



REPORT TO COUNTY COUNCIL

FROM: Brian Lima, Director of Engineering Services

DATE: May 21, 2019

SUBJECT: Elgin Manor Wastewater Treatment Plant Train #1 Rehabilitation

RECOMMENDATIONS:

THAT Council direct staff to complete the required Elgin Manor Wastewater Treatment Plant Train #1 Rehabilitation Project to be completed by Dielco Industrial Contractors Ltd. in the amount of \$73,900.00 plus HST as detailed in their quotation dated April 11, 2019; and,

THAT the \$85,000 identified in year 2021 of the approved 10-Year Capital Budget be brought forward to fund the required Elgin Manor Wastewater Treatment Plant Train #1 Rehabilitation Project.

INTRODUCTION:

The existing Elgin Manor Wastewater Treatment Plant (hereinafter referred to as WWTP) was constructed and commissioned into operation in 2006 in response to several chronic design and construction shortcomings that ultimately led to a failure of in-ground tankage associated with the pre-existing WWTP in 2003.

Required emergency facility improvements were implemented at the site in the vicinity of the existing Elgin Manor Long Term Care Home in the continued absence of a local municipal wastewater collection system.

The WWTP containing an average volumetric design flow rate of 100 m³/day, utilizes a dual train biological nutrient removal treatment process solution with aerobic sludge digestion as per the Ministry of Environment and Climate Change's Amended Certificate of Approval 1949-7GDHQ8 dated July 9, 2008. Effluent from the WWTP is ultimately discharged to the Dodd Creek.

Modifications to the WWTP completed in 2006 and noted in the Amended Certificate of Approval included treatment capacity provisions serving the existing Elgin Manor Long Term Care Home, Southwold Public School, and an adjacent senior's apartment complex property recently abandoned during construction and currently for sale.

Through an existing service agreement with the Thames Valley District School Board, reimbursement of the school board's proportionate wastewater treatment costs based on its monthly water consumption readings is realized by the County. A like service agreement with the adjacent senior's apartment complex property currently does not exist, but will be executed at some point in the future prior to building occupancy.

DISCUSSION:

The WWTP has been operated under service agreement with the County by the Ontario Clean Water Agency (hereinafter referred to as OCWA) for the past 13 years. During such time, as the Operating Authority OCWA is required to at minimum complete the necessary daily and monthly sampling, testing, and Ministry reporting as set out in the County's Amended Certificate of Approval, and as regulated under the Ontario Water Resources Act.

In 2011, with the suggested direction of OCWA, chose to take treatment Train #1 out of service and process all influent flows through Train #2 while a complete diagnostic inspection, cleaning of Train #1, and resulting rehabilitation / replacement of critical process equipment was planned. Such is recommended routine industry practice of other wastewater treatment plants containing similar treatment technologies.

In anticipation of the adjacent senior's apartment complex property owner achieving approval to operate from the provincial Ministry of Health and Long-Term Care, Train #1 had initially only been cleaned and inspected in 2011 as originally planned. Subsequent construction delays and changes in ownership to the adjacent senior's apartment complex property however led to staffs decision to postpone all further rehabilitation / replacement works as both treatment trains were not necessary for operations in support of influent flows from the Elgin Manor Long Term Care Home and Southwold Public School.

During such time, Train #2 has been solely relied upon and has been in service for almost 8 years. Operation of Train #2 alone has reduced the average Ministry approved WWTP capacity to 50 m³/ day, despite challenges associated with existing average influent flows of approximately 45 m³/day being received, and limited availability of maintenance and replacement spare parts. Accordingly, both departmental and OCWA staff have recently identified and recommends completion of all required Train #1 rehabilitation work in 2019, in advance of Train #2 also needing to be taken out of service for cleaning and inspection planned for in 2020.

The rehabilitation of Train #1 requires instrumentation upgrades, installation of all new internal recirculation and clarifier pumps, and all associated electrical conduit and wiring. In addition, unavailable and/or obsolete equipment salvaged from Train #1 since 2011 and reused in Train #2 also requires replacement.

FINANCIAL IMPACTS

In accordance with the County's Procurement Policy, formal quotations were sought and received from three local contracting firms all having experience either constructing and/or rehabilitating municipal wastewater facilities. The quotation bids received are noted below:

Company	Bid Price (exclusive of HST)
Bronnenco Construction Ltd.	\$81,000.00
Dielco Industrial Contracting Ltd.	\$73,900.00
K&L Construction (Ontario) Ltd.	\$81,500.00

Within the approved 10-Year Capital Budget, \$379,000 has been identified in 2021 to complete various miscellaneous Elgin Manor building repairs. Specifically within the 2018 Capital Budget year, funding in the amount of \$25,000 was identified to begin the phased rehabilitation of Train #1, but went unspent and thus carried forward into the current 2019 Capital Budget. Unfortunately said funding identified in 2018 is only adequate to complete annual routine maintenance activities and falls short of the required funding amount to complete the required rehabilitation project. Accordingly staff recommends bringing forth \$85,000 from the 2021 capital budget year necessary to complete the Elgin Manor Wastewater Treatment Plant Train #1 Rehabilitation Project.

CONCLUSION:

The WWTP requires immediate completion of rehabilitation work to Train #1 in 2019 in advance of planned cleaning and inspection of Train #2 in 2020. Once both treatment trains have been cleaned, inspected and rehabilitated as required, the WWTP can once again realize full treatment capacity as approved in the Amended Certificate of Approval.

All of which is Respectfully Submitted

Approved for Submission

Brian Lima
Director of Engineering Services

Julie Gonyou
Chief Administrative Officer