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REPORT TO GANGES SEWER LOCAL SERVICE COMMISSION
MEETING OF TUESDAY 04 MAY 2010

SUBJECT GANGES WASTEWATER TREATMENT PLANT SYSTEM 2010 CAPITAL UPGRADES

PURPOSE

To present for information to the Ganges Sewer Local Service Commission (GSLSC), a status report on capital projects relating to the Ganges sewer local service, as approved in the 2010 capital plan.

BACKGROUND

The Ganges wastewater treatment plant (plant) is in need of system upgrades over the next five years, including enhancement of the Supervisory Control and Data Acquisition (SCADA) system, replacement of the existing ultraviolet (UV) system's electronic control panel, Zenon membrane cartridge replacement, replacement upgrades to the Roto-Screen head works and replacement of the leaking underground pipes taking air to the plant's diffusers.

Effluent sampling in 2009 revealed increasing amounts of nitrogen and ammonia in the discharge waste stream, which needed to be resolved to meet the regulatory discharge allowable levels. The cause of increasing ammonia levels was inadequate aeration due to aging air diffusers. The UV lamps were also in need of replacement. The scope of work and \$22,000 budget were approved at the GSLSC meeting of 21 August 2009. Replacement of the 16 UV lamps, the air diffusers in the Zenon Membrane Reactor and the 12 associated butterfly control valves was completed before the end of 2009 at a total cost of \$15,364.14 (\$6,635 under budget). The GSLSC also approved the capital spending of \$18,000 for the purchase and installation of a new cover for the Kubota sludge thickener, also completed before the end of 2009 at a cost of approximately \$11,000 (\$6,000 under budget). A power spike in early 2010 caused excessive damage to several UV lamp ballasts; due to a lack of surge protection at the plant. Staff will recommend that a main power feed surge suppressor be added to the 2010 capital projects list and installed in conjunction with the identified 2010 upgrades to the UV and SCADA systems. CRD staff will be performing the works associated with the SCADA and UV system upgrades, and if approved by commission, installation of a surge suppressor.

GSLSC approved 2010 capital projects (Attachment 1) include:

Description of Project:	Estimate	Remaining
Asset condition evaluation	\$30,000	\$30,000
Development Cost Charge (DCC) study	\$10,000	\$9,977
Replacement of underground air supply system piping	\$45,000	\$44,440
Replacement of failed UV system controls	\$75,000	\$75,000
Upgrading of SCADA (remote monitoring and process control) system	\$30,000	\$19,645
Sub-total estimated cost	\$190,000	\$179,062
Non-identified 2010 capital project:		
Electrical surge suppressor at supply source	\$5,000	\$5,000
Sub-total estimated cost	\$195,000	\$184,062

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Status of projects to date:

- Asset condition evaluation: Terms of reference for consulting services are being developed by staff.
- The Development Cost Charge (DCC) study contract has been awarded to RCL Consulting Ltd. of Victoria for \$9,180. Delivery of the final report is anticipated for August 30, 2010.
- Replacement of underground air supply system piping will be scheduled for late in 2010.
- Replacement of failed UV system controls. No cost incurred to date.
- The SCADA upgrade project has incurred approximately \$10,355 to date for the purchase of electronic equipment and internal labour, in preparation of installation in 2010.
- The surge suppressor has not yet been purchased. The estimated cost is approximately \$3,000 to purchase and \$2,000 to install.

There is sufficient budget in the Ganges sewer utility local service reserve fund to complete the 2010 works as listed above.

Proposed 2011 capital upgrade works (Attachment 1) include:

Removal of abandoned RBC system	\$35,000
Replace screening (Roto-Screen) system	<u>\$200,000</u>
Total estimated cost	\$235,000

Funding for 2011 works is proposed through a fifteen-year debt borrowing program which would require public approval by referendum or petition. Scope and budget for 2011 or later upgrades are conceptual only and will be refined by the asset condition evaluation to be completed in 2010.

ALTERNATIVES

1. That the Ganges Sewer Local Service Commission receive this report and authorize staff to transfer up to \$30,000 for SCADA upgrade, up to \$75,000 for UV upgrade and up to \$5,000 for surge protection equipment from reserves.
2. That the Ganges Sewer Local Service Commission receive this report for information and request further information from staff.

IMPLICATIONS

The 2009 work needed for the plant to remain compliant with the discharge permit (replacement of air diffusers, UV lamps and sludge thickener cover), with a total budget of \$40,000 was supported from reserve funds at a total cost of approximately \$26,360. The work was completed without impacting taxes or fees. Unexpended funds have been restored to the reserve fund.

The approved 2010 work is expected to be completed with no impact to the operating budget as sufficient funds are available in the reserve fund. The additional 2010 capital project to install a surge suppressor at the plant will also be funded from available reserve funds. Future 2011 work is anticipated to be funded through a fifteen-year borrowing through the Municipal Finance Authority.

SUMMARY

The GSLSC had initially approved a 2009 capital project budget of \$40,000 to complete works primarily necessary to meet the regulatory discharge allowable levels. The work was completed at a total cost of approximately \$26,360, leaving approximately \$13,600 being transferred back into the reserve fund.

The current reserve fund available is approximately \$280,000, which still includes the commission approved \$50,000 for replacement of membranes, leaving \$230,000 available for the identified 2010

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works. Planned 2010 capital projects are estimated at \$195,000 leaving approximately \$35,000 uncommitted funds in reserves.

Future capital works will likely be funded mainly through debenture debt.

RECOMMENDATION

That the Ganges Sewer Local Service Commission receive this report and authorize staff to transfer up to \$30,000 for SCADA upgrade, up to \$75,000 for UV upgrade and up to \$5,000 for surge protection equipment from reserves.



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Colwyn Sunderland, ASCT
Local Services Engineering Coordinator
Concurrence

GP:ls

Attachments: 1

