

2017 Proposed Capital Budget

Division: Infrastructure & Engineering

Department: Environmental Services

Director: Leslie Burke (Acting)

2017 Capital Budget Summary – Resourced (Funded)

Major Category	2016 & Prior Actual			2017 Proposed Budget	2018 - 2022 Plan	Total Budget
	Budget	Total Cost to date*	Total Available			
	\$	\$	\$		\$	\$
Public Facilities	107,965,538	98,315,156	9,650,382	105,935,392	128,490,000	342,390,930
Recreation and Culture	-	-	-	-	-	-
Transportation	-	-	-	-	-	-
Total	107,965,538	98,315,156	9,650,382	105,935,392	128,490,000	342,390,930

**cost to date as at September 30, 2016*

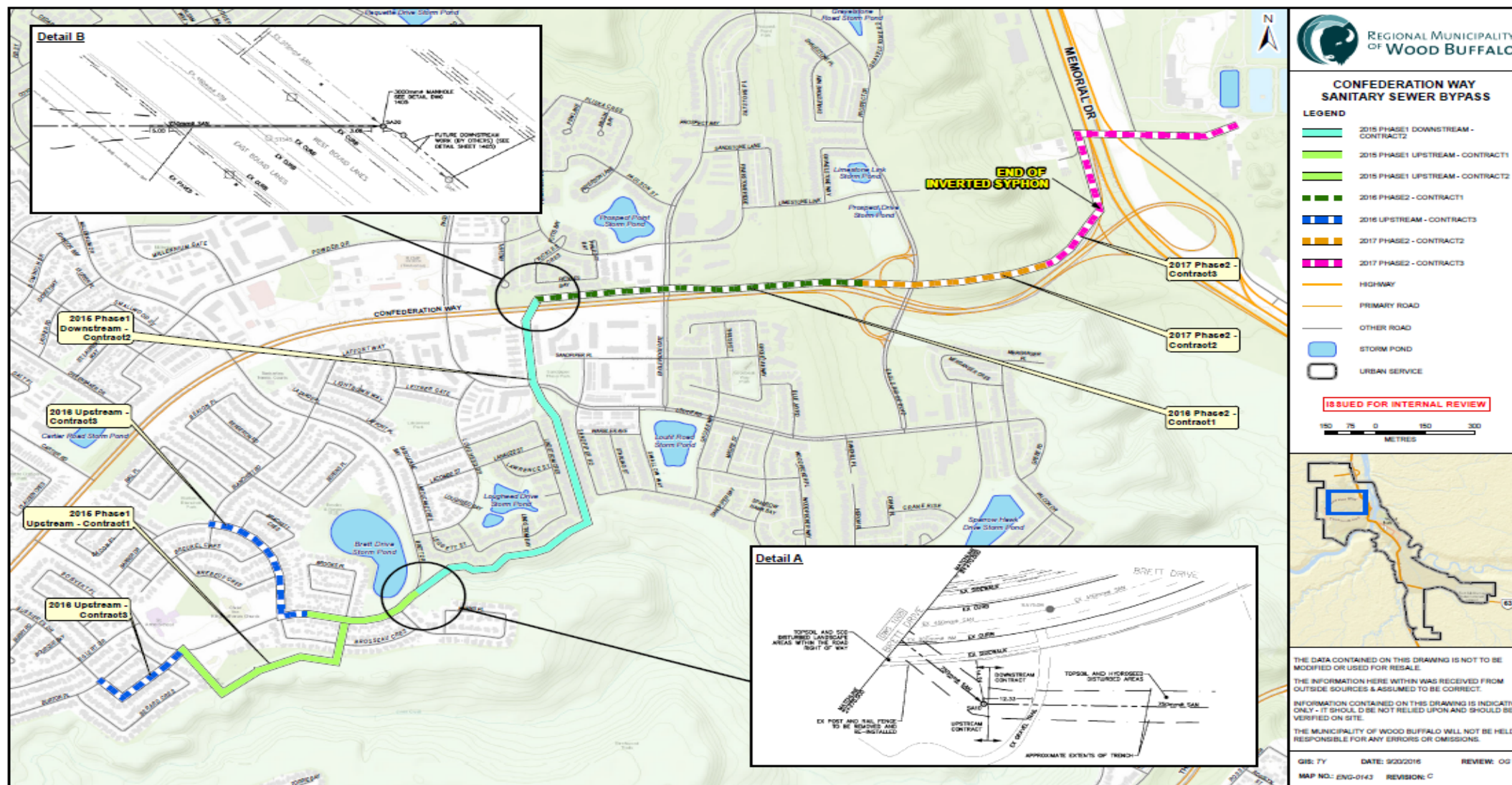
2017 Multi-Year Capital Project (2016 & Prior)

Project Name: Beacon Hill Outfall and Pipeline Upgrades – Construction			
Sponsor Department	Environmental Services		
Delivery Department	Engineering		
Description	This is a lifecycle replacement of the utility pipe (water, storm, sanitary) servicing.		
Major Outcomes	Increases reliability of service to residents and businesses. Improved environmental protection, strengthen service delivery quality & improve core service infrastructure.		
Project Year	2014		
Impacts of no Funding	Increase the risk of service interruptions to customers and risk of non-compliance with environmental regulations.		
Budget 2016 & Prior	Actuals	2017 Request	Total Budget All Years
9,673,858	9,357,708	13,326,142	23,000,000

2017 Multi-Year Capital Project (2016 & Prior)

Project Name: Confederation Way Sanitary Sewer Phase 2 - Construction			
Sponsor Department	Environmental Services		
Delivery Department	Engineering		
Description	Construct an 800 meter sanitary sewer line along the north side of Confederation Way. This portion will tie into Phase 1 of the project.		
Major Outcomes	Alleviate sewage surcharging in the Timberlea area. Strengthen service delivery quality, improve core service infrastructure.		
Project Year	2016		
Impacts of no Funding	Collection system may experience surcharging.		
Budget 2016 & Prior	Actuals	2017 Request	Total Budget All Years
500,000	0	22,200,000	36,700,000

Confederation Way Sanitary Sewer Phase 2 - Construction



2017 Multi-Year Capital Project (2016 & Prior)

Project Name: Fort Chipewyan Water Treatment Plant Expansion - Construction			
Sponsor Department	Environmental Services		
Delivery Department	Engineering		
Description	Reconstruction of a portion of the plant to incorporate the latest technology in multi-barrier treatment, ultraviolet and filtration systems; upgrading the raw water supply main and backwash pipeline.		
Major Outcomes	Meet conditions of the provincial operating approval and future community demands. Enhanced water treatment (UV technology). Strengthen service delivery quality, improve core service infrastructure.		
Project Year	2014		
Impacts of no Funding	Non compliance with mandated regulatory requirements. Reduced reliability of community water supply. (intake)		
Budget 2016 & Prior	Actuals	2017 Request	Total Budget All Years
30,000,000	2,118,345	9,000,000	44,500,000

2017 Capital Project Features

Fort Chipewyan Water Treatment Plan Expansion – Construction



2017 Multi-Year Capital Project (2016 & Prior)

Project Name: Grayling Terrace Lift Station - Construction			
Sponsor Department	Environmental Services		
Delivery Department	Engineering		
Description	Upgrade the current system that collects sewage from Grayling Terrace and pumps to the Wastewater Treatment Plant.		
Major Outcomes	Bringing the collection system up to current standards. Standards at the time of construction are no longer compliant. Service continuity and environmental protection at risk during flooding events.		
Project Year	2016		
Impacts of not Funding	Environmental non-compliance		
Budget 2016 & Prior	Actuals	2017 Request	Total Budget All Years
8,360,000	48,428	1,000,000	9,360,000

2017 Multi-Year Capital Project (2016 & Prior)

Project Name: Lift Station Upgrades (South)			
Sponsor Department	Environmental Services		
Delivery Department	Engineering		
Description	Life cycle replacement of MacKenzie, Waterways and Gregoire lift stations.		
Major Outcomes	Strengthen service delivery quality, improve core service infrastructure.		
Project Year	2008		
Impacts of no Funding	Lack of service continuity and environmental protection.		
Budget 2016 & Prior	Actuals	2017 Request	Total Budget All Years
23,731,680	15,241,215	5,000,000	28,731,680

2017 Multi-Year Capital Project (2016 & Prior)

Project Name: MacKenzie Stormwater Improvements – Design

Sponsor Department	Environmental Services		
Delivery Department	Engineering		
Description	Improve drainage in the MacKenzie area to reduce flooding.		
Major Outcomes	Reduce flooding. Strengthen service delivery quality, improve core service infrastructure.		
Project Year	2016		
Impacts of no Funding	Additional operating and maintenance costs to proactively mitigate flood risks.		
Budget 2016 & Prior	Actuals	2017 Request	Total Budget All Years
200,000	0	2,800,000	3,000,000

2017 Multi-Year Capital Project (2016 & Prior)

Project Name: Mills Avenue Stormwater Management – Construction

Sponsor Department	Environmental Services		
Delivery Department	Engineering		
Description	To correct drainage issues the area must be regraded and storm pipes, manholes/catch basins installed. Drainage on the properties adjacent to Heritage Park, including the subdivision across from the park site will be improved.		
Major Outcomes	Strengthen service delivery quality, improve core service infrastructure		
Project Year	2016		
Impacts of no Funding	Reduced flood protection		
Budget 2016 & Prior	Actuals	2017 Request	Total Budget All Years
1,000,000	0	6,000,000	13,000,000

2017 Multi-Year Capital Project (2016 & Prior)

Project Name:	Regional SCADA WAN - Construction		
Sponsor Department	Environmental Services		
Delivery Department	Engineering		
Description	Region wide upgrade and expansion of the existing SCADA telemetry monitoring system and to allow for real time monitoring of water and wastewater facilities in the rural areas.		
Major Outcomes	Improve operational efficiencies and significantly improves response time. Allow for operational oversight from main control room. Strengthen service delivery quality, improve core service infrastructure.		
Project Year	2014		
Impacts of no Funding	Continued inefficiencies and imminent system failure.		
Budget 2016 & Prior	Actuals	2017 Request	Total Budget All Years
2,000,000	1,130,257	1,500,000	3,500,000

2017 Multi-Year Capital Project (2016 & Prior)

Project Name: Southwest Water Supply Line			
Sponsor Department	Environmental Services		
Delivery Department	Engineering		
Description	To supplement the current single water supply feed from the Water Treatment plant to the Lower townsite and south service area.		
Major Outcomes	To eliminate vulnerability of a single river crossing and supply feed to the south service area.		
Project Year	2014		
Impacts of not Funding	Interruption of service to existing supply feed will result in a complete water outage from south of the Athabasca River Bridge through to Anzac.		
Budget 2016 & Prior	Actuals	2017 Request	Total Budget All Years
32,500,000	21,092,642	2,500,000	35,000,000

2017 Multi-Year Capital Project

Project Name: Fort McMurray WWTP Process Improvements Construction		\$7,000,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	The WWTP has limited redundancy for some major process components, making the facility vulnerable to violating approval if any one of a number of major processes require removal from service for routine or emergency maintenance.	
Major Outcomes	Strengthen service delivery quality, improve core service infrastructure.	
Project Year	2016	
Impacts of no Funding	Increased operational and maintenance costs to ensure regulatory compliance and service quality.	

2017 Capital Project Features

Fort McMurray WWTP Process Improvements - Construction



2017 Proposed New Multi-Year Capital Project

Project Name: MacDonald Avenue to 4 Way Chamber Supply Line Construction		\$3,360,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	A 750mm, 800 meter long supply line will connect MacDonald Ave to a 4 way chamber as per recommendations from the 2015 Water Master Plan. This will assist the water distribution network with additional water flow at the appropriate pressure.	
Major Outcomes	To increase water flow and pressure and to maintain current service delivery standards.	
Project Year	2017	
Impacts of not Funding	Continued operational inefficiencies and limited use of recently constructed infrastructure.	

2017 Proposed New Multi-Year Capital Project

Project Name: Thickwood Perimeter Sewer – Design		\$4,000,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	Alleviate sewer surcharging in Thickwood. Construction is proposed along Thicket Drive from Wolverine Drive towards the Fort McMurray WWTP.	
Major Outcomes	Increase sanitary sewer capacity, strengthen service delivery quality, improve core service infrastructure.	
Project Year	2016	
Impacts of no Funding	Maintain current service levels. Potential for localized residential flooding.	

2017 Proposed New Multi-Year Capital Project

Project Name: Thickwood Perimeter Sewer – Construction		\$10,310,500
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	Alleviate sewer surcharging in Thickwood. Construction is proposed along Thicket Drive from Wolverine Drive towards the Fort McMurray WWTP.	
Major Outcomes	Increase sanitary sewer capacity, strengthen service delivery quality, improve core service infrastructure.	
Project Year	2017	
Impacts of no Funding	Maintain current service levels. Potential for localized residential flooding.	

2017 Proposed New Capital Project

Project Name: Conklin WTP Upgrade Phase 2 - Construction		\$3,500,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	New raw water supply line from Christina Lake, installation of 2 nd treatment train and distribution pumps to align with the design capacity of the new WTP .	
Major Outcomes	Strengthen service delivery quality, improve core service infrastructure.	
Project Year	2017	
Impacts of no Funding	Unable to provide water to Conklin Multiplex and to the Conklin RWSS distribution system. Reduced water treatment capacity (intake).	

2017 Capital Project Features

Conklin WTP Upgrade Phase 2 - Construction



2017 Proposed New Capital Project

Project Name: Fort Chipewyan Lift Station Upgrades – Design		\$600,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	The 2015 assessment recommended to rebuild the 3 lift stations in the Hamlet. The process equipment within these stations is showing detrimental conditions.	
Major Outcomes	Decrease maintenance and operational costs. Increase environmental protection. Strengthen service delivery quality, improve core service infrastructure	
Project Year	2017	
Impacts of no Funding	Increased operational and maintenance costs to proactively manage infrastructure deficiencies.	

2017 Capital Project Features

Fort Chipewyan Lift Station Upgrades - Design



2017 Proposed New Capital Project

Project Name: Fort Chipewyan Water & Sewer – Design		\$500,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	Some residential properties in Fort Chipewyan do not have the ability to connect (due to pipe location) to the existing system. This project will extend the lines to the residences located further west of the community along MacKenzie Avenue.	
Major Outcomes	Residents provided piped water and sewer services, aligns with the principles of the rural water and sewer servicing. Strengthen service delivery quality, improve core service infrastructure.	
Project Year	2017	
Impacts of No Funding	Continue with existing services (trucked water delivery and sewage collection).	

2017 Proposed New Capital Project

Project Name: King Street Booster – Design		\$125,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	Project includes completion of a detailed report with recommendations for repair, upgrade, retrofit, and replacement of any pumps, motors, mechanical, electrical and instrumentation. The station is approaching the end of its design life.	
Major Outcomes	Upgrade or rehabilitation of critical infrastructure to extend life of existing asset. Strengthen service delivery quality, improve core service infrastructure.	
Project Year	2017	
Impacts of No Funding	Increased operational and maintenance costs to monitor and repair dated infrastructure.	

2017 Capital Project Features

King Street Booster - Design

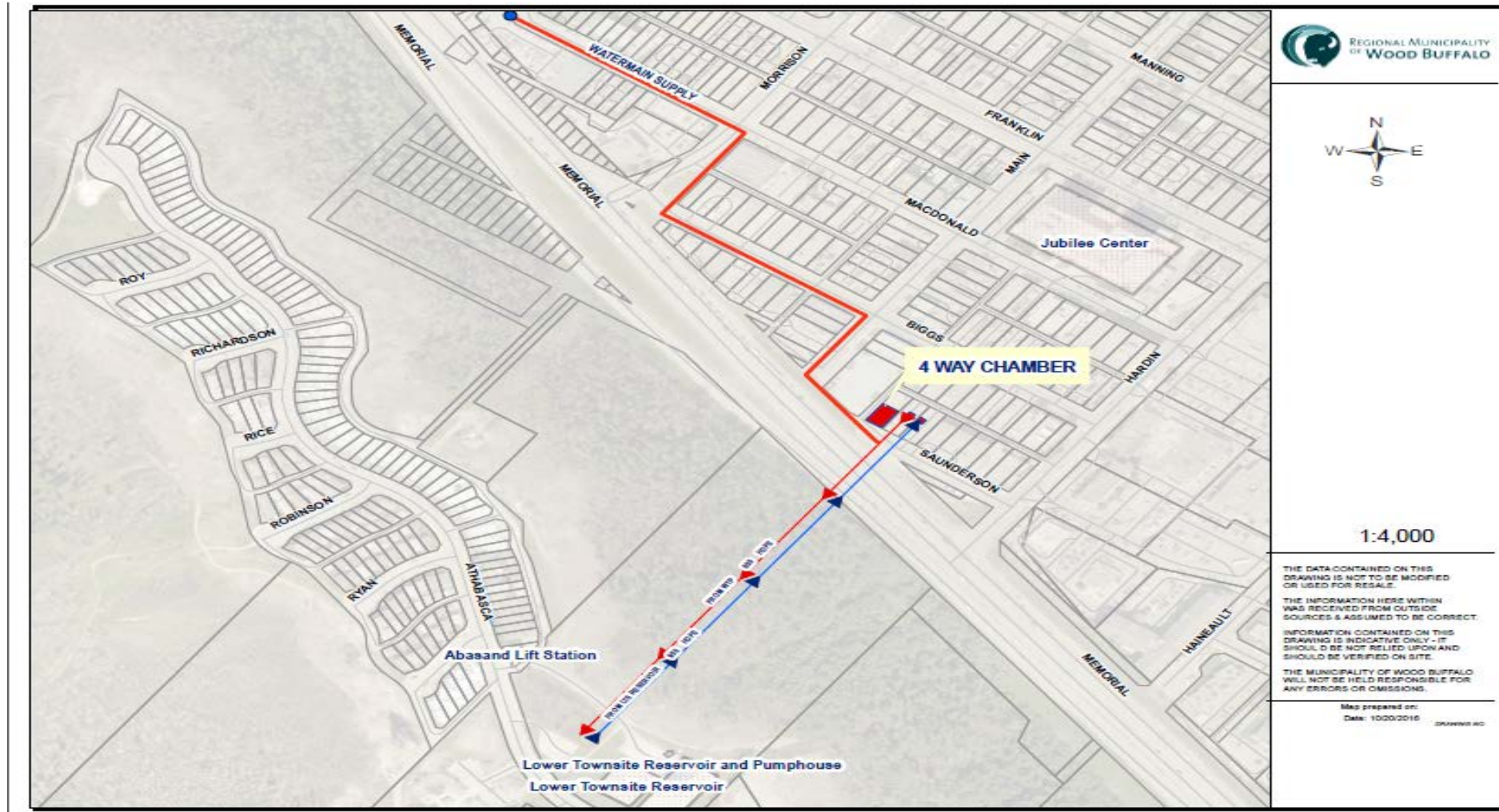


2017 Proposed New Multi-Year Capital Project

Project Name: 4 Way Chamber & Twin Line to Lower Townsite Reservoir Construction		\$5,000,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	This project consists of constructing the 4 way chamber and two water pipelines that interconnect the chamber to the Lower Townsite water reservoir located in Abasand hill.	
Major Outcomes	Improve the existing system and save energy by diminishing pumping time at the Water treatment plant.	
Project Year	2017	
Impacts of not Funding	Continued operational inefficiencies and limited use of recently constructed infrastructure.	

2017 Capital Project Features

4 Way Chamber Supply Line



2017 Proposed New Capital Project

Project Name: Thickwood Reservoir Replacement – Construction		\$7,000,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	The old Thickwood reservoir, approaching its end of life cycle, is damaged beyond reasonable repair. This reservoir must be replaced immediately to meet Alberta Environment standards for reservoir storage for the Thickwood service area.	
Major Outcomes	Sufficient water storage for Thickwood area. Regulatory compliance, strengthen service delivery quality, improve core service infrastructure.	
Project Year	2017	
Impacts of No Funding	Regulatory non-compliance and potential structure failure Insufficient water storage for both fire fighting and residential usage	

2017 Capital Project Features

Thickwood Reservoir Replacement - Construction



2017 Proposed New Capital Project

Project Name: Timberline Storm Water Upgrade – Design		\$90,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	Permanent repairs of the sunken manhole and road cracks at the intersection of Timberline Drive and Ross Street.	
Major Outcomes	Maintain Municipal service delivery standards. Align infrastructure with engineering service standards. Increase sewer system reliability.	
Project Year	2017	
Impacts of no Funding	Increased operational and maintenance costs to proactively manage infrastructure deficiencies	

2017 Proposed New Capital Project

Project Name: Timberline Storm Water Upgrade – Construction		\$900,000
Sponsor Department	Environmental Services	
Delivery Department	Engineering	
Description	Permanent repairs of the sunken manhole and road cracks at the intersection of Timberline Drive and Ross Street.	
Major Outcomes	Maintain Municipal service delivery standards. Align infrastructure with engineering service standards. Increased sewer system reliability.	
Project Year	2017	
Impacts of No Funding	Increased operational and maintenance costs to proactively manage infrastructure deficiencies.	

2017 Capital Project Features

Timberline Storm Water Upgrade – Construction/Design



Photo 1: Top view of sunken manhole



Photo 2: Damage to curb caused by excess pressure



Phot 3: Damage to curb due to overflow



Phot 4: North crack

2017 Capital Budget Highlights

Strategic Initiatives for 2017 and Beyond:

- Maintaining and upgrading critical infrastructure effectively and efficiently to deliver high quality and well-planned water, sanitary, storm and solid waste infrastructure throughout the region to support ***Building Balanced Regional Services (Goal 2 Strategic Plan)***
- Safeguarding the environment through infrastructure that ensures long term protection and improvements to support ***Building a Sustainable Region (Goal 6 Strategic Plan)***

Questions