City of Cornwall Municipal Works Redevelopment Project - Status Report Dashboard as of September 30, 2020

Financial Summary

Year	Original Class D Estimate	Annual Budget (A)	Revised Budget (B)	Outstanding Committed Funds (C)	Expenses To Date (D)	Forecast to Year End (E = User Input)	Total Spent and Forecast F=(D+E)	Variance (B - F)
2017	$ 455,000.00	$ 1,000,000.00	$ 1,000,000.00	$ -	$ 177,732.70	$ -	$ 177,732.70	$ 822,267.30
2018	$ -	$ 2,305,000.00	$ 2,489,750.00	$ 1,704,523.58	$ 559,597.86	$ -	$ 559,597.86	$ 1,930,152.14
2019	$ 1,304,750.00	$ 4,080,000.00	$ 6,053,623.00	$ 4,597,868.95	$ 1,572,360.54	$ -	$ 1,572,360.54	$ 4,481,262.46
2020	$ 2,978,240.00	$ 1,565,000.00	$ 1,738,259.00	$ -	$ 4,443,098.08	$ 2,880,046.33	$ 7,323,144.41	-$ 5,584,885.41
2021	$ 6,232,240.00		$ 2,905,339.61					
2022	$ 6,210,000.00		$ 100,000.00					
2023	$ 4,861,270.00		$ 11,940,748.00					
2024	$ 736,500.00		$ 4,949,333.00					
2025	$ 494,000.00		$ 1,107,450.00					
2026	$ 2,156,250.00		$ 1,307,406.00					
2027	$ 1,275,430.00		$ 1,147,887.00					
Contingency	$ 5,340,736.00	$ -	$ 2,055,282.40					
Project Total	**$ 32,044,416.00**	**$ 8,950,000.00**	**$ 36,795,078.01**	**$ 6,302,392.53**	**$ 6,752,789.18**	**$ 27,987,006.43**	**$ 34,739,795.61**	-$ 2,695,379.61

General Comments

- The Original Class D Estimate prepared by AECOM in 2016 reflected the anticipated building demolition and construction costs for the redevelopment of the Municipal Works (MW) Yard, complete with a 20% contingency fund. The 2016 AECOM Class 'D' estimate was designed to provide the Corporation with an overall replacement value for each of the buildings within the MW Yard.
- According to *Public Services and Procurement Canada* , a Class 'D' (Indicative) Estimate is *"to be in unit cost analysis format (such as cost per m² or other measurement unit) based upon a comprehensive list of project requirements (i.e. scope) and assumptions; the Class D estimate is evolved throughout the phases of the project identification stage, finally being incorporated into the cash flows in the Analysis Phase[...]"*[1] In other words, a Class D estimate is designed to provide a summary of projected costs and must be updated and evolve as the project progresses.
- The list of project requirements and assumptions included as part of the cost estimate prepared by AECOM consisted of only building construction and demolition costs, other project requirements were not included as part of the projected cost estimate. A summary of additional project requirements can be found under the 'Project Changes' sheet.
- The forecasted values indicated in the Financial Summary from 2021 to Project Completion are estimates only and will be updated as each phase of the project progresses and additional information becomes available.
- The forecasted costs for future years do not include the following: LEED or Net Zero building design and construction costs, reinforced and/or non-standard foundation designs, costs associated with the removal and disposal of contaminated soil/groundwater, designated substances or landfill material, unanticipated construction cost increases in future years or any additional interim measures required during each of the various phases of construction to ensure that the MW Yard and offices are fully functional and accessible for the duration of the project.

Financial Summary Definitions

- ***Annual Budget:*** A projection of project costs approved by Council each year during budget deliberations
- ***Revised Budget:*** Includes all approvals by Council (Annual Budget, Tenders, RFPs, etc.)
- ***Outstanding Committed Funds:*** Funds committed through Tendering, RFPs, Purchase Orders, etc.
- ***Expenses To Date:*** Includes all expenditures incurred to date.
- ***Forecast to Year End:*** Provides an estimate of expenditures to be spent by year end based on year to date results and other assumptions
- ***Total Spent and Forecast:*** Totals the expenditures to date and the estimated expenditures to year end to project the annual spend
- ***Variance:*** The difference between the revised budget (monies committed to the project) and projected annual spend, excluding contingency.
- ***Project Total Row:*** Provides the total amounts of budget, forecast and spent for the entire project to date (Projected amounts including upcoming years are in grey and apply to the whole project)

Project Risks

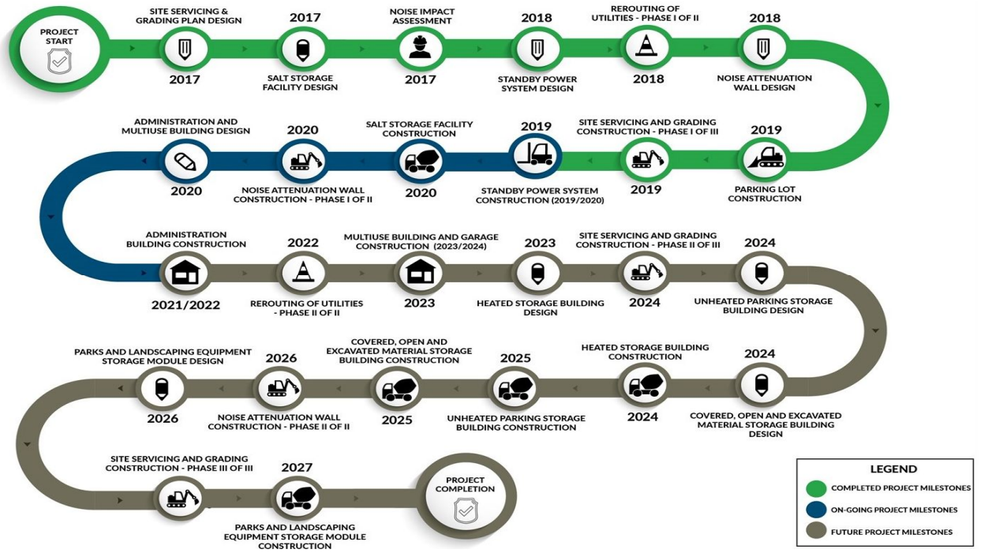
Risk Description	Probability	Impact	Mitigation
If contaminated soil is encounter it must be handled according to current regulations for soil management (Re: O.Reg 153/04 for additional information on soil regulations and requirements).	M	H	As part of the design for future phase of redevelopment, an environmental assessment will be completed to determine the likelihood of contaminated material within the project extents.
If poor geotechnical conditions are encountered, non standard building foundations will be required.	M	H	A comprehensive geotechnical investigation will be completed as part of the design process for each of the proposed buildings in future phases; cost projections will be updated accordingly.

Risk Level: L=Low Risk, M=Medium Risk, H=High Risk For additional information on Project Risks, refer to the 'Project Risk Register' Sheet.

[1] Public Works and Government Services Canada, Public Services and Procurement Canada, Real Property Branch, https://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/bi-rp/conn-know/couts-cost/definition-eng.html

Project Milestones

For additional information on completed and on-going Project Milestones, refer to the 'Project Milestones' Sheet



Q3 Project Schedule & Summary (July - September 2020)

Phase	Project Component	Current Status	Planned Completion Date	Comments
C2/C4	Site Grading and Servicing - Phase I of III	In Progress	Q4, 2020	Site grading works in progress.
C3	Construct Noise Attenuation Wall (Phase I of II)	Construction Not Started	Q2, 2021	Construction of strip footing foundation tentatively scheduled for Q4, installation of noise barrier wall to be completed in Spring, 2021 (Q2, 2021).
C5	Construct Salt Storage Facility	In Progress	Q4, 2020	Construction of salt storage facility building complete; interior works (mechanical, electrical, etc.) remaining and scheduled for completion in Q4, 2020.
C7	Construct Utility Compound	Complete	Complete	Utility compound works substantially complete; miscellaneous works (fence installation, grading) remaining.
C9	Design of Multiuse and Administration Buildings	In Progress	2021	RFP for design and construction administration of the proposed buildings scheduled to be issued in Q4, 2020.

12 Months at a Glance

Phase	Description	Current Status	Planned Completion Date	Comments
C2/C4	Site Grading and Servicing - Phase I of III	In Progress	Q4, 2020	Remaining site grading works in progress and scheduled for completion in Q4, 2020.
C3	Construct Noise Attenuation Wall (Phase I of II)	Construction Not Started	Q2, 2021	Construction of the proposed noise attenuation wall scheduled to commence following the completion of the excavation for the salt storage facility.
C5	Construct Salt Storage Facility	In Progress	Q4, 2020	Construction of the salt storage facility (building components) complete; remaining works include the installation of mechanical and electrical components (ventilation system, lighting, emissions monitoring, etc.).
C7	Construct Utility Compound	Complete	Complete	Utility compound construction substantially complete; fence installation and grading works to be completed in Q4.
C9	Design of Multiuse and Administration Buildings	In Progress	2021	Design of Administration and Multiuse Buildings scheduled for completion in 2021. RFP for Design Services to be issued shortly.

Financial Report										
	Site Servicing	Environmental Remediation	Site Reconfiguration	Salt Storage Facility	Rerouting of Utilities	Standby Power System	Parking Lot Construction	New Administration and Multiuse Building Design & CA	Total	Commentary
Year	C2	C3	C4	C5	C6	C7	C8	C9		
2017	$425,000.00	$300,000.00	$150,000.00	$125,000.00					$1,000,000.00	2017 Annual Budget
2018		$875,000.00		$1,000,000.00	$400,000.00	$30,000.00			$2,305,000.00	2018 Annual Budget
2019				$2,500,000.00		$900,000.00	$230,000.00	$450,000.00	$4,080,000.00	2019 Annual Budget
2020								$1,565,000.00	$1,565,000.00	2020 Annual Budget
Total Annual Budgets (A)	**$425,000.00**	**$1,175,000.00**	**$150,000.00**	**$3,625,000.00**	**$400,000.00**	**$930,000.00**	**$230,000.00**	**$2,015,000.00**	**$8,950,000.00**	
2017									$0.00	
2018		$184,750.00							$184,750.00	Refer to Project Changes C3-5
2019	$1,019,583.00		$380,040.00	$574,000.00					$1,973,623.00	Refer to Project Changes C2-2, C4-2 and C5-5
2020	$25,010.00	$15,041.00	$11,058.00	$111,290.00		$10,860.00			$173,259.00	Refer to Project Changes C2-3, C3-8, C4-3, C5-6, C7-2
Project Changes (Budget/Cost)	**$1,044,593.00**	**$199,791.00**	**$391,098.00**	**$685,290.00**	**$0.00**	**$10,860.00**	**$0.00**	**$0.00**	**$2,331,632.00**	
2017	$425,000.00	$300,000.00	$150,000.00	$125,000.00	$0.00	$0.00	$0.00	$0.00	$1,000,000.00	
2018	$0.00	$1,059,750.00	$0.00	$1,000,000.00	$400,000.00	$30,000.00	$0.00	$0.00	$2,489,750.00	
2019	$1,019,583.00	$0.00	$380,040.00	$3,074,000.00	$0.00	$900,000.00	$230,000.00	$450,000.00	$6,053,623.00	Annual budget adjusted based on 19-T40 tender award
2020	$25,010.00	$15,041.00	$11,058.00	$111,290.00	$0.00	$10,860.00	$0.00	$1,565,000.00	$1,738,259.00	
Revised Budget (B)	**$1,469,593.00**	**$1,374,791.00**	**$541,098.00**	**$4,310,290.00**	**$400,000.00**	**$940,860.00**	**$230,000.00**	**$2,015,000.00**	**$11,281,632.00**	
2017	$0.00	$0.00	$0.00	$0.00					$0.00	
2018		$447,551.51		$899,530.54	$357,441.53	$0.00			$1,704,523.58	
2019	$565,836.31		$7,609.53	$3,074,000.00		$854,683.66	$95,739.45		$4,597,868.95	Tender 19-T40
2020									$0.00	
Outstanding Committed Funds (C)	**$565,836.31**	**$447,551.51**	**$7,609.53**	**$3,973,530.54**	**$357,441.53**	**$854,683.66**	**$95,739.45**	**$0.00**	**$6,302,392.53**	
2017	$26,675.92	$118,825.83	$254.40	$31,976.55					$177,732.70	
2018	$9,002.44	$474,464.82	$0.00	$33,572.13	$42,558.47				$559,597.86	
2019	$817,572.81	($2,971.79)	$302,709.45	$152,559.09	$95,647.13	$75,010.71	$131,833.14		$1,572,360.54	
2020	$278,348.35	$19,370.33	$135,274.26	$3,071,148.61	$97,246.43	$789,414.52	$52,295.58		$4,443,098.08	
Expenditures To Date (D)	**$1,131,599.52**	**$609,689.19**	**$438,238.11**	**$3,289,256.38**	**$235,452.03**	**$864,425.23**	**$184,128.72**	**$0.00**	**$6,752,789.18**	
2017									$0.00	
2018									$0.00	
2019									$0.00	
2020	$337,009.83	$807,547.09	$122,682.00	$1,171,448.51	$65,000.00	$80,487.62	$45,871.28	$250,000.00	$2,880,046.33	Forecast values include costs associated with remaining work under Tender 19-T40 and other committed expenses, as well as construction administration fees.
Forecast to Year End (E=User Input)	**$337,009.83**	**$807,547.09**	**$122,682.00**	**$1,171,448.51**	**$65,000.00**	**$80,487.62**	**$45,871.28**	**$250,000.00**	**$2,880,046.33**	
2017	$26,675.92	$118,825.83	$254.40	$31,976.55	$0.00	$0.00	$0.00	$0.00	$177,732.70	
2018	$9,002.44	$474,464.82	$0.00	$33,572.13	$42,558.47	$0.00	$0.00	$0.00	$559,597.86	
2019	$817,572.81	($2,971.79)	$302,709.45	$152,559.09	$95,647.13	$75,010.71	$131,833.14	$0.00	$1,572,360.54	
2020	$615,358.18	$826,917.42	$257,956.26	$4,242,597.12	$162,246.43	$869,902.14	$98,166.86	$250,000.00	$7,323,144.41	
Estimated Total Spent to Year End (F=D+E)	**$1,468,609.35**	**$1,417,236.28**	**$560,920.11**	**$4,460,704.89**	**$300,452.03**	**$944,912.85**	**$230,000.00**	**$250,000.00**	**$9,632,835.51**	
2017	$398,324.08	$181,174.17	$149,745.60	$93,023.45	$0.00	$0.00	$0.00	$0.00	$822,267.30	
2018	($9,002.44)	$585,285.18	$0.00	$966,427.87	$357,441.53	$30,000.00	$0.00	$0.00	$1,930,152.14	
2019	$202,010.19	$2,971.79	$77,330.55	$2,921,440.91	($95,647.13)	$824,989.29	$98,166.86	$450,000.00	$4,481,262.46	
2020	($590,348.18)	($811,876.42)	($246,898.26)	($4,131,307.12)	($162,246.43)	($859,042.14)	($98,166.86)	$1,315,000.00	($5,584,885.41)	
Year End Variance (B-F)	**$983.65**	**($42,445.28)**	**($19,822.11)**	**($150,414.89)**	**$99,547.97**	**($4,052.85)**	**$0.00**	**$1,765,000.00**	**$1,648,796.49**	
2021+	($17,488.75)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	($1,765,000.00)	($1,782,488.75)	
Project Variance	**($16,505.10)**	**($42,445.28)**	**($19,822.11)**	**($150,414.89)**	**$99,547.97**	**($4,052.85)**	**$0.00**	**$0.00**	**($133,692.26)**	

Project Milestones					
As of September 30, 2020					
Phase	**Milestone**	**Project Start Year**	**Project Completion Year**	**Status**	**Comments**
C9	Administration & Multiuse Building Design and Construction Administration	2020	2021	In Progress	Refer to Project Schedule for Additional Information
C3	19-T40 - Noise Barrier Wall Construction	2020	2020	In Progress	Refer to Project Schedule for Additional Information
C5	19-T40 - Salt Storage Facility Construction	2020	2020	In Progress	Refer to Project Schedule for Additional Information
C2/C4	19-T40 - Construction of MW Yard Site Servicing and Grading	2019	2020	In Progress	Refer to Project Schedule for Additional Information
C7	19-T40 - Utility Compound and Standby Power System Construction	2019	2020	Complete	Utility Compound and standby power system construction substantially complete.

2020 Project Schedule					
As of September 30, 2020					
Phase	**Project Component**	**Scope of Work**	**Proposed Start Date**	**Proposed Completion Date**	**Comments**
C2/C4	Site Servicing and Grading	Install Natural Gas Main	April, 2020 (Q2)	September, 2020 (Q3)	Installation of gas main complete.
		Excavate existing road base and reinstate with new granular material.	October, 2020 (Q4)	December, 2020 (Q4)	Phase I Site Grading partially complete; remaining site grading works
C3	Construct Noise Attenuation Wall	Revise grading plan in area of utility compound and noise barrier wall.	January, 2020 (Q1)	March, 2020 (Q1)	Revised grading plan in area of proposed noise barrier wall complete.
		Review and Approval of Shop Drawings	April, 2020 (Q2)	November, 2020 (Q4)	Review of shop drawings in progress.
		Excavation for Strip Footing Foundation	July, 2020 (Q3)	December, 2020 (Q4)	Excavation for strip footing foundation scheduled for November, 2020 (weather permitting).
		Construct Strip Footing Foundation	July, 2020 (Q3)	December, 2020 (Q4)	Construction of strip footing foundation scheduled for November/December 2020 (weather permitting).
		Construct Noise Attenuation Wall	October, 2020 (Q4)	May, 2021 (Q2)	Installation of NBW delayed as a result of production delays at supplier as well as significant lead time. In order to avoid installation in cold weather, noise attenuation wall is scheduled to be constructed in Spring, 2021 (Q2).
		Install Gate System	October, 2020 (Q4)	January, 2021 (Q1)	Gate installation scheduled for January 2021; shop drawings and measurements finalized and gate system has been put into production at supplier.
C5	Construct Salt Storage Facility	Review of Shop Drawings	January, 2020 (Q1)	March, 2020 (Q1)	Shop drawing review complete.
		Demolition of Existing Salt Sheds and Equipment Storage Building	April, 2020 (Q2)	June, 2020 (Q2)	Demolition of existing salt sheds and equipment storage building is complete.
		Foundation Excavation	April, 2020 (Q2)	June, 2020 (Q2)	Foundation Excavation complete
		Construction of Engineered Fill Foundation	April, 2020 (Q2)	June, 2020 (Q2)	Construction of Engineered Fill Foundation complete
		Construction of Salt Storage Facility Foundation Walls and Footings	July, 2020 (Q3)	September, 2020 (Q3)	Construction of Salt Storage Facility Foundation Walls and Footings complete
		Construct Pre-Engineered Fabric Covered Building	October, 2020 (Q4)	December, 2020 (Q4)	Construction of Pre-Engineered Fabric Covered Building complete.
		Interior Works - Electrical, Mechanical	October, 2020 (Q4)	December, 2020 (Q4)	Interior works in progress.
		Final Grading Works and Paving of Interior & Exterior	September, 2020 (Q3)	September, 2020 (Q3)	Final grading works complete.
C7	Construct Utility Compound	Review and Approval of Shop Drawings	January, 2020 (Q1)	March, 2020 (Q1)	Shop drawing review for standby power system complete; unit is on order (approximate lead time is 26 weeks). Shop drawing review for precast concrete utility buildings complete.
		Complete grading works surrounding utility compound area	April, 2020 (Q2)	June, 2020 (Q2)	Grading Works surrounding utility compound complete.
		Construct concrete pads for utility buildings and standby power system	April, 2020 (Q2)	June, 2020 (Q2)	Complete.
		Install precast utility buildings	July, 2020 (Q3)	September, 2020 (Q3)	Installation of precast utility buildings complete.
		Install standby power system	July, 2020 (Q3)	September, 2020 (Q3)	Installation of standby power system complete.
		Complete electrical and mechanical works for utility buildings and standby power system	July, 2020 (Q3)	September, 2020 (Q3)	Electrical and mechanical works for utility compound complete.
		Install fence surrounding utility compound	October, 2020 (Q4)	December, 2020 (Q4)	Scheduled for Q4 (October - December, 2020), following the completion of all works within the utility compound.
C9	Design & Construction Administration of the Administration & Multiuse Building	Prepare RFP for Design & Construction Administration	January, 2020 (Q1)	September, 2020 (Q3)	Preparation of RFP complete.
		Issue RFP	October, 2020 (Q4)	December, 2020 (Q4)	RFP to be issued in October, 2020 (Q4) following a review of the Terms of Reference by Council.
		Predesign Phase - Administration & Multiuse Buildings	January, 2021 (Q1)	March, 2021 (Q1)	
		Schematic Design Phase - Administration & Multiuse Buildings	March, 2021 (Q1)	May, 2021 (Q2)	
		Detailed Design Phase - Administration Building	May, 2021 (Q2)	October, 2021 (Q4)	
		Contract Preparation & Tendering Phase - Administration Building			*Timelines and schedule for detailed design and tendering to be updated following the completion of the geotechnical investigation and predesign phase of the project.*
		Detailed Design Phase - Multiuse Building			
		Construction of Administration Building			
		Contract Preparation & Tendering Phase - Multiuse Building			
		Construction of Multiuse Building			

Project Changes

As of September 30, 2020

Project Phase	Project Component	Change No.	Change Description	Change Type	Impact Type	Impact Description	Year	Status	Additional Comments
N/A	Proposed Stores Building Module	NA-1	The construction of a new Stores building module was removed from the scope of work in the MW Yard Redevelopment Plan, as the need to maintain stocks of various materials and supplies to be consumed by Municipal departments has been minimized and the building is no longer required.	Scope	Budget	The removal of the Stores building module resulted in a cost savings of $2,100,000. Funds allocated to the design/construction of the Stores module are allocated to other components of the MW Yard Redevelopment project to offset any budget overages incurred in other phases.	2018	Complete	
C2	Site Servicing and Grading	C2-1	Site Servicing and grading requirements were not identified as separate component in the 2016 AECOM Report. In order to ensure the successful redevelopment of the MW Yard, the servicing, grading and phasing of the individual components of the project must be designed and constructed as an interconnected system rather than independent services.	Scope	Budget	In 2017 a budget submission sheet was prepared and approved for Site Servicing and Grading of the Municipal Works Yard.	2017	Complete	
		C2-2	The Site Servicing and Grading Plan included a four (4) phase plan for the redevelopment of the Municipal Works Yard, including temporary grading and servicing requirements throughout the duration of the project. Following the completion of the Site Servicing and Grading Plan, it was determined that approximately 50% of regrading and 80% of the construction of site services (watermain, storm sewer, sanitary sewer, gas main, communications, etc.) within the MW Yard should be completed as part of Phase I. Accordingly, Site Servicing Grading works (Phase I of III) were included as part of tender 19-T40; tender values exceeded the annual budget amount allocated to Phase C2.	Scope	Budget	Tender 19-T40 was submitted for review and approval to Council	2019	Complete	Council approved the tender amount for the construction of Phase I Site Servicing and Grading of the MW Yard.
		C2-3	The Proposal for Phase I Redevelopment of the Municipal Works Yard and Site Servicing and Grading Plan did not include a component for support during construction. The Consultant was retained to complete site reviews, review proposed design changes and provide clarification (when required).	Cost	Scope	The Consultant that prepared the Site Servicing and Grading Plan and Phase I Redevelopment of the MW Yard was retained to provide support during the construction phase of the project.	2020	Complete	
C3	Environmental Remediation	C3-1	Noise attenuation measures were not considered as part of the 2016 AECOM Report. Concerns were raised regarding the location of the Municipal Works Yard (zoned Residential) and impacts to neighborhood.	Scope	Budget	In 2017 a budget submission sheet was prepared and approved for Environmental Remediation within the Municipal Works Yard.	2017	Complete	An RFP for the completion of a Noise Impact Assessment (17-P05) was prepared in 2017.
		C3-2	The Noise Impact Assessment completed in 2017 determined that a 3.0m attenuation fence along sections of the MW Yard perimeter would be required to meet the Ministry of Environment, Conservation and Parks standards for noise abatement.	Scope	Design Budget	Costs associated with the design and construction of a noise attenuation fence were not considered in the 2016 AECOM Report and estimate.	2017	Complete	
		C3-3	A detailed geotechnical investigation of project area location(s) of the proposed noise attenuation fence was completed to determine if additional foundation requirements for the noise attenuation fence would necessary.	Scope	Design	The results of the geotechnical investigation concluded that specialized foundation requirements would be necessary to ensure the structural stability of the proposed noise barrier wall (NBW).	2018	Complete	The consultant retained for the design of the NBW was also retained to complete the detailed design of the proposed foundation.
					Budget	Reinforced foundation requirements were not included in the original scope of work for the NBW. In additional the cost of construction for the NBW would increase significantly with the addition of the specialized foundation.			
		C3-4	Detailed Design of Noise Attenuation Fence	Scope	Budget	A consultant was retained to complete the detailed design of the noise attenuation wall.	2018	Complete	
		C3-5	Excavation along the northern limits of the MW Yard uncovered a significant amount of landfill and contaminated material that required removal.	Cost	Budget	The landfill material encountered was transported the City Landfill on Vincent Massey Drive; the tipping fees associated with bringing the material to the Landfill were not budgeted for or taken into consideration in early phases of the MW Yard Redevelopment project.	2018	Complete	The removal and disposal of Landfill material and contaminated material encountered during excavation results in a number associated costs. Contaminated material must be tested to determine the levels of contaminants prior to being accepted at the City Landfill. In addition, there are costs associated with hauling the material to the landfill, as well as tipping fees.

Project Changes

As of September 30, 2020

Project Phase	Project Component	Change No.	Change Description	Change Type	Impact Type	Impact Description	Year	Status	Additional Comments
C3	Environmental Remediation (Continued)	C3-6	Additional funds for the construction of the noise attenuation fence were requested for construction following the completion of the detailed design and comprehensive estimate for the proposed noise attenuation wall.	Cost	Budget	Council approved the 2019 budget submission for Noise Remediation within the Municipal Works yard.	2019	Complete	
		C3-7	Additional landfill material was encountered during excavation for the construction of the proposed Twelfth St. Parking Lot. Contaminated material was also found during excavation for the construction of the watermain; all contaminated and landfill material was transported to the City Landfill.	Cost	Budget	The landfill material encountered was transported the City Landfill on Vincent Massey Drive; the tipping fees associated with bringing the material to the Landfill were not included in annual budget submissions.	2019	Complete	
		C3-8	Following the completion of the multi-phase grading plan within the Municipal Works Yard, it was noted that due to the significant changes in elevation in the south west quadrant of the Yard, it would be necessary to update the noise impact assessment previously completed in 2017.	Scope	Design	The Consultant that completed the Noise Impact Assessment in 2017 was retained to update the study in order to determine if changes to the proposed noise barrier wall (NBW) and foundation would be required. Following the completion of the Noise Impact Assessment Update, it was determined that the height of the proposed NBW could be reduced in multiple sections, resulting in an overall cost savings during construction.	2020	Complete	
C4	Site Reconfiguration	C4-1	Interim measures and the decommissioning of the section of Ontario St. that extended through the MW Yard was not identified as separate component in the 2016 AECOM Report.	Scope	Budget	In 2017 a budget submission sheet was prepared and approved for Site Reconfiguration works within the MW Yard.	2017	Complete	
		C4-2	Works associated with the reconfiguration of the site were included as part of Tender 19-T40; tender values exceeded the annual budget amounts allocated to Phase C4.	Cost	Budget	Tender 19-T40 was submitted for review and approval to Council in 2019.	2019	Complete	Council approved the tender amount for the construction of site reconfiguration works included in tender 19-T40.
		C4-3	Interim measures (temporary fencing) required long the perimeter of the Municipal Works Yard in order to ensure that the property is secure throughout the duration of construction.	Schedule	Budget	Costs associated with temporary fencing/security measures for the MW Yard were not included in tender documents for construction.	2020	In Progress	Temporary fencing will be required until the noise attenuation wall is constructed.
C5	Salt Storage Facility	C5-1	Complete additional geotechnical investigation to verify soil conditions in the area	Schedule	Budget	The results of the initial geotechnical investigation completed as part of the design of the salt storage facility concluded that due to poor soil conditions, a specialized building foundation would be required. An independent geotechnical engineering consulting firm was retained to complete additional testing within the project area and to provide options for the proposed foundation design of the structure. The additional geotechnical investigation was not included in the original project scope.	2018	Complete	
		C5-2	Determine preferred foundation design option based on summary of options presented by the geotechnical consultant	Scope	Budget	A specialized foundation was not included in the budget for the salt storage facility and impacts both design and construction costs.	2019	Complete	As part of the review process, the City considered alternative locations for the proposed salt storage facility. However, the MW Yard is located in a centralized area within the City and it was determined that current location is preferred for the proposed building.
					Design	A redesign of the salt storage facility and foundation was completed by the consultant and a detailed cost estimate was prepared.	2019	Complete	
		C5-3	Request additional funding as part of 2019 budget for salt storage facility construction	Cost	Budget	Council approved the 2019 budget submission for additional funding for the construction of the salt storage facility.	2019	Complete	
		C5-4	Complete a peer review of foundation design	Schedule	Time	An independent consultant was retained to complete a peer review of the structural design of the salt storage facility and to identify any possible changes or opportunities for cost savings. The time required to complete the peer review delayed issuing the tender.	2019	Complete	The peer review concluded that the proposed design met minimum standards and was the best option available to the City.
		C5-5	19-T40 - Salt Storage Facility Construction tender values exceeded the annual budget amount(s) allocated to Phase C5 for the work.	Cost	Budget	Tender 19-T40, which included the construction of the salt storage facility, was submitted for review and approval to Council in 2019.	2019	Complete	Council approved the tender amount for the construction of the salt storage facility

Project Changes

As of September 30, 2020

Project Phase	Project Component	Change No.	Change Description	Change Type	Impact Type	Impact Description	Year	Status	Additional Comments
C5	Salt Storage Facility (Continued)	C5-6	Complete Site Reviews and Materials Testing/Inspection for the Salt Storage Facility and Phase I works.	Cost	Budget	The geotechnical consulting firm retained for the foundation design of the salt storage facility (Morey Associates or MA) has been retained to complete geotechnical reviews/site inspections throughout the duration of construction to ensure that the intention of the design is met. In addition, if soil conditions vary throughout the site, MA will be responsible for providing recommendations and revising the design of the specialized foundation in order to ensure the overall success of the project. Due to the overall complexity of the project, it is crucial that the geotechnical consulting firm on site throughout the construction phase of the project is the same firm that completed the detailed design. Morey Associates will also be responsible for the completion of all Materials Testing (concrete, sieve analysis, environmental testing, etc.) throughout the duration of construction. It is essential that Morey Associates complete all materials testing services within the project area in order to ensure consistency throughout the project and minimize the likelihood of any oversights/issues occurring as a result of having multiple geotechnical consulting firms within a single construction site.	2020	In Progress	
C6	Utility Relocations	C6-1	Utility relocation requirements were not identified as separate component in the 2016 AECOM Report. A significant number of utility relocations are required throughout the various phases of the MW Yard Redevelopment project. An overhead transmission line runs through the MW Yard adjacent to the former Ontario St. which requires relocation as part of the redevelopment project. In addition, there was also buried infrastructure owned by utilities that will require removal/relocation throughout the various phases of construction.	Scope	Budget	Funding for utility relocations were submitted as part of the 2018 budget.	2017	In Progress	Council approved the budget submission for Phase I Utility Relocations in 2018.
C7	Standby Power System	C7-1	The design and installation of an independent standby power system was not identified in the 2016 AECOM Report. Following a review of the current standby power options in place and future requirements it was determined that it would be in the best interest of the City to install a standby power system that would service all future buildings within the Municipal Works Yard.	Scope	Budget	Funding for the design of standby power system for the MW Yard was submitted as part of the 2018 budget. Additional funds were allocated for construction as part of the 2019 budget.	2017	Complete	Council approved budget submission sheets in 2018 and 2019 for the design and construction of the standby power system.
		C7-2	As part of an ongoing review of the contract documents and overall Municipal Works Yard Redevelopment Project it was determined that it would be of benefit to the Corporation to connect the new Standby Power System to the existing Water/Sewer building and Fuelling station in case of power outage in lieu of purchasing an independent generator for the building. In addition, during the course of construction it was determined that modifications to the existing design of the precast buildings would be necessary in order to accommodate proposed equipment and future uses. The Consultant that completed the design of the Standby Power System was retained to complete the design of the modifications.	Scope	Design	A consultant was retained to complete the design modifications within the utility compound.	2020	Complete	

Project Risk Register As of June 30, 2020								
Phase	**Risk**	**Impact Description**	**Impact L/M/H**	**Probability L/M/H**	**Cost Impact (if applicable)**	**Mitigation**	**Responsible**	**Status & Date Reviewed**
C3	Contaminated Soil and/or Groundwater	If contaminated soil and/or groundwater is encountered it will impact both costs and project timelines during construction.	H	M	Yes; costs will be incurred in both the design phase (completion of a Phase II Environmental Site Assessment) and the construction phase (removal and disposal costs during construction).	A Phase II Environmental Assessment (EA) will be included as part of future phases of design; the EA will identify the presence and approximate quantity of contaminated material as well as procedures for removal and disposal. However, it will be difficult to anticipate the actual extents of contaminated material until excavation occurs during the construction phase of the project.	Project Manager/Consultant and on-site Project Supervisor	On-going
C3	Landfill Material	If landfill material is encountered during excavation it will increase the overall project cost and could impact construction timelines.	M	M	Yes; costs will be incurred in both the design phase (completion of a Phase II Environmental Site Assessment) and the construction phase (removal and disposal costs during construction).	A Phase II Environmental Assessment (EA) will be included as part of future phases of design; the EA will identify the presence and approximate quantity of landfill material as well as procedures for removal and disposal. However, it will be difficult to anticipate the actual extents of landfill material until excavation occurs during the construction phase of the project.	Project Manager/Consultant and on-site Project Supervisor	On-going
C3	Designated Substances	If designated substances are encountered during demolition it will increase the overall project cost and could impact construction timelines.	M	M	Yes; costs will be incurred in both the design phase (completion of a Designated Substance Study) and the construction phase (removal and disposal costs during construction).	A designated substances study will be included as part of future phases of design; the DSS will identify the presence and approximate quantity of designated substances as well as procedures for removal and disposal.	Project Manager/Consultant assigned to each future phase of redevelopment and design.	Not applicable in current phase; to be assessed in future phases.
Various	Poor Geotechnical Conditions	If poor geotechnical conditions are encountered, project costs will be impacted significantly during both design and construction. Project timelines could also be impacted if the conditions are very poor and additional investigations/reviews are required.	M	H	Yes; costs will be incurred in the design phase if specialized foundation design requirements are required. Construction costs will also increase significantly if specialized foundation requirements are necessary.	A comprehensive geotechnical investigation will be included as part of future phases of design; the investigation will identify the soil conditions in the project area and provide design recommendations and corresponding detailed construction estimates as early as reasonably possible in the design process.	Project Manager/Consultant assigned to each future phase of redevelopment and design.	On-going
Various	Increased Construction Costs	If construction costs increase, the overall project budget will be impacted.	M	H	Yes; increased construction costs will significantly impact the project budget and could potentially impact the project timelines.	Trends in construction costs will be tracked throughout the duration of the project and Forecast values will be updated accordingly.	Project Manager/Consultant assigned to each future phase of redevelopment and design.	On-going
Various	Changes to Environmental Regulations and Building Code Requirements	If regulations change, design requirements will be impacted and both project costs and timelines will be impacted.	M	M	Yes; changing regulations will impact design requirements and standards as well as construction costs in situations where regulations become more stringent.	As part of the design phase of future phases of redevelopment the Consultant will be responsible for identifying any changes to regulations/standards.	Project Manager/Consultant assigned to each future phase of redevelopment and design.	Not applicable in current phase; to be assessed in future phases.

L=Low, M=Medium, H=High

A risk is uncertain events that, if it occurs, has an effect on the project (cost, schedule, scope/quality).
The purpose of risk management is to identify, assess, and control uncertainty - as a result it will improve the ability of the project to succeed.
Risk management begins with **identifying** all the possible risks that could affect the project - the goal is to find potential problems before they happen.
Once risks have been identified they need to be analysed. This consists of rating their potential **impact** and **probability** of occurring and assigning them a risk score accordingly.
Actions, risk responses, need to be planned and carried out to **mitigate**, **avoid**, or **consciously accept** identified risks. Risks need to be monitored, re-assessed, and new risks identified throughout the project.

Risk: A description of the risk event
Impact description: A description of what would happen if the risk event happens, what would the impact be on costs, schedule, scope/quality?
Impact L/M/H: If the risk occurs will it have a low, medium, or high impact on the project (cost, schedule, scope/quality)?
Probability L/M/H: How likely to occur is the risk event?
Mitigation: What actions will be taken to mitigate (reduce the potential impact or probability), avoid, or accept the risk?
Responsible: The risk should be assigned to someone to monitor and report on
Status and date reviewed: Whether the risk is still applicable or relevant and the last time the risk was reviewed

Municipal Works Yard Redevelopment Project Photos

As of September 30, 2020

			
The photograph above illustrates the construction of the proposed footings for the salt storage facility. The footings around the perimeter of the building are 4.7m in width and 0.65m in height and are reinforced with rebar throughout. The exposed rebar (as seen above) will tie into the future salt storage facility walls.	The construction of the standby power system included the installation of a concrete pad as a base, as well as bollards surrounding the future generator (for safety reasons). Prior to installing the standby power system, conduits (for the electrical connections) were stubbed up to the top of the concrete pad and all bollards were put in place.	The photograph above shows the installation of the reinforcing steel and forms for the salt storage facility walls.	The photograph above illustrates the construction of the salt storage facility foundation and walls in progress. The concrete is covered with a membrane, which is kept wet for a minimum of seven days in order to allow the concrete to cure properly.
			
The photograph above shows the interior of Electrical Building E1, which houses the main electrical distribution panels in the utility compound. The Electrical Building will act as the central source of power for all future buildings in the Municipal Works Yard	During excavation of the area surrounding the salt storage facility for the installation of a new granular base (site grading works) a small amount of landfill material was found and removed.	Following the installation of the fabric covered building for the salt storage facility, the Contractor began the process of installing the wall components and metal cladding for the east and west walls of the building.	The generator for the Municipal Works Yard is designed to provide standby power for all future buildings within the MW Yard. The photograph above illustrates just how large the system is; the generator was put in place using a crane.