



East Markham Works Yard Presentation to General Committee January 31, 2022





Purpose of Presentation

1. To provide a final update on the East Markham Operations Yard Project
2. To identify changes in the project budget and request the final budget and procurement approvals necessary from Council



Final Project Update

- **East Markham Operations Yard (EMOY) began full service on Jan 1, 2022:**
 - Built to store 21,000t of salt, 4,000t of sand, 50,000L of brine and deploy it faster and with less waste than existing yard
 - Room to grow with capacity for 30 snow plows
 - Office facilities, fuel station and full back-up power
 - Vehicle weigh scale for salt inventory management
 - Constructed to be serviceable over many years, sustainable and efficient to operate
 - Meets all relevant environmental regulations and policies: Province, TRCA, City of Markham, & TRCA, and aligns with our Salt Management Plan

The new Operations Yard is a quality asset that enhances the City's Winter Maintenance Service efficiency, resilience and readiness for planned city growth.



Budget Background

Initial Project Budget (April 2019)		Budget Increase for Construction Costs (Request Approved by Council June 9, 2020)		Budget Increase for Changes during Construction (Request Approved by Council October 27, 2020)		Total Revised Project Cost (including budget increase October 27, 2020)
\$8,240,000*	+	\$6,072,306	+	\$1,503,734	=	\$15,816,040
<ul style="list-style-type: none">Sand/Salt/Brine StorageBrine SystemSanitary ConnectionHydro ServiceWater Service (well)Temporary OfficeTemporary ParkingConsultants and Permit Fees		<ul style="list-style-type: none">General Contractor Tender (\$12M)Trailer supplier Tender (\$443K)Consultants and Permit FeesTurner and Townsend 90% estimate in May 2020Vehicle ScaleFuel System		<ul style="list-style-type: none">Topsoil conditionsLengthening of the Ninth Line wideningEnhanced GeneratorChanges from approval authorities received post tender		



Budget Update

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\$8,240,000*	\$6,072,306	\$1,503,734	\$15,816,040

Final Budget Increase for Construction Costs to General Committee January 31, 2022	Total Revised Project Cost to General Committee January 31, 2022
\$1,354,459	\$17,170,499

The \$1,354,459 costs are in addition to prior approved budget increases and were not known at the time of those approvals



Value Assurance

DATE	TOTAL	COMMENTS
April 2019	\$8,240,000	*Staff estimate, design concept only, basic due diligence, many unknowns/significant risk, 10% contingency
May 2020	\$16,768,074	90% Design, structural due diligence completed Class A estimate by reputable cost consultant plus some staff estimates, fewer unknown/less risk, 10% contingency
January 2022	\$17,170,499	Final expected cost with 95% of work completed, one or two risks remaining, therefore 20% contingency on work not yet completed
	\$402,425	VARIANCE (2.3% of final cost)

The City paid fair value for the asset delivered. The variance from 90% design Class A cost estimate to final expected cost is 2.3% or \$402K.



Process Assurance

Contributors to budget underestimates & schedule delays from April 2019 (\$8,240,000):

- Aggressive timeline set to bring new works yard on line rapidly
- Land acquisition, consulting budget and capital budget came forward at same time rather than staged as per normal large capital project practice
- Initial staff estimated budget did not account for unique features of acquired site, property acquisition/basic due diligence completed only
- Resultant project risk was not properly assessed and consummate contingencies were not assigned (10% in April 2019), should have been 80% to 100% based risks and unknowns
- Scope changes (e.g., vehicle weigh scale, increased road surface) to accommodate recalibration of future planned phases to reduce overall budget

Sustainability & Asset Management will better assess and mitigate project risk and assign appropriate contingency to all major projects going forward.



Summary of Final Budget Increases

ITEM	DESCRIPTION	BUDGET INCREASE
Contractors	Additional civil, site, mechanical, and electrical works to complete project above and beyond current contract and contingency. Includes work completed and issued for Change Orders, as well as Overland work to be completed in 2022.	\$1,262,600
Consultants	Extension to contracts due to increase in construction schedule (16 months) from December 2020 to Spring of 2022 to complete works	\$150,000
Permits	Additional permits and/or revisions to existing permits above and beyond what was budgeted	\$88,050
Sub-Total Increase		\$1,500,650
Contingency Offset	Contingency remaining from previous budget increase	(\$146,191)
Total Budget Increase	Includes HST Impact	\$1,354,459

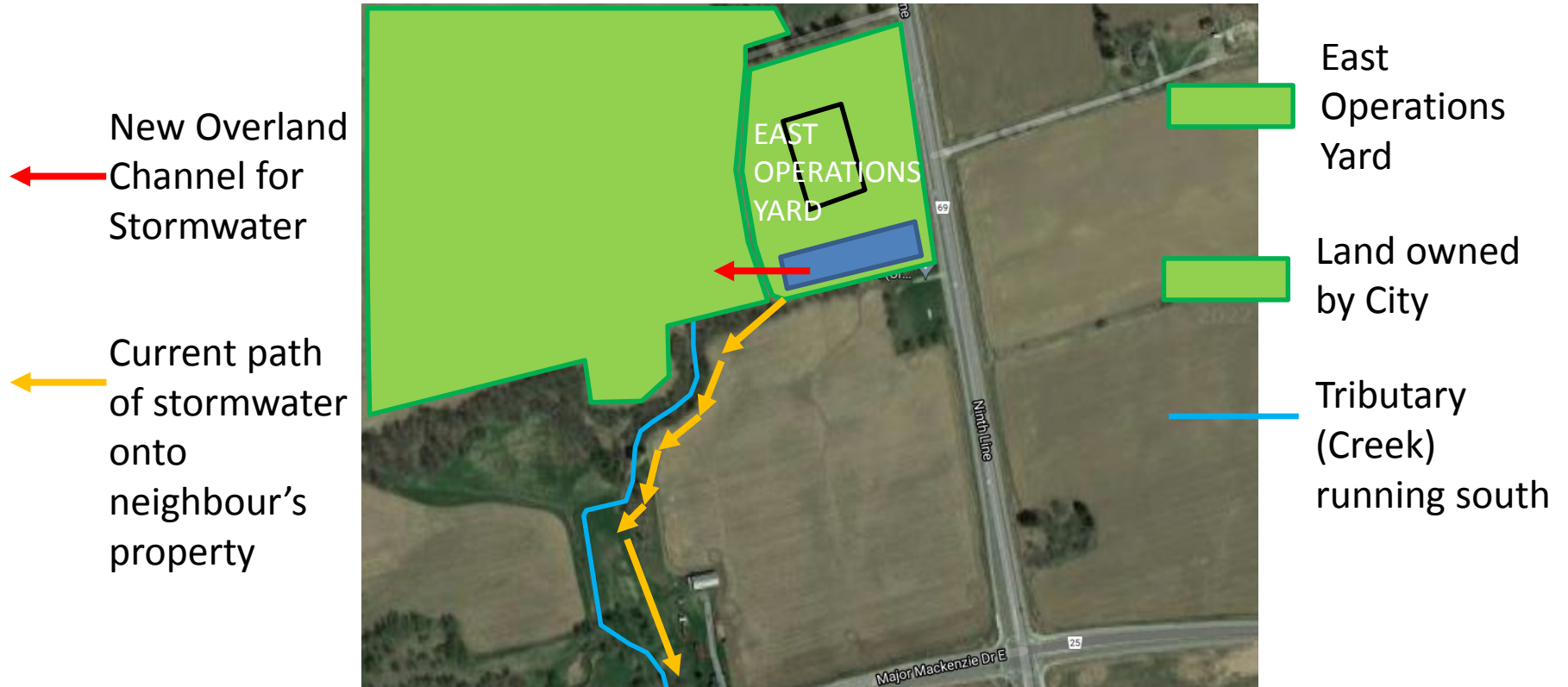


Budget Increase – General Contractor

STATUS	ITEM	COST
New work to be completed	Overland channel and erosion repairs – new work	Overland Channel \$480,000 Erosion Repairs \$100,000
Additional work already completed	<ul style="list-style-type: none">• Civil/grading changes - completed• Plumbing changes to office trailer - completed• Ninth Line Road widening - completed	\$682,600
	TOTAL	\$1,262,600



Overland Channel – New Work





Recommendation

1. THAT the presentation entitled “East Markham Operations Yard – General Committee – January 31, 2022” be received; and
2. THAT the requested budget increase to the capital project in the amount of \$1,354,459 (incl. HST impact) be funded from Development Charges Reserves in the amount of \$1,320,598 and the Non-DC Growth Reserve in the amount of \$33,861; and
3. THAT the Committee approve the following increases:
 1. Work that has been authorized internally and completed to date to meet winter maintenance deadlines: \$774,459.00
 2. New work that is required to be completed for Overland Channel and Erosion Repairs: \$580,000.00



Recommendation

4. THAT the Committee approve the following increases to existing purchase orders as part of the budget increase for work completed and new work required:
 1. Orin Contractors PD 20144: \$1,092,606.00
 2. Counterpoint Engineering PD 19366 – East Yard: \$128,335.00

5. THAT Staff be authorized and directed to do all things necessary to give effect to this resolution.



End of Presentation