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INFRASTRUCTURE & OPERATIONS RATE SUPPORTED BUDGET

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City of Thunder Bay
BUDGET RECAP (\$'000'S)

Waterworks

2017 BUDGET

FINANCIAL RESOURCES	2016 FT FTE	2016 PT FTE	2017 FT FTE	2017 PT FTE	2016 Approved Budget	2016 Estimated Actuals	2017 Base	2017 Base vs 2016 % Increase	One Time	User Fee Increase	Reduction	Expansion	2017 Requested Budget	2017 vs 2016 \$ Change	2017 vs 2016 % Change
Infrastructure & Operations Rate Supported															
Personnel Services	72.9	3.8	72.9	2.9	7,404.1	7,343.3	7,375.6	(0.4%)					7,375.6	(28.5)	(0.4%)
Purchased Services					583.6	539.9	589.7	1.0%					589.7	6.1	1.0%
Rents & Financial Expense					6,846.3	6,917.2	7,480.4	9.3%					7,480.4	634.1	9.3%
Materials					2,384.8	2,247.6	2,419.3	1.4%					2,419.3	34.5	1.4%
Gross Expenditures	72.9	3.8	72.9	2.9	17,218.8	17,048.0	17,865.0	3.8%					17,865.0	646.2	3.8%
User Fees & Service Charges					(27,655.5)	(27,365.1)	(26,995.0)	(2.4%)		(817.6)			(27,812.6)	(157.1)	0.6%
Licences, Permits						83.9									
Other Revenues					(40.0)	(6.5)	(40.0)						(40.0)		
Revenues					(27,695.5)	(27,287.7)	(27,035.0)	(2.4%)		(817.6)			(27,852.6)	(157.1)	0.6%
Subtotal	72.9	3.8	72.9	2.9	(10,476.7)	(10,239.7)	(9,170.0)	(12.5%)		(817.6)			(9,987.6)	489.1	(4.7%)
Interfunctional Transfers					4,700.2	3,125.4	5,015.9	6.7%				17.9	5,033.8	333.6	7.1%
Transfers to Own Funds					(130.3)	(78.0)	(130.3)						(130.3)		
Net Cost (Income)	72.9	3.8	72.9	2.9	(5,906.8)	(7,192.3)	(4,284.4)	(27.5%)		(817.6)		17.9	(5,084.1)	822.7	(13.9%)

Waterworks

USER FEES

Water billings, fixed and variable, will increase 3% in 2017, consistent with the 2014 Water Authority Financial Plan. This will be applied to all service charges paid by customers. The projected impact on the rate change is an increase of \$817,600 in revenues after allowing for the impact of expected changes in consumption on the 2017 base revenues.

EXPANSION

Increase allocation for project support from the Central Support Division (tax supported). Net budget impact is \$17,900.

FTE

There is a transfer of 0.9 FTEs from Waterworks to Wastewater programs after reviewing program workload.

	Net Change	Net Change	One Time	One Time	Reduction	Reduction	User Fees	User Fees	Expansions	Expansions
	FT FTE	PT FTE	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Total Waterworks		(0.9)						(817.6)		17.9

**CITY OF THUNDER BAY
CAPITAL DEPARTMENTAL SUMMARY 2017 - 2019
Gross Expense and Funding (\$000's)**

	Pages	2017 Gross Expense	2017 Net From User Fees	2018 Gross Expense	2018 Net From User Fees	2019 Gross Expense	2019 Net From User Fees
Waterworks	3-4 to 3-11	9,897.3	7,955.2	12,027.0	12,027.0	10,967.0	10,967.0
Total Waterworks		9,897.3	7,955.2	12,027.0	12,027.0	10,967.0	10,967.0

**CITY OF THUNDER BAY
CAPITAL DIVISIONAL SUMMARY 2017 - 2019
Gross Expense and Funding by Category (\$000's)**

	Pages	2017 Gross Expense	2017 Net From User Fees	2018 Gross Expense	2018 Net From User Fees	2019 Gross Expense	2019 Net From User Fees
Waterworks							
Plants, Pumping Stations & Reservoirs	3-5	925.0	925.0	925.0	925.0	1,758.0	1,758.0
Water Innovations, Programs & Technological Innovations	3-6	642.5	642.5	630.0	630.0	470.0	470.0
Water Fleet	3-7	165.0	165.0	312.0	312.0	448.0	448.0
Watermain Replace / Rehabilitation	3-8 to 3-9	7,999.8	6,057.7	9,995.0	9,995.0	8,126.0	8,126.0
Water Network Expansion	3-10	50.0	50.0	50.0	50.0	50.0	50.0
Water Professional Fees	3-11	115.0	115.0	115.0	115.0	115.0	115.0
Total Waterworks		9,897.3	7,955.2	12,027.0	12,027.0	10,967.0	10,967.0

CITY OF THUNDER BAY
Capital Project Detail Sheet
2017 - 2019 Capital Budget Forecast

Project Name :	Capital Works: Treatment Plants, Pump Stations, Reservoirs & Structures		
Department :	IOR Infrastructure & Operations - Rate	Project ID :	IOR-WAW-0001-TP-P
Division :	Waterworks	Parent ID :	IOR-WAW-0001-TP-P
Divisional Category :	Plants, Pumping Stations & Reservoirs	Requested Year :	2017
Project Classification :	Legislated	Completion Year :	On Going

PROJECT DETAILS

Project Description and Justification

Involves the replacement or rebuilding of equipment and improvements to the buildings and grounds of existing Water Treatment Plants, Pumping Stations & Reservoirs.

Consequences of Not Funding

Increased maintenance costs of deteriorated equipment, buildings and structures, and possible inefficiencies or failures in providing water supply.

PROJECT BUDGET

	2017	2018	2019	3 Year Budget Plan
Expenditures				
IOR-WAW-0001-TP-001 Bare Point WTP Process	216,000	100,000	1,125,000	1,441,000
IOR-WAW-0001-TP-002 Bare Point WTP Electrical	80,000	70,000	60,000	210,000
IOR-WAW-0001-TP-003 Bare Point WTP HVAC	60,000	61,000	60,000	181,000
IOR-WAW-0001-TP-004 Bare Point WTP Instrumentation	45,000	40,000	45,000	130,000
IOR-WAW-0001-TP-005 Bare Point WTP Buildings and Grounds	30,000	30,000	20,000	80,000
IOR-WAW-0001-TP-006 Pumping Stations and Reservoirs Process	26,000	46,000	4,000	76,000
IOR-WAW-0001-TP-007 Pumping Stations and Reservoirs Electrical	12,000	75,000	17,000	104,000
IOR-WAW-0001-TP-008 Pumping Stations and Reservoirs HVAC			4,000	4,000
IOR-WAW-0001-TP-009 Pumping Stations and Reservoirs Instrumentation	45,000	55,000	9,000	109,000
IOR-WAW-0001-TP-010 Pumping Stations and Reservoirs Buildings and	11,000	40,000	14,000	65,000
IOR-WAW-0001-TP-011 Bare Point WTP Professional fees	200,000	204,000	200,000	604,000
IOR-WAW-0001-TP-012 Bare Point WTP Unplanned repairs	200,000	204,000	200,000	604,000
Expenditures Total	925,000	925,000	1,758,000	3,608,000
Financing				
Other - User Fees	925,000	925,000	1,758,000	3,608,000
Financing Total	925,000	925,000	1,758,000	3,608,000

OPERATING IMPACT

No Operating Impact

CITY OF THUNDER BAY
Capital Project Detail Sheet
2017 - 2019 Capital Budget Forecast

Project Name :	Innovations, Programs & Technological Upgrades		
Department :	IOR Infrastructure & Operations - Rate	Project ID :	IOR-WAW-0002-NI-P
Division :	Waterworks	Parent ID :	IOR-WAW-0002-NI-P
Divisional Category :	Water Innovations, Prog & Tech	Requested Year :	2017
Project Classification :	Work in Progress	Completion Year :	On Going

PROJECT DETAILS

Project Description and Justification

Project includes studies, programs and equipment. Project expenses relate to the implementation of legislative changes. A large annual component addresses water conservation initiatives including the advertising of water restrictions and promotion of water conservation. This will also include projects which will promote energy efficiency. Annual funding for computer infrastructure, hardware and software. Equipment needed in operations and engineering field work related to waterworks.

Consequences of Not Funding

Increased costs in locating information and time delays in responding to operational issues. Poor record keeping can result in costly delays to repairs. Data maintenance costs will continue to be high and data will be maintained manually which allows for errors, creates access problems and is costly. Improved level of accuracy and preventative maintenance planning would result from better data which will not be possible without automation.

PROJECT BUDGET

	2017	2018	2019	3 Year Budget Plan
Expenditures				
IOR-WAW-0002-NI-001 Program Technology & Equipment	20,000	20,000	20,000	60,000
IOR-WAW-0002-NI-002 Water Use Innovation Program Efficiency	200,000	200,000	200,000	600,000
IOR-WAW-0002-NI-004 Large Water Meter Replacement Program	162,500	250,000	250,000	662,500
IOR-WAW-0002-NI-006 Water Fill Station Upgrades	160,000	160,000		320,000
IOR-WAW-0002-NI-007 Mariday Park Brushing Laneways	100,000			100,000
Expenditures Total	642,500	630,000	470,000	1,742,500
Financing				
Other - User Fees	642,500	630,000	470,000	1,742,500
Financing Total	642,500	630,000	470,000	1,742,500

OPERATING IMPACT

No Operating Impact

CITY OF THUNDER BAY
Capital Project Detail Sheet
2017 - 2019 Capital Budget Forecast

Project Name :	Waterworks Fleet Replacement	Project ID : IOR-WAW-0003-FW-P
Department :	IOR Infrastructure & Operations - Rate	Parent ID : IOR-WAW-0003-FW-P
Division :	Waterworks	Requested Year : 2017
Divisional Category :	Water Fleet	Completion Year : On Going
Project Classification :	Cyclical Asset Replacement	

PROJECT DETAILS

Project Description and Justification

Involves the replacement of existing equipment according to the Capital Budget Replacement Schedule and provides for new equipment within the areas under the jurisdiction of the Community Services Department. The replacement program is based on criteria which includes: quantitative cost analysis (life cycle costing), replacement policy, condition assessment (equipment appraisal, repair history and usage), and operational needs. For Waterworks, the fleet replacement program involves the purchase of various backhoes, vehicles, pumps, jackhammers, tools, etc. required for the maintenance of the water system including the Water Treatment Plant.

Consequences of Not Funding

Increased maintenance costs of outdated equipment and possible inefficiencies in providing adequate response in critical repair situations.

PROJECT BUDGET

	2017	2018	2019	3 Year Budget Plan
Expenditures				
IOR-WAW-0003-FW-001 Equipment Replacement and Refurbishing	165,000	312,000	448,000	925,000
Expenditures Total	165,000	312,000	448,000	925,000
Financing				
Other - User Fees	165,000	312,000	448,000	925,000
Financing Total	165,000	312,000	448,000	925,000

OPERATING IMPACT

No Operating Impact

CITY OF THUNDER BAY
Capital Project Detail Sheet
2017 - 2019 Capital Budget Forecast

Project Name :	Watermain Replacement & Rehabilitation	
Department :	IOR Infrastructure & Operations - Rate	Project ID : IOR-WAW-0004-WR-P
Division :	Waterworks	Parent ID : IOR-WAW-0004-WR-P
Divisional Category :	Watermain Replace / Rehabilitation	Requested Year : 2017
Project Classification :	Asset Maintenance	Completion Year : On Going

PROJECT DETAILS

Project Description and Justification

To provide a comprehensive program of replacement or rehabilitation of the watermain infrastructure to maintain the Water Distribution System. Funding is intended to address some of the deferred capital and increases in costs since Report 2005.173 (Transportation & Works) Asset Management Plan which recommended funding of \$5.6 million based on asset conditions and costs at that time.

Consequences of Not Funding

Infrastructure will continue to age and fail. Maintenance costs will increase and service to the public will be interrupted.

PROJECT BUDGET

	2017	2018	2019	3 Year Budget Plan
Expenditures				
IOR-WAW-0004-WR-001 Cathodic Protection	100,000	100,000	100,000	300,000
IOR-WAW-0004-WR-003 Kerr Hydrant Replacement	125,000	125,000	125,000	375,000
IOR-WAW-0004-WR-013 Lead Service Replacement Program	125,000	125,000	125,000	375,000
IOR-WAW-0004-WR-017 Cleaning and Cement Mortar Lining	1,628,300	1,300,000	1,300,000	4,228,300
IOR-WAW-0004-WR-038 Valves and Chambers	250,000	250,000	250,000	750,000
IOR-WAW-0004-WR-053 Mission Road	351,500			351,500
IOR-WAW-0004-WR-056 Utility Cut Restoration	400,000	375,000	100,000	875,000
IOR-WAW-0004-WR-021 Court Street - John to Bay	705,000			705,000
IOR-WAW-0004-WR-061 Archibald - Dease to Leith	375,000			375,000
IOR-WAW-0004-WR-004 Unspecified Looping Program	75,000	75,000	75,000	225,000
IOR-WAW-0004-WR-062 Banning - Bay to John	605,000			605,000
IOR-WAW-0004-WR-060 Brodie - Southern to Dease	300,000			300,000
IOR-WAW-0004-WR-065 Crescent Avenue - Logan to Bruce	375,000			375,000
IOR-WAW-0004-WR-057 Black Bay - Hodder to Dewe	715,000			715,000
IOR-WAW-0004-WR-032 Egan Street Ruttan Street to Algoma Street	100,000			100,000
IOR-WAW-0004-WR-059 Marion - Dewe to Current	400,000			400,000
IOR-WAW-0004-WR-058 Carlton - Empire to Dead End	100,000			100,000
IOR-WAW-0004-WR-063 Central - Balmoral to Taphouse	350,000			350,000
IOR-WAW-0004-WR-020 Munro Street Algoma Street to 100 m N	85,000			85,000
IOR-WAW-0004-WR-002 Unspecified Watermain Replacement and			1,801,000	1,801,000
IOR-WAW-0004-WR-005 Commerce Street Mountdale Avenue to Walsh		525,000		525,000
IOR-WAW-0004-WR-007 Brock Street 100 Block		320,000		320,000
IOR-WAW-0004-WR-008 Gertrude Street Conmee Street to Dead End		90,000		90,000
IOR-WAW-0004-WR-009 High Street Tupper Street to Hebert Street		345,000		345,000
IOR-WAW-0004-WR-019 Aspen Street River Street to Dawson Street		165,000		165,000
IOR-WAW-0004-WR-022 Amelia Street Edward Street to Ford Street		620,000		620,000
IOR-WAW-0004-WR-024 Leland Avenue Gordon Street to Arthur Street		380,000		380,000
IOR-WAW-0004-WR-031 College Street Hebert Street to Red River Road		315,000		315,000

CITY OF THUNDER BAY
Capital Project Detail Sheet
2017 - 2019 Capital Budget Forecast

Project Name :	Watermain Replacement & Rehabilitation	
Department :	IOR Infrastructure & Operations - Rate	Project ID : IOR-WAW-0004-WR-P
Division :	Waterworks	Parent ID : IOR-WAW-0004-WR-P
Divisional Category :	Watermain Replace / Rehabilitation	Requested Year : 2017
Project Classification :	Asset Maintenance	Completion Year : On Going

PROJECT BUDGET

	2017	2018	2019	3 Year Budget Plan
Expenditures				
IOR-WAW-0004-WR-033 Donald Street Vickers Street to Archibald Street		340,000		340,000
IOR-WAW-0004-WR-012 Bare Point Watermain Replacement Phase III		1,500,000		1,500,000
IOR-WAW-0004-WR-018 Knight Street Dawson Street to River Street		225,000		225,000
IOR-WAW-0004-WR-026 Central Avenue Ball Park Road to Taphouse			800,000	800,000
IOR-WAW-0004-WR-027 Luci Court Isabella Street to Moodie Street		315,000		315,000
IOR-WAW-0004-WR-028 Cedar Street Juniper Street to Windsor Street		415,000		415,000
IOR-WAW-0004-WR-029 Dewe Avenue Black Bay Road to Arundel Street		1,100,000		1,100,000
IOR-WAW-0004-WR-030 Blucher Crescent Junot Avenue to Blucher		265,000		265,000
IOR-WAW-0004-WR-014 Bare Point Watermain Replacement Phase IV			1,500,000	1,500,000
IOR-WAW-0004-WR-041 Chippewa Road - City Road New Watermain			1,500,000	1,500,000
IOR-WAW-0004-WR-043 Simpson Street Pacific/Northern to Bridge			450,000	450,000
IOR-WAW-0004-WR-042 First Avenue - High to Beverly		725,000		725,000
IOR-WAW-0004-WR-066 First Ave Memorial to Fort William Rd	835,000			835,000
Expenditures Total	7,999,800	9,995,000	8,126,000	26,120,800
Financing				
Other - Capital Carryforward	228,900			228,900
Other - User Fees	6,057,700	9,995,000	8,126,000	24,178,700
Other - Other Revenue	1,713,200			1,713,200
Financing Total	7,999,800	9,995,000	8,126,000	26,120,800

OPERATING IMPACT

No Operating Impact

CITY OF THUNDER BAY
Capital Project Detail Sheet
2017 - 2019 Capital Budget Forecast

Project Name :	Network Expansion	Project ID : IOR-WAW-0005-NE-P
Department :	IOR Infrastructure & Operations - Rate	Parent ID : IOR-WAW-0005-NE-P
Division :	Waterworks	Requested Year : 2017
Divisional Category :	Water Network Expansion	Completion Year : On Going
Project Classification :	New Projects	

PROJECT DETAILS

Project Description and Justification

Network expansion will increase capacity and install new pipe to the infrastructure. Network Expansions include subdivision oversizing and Local Improvements.

Consequences of Not Funding

Restricts development and ability to make system improvements. Negative impact on subdivision development and new growth.

PROJECT BUDGET

	2017	2018	2019	3 Year Budget Plan
Expenditures				
IOR-WAW-0005-NE-001 Subdivision Oversizing	50,000	50,000	50,000	150,000
Expenditures Total	50,000	50,000	50,000	150,000
Financing				
Other - User Fees	50,000	50,000	50,000	150,000
Financing Total	50,000	50,000	50,000	150,000

OPERATING IMPACT

No Operating Impact

CITY OF THUNDER BAY
Capital Project Detail Sheet
2017 - 2019 Capital Budget Forecast

Project Name :	Professional Fees, Studies & Miscellaneous	
Department :	IOR Infrastructure & Operations - Rate	Project ID : IOR-WAW-0006-PW-P
Division :	Waterworks	Parent ID : IOR-WAW-0006-PW-P
Divisional Category :	Water Professional Fees	Requested Year : 2017
Project Classification :	Asset Maintenance	Completion Year : On Going

PROJECT DETAILS

Project Description and Justification

Involves contracting services for studies and reports by engineering, legal, accounting or other professionals. This will include the review of legislation and regulations to determine compliance issues and implementation strategies. Pre-engineering design costs for in-house staff to prepare designs for upcoming capital projects related to the water network. Structural inspections of waterworks physical plants are required on an ongoing basis to ensure structural integrity.

Consequences of Not Funding

If structures are not inspected and deterioration is allowed to occur, tunnels and other assets may fail. Pre-engineering work is required to ensure that regular asset maintenance can be carried out in a timely manner.

PROJECT BUDGET

	2017	2018	2019	3 Year Budget Plan
Expenditures				
IOR-WAW-0006-PW-001 Professional fees for studies, DWQMS salary,	75,000	75,000	75,000	225,000
IOR-WAW-0006-PW-002 Pre-Engineering design for field staff	40,000	40,000	40,000	120,000
Expenditures Total	115,000	115,000	115,000	345,000
Financing				
Other - User Fees	115,000	115,000	115,000	345,000
Financing Total	115,000	115,000	115,000	345,000

OPERATING IMPACT

No Operating Impact

**CITY OF THUNDER BAY
CAPITAL FORECAST DEPARTMENTAL SUMMARY BY DIVISION
Gross Expense (\$000's)**

	Pages	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		Gross	Gross	Gross	Gross	Gross	Gross	Gross	Gross	Gross	Gross
		Expense	Expense	Expense	Expense	Expense	Expense	Expense	Expense	Expense	Expense
Waterworks	3-13	8,825.0	8,439.0	9,636.0	8,408.0	8,736.0	9,661.0	8,341.7	8,130.0	9,311.0	8,510.4
Total Waterworks		8,825.0	8,439.0	9,636.0	8,408.0	8,736.0	9,661.0	8,341.7	8,130.0	9,311.0	8,510.4

**CITY OF THUNDER BAY
CAPITAL FORECAST DIVISIONAL SUMMARY
Gross Expense (\$000's)**

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	Gross	Gross	Gross	Gross	Gross	Gross	Gross	Gross	Gross	Gross
	Expense	Expense	Expense	Expense	Expense	Expense	Expense	Expense	Expense	Expense
Waterworks										
Plants, Pumping Stations & Reservoirs	980.0	759.0	1,760.0	658.0	1,186.0	1,711.0	836.7	860.0	1,889.0	1,250.4
Water Innovations, Programs & Technological Updates	470.0	650.0	650.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0
Water Fleet	635.0	290.0	486.0	510.0	310.0	710.0	265.0	30.0	182.0	20.0
Watermain Replace / Rehabilitation	6,575.0	6,575.0	6,575.0	6,575.0	6,575.0	6,575.0	6,575.0	6,575.0	6,575.0	6,575.0
Water Network Expansion	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
Water Professional Fees	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0
Total Waterworks	8,825.0	8,439.0	9,636.0	8,408.0	8,736.0	9,661.0	8,341.7	8,130.0	9,311.0	8,510.4