



Public Works
Hamilton Water Sub-Committee
Woodward Upgrades Construction Update
May 3, 2021

Presentation Overview

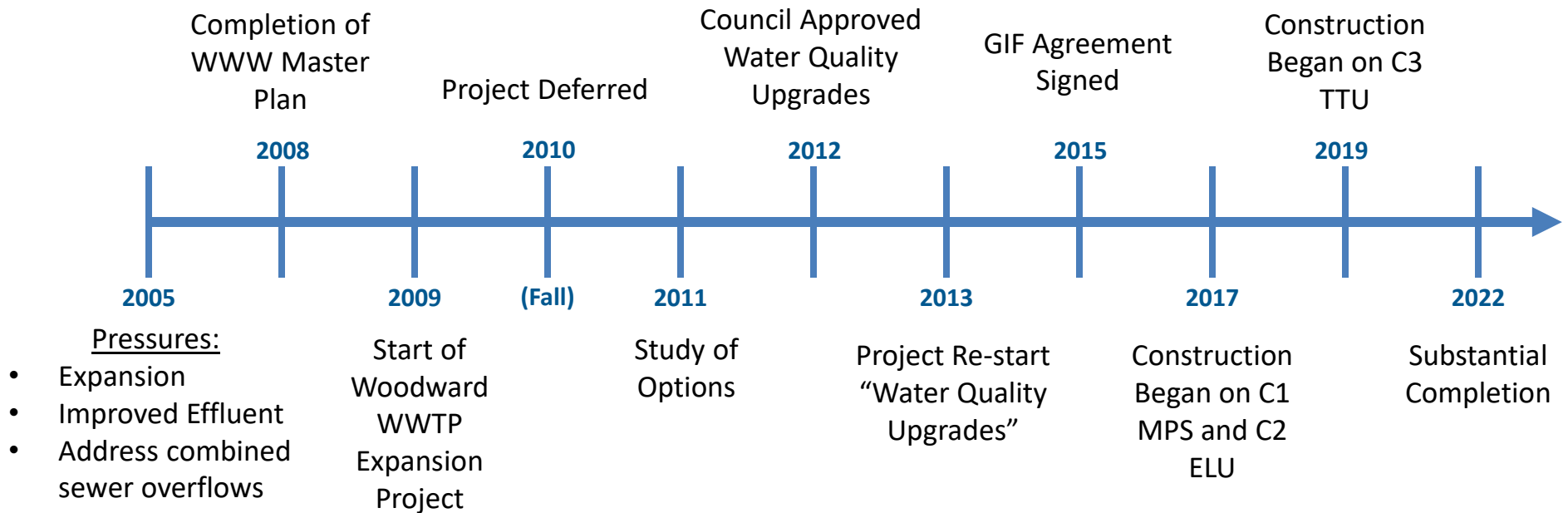
- Background
- Construction Update
- Soil Management
- Budget
- Questions

Background

Woodward WWTP



WUP Program Timeline

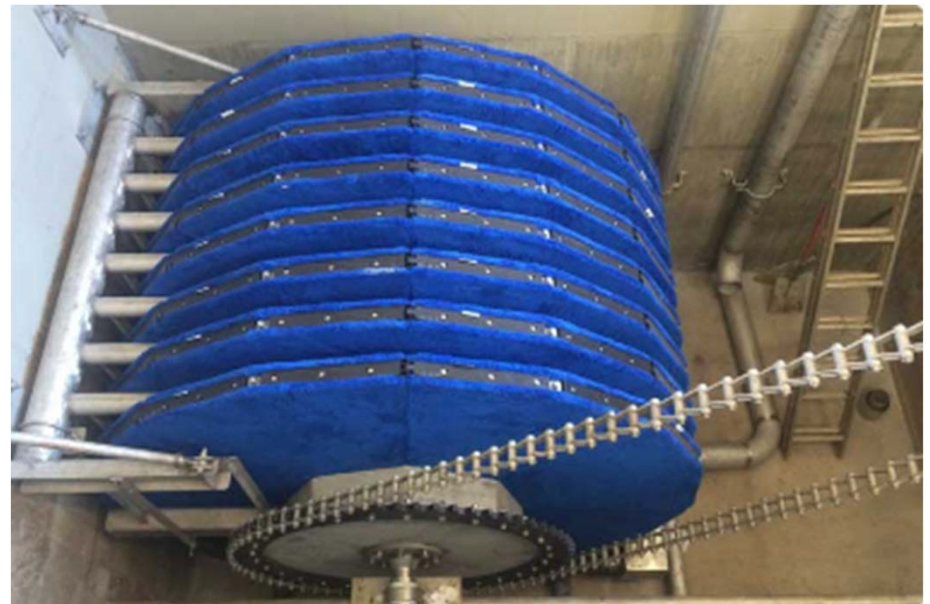


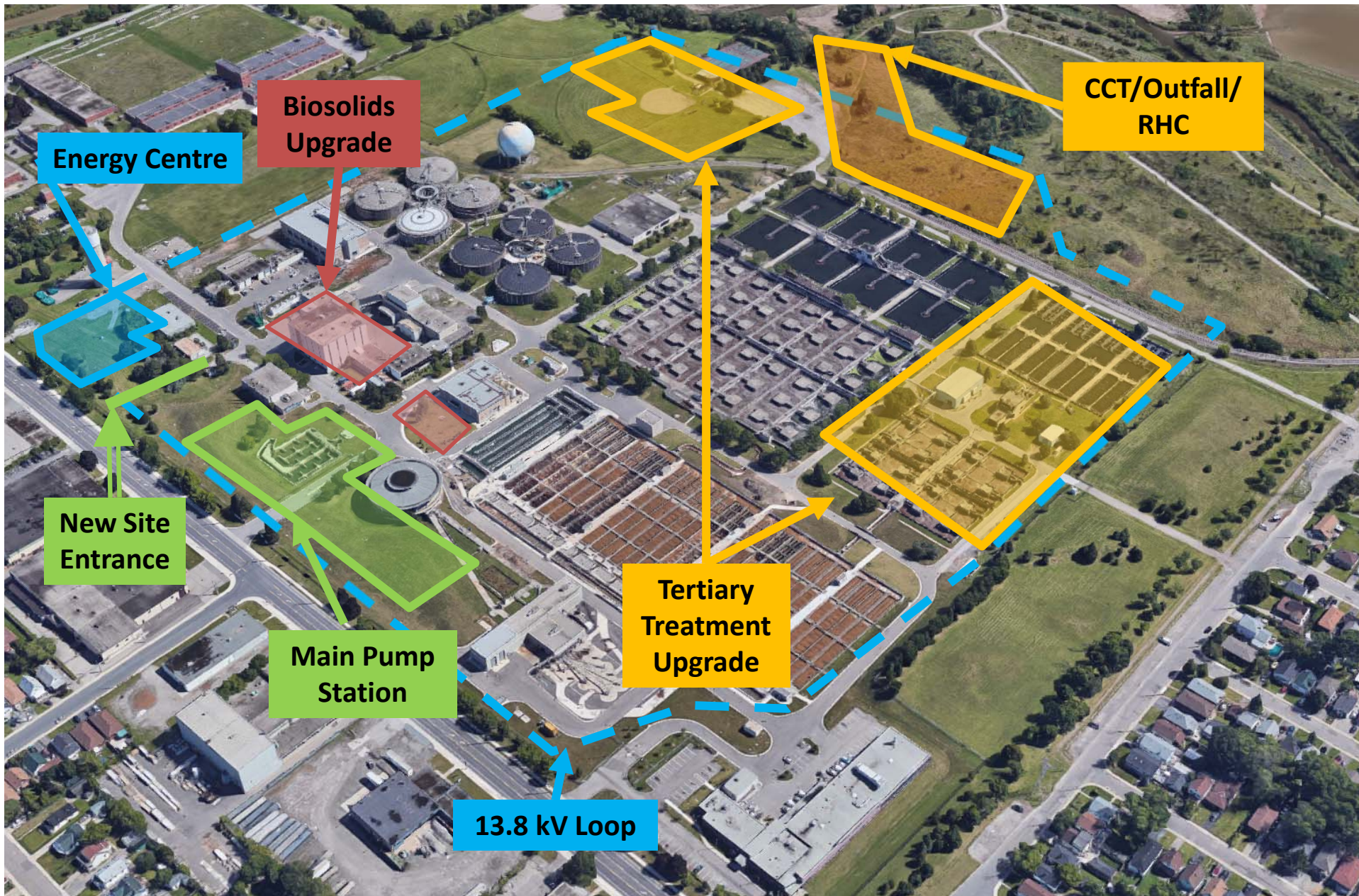
Tertiary Treatment Technology

Membrane



Disk Filtration





Construction Update

Construction Update

➤ Contract 1 – Main Pump Station (MPS)

- Awarded to Maple/Ball Joint Venture, Contract Price \$87.5 M
- Start of Construction: May 2017
- Approved Substantial Performance: June 3, 2021 Current Forecast: February 2022
- Work Performed to Date: \$76 M



Construction Update

Contract 1 - MPS

- Construction of the wet well and dry well walls was completed
- Exterior stone masonry completed
- Inlet tunnel completed
- All pumps & associated equipment installed



Construction Update

➤ Contract 2 – Electrical & Chlorination Upgrades (ELU)

- Awarded to Alberici Constructors, Contract Price \$60.9 M
- Start of Construction: October 2017
- Approved Substantial Performance: June 17, 2021 Current Forecast: October 2021
- Work Performed to Date: \$57.0 M



Construction Update

Contract 2 - ELU

- Electrical Power Centre and installation of all equipment for distribution loop completed
- Commissioning and testing of major equipment is underway
- WTP transferred over to new power system



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Construction Update

➤ **Contract 3 – Tertiary Treatment Upgrades (TTU)**

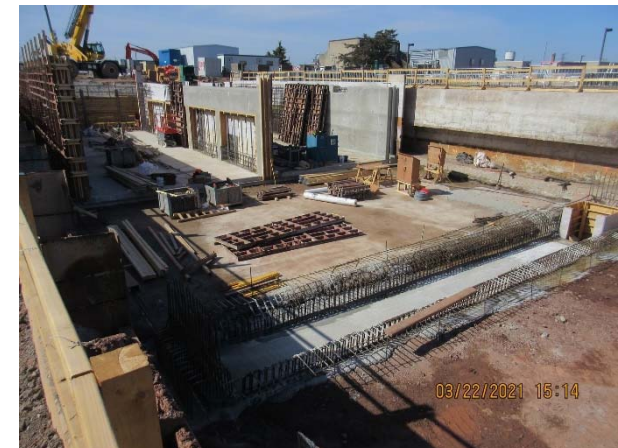
- Awarded to North America Constructors, Contract Price \$165.3 M
- Start of Construction: May 2019
- Approved Substantial Performance: Dec. 30, 2021 Current Forecast: November 2022
- Work Performed to Date: \$101 M



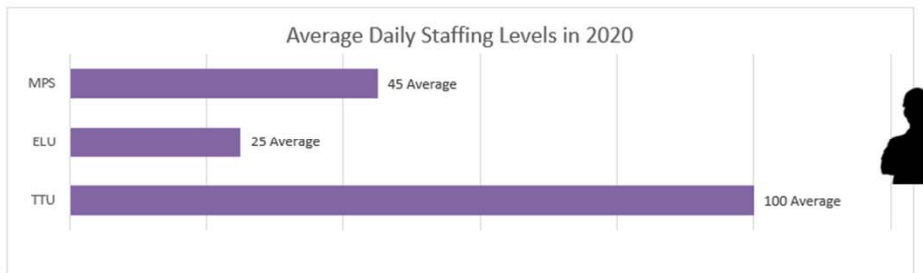
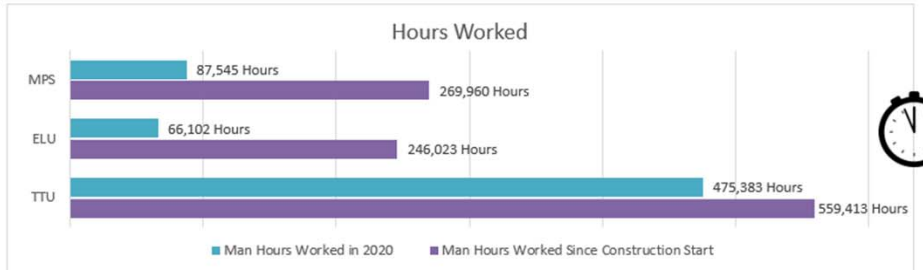
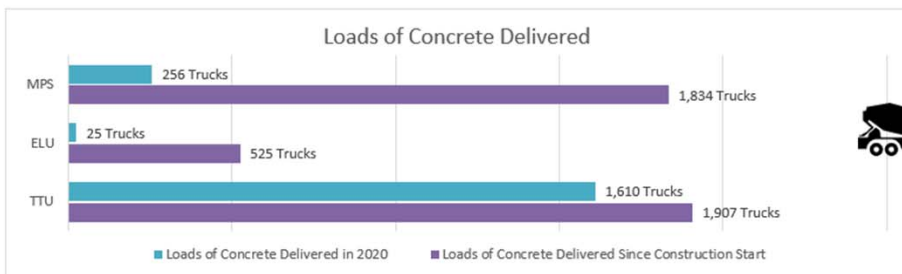
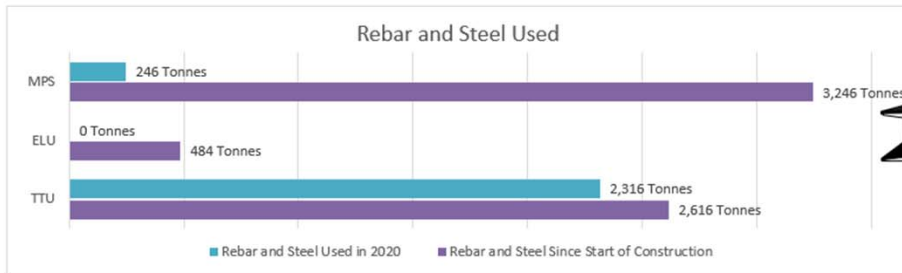
Construction Update

Contract 3 - TTU

- Major structural works on the new tertiary facility nearing completion with process equipment being installed
- All works within Red Hill Creek have been completed including new dissipation zone
- Stage 1 of the South Secondary Treatment Plant Expansion completed with Stage 2 underway

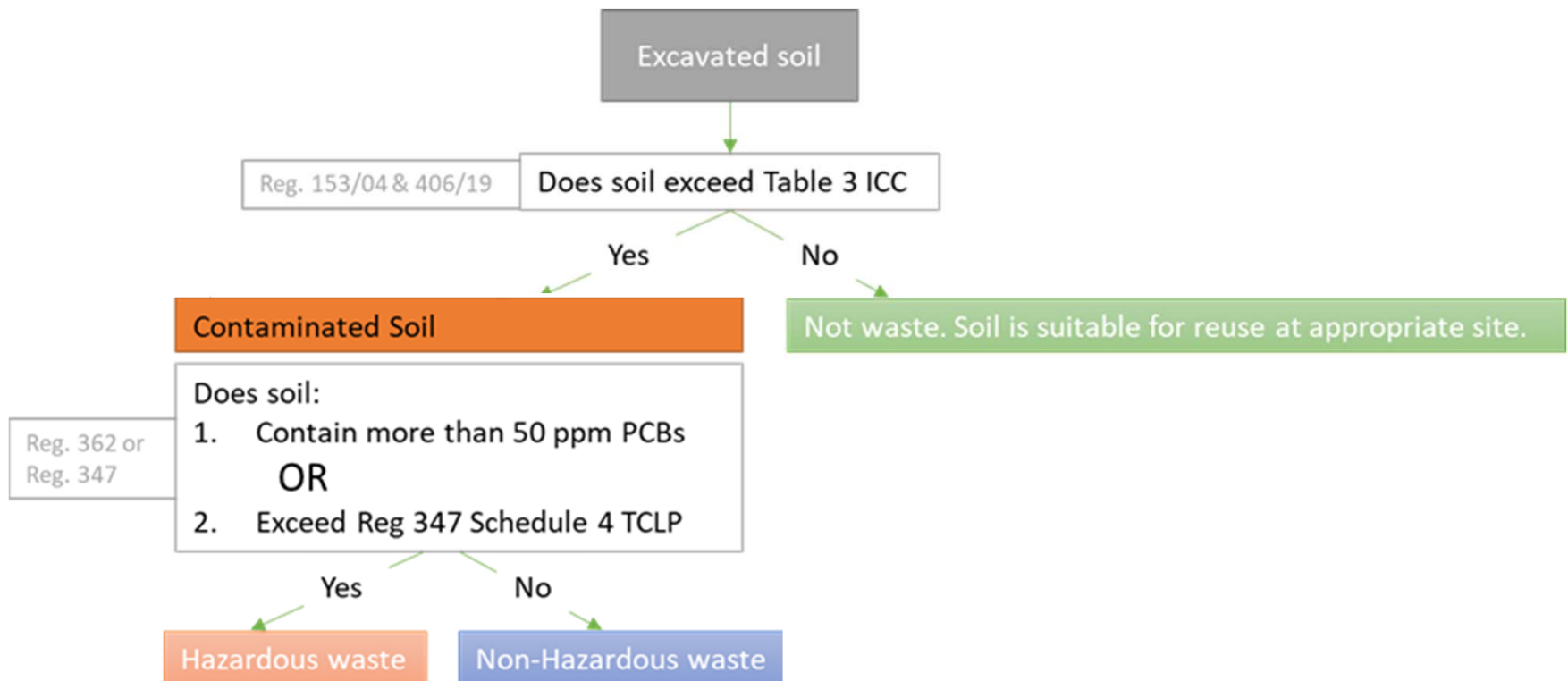


Construction Stats



Soil Management

Soil Management



Soil Management

Table #1
Woodward Upgrades Program
Excess Soil Management

Project / Location	Estimated Quantity (tonnes)	Estimated # of Trucks
[-] P3 Biosolids Management Project; Award Date: Mar 30, 2017	2550	130
[+] Soil (Clean) - OPS 180	2550	130
[-] MPS (C13-60-16); Award Date: Apr 26, 2017	132360	6618
[+] Soil (Clean) - OPS 180	132360	6618
[-] ELU (C13-36-17); Award Date: Sep 13, 2017	3240	162
[+] Soil (Clean) - OPS 180	3220	161
[+] Soil (Contaminated)	20	1
[-] TTU (C13-71-18); Award Date: Mar 26, 2019	180169	8805
[+] Soil (Clean) - OPS 180	104720	5236
[+] Soil (Contaminated)	65950	3298
[+] Soil (Hazardous)	9499	271
Grand Total	318319	15715

Soil Management

- 2010 CH2M retained Peto McCallum to undertake geotechnical and environmental investigation program at various locations
- Scope of work included an environmental screening program to check the environmental quality of the soil and ground water
- Results of environmental program did not identify any PCB impacted soil
- Construction of C2 duct bank, Contractor took soil samples and found PCB impacted soil



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Soil Management

- C2 PCB Impacted Soils – originally estimated to cost upwards of \$9M, with the assumption that all soils were deemed PCB hazardous
- City, with our consultants, met with MECP – developed a detailed soil segregation and sampling program
- Transferred C2 soils to C3 to manage as not to delay the start of C3 Contract



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Soil Management

- PCB Impacted Soil Disposal Costs:
 - Hazardous - \$1176 per tonne
 - Non Hazardous / Contaminated - \$60 per tonne
- C2 Soils manage and disposal costs under C3 = \$1.44M, plus construction delay costs
- Original estimate was upwards of \$9M - Significant savings \$\$\$



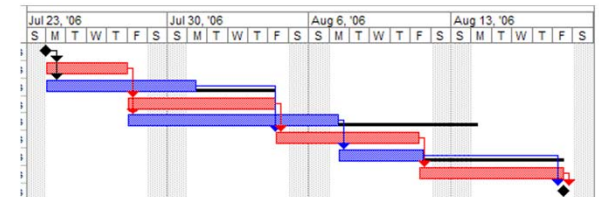
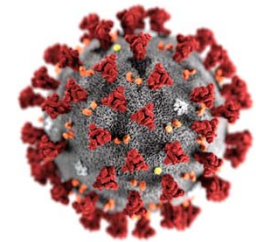
Contract 3 Soils



Budget

Project Issues / Challenges

- Soil Management / Disposal
- Covid-19
- Claims/Disputes
- Schedule Delay/Slippage



Overview

- Contract 1 – Main Pump Station
- Contract 2 – Electrical & Chlorination Upgrades
- Contract 3 – Tertiary Treatment Upgrades
- Consultant Engineering – Services During Construction
- Currently the project budget has sufficient funds to deliver the program but staff continue to monitor financials and any additional requests will be made through future Water, Wastewater, Stormwater Rate budget





Questions?