset management plan for the Beddis Water Service.

BACKGROUND

At its meeting of 24 February 2010, the Beddis Water Service Commission (BWSC) approved the 2010 operating budget and capital plan, which included funding for completion of the water treatment plant. The commission directed staff to retain the services of a consulting engineer to prepare plans, specifications and detailed cost estimates, in order for the commission to approve proceeding with construction. The budget for this work in the approved 2010 capital plan is $30,000.

On 19 March, staff received a proposal from Genivar (Formerly Bullock Baur, the original design consultant for the Beddis project), describing two alternative approaches for completion of the water treatment plant that resemble the Design-Bid-Build and Construction Management alternatives presented in the staff report presented at the 24 February commission meeting. For the first option, Genivar proposed to visit the site, prepare as-constructed drawings and tender drawings for completion and provide construction services, for a fixed fee of $29,500 plus taxes. The second option was based on the use of Emery Electric and North Salt Spring Waterworks District services to complete the plant, with the intent of eliminating the need for construction drawings and reducing Genivar's fees to $13,500. Neither option included the cost of record drawings upon completion of construction. Genivar estimated this additional task would cost $5,000 under Option 1, and $15,000 under Option 2. Given that the estimated fees for Option 1 would exceed the available budget and Option 2 would not meet the requirements of the commission for plans and specifications, staff requested a fee estimate for a "hybrid" approach that would include the preparation of plans in sufficient detail for reliable cost estimates of construction costs.

On 12 April, staff received correspondence from BWSC member Frank Moore regarding a meeting of service area residents that was held 30 March, 2010. It was reported that the participants had reached the following consensus:

- The scope of construction work should include putting the new 20,000 gallon Sky Valley tank into service, and removing existing tanks that pose an unacceptable seismic risk.
- A plan should be developed for prioritizing and funding replacement of existing asbestos-cement distribution mains.

The existing Lautman tank is of bolted steel construction on an integral concrete foundation (similar to the new Sky Valley tank) and was not identified as an unacceptable seismic risk in the original Capital Regional District (CRD) feasibility study. Replacement of the Lautman tank was not included in the original scope of the upgrade project, although replacement of the elevated Sky Valley tank was included in the scope of work to address seismic and occupational risks (lack of access for maintenance).

CRD engineering and operations staff met with Genivar on 16 April to discuss possible alternatives for preparing sufficiently detailed plans and reliable cost estimates to complete and commission the water

treatment plant, bring the new Sky Valley tank into service, and remove the original Sky Valley tank. It was agreed that staff would review the original plans prepared by Genivar for connection of the new Sky Valley tank, consider implications for operation of the Beddis system both with and without the new Sky Valley tank in service based on operating experience with the Fulford plant, and develop a strategy for completion of the Beddis system based on these considerations and the expectations of the community as stated in the 30 March meeting notes. The resulting proposed strategy is presented in Attachment 1.

Proposed Next Steps

It is proposed that staff engage the services of Genivar to proceed immediately with Tasks 1 and 2, at a total cost (staff and consultant) not to exceed the approved funding of $30,000. The deliverables would be presented to the BWSC in a meeting, with a recommendation and alternatives for funding completion of the work.

ALTERNATIVES

1. That the Beddis Water Service Commission receive this report for information.

2. That the Beddis Water Service Commission direct staff to amend the proposed strategy before proceeding.

IMPLICATIONS

Although the BWSC has approved up to $30,000 for engineering services, an increase in the scope of subsequent construction work is proposed. This will increase the cost of construction from the estimates provided previously by staff, which in turn will impact taxes or fees to service the increased debt. The increased cost is necessary in order to bring the new reservoir into operation, and thereby avoid unnecessary capital and operating expenditures for a recirculation loop in the water treatment process. The development of a proposed strategic asset management plan would greatly reduce the likelihood that the current project funding dilemma will be repeated in the future.

SUMMARY

The BWSC and service area residents have stated the expectation that completion of the water treatment plant should be considered as part of a comprehensive, long-term plan for the water system infrastructure. A strategy is proposed to put the water treatment plant and reservoir into permanent service, remove the original Sky Valley tank and to develop a strategic asset management plan.

RECOMMENDATION

That the Beddis Water Service Commission receive this report for information.

Colwyn Sunderland, AScT
Local Services Engineering Coordinator

Scott G. Mason, BSc, PEng
Manager, Regional Infrastructure

Ted Robbins, BSc, CTech
Senior Manager, Water Management
Concurrence

Tim Tanton, PEng
Senior Manager, Infrastructure Engineering
Concurrence

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Proposed Strategy for Beddis Upgrade Project Completion **ATTACHMENT 1**

The Beddis Water Service Commission and service area residents have clearly stated the expectation that the current capital upgrade work should be considered as part of a comprehensive, long-term plan for the water system infrastructure – that capital funding should not be assigned to short-term solutions that may only defer the costs of more permanent solutions by a few years. With this expectation in mind, the following strategy is proposed in order to achieve the immediate objective of putting the new water treatment plant and reservoir into permanent service, and to establish a long-term capital plan to eliminate unpleasant surprises in future budgeting and rate setting.

General Objectives

- Put the existing assets (new water treatment plant and reservoir) into operation
- Develop a Strategic Asset Management Plan (SAMP)

Current Status

- The water treatment plant is partially completed and there is a need to benchmark its status before being able to determine the tasks that need to be completed to put it into operation
- The water reservoir is completed but not connected to the distribution system, which may have an impact on operation of the new plant
- The intake works are unreliable and cannot be remotely monitored
- The Beddis Water Service Commission (BWSC) has approved $30,000 for consulting engineering services to define the scope and costs to complete the water treatment plant
- Genivar has provided fee proposals for various scopes of work

Preferences

- Follow the original project plan ("Plan A"), which includes the WTP, reservoir, and other related works
- Avoid "workarounds" (i.e. recycle loop at WTP to keep plant operating, which would require additional capital cost for a temporary solution that may increase operating costs)
- Consider current capital improvements as part of a long-term strategy for the Beddis water system when asking residents to approve project funding

Issues

- Limited budget (but ability to borrow)
- Limited time frame (need to put new assets into service to realize the benefits to the community, and to avoid further cost inflation)
- Operational implications – without the new reservoir connected the plant won't operate as efficiently (increasing life cycle cost and reducing reliability)

Conclusions

- The WTP needs the new reservoir online to maintain steady-state treatment operation and to supply backwash water
- The proposed loop at the WTP is not required if the reservoir is connected
- The Beddis community expects a Strategic Asset Management Plan (SAMP)

Proposed Tasks and Deliverables

The following summarizes proposed process and resources to complete each general objective:

Objective 1 - Put the new water treatment plant and reservoir into operation

The following scope of work is proposed:

Item	Task	Description	Proposed resource / Effort	Deliverables	Comments	Proposed Budget
1	Benchmark Completed Work	Technician to attend the site to quantify and document the status of the work that has been completed.	Hire Genivar to benchmark the status of the works. Utilize a portion of the $30,000, say $5,000.	Simple interim as-built drawings, photo records and written documentation of the status	This work is needed to benchmark the current status and determine outstanding work. This will also allow Genivar the opportunity to determine the engineering effort required to complete future work. The information is also important for any future bidders.	Consultant - $5,000 (obtain a letter proposal from Genivar) CRD Staff - $5,000 **Subtotal $10,000**
2	Confirm "Plan A" and quantify gaps.	Plan A is the final facility plan upon completion of the current capital upgrades (other than conclusion of a SAMP)	Hire Genivar to confirm and revise Plan A as necessary. This will be a comprehensive review of where things are today, where they need to be upon completion and identification of the work required to achieve completion. Details will include: • Work to complete at the WTP • Revisions to address chlorine contact time • Connection of the reservoir It is not proposed to go to tender during this task	1. Preliminary Design Report detailing the overall facility 2. Preliminary drawings (not final) and construction cost estimates to Class B 3. Engineering fee proposal for final design and construction services (construction administration, inspection, commissioning, records, etc.).	Establishes details for the final facility plan, but not final design. Genivar will be able to estimate engineering effort to complete final design drawings, etc. The content of the report will be text, conceptual drawings and cost estimates to complete the final design, tendering and construction phases. A staff report will be prepared detailing: 1. Confirmed facility plan 2. Engineering fee proposal for final design and construction services 3. Construction cost estimates with a reasonable contingency The intent is to obtain approval for additional borrowing. This will allow Genivar to understand the future tasks and estimate engineering fees with confidence.	Consultant - $15,000 (obtain a letter proposal from Genivar) CRD Staff – $5,000 (providing records, operating details, managing consultant, etc.) **Subtotal $20,000**

3	Funding Approval	Obtain Approval to borrow funds to complete the design, tender and construct	CRD staff, Beddis Commission	Project funding sufficient to bring the plant and reservoir into full, permanent operation	Emergency loan may remain an option, but a public approval process such as petition may be preferred by the Commission	Depends on process and level of Commission involvement
4	Final Design	Engage a consultant to advance the preliminary design to final design, obtain approvals	Engineering Consultant (considering purchasing policies)	• Complete final drawings, specifications, contract document • Pre-construction estimate		Costs determined and approved at Task 3
5	Tender	Issue tender for construction work (one contract)	Issue tender (considering purchasing policies)	Tendered prices from contractors		Costs determined and approved at Task 3
6	Board / Commission Approval		considering purchasing policies	Award of contract		
7	Construction and commissioning	Hire a contractor	Engineering Consultant and General Contractor			Costs determined and approved at Tasks 3 and 6
8	Wrap-up	Post construction services		• Record drawings • Final VIHA acceptance • New operating permit		

Objective 2 - Develop a Strategic Asset Management Plan (SAMP)

As requested by the BWSC, it is proposed to develop a strategic asset management plan to support facility and capital planning. It is proposed to simply set a budget amount of $25,000 for this task and possibly add it to Task 3 as noted in Objective 1 above (Commission Approval) so it can be included in any borrowing (as opposed to going through an additional approval process). The proposed budget is $15,000 for an engineering consultant (field visit and desktop study) and $10,000 for CRD staff (to manage and provide operational and technical input).

The scope would be to at a high level quantify the assets, determine the life cycle and make recommendations for future improvements. Such a plan would enable the BWSC to appropriately consider long-term asset renewal and replacement in financial planning, thereby stabilizing taxes and fees at appropriate levels (i.e. no surprises) and improving reliability and efficiency of operation of the system.

Item	Task	Description	Proposed resource / Effort	Deliverables	Comments	Proposed Budget
9	Develop Strategic Asset Management Plan (SAMP)	Conduct field reconnaissance, compile asset data, recommend asset renewal or replacement scope, timeline and costs, and develop long-term financial forecast.	Consultant, CRD staff	• Strategic Asset Management Plan • Long-term financial forecast	Funding to be included with borrowing required to complete the water treatment plant and reservoir (Task 3) Consultant selection may be through a separate RFP process from plant and reservoir works (Tasks 4 and 7)	Consultant - $15,000 CRD Staff - $10,000 **Subtotal $25,000**