

To: Warden and Members of County Council

From: Director of Public Works

Contract Funding – Rehabilitation of Ingersoll Water Tower

RECOMMENDATIONS

- 1. That County Council authorize additional funding required for scope changes in the amount of \$1,135,342 (excluding HST) for the Ingersoll Water Tower Rehabilitation Project, for an amended contract price of \$3,336,642 (excluding HST);**
- 2. And further, that Council authorize the transfer of \$1,160,000 from the Ingersoll Water Reserve to cover the budget shortfall related to the project scope change and associated non-refundable HST costs.**

REPORT HIGHLIGHTS

- The purpose of this report is to seek County Council approval to transfer additional funds to address project scope changes related to the existing exterior coating of the Ingersoll water tower.
- The Ingersoll Water Tower has reached the point in its service life where the rehabilitation of the exterior coating system and interior systems is required. Of note, the existing exterior paint coat was determined to have deteriorated to a more substantive degree than known at the time of the original project tender. Additional funds are required to address expanded project scope needs that will ensure the reapplication of the exterior coating system will not prematurely fail during its remaining service life.
- The revised project scope and approach will ensure that the impactful noise-generating activities onsite will not extend beyond 2022 and will allow this rehabilitation to be completed prior to the subdivision development being commenced adjacent to the water tower property. The additional scope will extend the project completion date to mid-2023.

Implementation Points

Upon approval of the recommendations contained in this report, a change authorization will be issued to the current Contractor (Landmark Municipal Services ULC) and a revised work plan and construction schedule will be developed to complete the additional scope in conjunction with the originally-contracted scope.

Staff will continue to liaise with Fire Services and other stakeholders regarding the revised project schedule and progress in order to ensure that water service is maintained, and a safe working environment is provided for the contractor while adequately maintaining the communication networks that use the tower.

Financial Impact

The current construction contract, based on the low bid for the tendered work, is \$2,201,300 (excluding HST) and was approved through [PW 2022-02](#).

The proposed scope change for the complete removal of the exterior coating and application of primer and top coat, inclusive of full scaffold and hoarding to control coating removal debris is \$1,135,342 (excluding HST). This amount is inclusive of credits for removal of original contract items related to cleaning of existing tower and application of a new exterior (top) overcoat.

Contract amounts and funding sources for this project are summarized in Table 1 below.

Table 1 – Funding for Ingersoll Water Tower Rehabilitation Project

2022 Budget Summary Account / Description	Bid Amount (excluding HST)
960341 ING - TOWER PAINT REPAIR Construction Contract (Landmark Municipal Services) (revised approved budget: \$2,470,000) (less other projects & services: \$70,000)	\$2,201,300
Additional Funding Request	1,135,342
Consultant Contract – CIMA+ (Engineering, Testing & Inspection)	100,000
Contract Administration & Project Management	55,000
Non-Refundable HST (1.76%)	61,453
TOTAL ESTIMATED CONSTRUCTION EXPENDITURES	\$3,553,095
Available 2022 Budget	2,400,000
BUDGET SHORTFALL	\$1,153,095

As shown above, an additional funding amount of \$1,160,000 is required to address the proposed scope change. The 2022 budgeted closing balance of the Water Ingersoll Reserve is \$5,059,249. Under PW 2022-02, an additional \$175,000 was committed from this reserve. The remaining available balance is sufficient to undertake the additional scope of work. If approved, it is anticipated that 80% of the additional work will be completed within the 2022 calendar year, with the remaining 20% to be completed in 2023.







Communications

Oxford County staff will communicate with Town of Ingersoll staff with respect to the scope of work and planned schedule adjustments.

Oxford County has issued two “Community Updates” to date that were delivered to residents in the construction area; one on March 11, 2022 and one on June 20, 2022. A notice letter will be delivered to nearby property owners noting the revised schedule and works, particularly those that are noise generating. Construction updates are also available on *Speak Up, Oxford!* at <https://speakup.oxfordcounty.ca/2022-construction>.

Staff will continue to work with key internal stakeholders (County Management staff, Water Operations staff) and external stakeholders during the execution of this project as required to ensure the appropriate levels of communication and outreach is maintained, and further ensuring all parties involved are updated on project status and outcomes as needed.

Strategic Plan (2020-2022)

					
WORKS WELL TOGETHER	WELL CONNECTED	SHAPES THE FUTURE	INFORMS & ENGAGES	PERFORMS & DELIVERS	POSITIVE IMPACT
1.ii.		3.iii.			

DISCUSSION

Background

The Ingersoll Water Tower is an elevated steel spheroid design, which was constructed in 1970. The steel tank has a max diameter of 20 m (~65’), height of 12 m (~40’) and storage capacity of approximately 2,850 m³. The tank is supported on a 34 m (~110’) high steel pedestal. The original protective coatings of the water tower tank were completely replaced in 1990. The tower is also utilized by the County as a telecommunications hub.

In December 2017, a tank cleaning and inspection was conducted, which identified that the exterior and interior coating systems were in poor or very poor condition and had reached the end of their service life. Additionally, the landing platforms were showing signs of corrosion and the accesses and fall-arrest systems were not up to current Health and Safety standards.

In 2020, a Request for Proposal was issued and the County contracted with CIMA+ Engineering Ltd. to provide pre-design, design, tendering and construction administrative assistance for the rehabilitation and upgrade of the Ingersoll Water Tower. CIMA+ conducted its own site inspection of the tower in July 2020 in support of the pre-design work and confirmed the findings of the 2017 inspection.

Inclusive of these findings was industry standard pull tests that suggested that the existing exterior paint coating was capable of being cleaned via pressure washing of the accumulated dirt, grime, algae, etc. as a preparatory step prior to adding new paint overcoating the tower. The eventual tendered scope of the project was a complete removal of the interior coating system and application of a new exterior (top) overcoating system over the existing exterior coating. The exterior coating was to be cleaned and a new (top) overcoat was to be applied, inclusive of the updated County logo.

In January 2022, a contract was awarded to Landmark Municipal Services ULC (Landmark) to complete the specified upgrades to the Ingersoll Tower. Work commenced in February 2022 and has been proceeding well on the interior coating scope.

Comments

The approved 2022 capital budget for the Ingersoll Water Tower Rehabilitation project was based on life-cycle, cost-benefit analysis and asset management best practices. The original contract was awarded after a competitive bidding process and Landmark is a highly-skilled and highly-regarded contractor for these works.

On June 15, 2022, Landmark commenced with the pressure washing of the exterior coating in preparation for mobilization of their painting crews. This work initially commenced on the top of the tower and it was noted that under the recommended washing pressure, the exterior base paint coating was not remaining adhered to the tower surface and was being removed / stripped away during the washing. This issue was not localized but was occurring at all points where washing was carried out on different areas of the water tower. Pressure washing work was then suspended and the project team (County staff and CIMA) were informed.

On June 17, 2022, a site meeting was held to review the conditions on-site. It was attended by coating experts from the Contractor, the paint inspector from CIMA and the County Project Manager. While the existing primer undercoating was not being removed during pressure washing at various test areas on the tower, the exterior coating was observed to strip off from the tower surface. It was confirmed by the various coating professionals that the existing exterior paint coating would not be a recommended surface on which to apply a new (top) overcoat as per the contract tender specifications.

The existing scaffold structure was assembled to provide access to the interior of the tower for the required work within, as well as allow access to the exterior sufficient to conduct the cleaning operations. However, this mobilization is insufficient to permit a complete removal of the existing exterior overcoat given this type of work requires a larger scaffold that will permit access to the entirety of the water tower spheroid's exterior surface. Furthermore, removal of the existing exterior coat will generate substantial deleterious material (paint particle debris) that can only be contained at site with the use of a full hoarding/wrapping of the scaffold.

A number of options were explored in discussion with Landmark and CIMA that would ensure that the tower re-coating (new top coat) would be sufficiently durable to achieve the required service life and address the various constraints faced by the project. Given the current condition of the existing exterior coating, it will not effectively support adequate adherence to the new proposed paint (top) overcoat. As such, it was recommended to proceed with an alternative approach to fully remove the failing exterior overcoat, clean the existing primer undercoating, apply a new zinc primer coating before application of the new (top) overcoating.

The full removal and application of a new exterior coating system was not anticipated based on the 2017 tower assessment and the 2020 engineering design assessment. At the time of these past assessments and based on the results of the industry standard coating testing (i.e. pull tests), the exterior coating was assessed to be sufficiently adhered to the primer which would afford good conditions to allow for (top) overcoating.

Other notable project constraints related to this issue include:

- Scaffold contracting and engineering would take a period of time to complete and push the coating removal work into September and coating application into October.
- Exterior coating application is very temperature sensitive. The cooler ambient conditions in the later fall months would create project schedule risk and could result in large costs for heating within the scaffold area.
- Due to the compressors and vacuum equipment involved, coating removals are very noise-intensive activities. The local residents have already been impacted by this work when the interior coating was removed, and it is of staff's opinion that deferring further removals to a later date, or a separate contract, would be an additional inconvenience to the neighbouring residents.
- There is a current subdivision agreement for the lands surrounding the tower on Wonham Street South. This development is expected to commence following the completion of the tower rehabilitation. As such, a re-mobilization in a future year would have the added complexity of new housing immediately adjacent to the tower, thus compounding the impacts to residents.

To mitigate the constraints above and ensure that the tower is properly rehabilitated for the next 25 years, it is recommended that there be a change to the contract scope for a revised scope of work that would involve the re-engineering of the existing scaffold system into a system that is suitable for a full exterior coating removal. Further, it was determined that this scope change would also allow for a contract extension into 2023 such that the final exterior coating works be conducted under more ideal temperature conditions in Spring 2023.

Landmark was requested to provide a quote for this revised scope. Staff received their quote on July 13, 2022, which included a credit for the washing and (top) overcoating of the exterior as per the current tender, and provision of a full primer coating (in zinc) and new top coating. The net cost for this revised scope of work is as noted above.

The proposed tentative schedule for activities related to this revised scope are as follows:

- 2022 Construction Year
 - Exterior scaffold / hoarding installation;
 - Blast exterior surfaces and apply zinc primer coating (*tower will sit in a primer coating for approximately 6 months as mandated by the manufacturer*);
 - Remove scaffold hoarding;
 - Refill tank and return water system to normal operation for the winter and spring; and
 - Seasonal demobilization from the site.

- 2023 Construction Year
 - Drain tank;
 - Re-mobilize to site (on or about May 1st);
 - Power wash exterior zinc coating;
 - Apply final coatings and County logos using aerial lifts in lieu of scaffolds,
 - Tank re-filling (on or about June 30); and
 - Demobilize from site.

The County retained CIMA+ to oversee this project. CIMA+ has analyzed the quotation against other similar projects tendered in 2022 and, even when factoring in the current inflationary climate, the pricing is considered on par with pricing submitted in competitive bidding situations.

Of note, 2022 bid results of three other water tower projects from nearby municipalities undertaking projects similar in size and scale of work (Scaffolding/Hoarding; Blasting; Exterior Coating Application) were reviewed to ensure that Landmark was providing a reasonable cost to undertake the proposed scope change. The average 2022 cost (through competitive bidding) to undertake similar work ranged from about \$900,000 (average low) to \$1,100,000 (average high).

It is concluded that had this new scope been called for in the original tender process, the pricing – though likely minimally cheaper through competitive bidding for 2022 construction season – would be comparable.

Conclusions

Staff confirms that the recommended change to the scope of work for the Ingersoll Water Tower is necessary to achieve the stated project objectives. Staff further support the proposed methodology, to complete all coating removals in the 2022 construction year and conduct final exterior coating application in the 2023 season, in order to limit overall noise impacts to the local residents and achieve the best overall technical results for the coating.

The proposed change, though substantial, is felt to be good value in the current economic environment and that the benefit of maintaining the existing contractual relationship with a highly-reputable contractor will help ensure successful and cost-effective delivery of the project.

SIGNATURES

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