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**REPORT TO GANGES SEWER LOCAL SERVICE COMMISSION
MEETING OF MONDAY 26 JULY 2010**

**SUBJECT GANGES WASTEWATER TREATMENT PLANT AIR SUPPLY SYSTEM PIPING
REPLACEMENT**

ISSUE

Underground air supply piping system at the Ganges Wastewater Treatment Plant is deteriorating due to corrosion of the aged buried metal piping. Replacement with a more durable pipe material is necessary to maintain an efficient treatment process.

BACKGROUND

2009 effluent sampling revealed increasing amounts of nitrogen and ammonia in the discharge waste stream, which needs to be resolved to consistently meet the regulatory discharge allowable levels. The cause of the increasing ammonia is inadequate aeration due to an insufficient air supply to the various components of the treatment process equipment (Attachment 1). The 2010 Capital Five-Year Plan, approved by the Ganges Sewer Local Service Commission (GSLSC) in November 2009, includes the replacement of the existing underground steel pipes. The existing pipes and fittings are subject to corrosion when buried directly in soil and will be replaced with a more robust High Density Poly Ethylene (HDPE) material.

Following the Capital Regional District's (CRD) procurement policy, three written quotes were requested of qualified contractors. Prices quoted are to supply and install the replacement underground piping system, exclusive of all ancillary labour, materials and incidentals to fully complete the work. That work will be performed by CRD staff at an estimated cost of \$10,000.

Quotes received are:

- Apex Steel and Gas Ltd. \$29,800 + HST (1.75%) = \$30,321.50
- G & E Excavating No bid offered.
- Fournier Excavating \$10,000 + HST (1.75%) = \$10,175

Estimated cost for CRD staff to undertake associated ancillary work is \$10,000. The GSLSC approved budget of \$45,000 is funded from the Capital Reserve Fund (Attachment 2).

ALTERNATIVES

1. That the Ganges Sewer Local Service Commission approve award of contract to Fournier Excavating for the supply and installation of air piping at the Ganges Wastewater Treatment Plant at the tendered cost of \$10,175.
2. That the Ganges Sewer Local Service Commission receive this report and request further information from staff.

IMPLICATIONS

There is sufficient funds allocated to complete the work as identified in the 2010 Five-Year Capital Plan; no additional funding from reserves is necessary. If the leaking air supply pipes are not replaced, the treated effluent leaving the plant will continue to contain higher than allowable nitrogen and ammonia concentrations which could cause an adverse consequence to the Ganges Harbour receiving environment.

Discharges in excess of the Ministry of the Environment's (MOE) issued Waste Discharge Permit for the Ganges Pollution Control Centre, are reported to the Provincial Emergency Program (PEP). Continued reports will initiate MOE involvement in forcing a resolution of the ongoing non-compliance situation.

CONCLUSION

The July 2010 toxicity test performed on the Ganges treated effluent did not meet the MOE Discharge Permit parameters, and continues to exceeds the regulatory allowable discharge limits. The treated effluent contains an increasing amount of ammonia and nitrogen which could cause a detrimental effect to the receiving environment. The existing buried steel air piping has surpassed its life expectancy and needs to be replaced so that the Ganges Wastewater Treatment Plant can operate within discharge permit granted by the MOE. There are sufficient funds in the 2010 capital budget to complete the works.

RECOMMENDATION

That the Ganges Sewer Local Service Commission approve award of contract to Fournier Excavating for the supply and installation of air piping at the Ganges Wastewater Treatment Plant at the tendered cost of \$10,175.



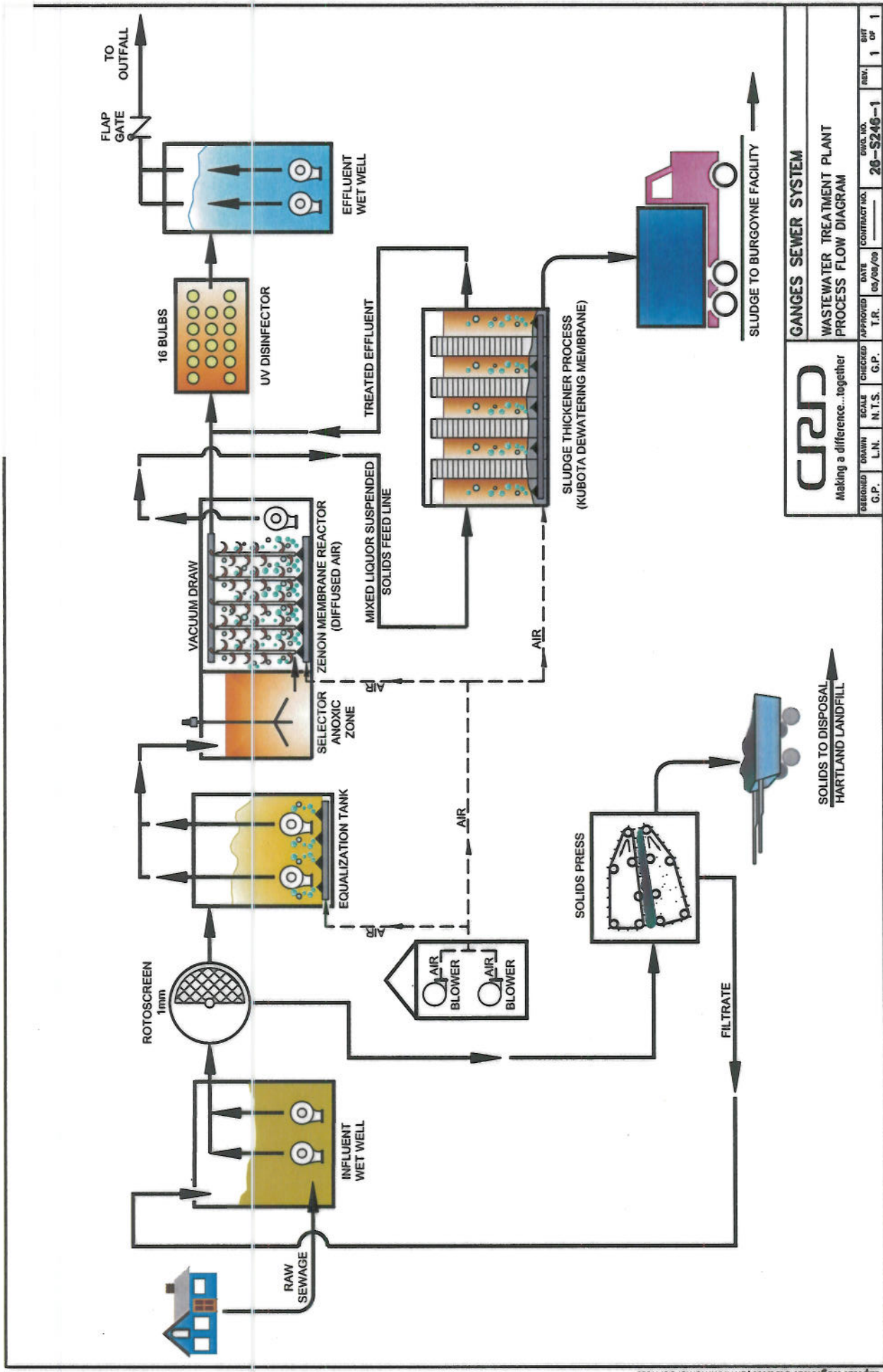
Gary Plevin, ASCT
Engineering Technician 5



For

Colwyn Sunderland, ASCT
Local Services Engineering Coordinator
Concurrence

GP:ls
Attachments: 2



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GANGES SEWER SYSTEM
 WASTEWATER TREATMENT PLANT
 PROCESS FLOW DIAGRAM

DESIGNED	DRAWN	SCALE	CHECKED	APPROVED	DATE	REV. NO.	REV.	SHEET
G.P.	L.N.	N.T.S.	G.P.	T.R.	05/08/09	26-S246-1	1	1

Status of 2010 capital projects to date

PROJECT	STATUS	BUDGET	ANTICIPATED	VARIANCE
Asset Condition Evaluation	Terms of reference for consulting services are being developed by staff.	\$30,000	\$30,000	\$0
Development Cost Charge (DCC) study	Initial meeting to discuss overall expectations, scope and schedule is completed. Project is on schedule and on budget for an August delivery of report.	\$10,000	\$11,000	(\$1,000)
Replacement of underground air supply system piping	Scheduled for late in 2010. Quotes have been received for High Density Polyethylene Pipe (HDPE) and above ground galvanized steel pipe to replace leaking air supply lines. Low bid received is within the estimated and approved \$45,000 budget.	\$45,000	\$20,000	\$25,000
Surge suppressor installation	The \$5,000 estimated cost remains within approved budget.	\$5,000 *	\$5,000	\$0
Replacement of failed UV system controls	Three quotes were received from qualified bidders, but as all three exceeded \$50,000, staff must now undertake a public tender process (CRD Procurement Policy). Quote from low bidder TrojanUV has a final cost of \$68,885 and an estimated internal labour and material cost of approximately \$16,000. Given the cost savings realized from the Air Supply Piping project, there are sufficient funds within the 2010 budget to complete.	\$75,000	\$85,000	(\$10,000)
Upgrading of SCADA System	The original estimate to complete the works was \$30,000. The revised budget is now \$45,000 following an approved request for additional \$15,000 funding from available reserves on June 18, 2010.	\$45,000 **	\$45,000	\$0
Sludge thickener cover	Completed early 2010	18,000	\$6,833	\$11,167
TOTAL		\$228,000**	\$202,833	\$25,167

* Funded from reserve funds as approved by the GSLSC 04 May 2010.

**Commission approved revised capital budget 18 June.

Approximately \$43,500 remains in the Ganges Sewer Capital Reserve Fund after the transfer of \$15,000 as approved by the GSLSC on June 18th. Any surplus realized after completion of 2010 projects will be restored to the reserve fund.