

**2015 - 2016**

**ENVIRONMENTAL UTILITIES**

**TANGIBLE CAPITAL  
ASSET BUDGET**

# 2015 - 2016 ENVIRONMENTAL UTILITIES

## TANGIBLE CAPITAL ASSET BUDGET

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**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Summary of Capital (TCA) Budget Requests**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

PAGE	TCA DESCRIPTION	BUDGET REQUEST					BUDGET FORECAST					10 YEAR TOTAL	FUNDING SOURCE	
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024			
<b>Core Capital Projects</b>														
1.3	Water Booster Station Standby Generator	\$ -	\$ 50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50	WC
1.5	Micellaneous Water Distribution System Upgrades	300	300	300	300	300	300	300	300	300	300	300	3,000	WC
1.7	Water Meters	375	350	250	250	250	250	250	250	250	250	250	2,725	WC
1.9	Water Mains Replacement - Asset Management Program	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000	7,000	50,000	DEB
1.11	Valve Replacement Program	250	-	-	250	-	-	250	-	-	250	-	1,000	WC
1.13	Water Mains Replacement - Downtown Rehabilitation Program	1,950	-	1,500	-	1,500	-	1,500	-	-	-	-	6,450	DEB
1.15	Water Main Extension Program (Cobourg Ave - Flats)	-	-	-	-	-	-	-	2,500	-	-	-	2,500	WC
1.17	Water Main Extension Program (Division Ave Twinning)	-	-	5,000	-	-	-	-	-	-	-	-	5,000	DEB
1.19	Oxford Ave SW and 10th Ave SW Valve Chamber Upgrades	-	-	-	-	-	-	-	1,000	-	-	-	1,000	WC
1.21	Replace Deep Well Anode Beds	-	-	-	-	-	-	200	-	-	-	-	200	WC
1.23	Airport Booster Station Suction Line Upgrades	-	1,000	-	-	-	-	-	-	-	-	-	1,000	WC
1.25	Booster Station PLC & Electrical Control Upgrades	-	150	-	-	150	-	-	-	200	-	-	500	WC
1.27	Water Treatment Plant- Building Sustainability	-	150	-	-	150	150	-	150	-	150	-	750	WC
1.29	Water Treatment Plant Clarification Rehabilitation (1 & 3 SCU)	150	150	-	-	-	-	-	-	-	-	-	300	WC
1.31	Water Treatment Plant Control System Rehabilitation	1,000	-	-	-	-	-	-	-	-	-	-	1,000	WC
1.33	Water Treatment Plant Electrical System Upgrade	-	7,000	-	-	-	-	-	-	-	-	-	7,000	DEB
1.35	Water Treatment Plant Enhancements	125	125	125	125	125	150	150	150	150	150	150	1,375	WC
1.37	Water Treatment Plant Heating System Rehabilitation	-	-	250	-	-	-	-	-	-	-	-	250	WC
1.39	Water Treatment Plant Instrumentation Rehabilitation	-	250	-	-	-	-	-	-	-	-	-	250	WC
1.41	Water Treatment Plant Solids Handling Facility	-	3,000	-	17,000	-	-	-	-	-	-	-	20,000	DEB
1.43	NW Transmission Line Box Springs Rd NW (Industrial Plant) - <u>Conditional</u>	-	-	2,400	-	-	-	-	-	-	-	-	2,400	WC / 3rd Party
<b>Offsite Capital Projects</b>														
1.45	Twin Line NW Booster Station to Box Springs Road NW (BSBP)	-	-	-	6,000	-	-	-	-	-	-	-	6,000	WC
1.47	South Ridge Reservoir Upgrade Pump #5	400	-	-	-	-	-	-	-	-	-	-	400	WC
1.49	Main Reservoir Cell # 3	-	-	-	-	-	6,300	-	-	-	-	-	6,300	DEB
1.51	Transmission Line 3rd St NW to NW Booster Station	-	-	-	-	-	-	3,000	-	-	-	-	3,000	WC
1.53	North West Booster Station Expansion Pump #4	-	-	80	-	-	-	-	-	-	-	-	80	WC
1.55	North West Booster Station Expansion Pump #5	-	-	-	-	-	-	-	-	-	-	100	100	WC
1.57	Water Treatment Plant Capacity Expansion	-	-	-	-	-	-	-	-	-	-	35,000	35,000	DEB
1.59	Water Treatment Plant Raw Water Capacity Upgrade (5 Lowlift Pump)	-	800	-	-	-	-	-	-	-	-	-	800	WC
1.61	Water Treatment Plant River Water Intake and Raw Water Pumping Station	6,000	-	23,000	-	-	-	-	-	-	-	-	29,000	DEB
<b>DEPARTMENTAL TOTAL</b>		<b>\$ 13,550</b>	<b>\$ 16,325</b>	<b>\$ 36,905</b>	<b>\$ 27,925</b>	<b>\$ 7,475</b>	<b>\$ 12,150</b>	<b>\$ 11,650</b>	<b>\$ 10,350</b>	<b>\$ 7,900</b>	<b>\$ 43,200</b>	<b>\$ 187,430</b>		



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Summary of Capital (TCA) Budget Requests**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

PAGE	TCA DESCRIPTION	BUDGET REQUEST		BUDGET FORECAST							10 YEAR TOTAL	FUNDING SOURCE
		2015	2016	2017	2018	2019	2020	2021	2022	2023		
<b>FINANCING SUMMARY</b>												
	DEB) Debenture	\$ 10,950	\$ 13,000	\$ 33,500	\$ 21,000	\$ 6,500	\$ 11,300	\$ 7,500	\$ 7,000	\$ 7,000	\$ 42,000	\$ 159,750
	WC) Working Capital	2,600	3,325	2,205	6,925	975	850	4,150	3,350	900	1,200	26,480
	EXT) Other External Sources (Third Party / Trade-in)	-	-	1,200	-	-	-	-	-	-	-	1,200
	<b>FINANCING TOTAL</b>	<b>\$ 13,550</b>	<b>\$ 16,325</b>	<b>\$ 36,905</b>	<b>\$ 27,925</b>	<b>\$ 7,475</b>	<b>\$ 12,150</b>	<b>\$ 11,650</b>	<b>\$ 10,350</b>	<b>\$ 7,900</b>	<b>\$ 43,200</b>	<b>\$ 187,430</b>
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL</b>												
	Loan Interest	\$ -	\$ 212	\$ 429	\$ 1,072	\$ 1,411	\$ 1,511	\$ 1,757	\$ 1,861	\$ 1,949	\$ 2,017	
	Amortization	164	615	1,247	1,962	2,396	2,584	2,806	2,998	3,159	3,739	
	<b>TOTAL NET OPERATING EFFECT:</b>	<b>\$ 164</b>	<b>\$ 827</b>	<b>\$ 1,676</b>	<b>\$ 3,034</b>	<b>\$ 3,807</b>	<b>\$ 4,095</b>	<b>\$ 4,563</b>	<b>\$ 4,859</b>	<b>\$ 5,108</b>	<b>\$ 5,756</b>	
	Loan Principal	-	212	447	1,108	1,501	1,659	2,010	2,200	2,388	2,562	
	<b>FTEs</b>											



## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET Current Year Capital Summary and Carry Forwards

*In thousands of dollars*

### ENVIRONMENTAL UTILITIES - WATER UTILITY

**FOR INFORMATION: CARRY FORWARD OF AMOUNTS PREVIOUSLY APPROVED**

YR.	PROJECT DESCRIPTION	APPRV'D BUDGET	EST. TO 31/12/14	EST. AMTS. TO BE SPENT IN:								10 YEAR EST. TOTAL				
				2015	2016	2017	2018	2019	2020	2021	2022		2023	2024		
2012	Watermain Header Replacement	\$ 100	\$ -	\$ -	\$ 100											\$ 100
2012	Valve Replacement	250	50	200	-											200
2012	Watermain Replacement - Downtown	300	250	50	-											50
2012	Miscellaneous Distribution Upgrades	300	40	-	260											260
2012	AMI Automated Meter Reading	6,609	6,300	-	309											309
2013	Water Meters	200	100	-	100											100
2013	Watermain Replacement	2,000	1,895	-	105											105
2013	Miscellaneous Distribution Upgrades	300	100	200	-											200
2014	Water Meters	200	-	-	200											200
2014	Watermain Extension Program	3,000	2,500	500	-											500
2014	Watermain Replacement	3,000	2,191	809	-											809
2014	Miscellaneous Distribution Upgrades	300	150	150	-											150
2010	Residuals Treatment Facility	10,000	9,999	1	-											1
2013	WTP High Lift Pump #12	810	50	500	260											760
2013	WTP #2 & #3 Filter Plant Upgrades	700	150	300	250											550
2013	WTP Chlorine System Rehabilitation	240	10	230	-											230
2006	SW Sector Water Supply System Upgrade	12,500	688	-	-											-
2012	Asset Management /Work Order System - Approved in Municipal Works Capital Budget	-	-	125	125											-
<b>TOTAL CARRY FORWARDS</b>		<b>\$ 40,809</b>	<b>\$ 24,473</b>	<b>\$ 3,065</b>	<b>\$ 1,709</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,524</b>





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Standby Generators	-	50	-	-	-	-	-	-	-	-
	-	50	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	50	-	-	-	-	-	-	-	-
	-	50	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 3	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ 3	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** MICELLANEOUS WATER DISTRIBUTION SYSTEM UPGRADES

**DESCRIPTION:** This program provides for the funding of the various components of the Water Distribution system

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life, Improves Output Quality  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 This program will provide funding for the general life-cycle repair/replacement, and preventative maintenance of various small scale componenets within the Water Distribution system due to regular wear and tear. Each year condition assessments for the various components of the Water Distribution System (water mains, services, valves, regulators, booster stations) are completed and evaluated for repairs/ lifecycle replacement, or upgrade requirements. This program maintains equipment in good operating order, improves efficiencies, extends the assets useful life, and ensures regulatory compliance with both provincial and federal regulatory authorities.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Addressing minor capital improvements as they arise ensures the department is able to respond effectively to infrastructure needs. Without this ability and flexibility, the Water Utility will begin to accumulate infrastru

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. The option in not recommended due to the increased risk of infrastructure failure due to insufficient preventative maintenance activities. Increased infrastructure failures will lead to reduced water quality and increased risk of regulatory non-compliance.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Micellaneous Water Distribution System Upgrades	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>
<b>FUNDING SOURCE:</b>										
Working capital	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300
<b>Total Financing</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
MICELLANEOUS WATER DISTRIBUTION SYSTEM UPGRADES	300	300	300	300	300	300	300	300	300	300
	300	300	300	300	300	300	300	300	300	300
<b>FUNDING SOURCE:</b>										
Internal Funding	300	300	300	300	300	300	300	300	300	300
	300	300	300	300	300	300	300	300	300	300
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 2	\$ 6	\$ 10	\$ 14	\$ 18	\$ 22	\$ 26	\$ 30	\$ 34	\$ 38
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 2</b>	<b>\$ 6</b>	<b>\$ 10</b>	<b>\$ 14</b>	<b>\$ 18</b>	<b>\$ 22</b>	<b>\$ 26</b>	<b>\$ 30</b>	<b>\$ 34</b>	<b>\$ 38</b>
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER METERS

**DESCRIPTION:** This program provides the funding to purchase Residential and Commercial water meters to meet growth demands.

**TCA LOCATION:** EXPECTED LIFE: 20

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This capital provides funding for the acquisition of water meters including the life-cycle replacement of existing water meters for residential and non-residential customers, and the installation of new meters into new construction/developments. The Water Utility provides water meters to record utility consumption information for utility billing purposes.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Water meters have a useful life of approximately 20 years. Not proceeding with this request increases the risk of meter failures which are used for utility billing purposes. An inability to properly bill customers will result in a loss of revenue from under read water meters thus impact revenue requirements for the Utility to cover operating costs.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to the risk described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Water Meters	\$ 375	\$ 350	\$ 250	\$ 250	\$ 250	\$ 250	\$ 250	\$ 250	\$ 250	\$ 250
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 375</b>	<b>\$ 350</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 375	\$ 350	\$ 250	\$ 250	\$ 250	\$ 250	\$ 250	\$ 250	\$ 250	\$ 250
<b>Total Financing</b>	<b>\$ 375</b>	<b>\$ 350</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 250</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**

**Statement of Cash Requirements**

*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Water Meters	375	350	250	250	250	250	250	250	250	250
	375	350	250	250	250	250	250	250	250	250
<b>FUNDING SOURCE:</b>										
Internal Funding	375	350	250	250	250	250	250	250	250	250
	375	350	250	250	250	250	250	250	250	250
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 9	\$ 28	\$ 43	\$ 55	\$ 68	\$ 80	\$ 93	\$ 105	\$ 118	\$ 130
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 9</b>	<b>\$ 28</b>	<b>\$ 43</b>	<b>\$ 55</b>	<b>\$ 68</b>	<b>\$ 80</b>	<b>\$ 93</b>	<b>\$ 105</b>	<b>\$ 118</b>	<b>\$ 130</b>
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER MAINS REPLACEMENT - ASSET MANAGEMENT PROGRAM

**DESCRIPTION:** This program provides funding for the replacement of aging water main infrastructure.

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The program provides the funding for the replacement of water distribution infrastructure which has exceeded its useful life and requires replacement due to poor condition assessments. Multiple areas within the City Water Distribution System have been identified as having potential leakage/failure and/or poor water quality due to infrastructure age surpassing their useful life. The Engineering Conditional Assessments, Life Cycle Analysis and the Leak detection programs will identify where line replacements should occur. This program provides funding for water replacement projects for the areas that require replacement based on condition assessments from the preceding programs. Water lines will be replaced along with sewer main lines in most cases to reduce overall costs. The City currently has 81km of water pipe (19%) that is older than 50 years old and in need of life cycle replacement. This program complies with the Aging Infrastructure Policy 0154.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Infrastructure which exceeds its useful life is at higher risk of failure and water quality concerns. Failure of infrastructure within the Water Distribution System poses a danger to public health from contamination in the water supply and further regulatory risks due to non-compliance with provincial and federal regulations.

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. This option is not recommended as it will increase the infrastructure deficit to a more critical state and increase the risks to the public as mentioned above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Water Main Replacement - Asset Management	\$ 3,000	\$ 3,000	\$ 4,000	\$ 4,000	\$ 5,000	\$ 5,000	\$ 6,000	\$ 6,000	\$ 7,000	\$ 7,000
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 3,000</b>	<b>\$ 3,000</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ 5,000</b>	<b>\$ 5,000</b>	<b>\$ 6,000</b>	<b>\$ 6,000</b>	<b>\$ 7,000</b>	<b>\$ 7,000</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ 3,000	\$ 3,000	\$ 4,000	\$ 4,000	\$ 5,000	\$ 5,000	\$ 6,000	\$ 6,000	\$ 7,000	\$ 7,000
<b>Total Financing</b>	<b>\$ 3,000</b>	<b>\$ 3,000</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ 5,000</b>	<b>\$ 5,000</b>	<b>\$ 6,000</b>	<b>\$ 6,000</b>	<b>\$ 7,000</b>	<b>\$ 7,000</b>



## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

### Statement of Cash Requirements

*In thousands of dollars*

#### ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Water Mains Replacement - Asset Management Program	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000
	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000
<b>FUNDING SOURCE:</b>										
ACFA	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000
	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 20	\$ 60	\$ 107	\$ 160	\$ 220	\$ 287	\$ 360	\$ 440	\$ 527	\$ 620
Debt - Interest	-	51	101	167	232	312	391	486	578	686
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 20</b>	<b>\$ 111</b>	<b>\$ 208</b>	<b>\$ 327</b>	<b>\$ 452</b>	<b>\$ 599</b>	<b>\$ 751</b>	<b>\$ 926</b>	<b>\$ 1,105</b>	<b>\$ 1,306</b>
<b>Debt - Principal</b> Term - 20		<b>53</b>	<b>107</b>	<b>179</b>	<b>253</b>	<b>346</b>	<b>440</b>	<b>553</b>	<b>669</b>	<b>804</b>
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** VALVE REPLACEMENT PROGRAM

**DESCRIPTION:** This program provides funding for the replacement of valves in the water distribution system.

**TCA LOCATION:** EXPECTED LIFE: 30

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This capital provides funding for the acquisition of Water Distribution System valves as part of Environmental Utilities' ongoing lifecycle replacement and repair program. The water valves in the Water Distribution System require an ongoing repair/replacement to ensure effective operation when required to isolate parts of the water distribution system to effect repairs/replacement on the water distribution mains.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Non functioning isolation valves will result in a much larger areas experiencing longer periods without water when isolation is required to repair/replace water lines. This will result in significantly more customers being without water and a reduction in customer service levels. Industry best practices recommend replacing inoperable water main valves to ensure the effective and safe operation of the Water Distribution System. Water Distribution Infrastructure failure is a danger to public health from contamination in the water supply and poses a significant risk of non-compliance with both provincial and federal regulations.

**OPTIONS CONSIDERED:**

Do not proceed with this program. This option is not recommended due to the significant risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Valve Replacement Program - Water Mains	\$ 250	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ 250
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>
<b>FUNDING SOURCE:</b>										
Working capital	\$ 250	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ 250
<b>Total Financing</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Valve Replacement Program	250	-	-	250	-	-	250	-	-	250
	250	-	-	250	-	-	250	-	-	250
<b>FUNDING SOURCE:</b>										
Internal Funding	250	-	-	250	-	-	250	-	-	250
	250	-	-	250	-	-	250	-	-	250
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 4	\$ 8	\$ 8	\$ 13	\$ 17	\$ 17	\$ 21	\$ 25	\$ 25	\$ 29
<b>Total Incremental Expenses (Savings)</b>	\$ 4	\$ 8	\$ 8	\$ 13	\$ 17	\$ 17	\$ 21	\$ 25	\$ 25	\$ 29
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER MAINS REPLACEMENT - DOWNTOWN REHABILITATION PROGRAM

**DESCRIPTION:** This program provides funding for the replacement of Water Mains in the Downtown area of the City.

**TCA LOCATION:** EXPECTED LIFE(Years): 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The Downtown core water distribution system is well over 50 years old and consists of cast iron pipes with a significant potential for leakage and failure. This infrastructure is well beyond the life cycle of the pipe and requires replacement. This program provides funding for water main replacement projects for the downtown core. This project supports Council's priority to improve the downtown core. This program includes pipe replacement along with sanitary sewer pipes in most cases and will be combined with Municipal Works Department for simultaneous upgrades to the storm/road systems to reduce overall costs and minimize impacts to the customer.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 The Water Distribution system within much of the Downtown core has exceeded its useful life. This significantly increases the risk of failure due to age and condition. The risk of increased failure is a significant risk to public health, customer service level expectations, and both provincial and federal regulatory requirements.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This is not the recommended option and would be in direct contradiction to Council's priority to improve the downtown core and the approved Downtown Infrastructure Asset Replacement Plan.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Downtown Water Main Replacement	\$ 1,950	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 1,950</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ 1,950	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 1,950</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>





2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Water Mains Replacement - Downtown Rehabilitation Program	1,950		1,500	-	1,500	-	1,500	-	-	-
	1,950	-	1,500	-	1,500	-	1,500	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	1,950		1,500		1,500		1,500			
	1,950	-	1,500	-	1,500	-	1,500	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 13	\$ 26	\$ 36	\$ 46	\$ 56	\$ 66	\$ 76	\$ 86	\$ 86	\$ 86
Debt - Interest	-	59	58	101	98	141	137	177	172	165
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 13</b>	<b>\$ 85</b>	<b>\$ 94</b>	<b>\$ 147</b>	<b>\$ 154</b>	<b>\$ 207</b>	<b>\$ 213</b>	<b>\$ 263</b>	<b>\$ 258</b>	<b>\$ 251</b>
Debt - Principal										
Term - 25		53	55	97	100	144	148	193	199	206
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER MAINS EXTENSION PROJECT - (RIVER FLATS AREAS SE)

**DESCRIPTION:** This project provides funding to carry out various required watermain extensions within the River Flats area to improve service levels.

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The project provides funding for the implementation of water main extensions within the River Flats service area. Water main extensions projects address poor service quality areas prone to poor water quality and/or reduced fire flow capabilities. Areas identified have dead end water lines which result in poor water flow and increased water quality concerns to the residents and the Water Utility. This is a historic condition in specific areas and currently have infrastructure which is over 50 years old. Extending the water distribution system to create a continuous loop, removing dead end lines, thus improving water quality, flows, and service levels to customers.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Not proceeding will result in known issues not being addressed, this includes the risk of failure to achieve provincial regulatory requirements for lack of chlorine residual in the water distribution system in these areas. This will result in poorer water quality and reduced fire flows in the subject areas thus reducing customer service levels below expectations.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Water Mains Extension Program - Flats	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,500	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,500</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,500	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,500</b>	<b>\$ -</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Water Mains Extension Project - (River Flats Areas SE)	-	-	-	-	-	-	-	2,500	-	-
	-	-	-	-	-	-	-	2,500	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	-	-	-	-	-	-	2,500	-	-
	-	-	-	-	-	-	-	2,500	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	17	33	33
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	17	33	33
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER MAIN EXTENSION PROGRAM (DIVISION AVE SOUTH TWINNING)

**DESCRIPTION:** This project provides the funding to carry out the required water main extension in the Division Avenue South area.

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The project provides funding for the implementation of water main extensions within the Division Avenue South service area. Water main extensions projects address poor service quality areas prone to poor water quality and/or reduced fire flow capabilities. Areas identified have dead end water lines which result in poor water flow and increased water quality concerns to the residents and the Water Utility. The areas adjacent to Division Ave South have dead ends which result in inadequate water flow and water quality concerns to the residents and the Water Utility. Extending the water distribution system creates a continuous loop, removing dead end lines, thus improving water quality, flows, and service levels to customers. Water mains extension program for the Division Ave South area.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Not proceeding will result in known issues not being addressed, this includes the risk of failure to achieve provincial regulatory requirements for lack of chlorine residual in the water distribution system in these areas. This will result in poorer water quality and reduced fire flows in the subject areas thus reducing customer service levels below expectations.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This option is not recommended due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Water Main Extension - Division Ave South	\$ -	\$ -	\$ 5,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ -	\$ 5,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Water Main Extension Program (Division Ave South Twinning)	-	-	5,000	-	-	-	-	-	-	-
	-	-	5,000	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	-	5,000	-	-	-	-	-	-	-
	-	-	5,000	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Expenses (Savings):										
Amortization	\$ -	\$ -	\$ 33	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67
Debt - Interest	-	-	-	152	148	143	139	134	130	125
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 33</b>	<b>\$ 219</b>	<b>\$ 215</b>	<b>\$ 210</b>	<b>\$ 206</b>	<b>\$ 201</b>	<b>\$ 197</b>	<b>\$ 192</b>
Debt - Principal				136	140	145	149	154	158	163
Term - 25										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** OXFORD AVE SW & 10th AVE SW WATER VALVE CHAMBER UPGRADES

**DESCRIPTION:** This project provides funding for the Oxford Avenue SW & the 10th Avenue SW Water Valve Chambers upgrade.

**TCA LOCATION:** EXPECTED LIFE: 30

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 These valve chambers and the large water main valves contained within them are at the end of their useful life thus require replacement and are inoperable. These valve chambers are strategically important to effectively isolate the various major water distribution zones within the City's South as required by the City's Emergency Response Plan (Treated Water Management Plan). This project will be implemented after the South West Sector Water Transmission Line and Booster Station projects are completed as determined by the Cimmaron Development. This project cannot be completed prior to the completion of the SW Sector water line due to operational constraints and significant risks to customers during construction activities.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 The valve chambers listed within this project are strategically important to the effective isolation and execution of the Treated Water management Plan. The City will not be able to isolate key water distribution service zones in the city as required by the Emergency Response Plan to conserve water in the Main Reservoir if this work is not completed. The consequence is reduced water reserves and the significant outcome of a depleted Main Reservoir under emergency conditions thus leading to significant public health and safety risks.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This option is not recommended due to the risks described above. The current valves are inoperable thus do not provide the operational requirements necessary to effectively execute the City's Treated Water management Plan.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Valve Chamber Upgrades	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Oxford Ave SW & 10th Ave SW Water Valve Chamber Upgrades	-	-	-	-	-	-	-	1,000	-	-
	-	-	-	-	-	-	-	1,000	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	-	-	-	-	-	-	1,000	-	-
	-	-	-	-	-	-	-	1,000	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	17	33	33
Debt - Interest	-	-	-	-	-	-	-	-	30	29
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	17	63	62
<b>Debt - Principal</b> Term - 20									37	38
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** REPLACE DEEP WELL ANODES PROGRAM

**DESCRIPTION:** This project provides funding for life cycle replacement of the Deep Well Anode Beds that are required for cathodic protection of watermain crossing the South Saskatchewan River.

**TCA LOCATION:** Water Treatment Plant & River Crossings **EXPECTED LIFE:** 10

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's useful Life

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

Deep Well Anode beds provide cathodic protection of water lines located underneath the South Saskatchewan River. These beds protect the water lines from corrosion. Two deep well anode beds were installed in 2010 and require life cycle replacement. The Gas Department, who have Cathodic Protection personnel, will coordinate the addition of these two deep well anode beds to their yearly drilling program on behalf of the Environmental Utilities Department.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Cathodic protection protects critical infrastructure, located beneath the South Saskatchewan River, from corrosion. The lack of effective Cathodic Protection may result in the premature failure of water transmissio

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to the potential risks outlined above including the significant difficulties of repair/replacing infrastructure under a water course.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Replace Deep Well Anode Beds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 200	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 200</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 200	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 200</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Replace Deep Well Anodes Program	-	-	-	-	-	-	200	-	-	-
	-	-	-	-	-	-	200	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	-	-	-	-	-	200	-	-	-
	-	-	-	-	-	-	200	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10	20	20	20
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	10	20	20	20
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** AIRPORT BOOSTER STATION SUCTION LINE UPGRADES

**DESCRIPTION:** This project provides funding for the Airport Booster Station Suction Line Upgrades

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The Airport Booster Station requires upgrades/modifications to te existng piping configuration to accommodate service deficiencies within the Tower Estates development while providing additional capacity for growth in the SW area of the City. This upgrade is required to maintain sufficient pressure and fire flow capabilities within the Tower Estates development area due to demonstrated deficiencies in supply during high demand periods and to enhance current service levels to meet customer expectations and current City standards.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 This project is required to maintain service levels as per City standards in other areas of the City. Not upgrading the Airport Booster station suction line will result in inadequate water supply to the SW area including Tower Estates during periods of high demand or required fire flows. This supply deficiency will lead to a service shortfall inconsistent with our servicing standards.

**OPTIONS CONSIDERED:**  
 Do not proceed with the project. This option is not recommended as it is in non-compliance with current city standards in other areas of the City. This will also introduce increased risk of service disruptions thus posing a risk to public safety.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Airport Booster Station Suction Line	\$ -	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Airport Booster Station Suction Line Upgrades	-	1,000	-	-	-	-	-	-	-	-
	-	1,000	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	1,000	-	-	-	-	-	-	-	-
	-	1,000	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 7	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 7</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>
Debt - Principal										
Term -										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** BOOSTER STATION PLC & ELECTRICAL CONTROL UPGRADES PROGRAM

**DESCRIPTION:** This program provides for the project funding for the upgrades to the Booster Station PLCs and Electrical Controls.

**TCA LOCATION:** EXPECTED LIFE: 15

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 Programmable Logic Controllers (PLCs) are employed as the primary automation/control tool for all remote Booster Stations. As with other computer or electrical equipment, PLCs require lifecycle replacement due to normal wear and tear, and age. This program is provided funding for the life-cycle replacement of aging PLCs within the current Water Distribution System. The existing booster stations PLCs and electrical controls require regular upgrading to ensure they continue to operate as designed in controlling the equipment located within the Booster stations.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Electronic equipment has a useful life. Once that useful life has been exceeded then the risk of failure significantly increases. Control system failures lead to further equipment failures and render the station inoperable thus impacting service levels and the availability of water for public health and safety and adequate flow/pressure necessary for fire flows. This also increases the risk of provincial regulatory non-compliance due to distribution system pressure losses.

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. This option is not recommended due to significant potential risk to public health and safety due to inoperable infrastructure as described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Booster Station PLC & Electrical Controls upgrade	\$ -	\$ 150	\$ -	\$ -	\$ 150	\$ -	\$ -	\$ -	\$ 200	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 150</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 150</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 200</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working capital	\$ -	\$ 150	\$ -	\$ -	\$ 150	\$ -	\$ -	\$ -	\$ 200	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 150</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 150</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 200</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Booster Station PLC & Electrical Control Upgrades Program	-	150	-	-	150	-	-	-	200	-
	-	150	-	-	150	-	-	-	200	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	150	-	-	150	-	-	-	200	-
	-	150	-	-	150	-	-	-	200	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 5	\$ 10	\$ 10	\$ 15	\$ 20	\$ 20	\$ 20	\$ 27	\$ 33
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ 5	\$ 10	\$ 10	\$ 15	\$ 20	\$ 20	\$ 20	\$ 27	\$ 33
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
WTP- Building Sustainability	-	150	-	-	150	150	-	150	-	150
	-	150	-	-	150	150	-	150	-	150
<b>FUNDING SOURCE:</b>										
Internal Funding	-	150	-	-	150	150	-	150	-	150
	-	150	-	-	150	150	-	150	-	150
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 3	\$ 6	\$ 6	\$ 9	\$ 15	\$ 18	\$ 21	\$ 24	\$ 27
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ 3	\$ 6	\$ 6	\$ 9	\$ 15	\$ 18	\$ 21	\$ 24	\$ 27
<b>Debt - Principal</b> Term - 25										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER TREATMENT PLANT CLARIFICATION REHABILITATION (1 & 3 SCU)

**DESCRIPTION:** This project will provide funding for the mid-life rehabilitation of clarification equipment

**TCA LOCATION:** Water Treatment Plant                      **EXPECTED LIFE:** 25

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 This project will provide funding for the mid-life rehabilitation of various mechanical and structural components of SCU 1 & 3 including the tube settlers. This equipment is currently 30 years old and has reached the end of its useful life. Upgrades/rehabilitation of this equipment is required to maintain operability of this infrastructure. Clarifiers are a critical part of the treatment process. Operability is essential to maintain high quality potable water which meets or exceeds all provincial and federal regulations.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Clarification is an essential step within the overall treatment process. Operable equipment in good working order ensures public safety through the safe treatment of potable water to within provincial and federal standards. Inadequate preventative maintenance imposes a significant risk of infrastructure failure which will result in incidents of regulatory non-compliance thus impact public health and safety due to inadequate potable water treatment.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This option is not recommended due to the inherent risks to public health and safety and the possibility of regulatory non-compliance.

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
TCA COSTS	BUDGET	BUDGET	FORECAST	FORECAST	FORECAST	FORECAST	FORECAST	FORECAST	FORECAST	FORECAST
Clarification Rehabilitation	\$ 150	\$ 150	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 150	\$ 150	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>





## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

### Statement of Cash Requirements

*In thousands of dollars*

#### ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Clarification Rehabilitation	150	150	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	150	150	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 3	\$ 9	\$ 12	\$ 12	\$ 12	\$ 12	\$ 12	\$ 12	\$ 12	\$ 12
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 3</b>	<b>\$ 9</b>	<b>\$ 12</b>	<b>\$ 12</b>	<b>\$ 12</b>	<b>\$ 12</b>	<b>\$ 12</b>	<b>\$ 12</b>	<b>\$ 12</b>	<b>\$ 12</b>
<b>Debt - Principal</b> Term -25										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** Water Treatment Plant Control System Rehabilitation

**DESCRIPTION:** The project provides funding for the mid-life rehabilitation of the WTP existing automation and control system

**TCA LOCATION:** Water Treatment Plant                      **EXPECTED LIFE:** 15

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 Programmable Logic Controllers (PLCs) are employed as the primary automation/control tool for the Water Treatment Plant. As with other computer or electrical equipment, PLCs require lifecycle replacement due to normal wear and tear, and age. This program is provided funding for the life-cycle replacement of aging PLCs within the current Water Treatment Plant. The existing PLCs and electrical controls require regular upgrading to ensure they continue to operate as designed in controlling the equipment located within the treatment facility. Equipment is becoming obsolete.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Electronic equipment has a useful life. Once that useful life has been exceeded then the risk of failure significantly increases. Control system failures lead to further equipment failures and render the station inoperable thus impacting service levels and the availability of water for public health and safety and adequate water quality. This also increases the risk of provincial regulatory non-compliance due to poor water quality.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. The option is not recommended due to the inherent risks as described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WTP control system rehabilitation	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
WTP control system rehabilitation	1,000	-	-	-	-	-	-	-	-	-
	1,000	-	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	1,000	-	-	-	-	-	-	-	-	-
	1,000	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 33	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67
<b>Total Incremental Expenses (Savings)</b>	\$ 33	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67	\$ 67
<b>Debt - Principal</b> Term - 15										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER TREATMENT PLANT ELECTRICAL SYSTEM UPGRADE

**DESCRIPTION:** This project will provide funding for the upgrade of the main electrical system within the Treatment Plant

**TCA LOCATION:** Water Treatment Plant                      **EXPECTED LIFE:** 25

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 This project provides funding for the mid-life rehabilitation/replacement of the existing main electrical system components within the Water Treatment Plant as per MPE Engineering Upgrade Report 2014 and Associated Engineering Water Treatment Master Plan 2012. The existing system is varying in age from 18 years to 38 years old and has reached the end of its useful life. Various aging equipment is currently experiencing a higher frequencies of failure requiring a much higher level of break-down maintenance. This is increasing the risk of entire facility shutdown due to electrical system failure. This project will include such componenets as the main transformers, breakers, 2300 Volt system, 240 Volt system and the MCC HVAC system.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 The Water Treatment Plant is currently experiencing a higher frequency of electrical componenet failure due to the aging condition of current infrastructure. Not proceeding with this project imposes a significant risk to the potable water supply due to equipment failure rendering the facility inoperable. Electrical equipment has significant lead times to order replacement equipment thus facility failures could result in long term reduced treatment capabilities. This poses a significant risk to public health and safety including risks of regulatory non-compliance with provincial and federal authorities.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This option is not recommended due to the inherent risk described above. The option of not proceeding is not recommended due to the above risk.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WTP Electrical System Upgrade	\$ -	\$ 7,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 7,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ 7,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 7,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET Statement of Cash Requirements

*In thousands of dollars*

### ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
WTP Electrical System Upgrade	-	7,000	-	-	-	-	-	-	-	-
	-	7,000	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	7,000	-	-	-	-	-	-	-	-
	-	7,000	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 140	\$ 280	\$ 280	\$ 280	\$ 280	\$ 280	\$ 280	\$ 280	\$ 280
Debt - Interest	-	-	119	117	115	112	110	108	106	103
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 140</b>	<b>\$ 399</b>	<b>\$ 397</b>	<b>\$ 395</b>	<b>\$ 392</b>	<b>\$ 390</b>	<b>\$ 388</b>	<b>\$ 386</b>	<b>\$ 383</b>
<b>Debt - Principal</b> Term - 20			124	126	128	130	132	135	137	139
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** Water Treatment Plant Enhancements

**DESCRIPTION:** This program provides funding for various upgrades/enhancements to the general water treatment infrastructure

**TCA LOCATION:** Water Treatment Plant                      **EXPECTED LIFE:** 10

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Assets Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 This program will provide funding for the general life-cycle repair/replacement, and preventative maintenance of various small scale componenets within the Water Treatment Plant due to regular wear and tear. Each year condition assessments for the various components/processes of the Water Treatment Plant (process or hydraulic efficiencies,instrumentation,controls or equipment improvements and upgrades,special process/equipment studies for problem solving or regulatory review to prepare for future regulatory changes) are completed and evaluated for reparaie/ lifecycle replacement, or upgrade requirements. This program maintains equipment in good operating order, improves efficiencies, extends the assets useful life, and ensures regulatory compliance with both provincial and federal regulatory authorities. Emerging regulations and technologies best practices and industry standards identify minor changes that lead to significant hydraulic and /or process improvemnts that are beneficial to our plant.This capital project provides funds for these requirements as required.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Addressing minor capital improvements as they arise ensures the department is able to respond effectively to infrastructure needs. Without this ability and flexibility, the Water Utility will begin to accumulate infrastructure deficiencies and performance issues which will lead to increased costs from failure, service quality issues and regulatory incidents. These upgrades, enhancements,equipment and best practices are required to provide and maintain regulatory compliance.

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. This option is not recommended due to the inherent risks to infrastructure and public safety as described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WTP Enhancements	\$ 125	\$ 125	\$ 125	\$ 125	\$ 125	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 125	\$ 125	\$ 125	\$ 125	\$ 125	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150
<b>Total Financing</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
WTP Enhancements	125	125	125	125	125	150	150	150	150	150
	125	125	125	125	125	150	150	150	150	150
<b>FUNDING SOURCE:</b>										
Internal Funding	125	125	125	125	125	150	150	150	150	150
	125	125	125	125	125	150	150	150	150	150
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 6	\$ 19	\$ 31	\$ 44	\$ 56	\$ 70	\$ 85	\$ 100	\$ 115	\$ 130
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 6</b>	<b>\$ 19</b>	<b>\$ 31</b>	<b>\$ 44</b>	<b>\$ 56</b>	<b>\$ 70</b>	<b>\$ 85</b>	<b>\$ 100</b>	<b>\$ 115</b>	<b>\$ 130</b>
<b>Debt - Principal</b> Term -20										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** Water Treatment Plant Heating System Rehabilitation

**DESCRIPTION:** The project provides the funding for the mid-life rehabilitation to the existing Water Treatment Plant Hot Water Heating System

**TCA LOCATION:** Water Treatment Plant      **EXPECTED LIFE:** 10

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The project will provide funding for the mid-life rehabilitation of the existing Water Treatment Plant high pressure steam/hot water heating system including the upgrade to the heating control system and automation controls. This system employs waste steam from the Power Generation facility and de-superheats it for employment as hot water heating within the facility. This maintains a high efficiency and recycles waste process material from the adjoining facility as an economical alternative to traditional gas-fired heating systems. This system last underwent upgrades in 1995 and has surpassed the useful life of the existing equipment and valves. Upgrades are required to maintain this system in good operating order.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 The mid-life rehabilitation is required to maintain stable operation of this system and maintain the facility above zero during winter conditions. This facility, due to its very nature, has large volumes of standing water. An inoperable heating system during winter months risks that critical piping/process will experience freezing during winter months rendering them inoperable. Inoperable treatment facilities pose a significant risk to public safety and risk further provincial regulatory non-compliance issues. This system is beginning to experience a higher frequency of break-down maintenance thus is at higher risk of catastrophic failure due to its aging condition.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This is not the recommended option due to the criticality of the equipment and the aging condition of the existing equipment.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WTP Heating System Rehabilitation			\$ 250							
<b>2014 to 2015 Council Approved TCA:</b>	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>FUNDING SOURCE:</b>										
Working capital			\$ 250							
<b>Total Financing</b>	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
WTP Heating System Rehabilitation	-	-	250	-	-	-	-	-	-	-
	-	-	250	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	-	250	-	-	-	-	-	-	-
	-	-	250	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 13	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ 13	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25
<b>Debt - Principal</b> Term -10										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** Water Treatment Plant Instrumentation Rehabilitation

**DESCRIPTION:** The project will provide the funding for the Water Treatment Plant instrumentation system which has reached the end of its useful life

**TCA LOCATION:** Water Treatment Plant                      **EXPECTED LIFE:** 10

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The last significant instrumentation rehabilitation project was conducted approximately 18 years ago. The instrumentation has now reached the end of its useful life and requires replacement due to the higher frequency of break-down maintenance currently being experienced. Instrumentation is employed to monitor the efficiency fo treatment at the varying stages of the water treatment process. It is integral to the efficient operation of the water treatment facility and required as part of the provincial regulatory requirements. This project will include the replacemtn of aging instrumentation throughout the facility and will include such instruments as flow meters, head-loss meters, turbidimeters, pH meters, chlorine analyzers, etc. This project does not include the SCADA system.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Instrumentation is an integral piece of the treatment process and is employed to ensure that treatment is being carried out efficiently and safely. It is required as part of the provincial regulatory approval. The existing equipment has surpassed its useful life and requires replacement. Failure to replace this equipment will increase the risk of equipment break-downs thus increasing the risk that adequate monitoring of the treatment process is not occurring. Inadequate monitoring increases the risk of treatment process upset and poorer water quality. This is a significant risk to public health and safety, and a significant risk of regulatory non-compliance due to inability to conform to regulations as outlined within the License to Operate.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due the significant risk to public health and safety and due to the regulatory requirement to have functioning instrumentation within the facility.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Water Treatment Plant Instrumentation Rehabilitation	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Water Treatment Plant Instrumentation Rehabilitation	-	250	-	-	-	-	-	-	-	-
	-	250	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	250	-	-	-	-	-	-	-	-
	-	250	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 13	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ 13	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25
<b>Debt - Principal</b> Term - 10										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER TREATMENT PLANT SOLIDS HANDLING FACILITY

**DESCRIPTION:** This project provides funding for the design and construction of a Solids Handling Facility for process waste which is a provincial and federal regulatory requirement.

**TCA LOCATION:** Water Treatment Plant                      **EXPECTED LIFE:** 30

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The process of producing potable water generates a concentrated solid waste stream comprised of the constituents removed from the water and chemicals used in the process, with the exclusion of chlorine. Current practice at the WTP involves discharging all process waste solids directly to the South Saskatchewan River. This current practise is contrary to current provincial regulations and will require compliance to maintain the provincial License to Operate for the production of potable water (2006 Alberta Environment and Sustainable Resource Development Guidelines for the Design of Water Treatment, Wastewater Treatment, and Stormwater Drainage Systems). This project will provide funding to develop and construct an Enhanced Solids Handling Facility which will provide for the removal and dewatering of the solids which will be sent to the Landfill while recycling the clarified water to the pretreatment section of the WTP. This will ensure long-term compliance with provincial and federal regulations while enhancing the surrounding environment by decreasing the discharges into the South Saskatchewan River. This project will be conducted in 2 phases with the first phase being initial design in 2016 with construction to begin in 2018.

**RISK OF NOT PROCEEDING WITH REQUEST:**

This project is required to maintain compliance with provincial regulations. Not proceeding with this project imposes a legal risk to the City which can be pursued by Alberta Environment and Sustainable Resource Development in criminal court. Process solids waste from the treatment process includes substances which the federal government determine to be deleterious to fish. Not proceeding with this project imposes a legal risk to the City that the federal Department of Fisheries and Oceans pursues legal action against the City in criminal court. Not proceeding with this option imposes a risk to the surrounding environment and watershed due to the release of concentrated wastes into the waterways.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to the risk that both provincial and federal authorities may take legal action against the City due to non-compliance with both provincial and federal regulations.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Water Treatment Plant Solids Handling Facility	\$ -	\$ 3,000	\$ -	\$ 17,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 3,000</b>	<b>\$ -</b>	<b>\$ 17,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ 3,000	\$ -	\$ 17,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 3,000</b>	<b>\$ -</b>	<b>\$ 17,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

### Statement of Cash Requirements

*In thousands of dollars*

#### ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Water Treatment Plant Solids Handling Facility	-	3,000	-	17,000	-	-	-	-	-	-
	-	3,000	-	17,000	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	3,000	-	17,000	-	-	-	-	-	-
	-	3,000	-	17,000	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 50	\$ 100	\$ 383	\$ 667	\$ 667	\$ 667	\$ 667	\$ 667	\$ 667
Debt - Interest	-	-	51	50	338	332	326	320	313	307
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 50</b>	<b>\$ 151</b>	<b>\$ 433</b>	<b>\$ 1,005</b>	<b>\$ 999</b>	<b>\$ 993</b>	<b>\$ 987</b>	<b>\$ 980</b>	<b>\$ 974</b>
Debt - Principal			53	54	355	361	367	373	380	386
Term -20										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** NW WATER TRANSMISSION LINE BOX SPRINGS RD NW (Major Industrial Plant Servicing)

**DESCRIPTION:** This project provides funding for the NW Water Transmission Line at Box Springs Road NW

**TCA LOCATION:** **EXPECTED LIFE:** 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality.

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This project provides funding for the NW Water Transmission Line at Box Springs Road NW. This project is necessary to accommodate a proposed major industrial expansion in the area and is in compliance with Council's priority for increased development in the City. This project will not proceed until major industrial plant expansion is definitively confirmed and encompasses 50% of the actual cost of construction. The remaining 50% will be funded by the industrial facility.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Not proceeding with this project will result in inadequate water supply to the proposed industrial expansion located within the Box Springs Road NW site. This deficiency will lead to a service shortfall and affect pro

**OPTIONS CONSIDERED:**

Do not proceed with this project. The option is not recommended due to the risks described above which are contrary to Council's priority of increased development.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
NW Transmission Line Box Springs Rd NW	\$ -	\$ -	\$ 2,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital / Third Party	\$ -	\$ -	\$ 2,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

### Statement of Cash Requirements

*In thousands of dollars*

#### ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
NW Water Transmission Line Box Springs Rd NW (Major Industrial Plant Servicing)	-	-	2,400	-	-	-	-	-	-	-
	-	-	2,400	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	-	1,200	-	-	-	-	-	-	-
Other Funding	-	-	1,200	-	-	-	-	-	-	-
	-	-	2,400	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 16	\$ 32	\$ 32	\$ 32	\$ 32	\$ 32	\$ 32	\$ 32
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ 16	\$ 32	\$ 32	\$ 32	\$ 32	\$ 32	\$ 32	\$ 32
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** TWIN WATER LINE NW BOOSTER STATION TO BOX SPRINGS RD NW (BSBP)

**DESCRIPTION:** This project provides the funding for the Twin Water Line from the NW Booster Station to the Box Springs Rd NW.

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The North West Water Distribution zone was designed to provide water to Box Springs and the surrounding Industrial area under a twinned water line concept. The initial line was installed when Box Springs Business Park (BSBP) was developed. The twin line will need to be installed when demand from Box Springs Business park and the surrounding industrial areas reach the design limit due to growth in these areas. Timing for this project will be dependent on growth experienced within the Box Springs and surrounding areas.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Not installing the twin water line will restrict economic development opportunities due to the unavailability of water services. This is contrary to Council's priority to support economic development. The inability to supply adequate flows poses a risk to safety due to an inability to provide sufficient fire flows due to inadequate infrastructure.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This is not the recommended option as it is contrary to Council's priority of supporting economic development and due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Twin water Line NW Booster Station to BSBP	\$ -	\$ -	\$ -	\$ 6,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital -Off-Site	\$ -	\$ -	\$ -	\$ 6,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Twin Water Line NW Booster Station To Box Springs Rd NW (BSBP)	-	-	-	6,000	-	-	-	-	-	-
	-	-	-	6,000	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding - Offsite	-	-	-	6,000	-	-	-	-	-	-
	-	-	-	6,000	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	40	80	80	80	80	80	80
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ -	40	80	80	80	80	80	80
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** SOUTH (SOUTHRIDGE) RESERVOIR UPGRADE PUMP #5

**DESCRIPTION:** This project provides funding for the purchase and installation of the 5th Water Pump at South Ridge Reservoir

**TCA LOCATION:** Southridge Booster Station      **EXPECTED LIFE:** 15

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 As growth and development continue within the South Ridge reservoir service area additional pumps will be required to accommodate additional flow requirements due to population increases. The project provides funding for the installation of the 5th Pump at Southridge Reservoir as required to meet water demand due to population growth. Purchase of the pump will be dependent on anticipated growth within this service area.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Additional pumps are required to provide additional flows for both public use and for fire flows in accordance with current City standards. Not purchasing will result in reduced water flow and pressure below the required service levels if pumping capacity expansion does not meet development growth.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This option is not recommended due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Southridge Reservoir Pump #5	\$ 400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital-Off-Site	\$ 400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
South (Southridge) Reservoir Upgrade Pump #5	400	-	-	-	-	-	-	-	-	-
	400	-	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding - Offsite	400	-	-	-	-	-	-	-	-	-
	400	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 13	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27
<b>Total Incremental Expenses (Savings)</b>	\$ 13	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27	\$ 27
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Main reservoir cell #3 expansion	-	-	-	-	-	6,300	-	-	-	-
	-	-	-	-	-	6,300	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA - Offsite	-	-	-	-	-	6,300	-	-	-	-
	-	-	-	-	-	6,300	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	70	140	140	140	140
Debt - Interest	-	-	-	-	-	-	191	183	176	168
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ -	\$ -	\$ -	70	331	323	316	308
<b>Debt - Principal</b> Term - 20							232	240	247	255
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** TRANSMISSION LINE 3rd ST NW TO THE NORTH WEST BOOSTER STATION

**DESCRIPTION:** This project provides funding for a potable water transmission line from 3rd St NW to the NW Booster Station

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The Water Distribution system feeding the north side of the City was designed with future expansion in mind to provide water to the Box Springs and the surrounding industrial area, central Crescent Heights, North East Crescent Heights and the eventual North East Residential Reserve. This project identifies the installation of a twinned line from 3rd Street NW to the NW Booster station to meet future development growth demands on the north side of the City. Initiation of this project is expected based on anticipated growth in the applicable areas in accordance to the Municipal Development Plan.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 The installation of this project is in direct support of anticipated growth as per the Municipal Development Plan. Not installing the twin line on time to support development growth will result in insufficient water flows to the north side of the city. Residents will experience reduced service levels due to insufficient flow and increased risk due to insufficient fire flows. This risk would be in direct contradiction to current City standards.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. The option is not recommended due to the risk described above. Not proceeding with this option is in contradiction to the Municipal development Plant and Council's priority of economic development.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Transmission Line 3rd St NW to NW Booster	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,000	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital -Off-Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,000	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Transmission Line 3rd ST NW to the North West Booster Station	-	-	-	-	-	-	3,000	-	-	-
	-	-	-	-	-	-	3,000	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding - Offsite	-	-	-	-	-	-	3,000	-	-	-
	-	-	-	-	-	-	3,000	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	20	40	40	40
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	20	40	40	40
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										







**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
North West Booster Station Expansion Pump # 4	-	-	80	-	-	-	-	-	-	-
	-	-	80	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding - Offsite	-	-	80	-	-	-	-	-	-	-
	-	-	80	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 3	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ 3	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
NW Booster Station Pump #5	-	-	-	-	-	-	-	-	-	100
	-	-	-	-	-	-	-	-	-	100
<b>FUNDING SOURCE:</b>										
Internal Funding - Offsite	-	-	-	-	-	-	-	-	-	100
	-	-	-	-	-	-	-	-	-	100
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3
<b>Debt - Principal</b> Term - 10										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER TREATMENT PLANT CAPACITY EXPANSION

**DESCRIPTION:** The project provides funding for facility capacity expansion to facilitate population growth.

**TCA LOCATION:** Water Treatment Plant      **EXPECTED LIFE:** 40

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The project provides funding to increase the treatment capacity of the existing water treatment plant in accordance with anticipated growth as indicated within the Municipal Development Plan. Plant flow capacity is a provincially regulated measure and is based on service population. This project will be initiated so that construction completion coincides with capacity required based on actual population growth.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Treatment Plant capacity is based on current Municipal Service Standards for the City of Medicine Hat. The initiation trigger for plant capacity expansion is a provincially regulated measure and is based on population. Not proceeding with this project introduces the risk that population demand surpasses treatment capacity resulting in decreased service levels and decreased economic development opportunities due to inadequate utility services. Inadequate utility services increases the risk of water quality concerns thus imposes a greater risk towards public health and regulatory non-compliance.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>WTP Capacity Expansion</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 35,000
<b>2014 to 2015 Council Approved TCA:</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 35,000
<b>FUNDING SOURCE:</b>										
Debenture & Offsite Levy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 35,000
<b>Total Financing</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 35,000



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
WTP Capacity Expansion	-	-	-	-	-	-	-	-	-	35,000
										35,000
<b>FUNDING SOURCE:</b>										
ACFA	-	-	-	-	-	-	-	-	-	35,000
										35,000
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	438
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>438</b>
Debt - Principal Term - 25										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER TREATMENT PLANT RAW WATER CAPACITY UPGRADE (5 LOWLIFT PUMP)

**DESCRIPTION:** This project would provide funding to replace 5 Lowlift raw water pump with a higher capacity unit to meet growth requirements.

**TCA LOCATION:** Water Treatment Plant                      **EXPECTED LIFE:** 15

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Enhances Service Potential

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This project provides the funding to replace an existing raw water pump with a new higher capacity unit to meet the demand requirements due to a growing population. The Water Treatment Master Plan (Associated Engineering 2012) outlined the requirements for various process upgrades within the Water Treatment Plant to meet growing population demand and changing regulatory requirements for the next 25 years. One of those requirements is the replacement of the existing 5 lowlift pump with a higher capacity unit to match the anticipated demands of a growing population projected within the Municipal Development Plan. This project will include to purchase and installation of an estimated 400HP pump with all ancillary equipment. This project will be initiated when population and demand is reaching those anticipated within the Municipal Development Plan.

**RISK OF NOT PROCEEDING WITH REQUEST:**

This project is required to maintain uninterrupted supply of water of sufficient quantities to meet projected demand. Not proceeding with this project imposes a risk that demand will surpass available treatment capacity which will impact economic development potential within the community. Not proceeding imposes a risk to public health and safety including a regulatory non-compliance risk due to inability to maintain potable water of sufficient supply to meet community demands.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to the risk to public safety. This is also in contradiction to Council's priority of economic development.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WTP Lowlift Capacity Upgrade	\$ -	\$ 800	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 800</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital -offsite	\$ -	\$ 800	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 800</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**

**Statement of Cash Requirements**

*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
WTP Lowlift Capacity Upgrade	-	800	-	-	-	-	-	-	-	-
	-	800	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding - Offsite	-	800	-	-	-	-	-	-	-	-
	-	800	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 27	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ 27	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53
<b>Debt - Principal</b> Term - 20										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - WATER UTILITY**

**ASSET NAME:** WATER TREATMENT PLANT RIVER WATER INTAKE AND RAW WATER PUMPING STATION

**DESCRIPTION:** This project provides the funding for the design and construction of a new river water intake and associated pumping station

**TCA LOCATION:** Water Treatment Plant                      **EXPECTED LIFE:** 50

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This project provides the funding for the design and construction of a new river water intake and associated pumping station. This project is required to accommodate storm water management within the Burnside Estates Development anticipated in 2018 and is required to ensure that intakes to the water treatment system are upstream of storm water outfalls to mitigate the potential risk of contamination events during storm runoff. Construction completion is anticipated to be required in 2018 to accommodate anticipated development within Burnside Estates (this portion of the project is anticipated to be \$6M). This project also proposes to increase the capacity of the intake and the associated pumping station to accommodate future population growth within the City anticipated within the next 20 years (originally forecast for 2025 and anticipated to be \$23). The installation of intake systems are very costly and intricate due to their placement within the South Saskatchewan River. Savings can be realized by constructing both facilities at the same time. The new system will also be constructed to accommodate flood proof design principals to ensure continuous operation of the water treatment facility during future potential flood events.

**RISK OF NOT PROCEEDING WITH REQUEST:**

There are multiple risks on both phases of the project. The initial intake and pumphouse are required and anticipated to be more cost effective than significant storm water management upgrades required to reroute outfalls downstream of existing river water intake systems. Not proceeding with this work imposes a risk of contamination of the potable water supply due to chemical releases from storm water infrastructure immediately upstream of the water treatment intakes. This imposes a significant risk to public health and safety and to regulatory non-compliance. The second phase of the project is intended to accommodate anticipated growth and outlined within the Municipal Development Plan and is intended to reduce the overall cost of both projects by combining to make efficient use of funds. Not proceeding with the growth associated portion of this project risks that treatment plant capacity is surpassed by population growth thus restricting further growth in this community.

**OPTIONS CONSIDERED:**

Option 1: Do not proceed with either phase of this project. This is not the recommended option due to public health and safety risks due to potential contamination of the potable water supply.  
 Option 2: Only proceed with the project related to development in Burnside estates (\$6M). This option is not recommended as the total costs of both projects constructed separately will surpass the cost of

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Water Treatment Plant River Water Intake and Raw Water Pumping Station	\$ 6,000	\$ -	\$ 23,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 6,000</b>	<b>\$ -</b>	<b>\$ 23,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ 6,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debenture -offsite	-	-	23,000	-	-	-	-	-	-	-
<b>Total Financing</b>	<b>\$ 6,000</b>	<b>\$ -</b>	<b>\$ 23,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>





## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

### Statement of Cash Requirements

*In thousands of dollars*

#### ENVIRONMENTAL UTILITIES - WATER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Water Treatment Plant River Water Intake and Raw Water Pumping Station	6,000	-	23,000	-	-	-	-	-	-	-
	6,000	-	23,000	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA - Offsite	6,000	-	23,000	-	-	-	-	-	-	-
	6,000	-	23,000	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 60	\$ 120	\$ 350	\$ 580	\$ 580	\$ 580	\$ 580	\$ 580	\$ 580	\$ 580
Debt - Interest	-	102	100	485	480	471	463	453	444	434
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 60</b>	<b>\$ 222</b>	<b>\$ 450</b>	<b>\$ 1,065</b>	<b>\$ 1,060</b>	<b>\$ 1,051</b>	<b>\$ 1,043</b>	<b>\$ 1,033</b>	<b>\$ 1,024</b>	<b>\$ 1,014</b>
<b>Debt - Principal</b> Term - 20		<b>106</b>	<b>108</b>	<b>516</b>	<b>525</b>	<b>533</b>	<b>542</b>	<b>552</b>	<b>561</b>	<b>571</b>
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Summary of Capital (TCA) Budget Requests**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

PAGE	TCA DESCRIPTION	BUDGET REQUEST		BUDGET FORECAST								10 YEAR TOTAL	FUNDING SOURCE	
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024			
<b>Core Capital Projects</b>														
2.3	Sanitary Sewer Lift Station Standby Power	\$ -	\$ 50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50	WC
2.5	Miscellaneous Collection System Upgrades Program	300	300	300	300	300	300	300	300	300	300	300	3,000	WC
2.7	Sanitary Sewer Lift Station Upgrades Program	-	250	-	-	-	-	250	-	-	-	-	500	WC
2.9	Sewer Mains Replacement Program - Downtown Rehabilitation	1,950	-	1,500	-	1,500	-	1,500	-	-	-	-	6,450	DEB
2.11	Sewer Mains Replacement - Asset Management Program	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000	7,000	50,000	DEB
2.13	Balmoral Lift Station Upgrade	1,000	-	-	-	-	-	-	-	-	-	-	1,000	DEB
2.15	Crescent Heights Lift Station Upgrade	4,500	-	-	-	-	-	-	-	-	-	-	4,500	DEB
2.17	South Central Sanitary Sewer Rehabilitation	-	-	3,000	-	-	-	-	-	-	-	-	3,000	DEB
2.19	Airport Sanitary Sewer Upgrades	-	-	-	-	500	-	-	-	-	-	-	500	WC
2.21	Southlands Sanitary Sewer Trunk Twinning (Scholten Hill)	-	-	-	-	2,000	-	-	-	-	-	-	2,000	WC
2.23	Remote Communication Upgrades for Stations Program	250	-	-	-	250	-	-	-	250	-	-	750	WC
2.25	Sewer Flow Monitoring Program (30th St SW)	-	100	-	-	-	-	-	100	-	-	-	200	WC
2.27	Sanitary Sewer Lift Station PLC & Electrical Control Upgrades	-	400	-	-	150	-	-	-	200	-	-	750	WC
2.29	Sanitary Sewer Dump Station NW (Brier Park)	-	1,000	-	-	-	-	-	-	-	-	-	1,000	DEB
2.31	WWTP Building Sustainability	200	500	100	-	100	-	100	-	-	-	-	1,000	WC
2.33	WWTP Enhancements	150	150	150	150	150	175	175	175	175	175	175	1,625	WC
2.35	Wastewater Treatment Plant Back-Up Generator Automation Upgrade	200	-	-	-	-	-	-	-	-	-	-	200	WC
2.37	Wastewater Treatment Plant Laboratory Rehabilitation	500	-	-	-	-	-	-	-	-	-	-	500	DEB
2.39	Wastewater Treatment Plant Electrical System Rehab.(main MCC)	-	500	-	-	-	-	-	-	-	-	-	500	DEB
2.41	Wastewater Treatment Plant Bypass System Controls	500	-	-	-	-	-	-	-	-	-	-	500	DEB
2.43	Wastewater Treatment Plant Control System Rehabilitation	250	-	-	-	-	-	-	-	-	-	-	250	WC
2.45	Wastewater Treatment Plant Polymer System Rehabilitation	-	400	-	-	-	-	-	-	-	-	-	400	WC
2.47	Sewer Line Box Springs Road NW (Industrial Plant) - <u>Conditional</u>	-	-	2,400	-	-	-	-	-	-	-	-	2,400	DEB / EXT
<b>Offsite Capital Projects</b>														
2.49	1st St NW/NE Sanitary Sewer Upgrade (Burnside)	-	-	4,000	-	-	-	-	-	-	-	-	4,000	DEB
2.51	Wastewater Treatment Plant Process Upgrade	-	-	-	5,000	-	40,000	-	-	-	-	-	45,000	DEB
2.53	North Trunk Sanitary Sewer Upgrade	-	4,000	-	-	-	-	-	-	-	-	-	4,000	DEB
<b>DEPARTMENTAL TOTAL</b>		<b>\$ 12,800</b>	<b>\$ 10,650</b>	<b>\$ 15,450</b>	<b>\$ 9,450</b>	<b>\$ 9,950</b>	<b>\$ 45,475</b>	<b>\$ 8,325</b>	<b>\$ 6,575</b>	<b>\$ 7,925</b>	<b>\$ 7,475</b>	<b>\$ 134,075</b>		



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Summary of Capital (TCA) Budget Requests**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

PAGE	TCA DESCRIPTION	BUDGET REQUEST		BUDGET FORECAST							10 YEAR TOTAL	FUNDING SOURCE	
		2015	2016	2017	2018	2019	2020	2021	2022	2023			2024
<b><u>FINANCING SUMMARY</u></b>													
DEB)	Debenture	\$ 11,450	\$ 8,500	\$ 13,700	\$ 9,000	\$ 8,500	\$ 45,000	\$ 7,500	\$ 6,000	\$ 7,000	\$ 7,000	\$ 123,650	
WC)	Working Capital	1,350	2,150	550	450	1,450	475	825	575	925	475	9,225	
EXT)	Other External Sources (Third Party / Trade-in)	-	-	1,200	-	-	-	-	-	-	-	1,200	
<b>FINANCING TOTAL</b>		<b>\$ 12,800</b>	<b>\$ 10,650</b>	<b>\$ 15,450</b>	<b>\$ 9,450</b>	<b>\$ 9,950</b>	<b>\$ 45,475</b>	<b>\$ 8,325</b>	<b>\$ 6,575</b>	<b>\$ 7,925</b>	<b>\$ 7,475</b>	<b>\$ 134,075</b>	
<b><u>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL</u></b>													
	Loan Interest	\$ -	\$ 180	\$ 331	\$ 697	\$ 1,063	\$ 1,277	\$ 2,587	\$ 2,659	\$ 2,727	\$ 2,810		
	Amortization	43	168	406	727	978	1,778	2,860	2,985	3,116	3,250		
<b>TOTAL NET OPERATING EFFECT:</b>		<b>\$ 43</b>	<b>\$ 348</b>	<b>\$ 737</b>	<b>\$ 1,424</b>	<b>\$ 2,041</b>	<b>\$ 3,055</b>	<b>\$ 5,447</b>	<b>\$ 5,644</b>	<b>\$ 5,842</b>	<b>\$ 6,060</b>		
	Loan Principal	-	221	419	894	1,401	1,757	3,472	3,803	4,138	4,525		
	FTEs												



## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET Current Year Capital Summary and Carry Forwards

*In thousands of dollars*

### ENVIRONMENTAL UTILITIES - SEWER UTILITY

**FOR INFORMATION: CARRY FORWARD OF AMOUNTS PREVIOUSLY APPROVED**

YR.	PROJECT DESCRIPTION	APPRV'D BUDGET	EST. TO 31/12/14	EST. AMTS. TO BE SPENT IN:										10 YEAR EST. TOTAL			
				2015	2016	2017	2018	2019	2020	2021	2022	2023	2024				
2009	Sanitary Lift Station Odor Control Scrubbers	125	10	\$ 115	\$ -	\$ -	\$ -										\$ 115
2009	Cottonwood Lift Station	125	124	-	-												-
2009	Ross Glen Lift Station Upgrades	100	99	-	-												-
2009	Primrose Drive Sanitary Sewer Replacements	3,300	3,000	-	-	300	-										300
2010	Flow Monitoring Equipment	100	55	-	-	45	-										45
2011	Miscellaneous Collection System Upgrade	300	290	10	-												10
2012	Sewer Mains Replacement Asset Management	2,000	1,970	-	-	30	-										30
2012	Miscellaneous Collection System Upgrade	300	299	1	-												1
2012	Sewer Mains Replacement Downtown	1,600		-	-		1,600										1,600
2012	Sanitary Sewer Lift Stn Upgrades	1,250	250	-	1,000												1,000
2012	River Ridge Lift Station - Phase 1	175	75	100	-												100
2013	Miscellaneous Collection System Upgrade	300	150	150	-												150
2013	Sewer Mains Replacement- Asset Mgmt	2,000	1,999	1	-												1
2014	Crescent Heights Lift Stn Erosion Control	552	452	110	-												110
2014	Police Point Park Erosion Control	562	461	101	-												101
2014	River Ridge Lift Station - Phase 2	1,700		1,020	680												1,700
2014	Crescent Heights Lift Station	2,500		1,500	1,000												2,500
2014	Balmoral Lift Station	2,500		1,500	1,000												2,500
2014	Purmal Sanitary Sewer Lift Station	5,000	150	2,850	2,000												4,850
2014	Sewer Mains Replacement	3,000	2,696	304	-												304
2014	Miscellaneous Collection System Upgrade	300	100	200	-												200
2014	WWTP Building Sustainability Program	225		225													225
2014	WWTP Trickling Filters Grounding Grid	175		-	175												175
2012	Asset Management Software/Program-Approved in Municipal Works Capital Budget -For Information Only			125	125												250
<b>TOTAL CARRY FORWARDS</b>				<b>\$ 28,189</b>	<b>\$ 12,180</b>	<b>\$ 8,312</b>	<b>\$ 5,980</b>	<b>\$ 375</b>	<b>\$ 1,600</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 16,267</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** **SANITARY SEWER LIFT STATION STANDBY GENERATOR**

**DESCRIPTION:** This project provides funding for an Engineering study to confirm the feasibility and requirements of providing standby power to Booster Stations once the approved Capital project to replace 3 of the Cities main sewage lift stations has been completed.

**TCA LOCATION:** **EXPECTED LIFE:** 10

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

Standby power is not currently provided to any of the Cities Water Booster stations. There is an approved Capital Project to replace 3 of the Cities main sewage lift stations which do have standby power generators. Once these 3 sewage lift stations are replaced this study will confirm if the existing standby generators from those three lift stations can be redeployed to run water pumps in one or more of the Cities Water booster stations in the event of a power outage.

**RISK OF NOT PROCEEDING WITH REQUEST:**

The risk of not proceeding with this project will mean that the water distribution system will be subject to a higher degree of possible contamination due to a steady reduction in pressure in the water distribution system caused by a prolonged power outage.

**OPTIONS CONSIDERED:**

Do not proceed with the Project. This option is not recommended due to the health risks associated with inadequate or contaminated water supplies due to prolonged power outages and the inability to maintain system pressure in the water distribution system.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Standby Generator	\$ -	\$ 50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 50</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ 50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 50</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> (only one project per page)										
Standby Generator	-	50	-	-	-	-	-	-	-	-
	-	50	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	50	-	-	-	-	-	-	-	-
	-	50	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 3	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 3</b>	<b>\$ 5</b>	<b>\$ 5</b>	<b>\$ 5</b>	<b>\$ 5</b>	<b>\$ 5</b>	<b>\$ 5</b>	<b>\$ 5</b>	<b>\$ 5</b>
Debt - Principal										
Term -										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** MISCELLANEOUS COLLECTION SYSTEM UPGRADES PROGRAM

**DESCRIPTION:** This program provides funding for the upgrades to various components of the Sanitary Sewer Collection system.

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 This program will provide funding for the general life-cycle repair/replacement, and preventative maintenance of various small scale componenets within the Wastewater Collection system due to regular wear and tear. Each year condition assessments for the various components of the Wastewater Collection System (mains, services, manholes, vaults, lift stations) are completed and evaluated for repair/ lifecycle replacement, or upgrade requirements. This program maintains equipment in good operating order, improves efficiencies, extends the assets useful life, and ensures regulatory compliance with both provincial and federal regulatory authorities.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Addressing minor capital improvements as they arise ensures the department is able to respond effectively to infrastructure needs. Without this ability and flexibility, the Water Utility will begin to accumulate infrastructure deficiencies and performance issues which will lead to increased costs from failure, service quality issues and regulatory incidents.

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. The option in not recommended due to the increased risk of infrastructure failure due to insufficient preventative maintenance activities. Increased infrastructure failures will lead to reduced water quality and increased risk of regulatory non-compliance.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Miscellaneous Collection System Upgrades	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300
<b>Total Financing</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>	<b>\$ 300</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**

**Statement of Cash Requirements**

*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Miscellaneous Collection System Upgrades Program	300	300	300	300	300	300	300	300	300	300
<b>FUNDING SOURCE:</b>										
Internal Funding	300	300	300	300	300	300	300	300	300	300
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 2	\$ 6	\$ 10	\$ 14	\$ 18	\$ 22	\$ 26	\$ 30	\$ 34	\$ 38
<b>Total Incremental Expenses (Savings)</b>	\$ 2	\$ 6	\$ 10	\$ 14	\$ 18	\$ 22	\$ 26	\$ 30	\$ 34	\$ 38
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** **SANITARY SEWER LIFT STATION UPGRADE PROGRAM**

**DESCRIPTION:** This program provides project funding for the upgrades to various Sanitary Sewer Lift Stations

**TCA LOCATION:** **EXPECTED LIFE:** 15

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 Upgrades are required to various sanitary sewer lift stations due to life-cycle replacement requirements of various mechanical systems from normal wear and tear of equipment. Each year condition assessments for each of the 16 Sanitary Sewer Lift Stations are conducted to ascertain any mechanical reburishment requirements (pumps, motors, flow meters, electrical and mechanical components, building fabric/structure and safety concerns, ). These requirements ensure the continued safe and efficient operation of critical infrastructure to maintain customer service levels, ensure public health and safety, and respond to continuously changing regulatory requirements.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Addressing minor capital improvements to sanitary sewer lift stations as they arise ensures that department is able to respond effectively to infrastructure needs. Without this ability and flexibility, the Sewer Utility will begin to accumulate infrastructure deficiencies and performance issues which will lead to increased costs from failure, service quality issues and/or regulatory incidents. The risk of not proceeding with the upgrades to the lift stations are the increased probability of equipment failure and raw sewage discharging through the overflow (which is a regulatory non compliance issue) or a back up in residences (which is a public health issue).

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. This option is not recommended due to the risk of infrastructure failure due to inadequate preventative maintenance. Infrastructure failure may lead to provincial and federal regulatory non-compliance, including public health and safety risks.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Sanitary Sewer Lift Station Upgrades	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Sanitary Sewer Lift Station Upgrade Program	-	250	-	-	-	-	250	-	-	-
	-	250	-	-	-	-	250	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	250	-	-	-	-	250	-	-	-
	-	250	-	-	-	-	250	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 8	\$ 17	\$ 17	\$ 17	\$ 17	\$ 25	\$ 33	\$ 33	\$ 33
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 8</b>	<b>\$ 17</b>	<b>\$ 17</b>	<b>\$ 17</b>	<b>\$ 17</b>	<b>\$ 25</b>	<b>\$ 33</b>	<b>\$ 33</b>	<b>\$ 33</b>
Debt - Principal										
Term -										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** SEWER MAINS REPLACEMENT PROGRAM - DOWNTOWN REHABILITATION

**DESCRIPTION:** This program provides project funding for the replacement of the Sanitary sewer Mains in the Downtown area.

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The Downtown core sanitary sewer collection system is well over 50 years old with pipes having high potential for leakage and failure. This infrastructure is well beyond the lift cycle of the pipe and should be replaced. This program provides funding for sanitary sewer main replacement projects for the downtown core. This project supports Councils priority to improve the downtown core. This program includes pipe replacement along with water main pipes in most cases and will be combined with Municipal Works Department for simultaneous upgrades to the storm/road system to reduce overall costs.

**RISK OF NOT PROCEEDING WITH REQUEST:**

The Wastewater Collection system within much of the Downtown core has exceeded its useful life. This significantly increases the risk of failure due to age and condition. The risk of increased failure is a significant risk to public health, customer service level expectations, and both provincial and federal regulatory requirements.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This is not the recommended option and would be in direct contradiction to Council's priority to improve the downtown core and the approved Downtown Infrastructure Asset Replacement Plan.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Sewer Mains Replacement Program (Downtow	\$ 1,950	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 1,950</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ 1,950	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 1,950</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> (only one project per page)										
Sewer Mains Replacement Program - Downtown Rehabilitation	1,950	-	1,500	-	1,500	-	1,500	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	1,950	-	1,500	-	1,500	-	1,500	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 13	\$ 26	\$ 36	\$ 46	\$ 56	\$ 66	\$ 76	\$ 86	\$ 86	\$ 86
Debt - Interest	-	59	57	100	96	137	131	125	119	112
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 13</b>	<b>\$ 85</b>	<b>\$ 93</b>	<b>\$ 146</b>	<b>\$ 152</b>	<b>\$ 203</b>	<b>\$ 207</b>	<b>\$ 211</b>	<b>\$ 205</b>	<b>\$ 198</b>
Debt - Principal Term - 20		72	74	132	136	195	201	208	214	221
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** SEWER MAINS REPLACEMENT PROGRAM - ASSET MANAGEMENT PROGRAM

**DESCRIPTION:** This program provides project funding for the upgrade of the sanitary sewer mains

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The program provides the funding for the replacement of sanitary sewer collection infrastructure which has exceeded its useful life and requires replacement due to poor condition assessments. Multiple areas within the City Wastewater Collection System have been identified as having potential leakage/failure and/or poor condition with significant potential for blockages due to infrastructure age surpassing their useful life. The Engineering Conditional Assessments, Life Cycle Analysis and the Leak detection programs will identify where line replacements should occur. This program provides funding for sanitary sewer replacement projects for the areas that require replacement based on condition assessments from the preceding programs. Sanitary sewer lines will be replaced along with water main lines in most cases to reduce overall costs. The City currently has 108km of sewer pipe (27%) that is older than 50 years old and in need of life cycle replacement. This program complies with the Aging Infrastructure Policy 0154.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Infrastructure which exceeds its useful life is at higher risk of failure causing public health and safety concerns due to sewer back-up into residences, environmental impacts due to sanitary sewer discharge to the environment, and both provincial and federal regulatory non-compliances. Not proceeding is in contradiction to City Policy 0154 and will significantly impact customer service levels.

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. This option is not recommended as it will increase the infrastructure deficit to a more critical state and increase the risks to the public as mentioned above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Sewer Mains Replacements - Asset Management Program	\$ 3,000	\$ 3,000	\$ 4,000	\$ 4,000	\$ 5,000	\$ 5,000	\$ 6,000	\$ 6,000	\$ 7,000	\$ 7,000
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 3,000</b>	<b>\$ 3,000</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ 5,000</b>	<b>\$ 5,000</b>	<b>\$ 6,000</b>	<b>\$ 6,000</b>	<b>\$ 7,000</b>	<b>\$ 7,000</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ 3,000	\$ 3,000	\$ 4,000	\$ 4,000	\$ 5,000	\$ 5,000	\$ 6,000	\$ 6,000	\$ 7,000	\$ 7,000
<b>Total Financing</b>	<b>\$ 3,000</b>	<b>\$ 3,000</b>	<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ 5,000</b>	<b>\$ 5,000</b>	<b>\$ 6,000</b>	<b>\$ 6,000</b>	<b>\$ 7,000</b>	<b>\$ 7,000</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**

**Statement of Cash Requirements**

*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Sewer Mains Replacement Program - Asset Management Program	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000
	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000
<b>FUNDING SOURCE:</b>										
ACFA	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000
	3,000	3,000	4,000	4,000	5,000	5,000	6,000	6,000	7,000	7,000
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 20	\$ 60	\$ 107	\$ 160	\$ 220	\$ 287	\$ 360	\$ 440	\$ 527	\$ 620
Debt - Interest	-	91	178	293	402	537	666	818	963	1,130
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 20</b>	<b>\$ 151</b>	<b>\$ 285</b>	<b>\$ 453</b>	<b>\$ 622</b>	<b>\$ 824</b>	<b>\$ 1,026</b>	<b>\$ 1,258</b>	<b>\$ 1,490</b>	<b>\$ 1,750</b>
<b>Debt - Principal</b> Term -		<b>111</b>	<b>225</b>	<b>379</b>	<b>539</b>	<b>740</b>	<b>947</b>	<b>1,198</b>	<b>1,456</b>	<b>1,760</b>
<b>Increase (Decrease) in FTE's</b>										





2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> (only one project per page)										
Balmoral Lift Station	1,000	-	-	-	-	-	-	-	-	-
	1,000	-	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	1,000	-	-	-	-	-	-	-	-	-
	1,000	-	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 17	\$ 33	\$ 33	\$ 33	\$ 33	\$ 33	\$ 33	\$ 33	\$ 33
Debt - Interest	-	32	31	30	29	28	26	25	24	22
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 49</b>	<b>\$ 64</b>	<b>\$ 63</b>	<b>\$ 62</b>	<b>\$ 61</b>	<b>\$ 59</b>	<b>\$ 58</b>	<b>\$ 57</b>	<b>\$ 55</b>
Debt - Principal										
Term - 20		36	38	39	40	41	43	44	45	47
Increase (Decrease) in FTE's										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** CRESCENT HEIGHTS LIFT STATION REPLACEMENT

**DESCRIPTION:** Replacement of Lift Station

**TCA LOCATION:** Crescent Heights                      **EXPECTED LIFE:** 70 Years

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Assets Useful Life

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The Crescent Heights Lift station was identified as requiring replacement as part of the coordinated City Flood Mitigation Program. This project entails supplementary funding for the re-location and replacement of the existing aging station. Design and construction of the station will include flood resistant measures which, in conjunction with other flood mitigation measures, will ensure the effective operation of this facility during future flood events. Upgrades will include various mechanical, electrical, structural, instrumentation equipment including any associated legal or land acquisition costs. These requirements ensure the continued safe and efficient operation of critical infrastructure to maintain customer service levels, ensure public health and safety, and respond to continuously changing regulatory requirements.

**RISK OF NOT PROCEEDING WITH REQUEST:**

This project was identified as part of the overall flood mitigation program for the City. Not proceeding with this project introduces a risk to public safety and infrastructure by allowing a point of failure to occur thus negating the benefits of overland berm protection and storm system improvements. Not proceeding is contrary to Council strategic direction.

**OPTIONS CONSIDERED:**

Do not proceed with this program. This option is not recommended due to the risk of infrastructure failure during a future flood event. Infrastructure failure may lead to provincial and federal regulatory non-compliance, including public health and safety risks.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Crescent Heights Lift Station	\$ 4,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 4,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ 4,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 4,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Crescent Heights Lift Station	4,500	-	-	-	-	-	-	-	-	-
	4,500	-	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	4,500	-	-	-	-	-	-	-	-	-
	4,500	-	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 75	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150
Debt - Interest	-	145	140	135	129	123	117	111	105	98
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 220</b>	<b>\$ 290</b>	<b>\$ 285</b>	<b>\$ 279</b>	<b>\$ 273</b>	<b>\$ 267</b>	<b>\$ 261</b>	<b>\$ 255</b>	<b>\$ 248</b>
Debt - Principal										
Term - 20		164	169	174	180	186	192	198	204	211
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** SOUTH CENTRAL SANITARY SEWER REHABILITATION

**DESCRIPTION:** This project provides funding for the rehabilitation of the South Central Sanitary Sewer System

**TCA LOCATION:** No **EXPECTED LIFE:** 75

**IS THIS A NEW TCA?**

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The project provides the funding for the replacement of South Central sanitary sewer collection infrastructure which has exceeded its useful life and requires replacement due to having high potential for leakage and failure. This infrastructure is well beyond the life cycle of the pipe and should be upgraded and replaced and has been identified as having potential leakage/failure and/or poor condition with significant potential for blockages due to infrastructure age surpassing their useful life. The project provides funding for sanitary sewer replacement projects for the areas that require replacement.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Infrastructure which exceeds its useful life is at higher risk of failure causing public health and safety concerns due to sewer back-up into residences, environmental impacts due to sanitary sewer discharge to the e

**OPTIONS CONSIDERED:**

Do not proceed with this program. This option is not recommended as it will increase the infrastructure deficit to a more critical state and increase the risks to the public as mentioned above.

	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>TCA COSTS</b>										
South Central Sanitary Sewer Rehabilitation	\$ -	\$ -	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	\$ -	\$ -	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ -	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	\$ -	\$ -	\$ 3,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
South Central Sanitary Sewer Rehabilitation	-	-	3,000	-	-	-	-	-	-	-
	-	-	3,000	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	-	3,000	-	-	-	-	-	-	-
	-	-	3,000	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 20	\$ 40	\$ 40	\$ 40	\$ 40	\$ 40	\$ 40	\$ 40
Debt - Interest	-	-	-	91	88	84	81	77	73	69
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 20</b>	<b>\$ 131</b>	<b>\$ 128</b>	<b>\$ 124</b>	<b>\$ 121</b>	<b>\$ 117</b>	<b>\$ 113</b>	<b>\$ 109</b>
Debt - Principal Term - 20				111	114	118	121	125	129	133
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** AIRPORT SANITARY SEWER UPGRADES

**DESCRIPTION:** This project provides funding for the upgrades to the Airport Sanitary Sewer System.

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life.  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The project provides the funding for the replacement and upgrade of portion of the Airport Sanitary Sewer service area which is aging and requires replacement due to having potential for leakage and failure. These upgrades will also accommodate anticipated growth as part of the Airport Redevelopment Plan. This infrastructure is reaching the end of its useful life and has been identified as having a potential for leakage/failure and/or poor condition with significant potential for blockages and is not of sufficient size to accommodate anticipated growth.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Infrastructure which exceeds its useful life is at higher risk of failure causing public health and safety concerns due to sewer back-up into residences, environmental impacts due to sanitary sewer discharge to the e

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. This option is not recommended as it will increase the infrastructure deficit to a more critical state and increase the risks to the public as mentioned above. This will also reduce the ability to provide adequate sanitary sewer services to accommodate anticipated growth within the service area.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Airport Sanitary Sewer Upgrade	\$ -	\$ -	\$ -	\$ -	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ -	\$ -	\$ -	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Airport Sanitary Sewer Upgrades	-	-	-	-	500	-	-	-	-	-
	-	-	-	-	500	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	-	-	-	500	-	-	-	-	-
	-	-	-	-	500	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ -	3	7	7	7	7	7
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>3</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>
<b>Debt - Principal</b> Term -										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** SOUTHLANDS SANITARY SEWER TRUNK UPGRADE (SCHOLTEN HILL)

**DESCRIPTION:** This project provides the funding for the upgrade to the Southlands Sanitary Sewer Trunk System.

**TCA LOCATION:** No **EXPECTED LIFE:** 75

**IS THIS A NEW TCA?**

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The project provides the funding for the replacement of the Southlands Sanitary Sewer Collectionservice area (Scholten Hill) which has been identified with failure/potential leakage in the sanitary sewer collection system based on onsite condition assessments. This infrastructure is in poor condition and should be upgraded and replaced and has been identified as having a potential leakage/failure and/or poor condition with potential for infrastructure failure. This project includes new pipe installation and replacement as well as upgrading the Southlands sanitary sewer trunk infrastructure.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Infrastructure which exceeds its useful life is at higher risk of failure causing public health and safety concerns due to sewer back-up into residences, environmental impacts due to sanitary sewer discharge to the environment, and both provincial and federal regulatory non-compliances.

**OPTIONS CONSIDERED:**

Do not proceed with this program. This option is not recommended as it will increase the infrastructure deficit to a more critical state and increase the risks to the public as mentioned above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Southlands Sanitary Sewer Trunk Upgrade	\$ -	\$ -	\$ -	\$ -	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ -	\$ -	\$ -	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Southlands Sanitary Sewer Trunk Upgrade (Scholten Hill)	-	-	-	-	2,000	-	-	-	-	-
	-	-	-	-	2,000	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	-	-	-	2,000	-	-	-	-	-
	-	-	-	-	2,000	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ -	13	27	27	27	27	27
Debt - Interest	-	-	-	-	-	60	58	56	54	51
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>13</b>	<b>87</b>	<b>85</b>	<b>83</b>	<b>81</b>	<b>78</b>
Debt - Principal Term - 20						74	76	78	80	83
Increase (Decrease) in FTE's										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** REMOTE COMMUNICATIONS UPGRADE FOR STATIONS PROGRAM

**DESCRIPTION:** This program provides the project funding to upgrade the remote communications to various stations

**TCA LOCATION:** **EXPECTED LIFE:** 10

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Enhances Service Potential

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This program provides funding for the upgrade of the Sewer Utility automation and control system to accommodate remote access to improve department response times and increase efficiency. The project will consist of the deployment of remote communications technologies to allow operations staff to access the automation and control system while in the field to ensure a rapid response to operational requirements or emergency response as required. This ensures that critical information is communicated to ensure the safe and reliable operation of the stations electrical and mechanical equipment is monitored and maintained in all stations. This project will enhance customer service levels through increased operator efficiency and monitoring capabilities.

**RISK OF NOT PROCEEDING WITH REQUEST:**

All 16 current sanitary sewer lift stations are distributed throughout the City and require remote monitoring to ensure efficient operation. Failure of automation and control systems, and the inability to view the operation of those stations, impose a significant risk to public health and safety due to an inability to view the operations of the stations while staff are deployed in the field. Major communication and equipment failures may lead to service disruptions or regulatory non-compliance due to sanitary sewer incidents.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to the risks to operation as described above.

	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>TCA COSTS</b>										
Remote Communications Upgrades for stations	\$ 250	\$ -	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ 250	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working capital	\$ 250	\$ -	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ 250	\$ -
<b>Total Financing</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>



## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

### Statement of Cash Requirements

*In thousands of dollars*

#### ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Remote Communications Upgrade For Stations Program	250	-	-	-	250	-	-	-	250	-
	250	-	-	-	250	-	-	-	250	-
<b>FUNDING SOURCE:</b>										
Internal Funding	250	-	-	-	250	-	-	-	250	-
	250	-	-	-	250	-	-	-	250	-
<b>Closing Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 13	\$ 25	\$ 38	\$ 50	\$ 50	\$ 50	\$ 63	\$ 75
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 13</b>	<b>\$ 25</b>	<b>\$ 38</b>	<b>\$ 50</b>	<b>\$ 50</b>	<b>\$ 50</b>	<b>\$ 63</b>	<b>\$ 75</b>
<b>Debt - Principal</b> Term										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** SEWER FLOW MONITORING PROGRAM (30th ST SW)

**DESCRIPTION:** This project provides funding for carrying out the sewer flow monitoring program within the sewer collection system

**TCA LOCATION:** EXPECTED LIFE: 15

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 This program provides funding for sewer flow monitoring within the sanitary sewer collection system in various locations throughout the City. Flow monitoring is used to determine capacity and future upgrade requirements to ensure the optimum deployment of resources in a timely manner to coincide with growth. Monitoring also allows the utility to deploy quality monitoring technologies to monitor potential chemical intrusion into the sanitary sewer network thus maintaining the safe and efficient operation of the system on behalf of the public and the environment.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Sanitary sewer infrastructure failure due to sewer flows exceeding the capacity of the sewer lines and regulatory non-compliance due to sewer overflows into the surrounding environment or customer's residences. Not ensuring that the sewer effluent meets the required standards permitted for the sanitary sewer collection system as part of provincial and regulatory requirements.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This option is not recommended due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Sewer Flow Monitoring Program (30th St SW)	\$ -	\$ 100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ 100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Sewer Flow Monitoring Program (30th St SW)	-	100	-	-	-	-	-	100	-	-
	-	100	-	-	-	-	-	100	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	100	-	-	-	-	-	100	-	-
	-	100	-	-	-	-	-	100	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 3	\$ 7	\$ 7	\$ 7	\$ 7	\$ 7	\$ 10	\$ 13	\$ 13
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 3</b>	<b>\$ 7</b>	<b>\$ 7</b>	<b>\$ 7</b>	<b>\$ 7</b>	<b>\$ 7</b>	<b>\$ 10</b>	<b>\$ 13</b>	<b>\$ 13</b>
<b>Debt - Principal</b> Term										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** **SANITARY SEWER LIFT STATION PLC & ELECTRICAL CONTROL UPGRADES**

**DESCRIPTION:** This program provides the project funding for the upgrades to the Sanitary Sewer Lift stations PLC & Electrical Controls

**TCA LOCATION:** **EXPECTED LIFE:** 15

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 Programmable Logic Controllers (PLCs) are employed as the primary automation/control tool for all remote Lift Stations. As with other computer or electrical equipment, PLCs require lifecycle replacement due to normal wear and tear, and age. This program is provided funding for the life-cycle replacement of aging PLCs within the current Sewer Collection System. The existing Lift stations PLCs and electrical controls require regular upgrading to ensure they continue to operate as designed in controlling the equipment located within the stations.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Electronic equipment has a useful life. Once that useful life has been exceeded then the risk of failure significantly increases. Control system failures lead to further equipment failures and render the station inoperable thus impacting service levels including sewer back-up into residences or releases to the surrounding environment. This also increases the risk of provincial regulatory non-compliance due to unanticipated releases.

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. This option is not recommended due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Sanitary Sewer Lift Station PLC & Electrical Controls Upgrade	\$ -	\$ 400	\$ -	\$ -	\$ 150	\$ -	\$ -	\$ -	\$ 200	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 150</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 200</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ 400	\$ -	\$ -	\$ 150	\$ -	\$ -	\$ -	\$ 200	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 150</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 200</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> (only one project per page)										
Sanitary Sewer Lift Station Plc & Electrical Control Upgrades	-	400	-	-	150	-	-	-	200	-
	-	400	-	-	150	-	-	-	200	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	400	-	-	150	-	-	-	200	-
	-	400	-	-	150	-	-	-	200	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 13	\$ 27	\$ 32	\$ 37	\$ 37	\$ 37	\$ 43	\$ 50
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 13</b>	<b>\$ 27</b>	<b>\$ 32</b>	<b>\$ 37</b>	<b>\$ 37</b>	<b>\$ 37</b>	<b>\$ 43</b>	<b>\$ 50</b>
<b>Debt - Principal</b> Term										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** SANITARY SEWER DUMP STATION NW (BRIER PARK)

**DESCRIPTION:** This project provides the funding for the Sanitary Sewer Dump Station at Brier Park NW

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Enhances Service Potential  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 Local commercial sewage haulers currently travel to the Wastewater Treatment Plant (WWTP), located approximately 10 kms outside City limits, to offload their trucks. This practice has demonstrated to impose risk due to discharges into the environment from spills and vehicle incidents. This has been demonstrated through past incidents. The Sewer Utility proposes to install a dedicated sanitary sewer dump station within City limits to enhance service levels and reduce risk of unanticipated spills due to vehicle incidents. The new sanitary sewer dump station will accommodate increased growth and negate the use of the sewer dump station located outside the city at the WWTP. The old abandoned sewer dumping station located in Brier Park NW cannot be used as it requires extensive and expensive upgrading and has serious odour issues due to its close proximity to residential areas. The new sanitary sewer dump station will be located adjacent to the new Brier Park Lift station site and will be engineered to provide proper spill containment and odor control devices to minimize impact on surrounding businesses.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 The dump station addresses a known safety risk within the City and provides opportunities for commercial septic haulers to correctly dispose of raw sewage at a purpose built facility within the City. Septic haulers have to dump effluent all year round and the main dumping station location is at the WWTP, in winter this access road is not always open and is a serious safety issue for septic haulers. Past incidents have demonstrated current practise to be a risk to safety and the environment.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This option is not recommended due to the inherent safety and environmental risks described above.

	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>TCA COSTS</b>										
Sanitary Sewer Dump Station NW (Brier Park)	\$ -	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Sanitary Sewer Dump Station NW (Brier Park)	-	1,000	-	-	-	-	-	-	-	-
	-	1,000	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	1,000	-	-	-	-	-	-	-	-
	-	1,000	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 7	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13
Debt - Interest	-	-	30	29	28	27	26	24	23	22
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 37</b>	<b>\$ 42</b>	<b>\$ 41</b>	<b>\$ 40</b>	<b>\$ 39</b>	<b>\$ 37</b>	<b>\$ 36</b>	<b>\$ 35</b>
<b>Debt - Principal</b> Term - 20			<b>37</b>	<b>38</b>	<b>39</b>	<b>40</b>	<b>41</b>	<b>43</b>	<b>44</b>	<b>45</b>
<b>Increase (Decrease) in FTE's</b>										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** **WASTEWATER TREATMENT PLANT BUILDING SUSTAINABILITY**

**DESCRIPTION:** This program provides funding for various mechanical, structural, and building envelope projects as part of ongoing asset maintenance of existing buildings.

**TCA LOCATION:** Wastewater Treatment Plant      **EXPECTED LIFE(Years):** 25

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 This program is in coordination with Corporate Asset Management and is intended to provide funding to maintain existing building mechanical, structural components including building envelope within the Wastewater Treatment Facility. Various buildings within this facility range from 10 years old to 70 years old and require regular upgrades to extend the life of these assets. Projects include HVAC, roofing, siding/cladding, drainage systems, and all other associated equipment to maintain integrity and usefulness of building for its intended purposes. Program frequency and funding years are based on consultation with Corporate Asset Management recommendations. Projects in 2016 include the refurbishment of the "old" primary dewatering and chlorine rooms to accommodate new process equipment. These buildings are currently vacant and will be re-purposed to maximize potential useable buildings within the facility rather than building new structures to house new process and operations equipment.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Buildings and their ancillary equipment require regular maintenance and upgrading. Failure to maintain existing assets imposes a risk of building systems failure which impacts customers due to the inability to maintain operations housed within these buildings.

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. This option is not recommended due to the increased risk of failure due to inadequate preventative maintenance and the associated escalating costs due to failures within the building envelope and associated ancillary systems.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Wastewater Treatment Plant Building Sustainability	\$ 200	\$ 500	\$ 100	\$ -	\$ 100	\$ -	\$ 100	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 200</b>	<b>\$ 500</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 200	\$ 500	\$ 100	\$ -	\$ 100	\$ -	\$ 100	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 200</b>	<b>\$ 500</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ 100</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> (only one project per page)										
Wastewater Treatment Plant Building Sustainability	200	500	100	-	100	-	100	-	-	-
	200	500	100	-	100	-	100	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	200	500	100	-	100	-	100	-	-	-
	200	500	100	-	100	-	100	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 4	\$ 18	\$ 32	\$ 34	\$ 36	\$ 38	\$ 40	\$ 40	\$ 40
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 4</b>	<b>\$ 18</b>	<b>\$ 32</b>	<b>\$ 34</b>	<b>\$ 36</b>	<b>\$ 38</b>	<b>\$ 40</b>	<b>\$ 40</b>	<b>\$ 40</b>
<b>Debt - Principal</b> Term - 25										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** WASTEWATER TREATMENT PLANT ENHANCEMENTS

**DESCRIPTION:** This program provides funding for various upgrades/enhancements to the general water treatment infrastructure

**TCA LOCATION:** WWTP Wastewater Treatment Plant **EXPECTED LIFE (Years):** 10

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This program will provide funding for the general life-cycle repair/replacement, and preventative maintenance of various small scale componenets within the Wastewater Treatment Plant due to regular wear and tear. Each year condition assessments for the various components/processes of the Wastewater Treatment Plant (process or hydraulic efficiencies, instrumentation, controls or equipment improvements and upgrades, special process/equipment studies for problem solving or regulatory review to prepare for future regulatory changes) are completed and evaluated for repair/ lifecycle replacement, or upgrade requirements. This program maintains equipment in good operating order, improves efficiencies, extends the assets useful life, and ensures regulatory compliance with both provincial and federal regulatory authorities. Emerging regulations and technologies best practices and industry standards identify minor changes that lead to significant hydraulic and /or process improvemnts that are beneficial to our plant. This capital project provides funds for these requirements as required.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Addressing minor capital improvements as they arise ensures the department is able to respond effectively to infrastructure needs. Without this ability and flexibility, the Sewer Utility will begin to accumulate infrastructure deficiencies and performance issues which will lead to increased costs from failure, service quality issues and regulatory incidents. These upgrades, enhancements, equipment and best practices are required to provide and maintain regulatory compliance.

**OPTIONS CONSIDERED:**

Do not proceed with this program. This option is not recommended due to the inherent risks to infrastructure and public safety as described above.

	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>TCA COSTS</b>										
Wastewater Treatment Plant Enhancements	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150	\$ 175	\$ 175	\$ 175	\$ 175	\$ 175
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 175</b>	<b>\$ 175</b>	<b>\$ 175</b>	<b>\$ 175</b>	<b>\$ 175</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 150	\$ 150	\$ 150	\$ 150	\$ 150	\$ 175	\$ 175	\$ 175	\$ 175	\$ 175
<b>Total Financing</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 150</b>	<b>\$ 175</b>	<b>\$ 175</b>	<b>\$ 175</b>	<b>\$ 175</b>	<b>\$ 175</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Wastewater Treatment Plant Enhancements	150	150	150	150	150	175	175	175	175	175
Enhancements	150	150	150	150	150	175	175	175	175	175
<b>FUNDING SOURCE:</b>										
Internal Funding	150	150	150	150	150	175	175	175	175	175
	150	150	150	150	150	175	175	175	175	175
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 8	\$ 23	\$ 38	\$ 53	\$ 68	\$ 84	\$ 101	\$ 119	\$ 136	\$ 154
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 8</b>	<b>\$ 23</b>	<b>\$ 38</b>	<b>\$ 53</b>	<b>\$ 68</b>	<b>\$ 84</b>	<b>\$ 101</b>	<b>\$ 119</b>	<b>\$ 136</b>	<b>\$ 154</b>
<b>Debt - Principal</b> Term										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** WASTEWATER TREATMENT PLANT BACK-UP GENERATOR AUTOMATION UPGRADE

**DESCRIPTION:** The project provides funding for the upgrade of the Back-up Generator Automation and Controls system.

**TCA LOCATION:** Wastewater Treatment Plant      **EXPECTED LIFE (Years):** 15

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The Wastewater Treatment Plant is critical infrastructure. If this plant were to become inoperable due to power failure then sanitary sewage would quickly back-up into residents basements and be released directly into the environment. To help mitigate the risk of power loss Alberta Environment mandates the employment of back-up generators at all facilities. The 2 current generators were recently upgraded allowing their simultaneous use. This allows a much higher proportion of the facility to remain in operation during a loss of power which significantly reduces the risk of plant inoperability. However, the current control system requires modification to ensure seamless, remote operation of the facility during off-peak periods when the facility is unmanned. This project will fund further control system upgrades to ensure the continued, uninterrupted operation of this facility.

**RISK OF NOT PROCEEDING WITH REQUEST:**

This equipment and associated control system are integral to the safe and efficient operation of the Wastewater Treatment Plant. Back-up generation capability is a regulatory requirement due to the criticality of this service and the potential deleterious impact on residents and the environment due to sewage back-ups from an inoperable treatment facility. Therefore, a reliable and robust control system is another method used to mitigate this risk. Not proceeding with this project imposes a risk to public health and Safety, including the risk of regulatory non-compliance due to sanitary sewage releases.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to the risk toward public health, safety, and the environment.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Wastewater Treatment Plant Back-up Generator Automation Upgrade	\$ 200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 200</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 200</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Wastewater Treatment Plant Back-up Generator Automation Upgrade	200	-	-	-	-	-	-	-	-	-
	200	-	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	200	-	-	-	-	-	-	-	-	-
	200	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 7	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ 7	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13
<b>Debt - Principal</b> Term										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** **WASTEWATER TREATMENT PLANT LABORATORY REHABILITATION**

**DESCRIPTION:** The project provides funding for the mid-life rehabilitation of the existing laboratory building mechanical, equipment, and interior

**TCA LOCATION:** WWTP Lab **EXPECTED LIFE (Years):** 25

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The WWTP lab performs daily analyses on plant influent and effluent samples used to optimize plant operation, ensure provincial and federal regulatory compliance, and monitor discharges to the South Saskatchewan River. Under both provincial and federal regulations this facility must be upgraded to comply with ISO 17025 requirements. This current lab last went through renovations in 1980 and has reached the end of its useful life. Various components of the building mechanical, interior surfaces such as flooring and cabinetry, and various equipment and safety systems require upgrading and/or rehabilitation to become compliant with ISO 17025 requirements. There are no other commercial laboratories within the area thus the proper functioning of this location is essential for the regulatory reporting, monitoring requirements to maintain compliance with complex provincial and federal regulations.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Laboratory monitoring is an essential requirement of both provincial and federal licensing requirements of this facility. No proceeding with this project imposes a risk that this facility cannot achieve the required ISO 17025 accreditation requirements thus becoming non-compliant to both provincial and federal regulations. This imposes a legal risk on the City from Alberta Environment (ESRD) and Environmental Canada.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. This is not the recommended option since the current facility is not capable of maintaining the necessary ISO 17025 accreditation without upgrades to its various building mechanical, safety, and equipment.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WWTP Laboratory Rehabilitation	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
WWTP Laboratory Rehabilitation	500	-	-	-	-	-	-	-	-	-
	500	-	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	500	-	-	-	-	-	-	-	-	-
	500	-	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 10	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20
Debt - Interest	-	15	15	14	13	13	12	11	11	10
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 25</b>	<b>\$ 35</b>	<b>\$ 34</b>	<b>\$ 33</b>	<b>\$ 33</b>	<b>\$ 32</b>	<b>\$ 31</b>	<b>\$ 31</b>	<b>\$ 30</b>
Debt - Principal Term - 20		19	19	20	21	21	22	23	23	24
Increase (Decrease) in FTE's										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** WASTEWATER TREATMENT PLANT ELECTRICAL SYSTEM REHABILITATION (MAIN MCC)

**DESCRIPTION:** This project provides funding for a thorough review and upgrade of various Motor Control Centers (MCC) within the WWTP

**TCA LOCATION:WWTP:** Wastewater Treatment Plant      **EXPECTED LIFE (Years):** 25

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This project will provide funding for a thorough review of existing infrastructure condition and replacement of multiple small MCCs throughout the facility. This will include the life-cycle replacement of multiple MCCs which have surpassed their useful life and will require replacement to maintain operability of the facility. This project will include the engineering review of the various equipment interconnections and determine optimal configurations to ensure the most efficient and cost effective solutions for the electrical network at this site.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Various pieces of equipment are reaching or have exceeded their useful life. This imposes a greater risk of failure in operational equipment due to electrical failure. Inoperable equipment imposes a risk to public health and safety due to sewer back-ups into residences and increases the risk of provincial and federal regulatory non-compliance due to a lack of preventative and ongoing maintenance. Electrical equipment has extended delivery times due to nature of equipment thus replacement of equipment after a failure occurs may lead to significant periods of inoperability. The current equipment is experiencing a higher level of maintenance required due to its age. This equipment is aging and replacement parts are no longer carried by most OEM vendors.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This is not the recommended option due to the criticality of this equipment and the extended delivery times required to replace equipment after failure. This may lead to provincial and federal regulatory non-compliance.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WWTP Electrical System Rehabilitation (MCC)	\$ -	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
WWTP Electrical System rehabilitation (MCC)	-	500	-	-	-	-	-	-	-	-
	-	500	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	500	-	-	-	-	-	-	-	-
	-	500	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization		\$ -	\$ 10	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>
Debt - Principal										
Term - 20										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** WASTEWATER TREATMENT PLANT BYPASS SYSTEM CONTROLS

**DESCRIPTION:** The project will provide funding to design and install emergency bypass controls and equipment.

**TCA LOCATION:** Wastewater Treatment Plant      **EXPECTED LIFE (Years):** 25

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

Under the current design the existing facility surcharges and/or overflows directly to the South Saskatchewan River during period of heavy influent flow or inoperability due to equipment failure. This project will install new controls and associated equipment to redirect excess flow into an existing re-purposed lagoon now employed as a holding tank/surge tank. Excess volumes can then be redirected back to the facility where they undergo rigorous treatment. This new design scheme will ensure that untreated sewage is not released into the South Saskatchewan River and is intended for employment in emergency situations only. However, this will be a significant improvement to the facility design and reduce the risk of sanitary sewage back-ups into residents basements or unintentional environmental release.

**RISK OF NOT PROCEEDING WITH REQUEST:**

This project is intended as an innovative technique to mitigate the risk of sewage back-ups or environmental releases due to equipment failure or surcharging of the system. Not proceeding with this project will maintain the current risks to the facility, residents, and surrounding environment. This imposes a risk to public health and safety and regulatory non-compliances.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to significant risks to the public and surrounding environment with the current operating philosophy. This project is intended as an innovative technique to significantly reduce existing risks.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WTP Bypass Controls	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ 500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Statement of Cash Requirements**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
WTP Bypass Controls	500	-	-	-	-	-	-	-	-	-
	500	-	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	500	-	-	-	-	-	-	-	-	-
	500	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 10	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20
Debt - Interest	-	15	15	14	13	13	12	11	11	10
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ 25	\$ 35	\$ 34	\$ 33	\$ 33	\$ 32	\$ 31	\$ 31	\$ 30
<b>Debt - Principal</b> Term		<b>19</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>24</b>
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** WASTEWATER TREATMENT PLANT CONTROL SYSTEM REHABILITATION

**DESCRIPTION:** The project provides funding for the mid-life rehabilitation of the WTP existing automation and control system

**TCA LOCATION:WWTP** Wastewater Treatment Plant      **EXPECTED LIFE(Years) :** 15

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 Programmable Logic Controllers (PLCs) are employed as the primary automation/control tool for the Wastewater Treatment Plant. As with other computer or electrical equipment, PLCs require lifecycle replacement due to normal wear and tear, and age. This program is provided funding for the life-cycle replacement of aging PLCs within the current Wastewater Treatment Plant. The existing PLCs and electrical controls require regular upgrading to ensure they continue to operate as designed in controlling the equipment located within the treatment facility. Equipment is becoming obsolete.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Electronic equipment has a useful life. Once that useful life has been exceeded then the risk of failure significantly increases. Control system failures lead to further equipment failures and render the station inoperable thus impacting service levels and increases the risk of uncontrolled release of untreated sanitary sewage into the environment. This also increases the risk of provincial regulatory non-compliance due to uncontrolled release of sanitary sewage.

**OPTIONS CONSIDERED:**  
 Do not proceed with this project. The option is not recommended due to the inherent risks as described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
PLC Upgrade	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
PLC Upgrade	250	-	-	-	-	-	-	-	-	-
	250	-	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	250	-	-	-	-	-	-	-	-	-
	250	-	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 8	\$ 17	\$ 17	\$ 17	\$ 17	\$ 17	\$ 17	\$ 17	\$ 17
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 8</b>	<b>\$ 17</b>	<b>\$ 17</b>	<b>\$ 17</b>	<b>\$ 17</b>	<b>\$ 17</b>	<b>\$ 17</b>	<b>\$ 17</b>	<b>\$ 17</b>
<b>Debt - Principal</b> Term - 15										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** WASTEWATER TREATMENT PLANT POLYMER SYSTEM REHABILITATION

**DESCRIPTION:** The project will provide funding for the life-cycle replacement of existing polymer chemical feed systems.

**TCA LOCATION:** Wastewater Treatment Plant      **EXPECTED LIFE(Years):** 20

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Extends Asset's Useful Life

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

There are currently 2 separate polymer chemical feed systems employed at the Wastewater Treatment Plant. These systems The polymer are required to dose chemical to control solids in the primary and secondary clarifiers and have both reached the exceeded their useful lives (are now approximately 24 years old)..These systems will require rehabilitation/replacement to ensure the continued operation of the facility to meet all provincial and federal regulatory requirements.

**RISK OF NOT PROCEEDING WITH REQUEST:**

This equipment has exceeded its useful life and requires replacement. Not proceeding with this replacement imposes a risk of equipment failure which will impact the treatment process efficiency and capability. This could lead to provincial and federal regulatory non-compliance and reduced effluent quality into the receiving environment. This may impact environmental quality in the surrounding area and watershed.

**OPTIONS CONSIDERED:**

Do not proceed with this project. This option is not recommended due to the aging condition and risk of failure of the existing equipment.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WWTP Polymer System Rehabilitation	\$ -	\$ 400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ 400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
WWTP Polymer System Rehabilitation	-	400	-	-	-	-	-	-	-	-
	-	400	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	400	-	-	-	-	-	-	-	-
	-	400	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 10	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>	<b>\$ 20</b>
<b>Debt - Principal</b> Term										
<b>Increase (Decrease) in FTE's</b>										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** **SANITARY SEWER LINE BOX SPRINGS ROAD NW (Major Industrial Plant Servicing)**

**DESCRIPTION:** This project provides the funding for the Sanitary Sewer Line at Box Springs Road NW .

**TCA LOCATION:** **EXPECTED LIFE:** 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:**

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This project provides funding for the sanitary sewer line at Box Springs Road NW. This project is necessary to accommodate a proposed major industrial expansion in the area and is in compliance with Council's priority for increased development in the City. ***This project will not proceed until major industrial plant expansion is definitively confirmed and encompasses 50% of the actual cost of construction.*** The remaining 50% will be funded by the industrial facility.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Not proceeding with this project will result in inadequate sewer capacity to the proposed industrial expansion located within the Box Springs Road NW site. This deficiency will lead to a service shortfall and affect

**OPTIONS CONSIDERED:**

Do not proceed with this project. The option is not recommended due to the risks described above which are contrary to Council's priority of increased development.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Sanitary Sewer Line - Box Springs Road NW (Methanex)	\$ -	\$ -	\$ 2,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture / Third Party	\$ -	\$ -	\$ 2,400	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,400</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> (only one project per page)										
Sanitary Sewer Line Box Springs Road NW (Major Industrial Plant Servicing)	-	-	2,400	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	-	1,200	-	-	-	-	-	-	-
Other Funding	-	-	1,200	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ 16	\$ 32	\$ 32	\$ 32	\$ 32	\$ 32	\$ 32
Debt - Interest	-	-	36	35	34	32	31	29	28	26
<b>Total Incremental Expenses (Savings)</b>	\$ -	\$ -	\$ 36	\$ 51	\$ 66	\$ 64	\$ 63	\$ 61	\$ 60	\$ 58
<b>Debt - Principal</b> Term - 20			45	46	47	49	50	52	53	55
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** 1st ST NW/NE SANITARY SEWER UPGRADE (BURNSIDE)

**DESCRIPTION:** This project provides the funding for the upgrading of the Sanitary Sewer Mains at 1st St NW/NE to accommodate the growth at Burnside.

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Enhances Service Potential

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This project provides funding for the upgrading of existing sanitary sewer mains located along 1st ST NW/NE to accommodate growth within the Burnside Estates development. This project is a requirement to accommodate flows anticipated within the Burnside Estates Area Structure Plan and is in compliance with Council's priority of to enhance economic development. The project is in accordance to the Municipal Development Plan.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Capacity in the 1st St NW/NE Sewer Trunk System can only accommodate partial growth at Burnside Estates development area. If system capacity is not increased, growth in the Burnside Estates development area will have to be restricted to ensure the sanitary sewer collection system is not surcharged to prevent sewer back-ups within residences. Restriction of growth will be contrary to Council priorities and conflicts with the Municipal Development Plan.

**OPTIONS CONSIDERED:**

Do Not proceed with this project. This is not the recommended option due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
1st St NW/NE Sanitary Sewer Upgrade (Burnside)	\$ -	\$ -	\$ 4,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Off-Site Debenture	\$ -	\$ -	\$ 4,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> (only one project per page)										
1st St NW/NE Sanitary Sewer Upgrade (Burnside)	-	-	4,000	-	-	-	-	-	-	-
	-	-	4,000	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA (Offsite)	-	-	4,000	-	-	-	-	-	-	-
	-	-	4,000	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 27	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53
Debt - Interest	-	-	-	121	117	112	107	102	97	92
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 27</b>	<b>\$ 174</b>	<b>\$ 170</b>	<b>\$ 165</b>	<b>\$ 160</b>	<b>\$ 155</b>	<b>\$ 150</b>	<b>\$ 145</b>
Debt - Principal Term - 20				148	152	157	162	167	172	177
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** WASTEWATER TREATMENT PLANT PROCESS UPGRADE

**DESCRIPTION:** The project will provide funding for the design and construction of process upgrades required due to regulatory changes.

**TCA LOCATION:WWTP** Wastewater Treatment Plant      **EXPECTED LIFE:** 30

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

The existing WWTP is an aging plant that is reaching the end of its capability to treat sanitary sewage to levels required to comply with the current provincial and federal regulations. Both provincial and federal regulations are becoming increasingly stringent with respect to discharge limits for various constituents (such as nutrients) which are beyond the capabilities of the current infrastructure located at the existing facility. Significant upgrades will be required employing new technologies which will fundamentally change the treatment methodology at the existing facility. These will be required to maintain both provincial and federal regulatory permits, which are essential to the operation of this facility. This upgrade will also increase the capacity of the existing facility to accommodate for the anticipated growth as projected within the current Municipal Development Plan. Detailed engineering reports, design, and construction of a new facility are included in this project.

**RISK OF NOT PROCEEDING WITH REQUEST:**

This project is required to comply with increasingly stringent provincial and federal regulations. Not proceeding with this project imposes a legal risk by both the provincial and federal governments through the criminal courts. This project will also accommodate future anticipated growth within the City. Not proceeding imposes a risk that sewage generation will surpass treatment capacity thus would require strict enforcement, development constraints, or surcharging into the environment (with resulting non-compliances and legal actions against the City by provincial and federal authorities).

**OPTIONS CONSIDERED:**

Do not proceed with this project. This is not the recommended option as it would impose a significant legal risk on the City due to regulatory non-compliance. This would also severely impact economic development which is contrary to Council's priorities.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
WWTP Process Upgrade	\$ -	\$ -	\$ -	\$ 5,000	\$ -	\$ 40,000	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,000</b>	<b>\$ -</b>	<b>\$ 40,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Offsite Debenture	\$ -	\$ -	\$ -	\$ 5,000	\$ -	\$ 40,000	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,000</b>	<b>\$ -</b>	<b>\$ 40,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
WWTP Process Upgrade	-	-	-	5,000	-	40,000	-	-	-	-
	-	-	-	5,000	-	40,000	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA - Offsite	-	-	-	5,000	-	40,000	-	-	-	-
	-	-	-	5,000	-	40,000	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	83	167	833	1,800	1,800	1,800	1,800
Debt - Interest	-	-	-	-	151	146	1,352	1,300	1,247	1,192
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>83</b>	<b>318</b>	<b>979</b>	<b>3,152</b>	<b>3,100</b>	<b>3,047</b>	<b>2,992</b>
<b>Debt - Principal</b> Term - 20					185	190	1,672	1,724	1,777	1,832
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**ENVIRONMENTAL UTILITIES - SEWER UTILITY**

**ASSET NAME:** NORTH TRUNK SANITARY SEWER UPGRADE

**DESCRIPTION:** This project provides funding for the upgrade of the North Trunk sanitary sewer system.

**TCA LOCATION:** EXPECTED LIFE: 75

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** Improves Output Quality  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The program provides the funding for the replacement of North Trunk sanitary sewer collection infrastructure which has exceeded its useful life (over 50 years old) and requires replacement due to having high potential for leakage and failure. This infrastructure is well beyond the life cycle of the pipe and should be upgraded and replaced and has been identified as having potential leakage/failure and/or poor condition with significant potential for blockages due to infrastructure age surpassing their useful life. This program provides funding for the sanitary main upgrading and replacement projects for the North Trunk Sanitary Sewer System.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Infrastructure which exceeds its useful life is at higher risk of failure causing public health and safety concerns due to sewer back-up into residences, environmental impacts due to sanitary sewer discharge to the environment, and both provincial and federal regulatory non-compliances.

**OPTIONS CONSIDERED:**  
 Do not proceed with this program. This option is not recommended as it will increase the infrastructure deficit to a more critical state and increase the risks to the public as mentioned above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
North Trunk Sanitary Sewer Upgrade	\$ -	\$ 4,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 4,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture - Offsites	\$ -	\$ 4,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 4,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

ENVIRONMENTAL UTILITIES - SEWER UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
North Trunk Sanitary Sewer Upgrade	-	4,000	-	-	-	-	-	-	-	-
	-	4,000	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA - Offsites	-	4,000	-	-	-	-	-	-	-	-
	-	4,000	-	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	\$ 27	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53	\$ 53
Debt - Interest	-	-	-	-	121	116	111	106	101	96
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 27</b>	<b>\$ 174</b>	<b>\$ 169</b>	<b>\$ 164</b>	<b>\$ 159</b>	<b>\$ 154</b>	<b>\$ 149</b>
<b>Debt - Principal</b> Term - 20					147	152	157	162	167	172
Increase (Decrease) in FTE's										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Summary of Capital (TCA) Budget Requests**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

PAGE	TCA DESCRIPTION	BUDGET REQUEST		BUDGET FORECAST							10 YEAR TOTAL	FUNDING SOURCE	
		2015	2016	2017	2018	2019	2020	2021	2022	2023			2024
3.2	Landfill / Compost Enhancements	\$ 1,450	\$ 900	\$ 600	\$ 1,000	\$ 3,000	\$ 2,150	\$ 250	\$ 500	\$ 250	\$ -	\$ 10,100	WC / DEB
3.4	Landfill Customer Service Improvements	150	350	1,250	1,750	200	500	250	-	-	250	4,700	WC / DEB
3.6	Improved Collection Waste Diversion	250	200	700	3,500	-	3,500	-	-	-	-	8,150	WC / DEB
3.8	SW Garage Energy Upgrade	300	100	200	-	-	-	-	-	-	-	600	WC
3.10	Material Recovery Facility & Process Upgrades	-	250	-	250	-	250	-	-	-	-	750	WC
3.12	Waste Container Replacements & Additions	-	-	250	-	-	250	-	-	250	-	750	WC
3.14	Solid Waste Collection Customer Service Improvements	-	-	250	-	-	-	-	-	-	-	250	WC
3.16	Landfill Industrial Cell	-	-	1,500	-	-	-	-	-	1,500	-	3,000	DEB
3.18	Expand drop off depots. (Kipling Replacement)	1,400	-	-	-	-	-	-	-	-	-	1,400	DEB
3.20	Landfill Partial Closure	-	-	-	1,000	-	-	-	-	-	-	1,000	WC
3.22	Develop an Eco Center	-	-	-	-	2,500	-	-	-	-	-	2,500	DEB
<b>DEPARTMENTAL TOTAL</b>		<b>\$ 3,550</b>	<b>\$ 1,800</b>	<b>\$ 4,750</b>	<b>\$ 7,500</b>	<b>\$ 5,700</b>	<b>\$ 6,650</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 2,000</b>	<b>\$ 250</b>	<b>\$ 33,200</b>	

**FINANCING SUMMARY**

DEB) Debenture	\$ 1,400	\$ -	\$ 3,450	\$ 6,250	\$ 5,250	\$ 5,250	\$ -	\$ -	\$ 1,500	\$ -	\$ 23,100
WC) Working Capital	2,150	1,800	1,300	1,250	450	1,400	500	500	500	250	10,100
<b>FINANCING TOTAL</b>	<b>\$ 3,550</b>	<b>\$ 1,800</b>	<b>\$ 4,750</b>	<b>\$ 7,500</b>	<b>\$ 5,700</b>	<b>\$ 6,650</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 2,000</b>	<b>\$ 250</b>	<b>\$ 33,200</b>

**EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL**

Loan Interest	\$ -	\$ 42	\$ 39	\$ 104	\$ 292	\$ 384	\$ 400	\$ 350	\$ 300	\$ 280
Amortization	107	270	581	1,192	1,691	2,100	2,378	2,403	2,285	2,466
<b>TOTAL NET OPERATING EFFECT:</b>	<b>\$ 107</b>	<b>\$ 312</b>	<b>\$ 620</b>	<b>\$ 1,296</b>	<b>\$ 1,983</b>	<b>\$ 2,484</b>	<b>\$ 2,778</b>	<b>\$ 2,753</b>	<b>\$ 2,585</b>	<b>\$ 2,746</b>
Loan Principal	-	122	125	623	1,599	1,876	2,593	2,642	2,232	1,832
FTEs										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Current Year Capital Summary and Carry Forwards**

*In thousands of dollars*

**SOLID WASTE UTILITY**

**FOR INFORMATION: CARRY FORWARD OF AMOUNTS PREVIOUSLY APPROVED**

YR.	PROJECT DESCRIPTION	APPRV'D BUDGET	EST. TO 31/12/14	EST. AMTS. TO BE SPENT IN:										10 YEAR EST. TOTAL		
				2015	2016	2017	2018	2019	2020	2021	2022	2023	2024			
2009	Material Recycling Facility Exp	\$ 8,389	\$ -	\$ -	\$ 375	\$ 4,000	\$ 4,014	\$ -								\$ 8,389
2009	Alternative Daily Cover	500	400	100	-	-	-	-								100
2010	New Landfill Study & Land Acq.	8,500		645	300	300	3,255	4,000								8,500
2009	MRF & Process Upgrades	300	200	100	-	-	-	-								100
2010	MRF & Process Upgrades	100	-	100	-	-	-	-								100
2010	Bin Replacements & Additions	250	-	250	-	-	-	-								250
2011	Bin Replacements & Additions	250	160	90	-	-	-	-								90
2011	MRF & Process Upgrades	100	-	100	-	-	-	-								100
2011	Recycling Depot Upgrade	450	300	150	-	-	-	-								150
2014	Recycling Depot Upgrade	650	-	650	-	-	-	-								650
2013	MRF & Process Upgrades	200	-	200	-	-	-	-								200
2011	Waste Cell #4	500	-	-	-	500	-	-								500
2011	Landfill Enhancements	200	-	200	-	-	-	-								200
2013	Landfill Enhancements	600	-	600	-	-	-	-								600
2012	Solid Waste Collection Garage	450	-	450	-	-	-	-								450
<b>TOTAL CARRY FORWARDS</b>		<b>\$ 21,439</b>	<b>\$ 1,060</b>	<b>\$ 3,635</b>	<b>\$ 675</b>	<b>\$ 4,800</b>	<b>\$ 7,269</b>	<b>\$ 4,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>20,379</b>



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** LANDFILL COMPOST ENHANCEMENTS  
**DESCRIPTION:** LANDFILL / COMPOST FACILITY ENHANCEMENTS - Repeating  
**TCA LOCATION:** SW1/4 03-013-05-W4M **EXPECTED LIFE:** 20  
**IS THIS A NEW TCA?** No  
**IF NO, INDICATE BETTERMENT TYPE:** 1,3,4

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This capital project funds landfill enhancements as required. During the year, various components of the landfill/compost facility are identified for regulatory or process improvements such as: operational and customer service upgrades; drainage improvements; monitoring, controls and equipment improvements; special process/equipment studies for problem solving. Also adopting emerging regulations, technologies, and industry best practices require improvements that are beneficial to the facilities. As the working face continues to gain elevation due to infill, operations at the working face are more exposed to and impacted by windy conditions. Upgrades such as additional fencing is required around the working face and the RHF site to comply with Landfill Approval Regulations. City of Medicine Hat considers a healthy Environment to be a key Strategic economic and social value to all residents. LFG capture projects over the last decade have seen significant advancement to aerobic and anaerobic technology and methodology, changing previous marginal projects to viable LFG avoidance or recovery initiatives.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Regulatory compliance is required to operate the various functions located within the licensed area of the Residual Handling Facility, including the ability to handle landfill waste. Enhancements improve the ability to divert waste and minimize risks to people and the environment. Not providing essentials such as adequate fencing to capture litter is a regulatory noncompliance event and would not be considered a good neighbor behavior. Subject to the findings of LFG assessment, not proceeding with the assessment may result in lost revenue from energy and carbon credits, while continuing to enlarge the carbon footprint on the environment.

**OPTIONS CONSIDERED:**

The option of not proceeding is not recommended due to the risks described above. Annually several investment groups have expressed an interest to develop or to partner on a LFG capture project. Prior to exploring any such discussion, it is recommended the City completes this assessment on whether LFG capture is viable, and whether we should develop internally.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Landfill Enhancements	\$ 1,450	\$ 900	\$ 600	\$ 1,000	\$ 3,000	\$ 2,150	\$ 250	\$ 500	\$ 250	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 1,450</b>	<b>\$ 900</b>	<b>\$ 600</b>	<b>\$ 1,000</b>	<b>\$ 3,000</b>	<b>\$ 2,150</b>	<b>\$ 250</b>	<b>\$ 500</b>	<b>\$ 250</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 1,450	\$ 900	\$ 600	\$ -	\$ 250	\$ 400	\$ 250	\$ 500	\$ 250	\$ 250
Debenture	-	-	-	1,000	2,750	1,750	-	-	-	-
<b>Total Financing</b>	<b>\$ 1,450</b>	<b>\$ 900</b>	<b>\$ 600</b>	<b>\$ 1,000</b>	<b>\$ 3,000</b>	<b>\$ 2,150</b>	<b>\$ 250</b>	<b>\$ 500</b>	<b>\$ 250</b>	<b>\$ 250</b>



## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

### Statement of Cash Requirements

*In thousands of dollars*

#### SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS</b> <i>(only one project per page)</i>										
Landfill / Compost Facility Enhancements	1,450	900	600	1,000	3,000	2,150	250	500	250	-
	1,450	900	600	1,000	3,000	2,150	250	500	250	-
<b>FUNDING SOURCE:</b>										
ACFA	-	-	-	1,000	2,750	1,750	-	-	-	-
Internal Funding	1,450	900	600	-	250	400	250	500	250	-
	1,450	900	600	1,000	3,000	2,150	250	500	250	-
<b>Closing Balance</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 36	\$ 95	\$ 133	\$ 173	\$ 273	\$ 401	\$ 461	\$ 480	\$ 499	\$ 511
Debt - Interest	-	-	-	-	28	151	144	137	130	122
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 36</b>	<b>\$ 95</b>	<b>\$ 133</b>	<b>\$ 173</b>	<b>\$ 301</b>	<b>\$ 552</b>	<b>\$ 605</b>	<b>\$ 617</b>	<b>\$ 629</b>	<b>\$ 633</b>
<b>Debt - Principal</b> Term -15					54	300	307	314	321	328
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** LANDFILL CUSTOMER SERVICE IMPROVEMENTS

**DESCRIPTION:** LANDFILL / COMPOST FACILITY ENHANCEMENTS - Repeating

**TCA LOCATION:** SW1/4 03-013-05-W4M **EXPECTED LIFE:** 20

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** 1,2,4

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

In accordance with the Waste Management Strategy to improve Customer Services at the landfill, this project will seek to improve the ease of customers to access and recycle more materials. As per the Waste Management Strategy report, programs will seek to increase diversion from the Construction & Demolition (C&D), Industrial, Commercial, and Institutional (ICI) generators.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Large volumes of recyclable materials will continue to be landfilled. Currently the ICI and C&D generate about 2/3 of the waste entering the landfill. Their waste stream includes a higher percentage of recyclable ma

**OPTIONS CONSIDERED:**

The option of not proceeding is not recommended due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Landfill/Compost Enhancements	\$ 150	\$ 350	\$ 1,250	\$ 1,750	\$ 200	\$ 500	\$ 250	\$ -	\$ -	\$ 250
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 150</b>	<b>\$ 350</b>	<b>\$ 1,250</b>	<b>\$ 1,750</b>	<b>\$ 200</b>	<b>\$ 500</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 150	\$ 350	\$ -	\$ -	\$ 200	\$ 500	\$ 250	\$ -	\$ -	\$ 250
Debenture	-	-	1,250	1,750	-	-	-	-	-	-
<b>Total Financing</b>	<b>\$ 150</b>	<b>\$ 350</b>	<b>\$ 1,250</b>	<b>\$ 1,750</b>	<b>\$ 200</b>	<b>\$ 500</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Landfill/Compost Enhancements	150	350	1,250	1,750	200	500	250	-	-	250
	150	350	1,250	1,750	200	500	250	-	-	250
<b>FUNDING SOURCE:</b>										
ACFA	-	-	1,250	1,750	-	-	-	-	-	-
Internal Funding	150	350	-	-	200	500	250	-	-	250
	150	350	1,250	1,750	200	500	250	-	-	250
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 4	\$ 16	\$ 56	\$ 131	\$ 180	\$ 198	\$ 216	\$ 223	\$ 223	\$ 229
Debt - Interest	-	-	-	34	80	76	71	66	61	56
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 4</b>	<b>\$ 16</b>	<b>\$ 56</b>	<b>\$ 165</b>	<b>\$ 260</b>	<b>\$ 274</b>	<b>\$ 287</b>	<b>\$ 289</b>	<b>\$ 284</b>	<b>\$ 285</b>
Debt - Principal				68	166	170	175	180	185	190
Term - 15										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** IMPROVED COLLECTION WASTE DIVERSION

**DESCRIPTION:** Improve Solid Waste Collection Waste Diversion

**TCA LOCATION:** City Wide **EXPECTED LIFE:** 10

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:** 1,3,4

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This project will commence the implementation of the 2012-2022 Waste Management Strategy # 16 Construction and Demolition, Strategy # 17 ICI fiber; Strategy #15 Food Waste Collection and Composting; Strategy # 18 Curbside Recycling. These programs will increase the amount of waste diverted at the landfill therefore preserve limited landfill airspace. Increased diversion will lower the carbon footprint that is generated by residents and our waste disposal facilities.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Require the project to achieve the Waste Management Strategy and to provide the diversion programs that are common in Canada's leading communities.

**OPTIONS CONSIDERED:**

Many options were considered in the preparation and presentation of the Waste Strategy. Further research, analysis, and design must be considered as the projects are fully scoped and implemented.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Waste Diversion	\$ 250	\$ 200	\$ 700	\$ 3,500	\$ -	\$ 3,500	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 250</b>	<b>\$ 200</b>	<b>\$ 700</b>	<b>\$ 3,500</b>	<b>\$ -</b>	<b>\$ 3,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 250	\$ 200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debenture	-	-	700	3,500	-	3,500	-	-	-	-
<b>Total Financing</b>	<b>\$ 250</b>	<b>\$ 200</b>	<b>\$ 700</b>	<b>\$ 3,500</b>	<b>\$ -</b>	<b>\$ 3,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Collection Waste Diversion	250	200	700	3,500	-	3,500	-	-	-	-
	250	200	700	3,500	-	3,500	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	-	700	3,500	-	3,500	-	-	-	-
Internal Funding	250	200	-	-	-	-	-	-	-	-
	250	200	700	3,500	-	3,500	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 13	\$ 35	\$ 80	\$ 290	\$ 465	\$ 640	\$ 815	\$ 815	\$ 815	\$ 815
Debt - Interest	-	-	-	11	65	51	93	67	42	21
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 13</b>	<b>\$ 35</b>	<b>\$ 80</b>	<b>\$ 301</b>	<b>\$ 530</b>	<b>\$ 691</b>	<b>\$ 908</b>	<b>\$ 882</b>	<b>\$ 857</b>	<b>\$ 836</b>
Debt - Principal				136	815	829	1,520	1,545	1,424	712
Term - 5										
Increase (Decrease) in FTE's										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** SW GARAGE ENERGY UPGRADE

**DESCRIPTION:** Solid Waste Garage Renovations - Repeating

**TCA LOCATION:** 717 16 Street SW **EXPECTED LIFE:** 20

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** 1,3

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

SW Collection will relocate its operations to 717 16 Street SW as the EU Administration, Engineering, and Water & Sewer Operations relocates to Brier park Way NW. Some upgrades were funded in a previous capital project. Additional upgrades are required for improving the HVAC, and installing the wash bay facility. In 2015 300K for a wash bay; 2016: \$100 for HVAC; 2017: \$200K for exterior cladding and Windows replacement. Some of these tasks may be funded from the program converting the fleet to Compressed Natural Gas.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Solid Waste Collection operations are very fleet intensive and requires a suitable location to house. Particular considerations include covered storage during the winter months, and sufficient buffer from neighbors due to nuisance odors. Projects such as cladding, HVAC, and windows need to be replaced to retain the integrity of the building envelope.

**OPTIONS CONSIDERED:**

Purchase an existing building suitable for operations has merit, but would involve increasing the corporate assets and leave the existing building vacant. Leasing an existing building has merits as it will give flexibility if the SW Collection Operations are significantly changed. Third option, building a new purpose build structure not supported as this would be more costly and increase the Corporate assets.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Collection Garage Upgrades	\$ 300	\$ 100	\$ 200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ 300</b>	<b>\$ 100</b>	<b>\$ 200</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ 300	\$ 100	\$ 200	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ 300</b>	<b>\$ 100</b>	<b>\$ 200</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
SW Collection Garage Upgrades	300	100	200	-	-	-	-	-	-	-
	300	100	200	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	300	100	200	-	-	-	-	-	-	-
	300	100	200	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 8	\$ 18	\$ 25	\$ 30	\$ 30	\$ 30	\$ 30	\$ 30	\$ 30	\$ 30
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 8</b>	<b>\$ 18</b>	<b>\$ 25</b>	<b>\$ 30</b>	<b>\$ 30</b>	<b>\$ 30</b>	<b>\$ 30</b>	<b>\$ 30</b>	<b>\$ 30</b>	<b>\$ 30</b>
<b>Debt - Principal</b> Term - 20										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** MATERIAL RECOVERY FACILITY & PROCESS UPGRADES

**DESCRIPTION:** Material Recycling Facility & Process Upgrades Program

**TCA LOCATION:** 1169 Brier Park Way NW      **EXPECTED LIFE:** 10

**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:** 1,3,4

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

MRF is located in a 35 year structure where its operations involve several pieces of installed equipment and continual movement of vehicles and rolling equipment. This type of operation requires extensive overhauls and replacement. Likewise the Waste Diversion sector is continually evolving by adding markets for commodities, changing how commodities are accepted, and with improved equipment to facilitate processing. This project funds operational upgrades to the yard and building to accommodate expansion and the high level of wear & tear. The volumes of materials diverted continue to increase significantly since it was reconfigured for recycling operations in 2001. Immediate areas that need upgrading include processing equipment, operational efficiencies, worker safety, and environmental issues. There is a need to invest in new equipment to upgrade the processed commodities.

**RISK OF NOT PROCEEDING WITH REQUEST:**

The MRF is operating near capacity. Reliable equipment is essential as unforeseen failures require recycling materials to be shipped to another recycling facility or be landfilled. Internal processes often need to be adjusted to meet the changing commodity market requirements.

**OPTIONS CONSIDERED:**

Reduce demand on facility and staff by shipping non-sorted materials. This option was rejected because the value for non-sorted material is low and the market is too volatile.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
MRF Program	\$ -	\$ 250	\$ -	\$ 250	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ 250	\$ -	\$ 250	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Material Recovery Facility Upgrades	-	250	-	250	-	250	-	-	-	-
	-	250	-	250	-	250	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	250	-	250	-	250	-	-	-	-
	-	250	-	250	-	250	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ 13	\$ 25	\$ 38	\$ 50	\$ 63	\$ 75	\$ 75	\$ 75	\$ 75
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ 13</b>	<b>\$ 25</b>	<b>\$ 38</b>	<b>\$ 50</b>	<b>\$ 63</b>	<b>\$ 75</b>	<b>\$ 75</b>	<b>\$ 75</b>	<b>\$ 75</b>
Debt - Principal Term -10										
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** WASTE CONTAINER REPLACEMENT & ADDITIONS

**DESCRIPTION:** Containers for Diversion, Commercial, & Residential collection - Repeating

**TCA LOCATION:** City Wide **EXPECTED LIFE:** 10

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:**

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This project funds the replacement, and purchase of additional bins in the three Solid Waste areas of recycling, commercial, and residential collection. Much of the bin inventory requires replacement due to wear and tear. This project anticipates the Solid Waste Utility will require additional bins due to additional recycling depots, increased commercial collections, and continued residential growth of 2% annually.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Required to provide the essential services to the businesses and residents.

**OPTIONS CONSIDERED:**

Refurbish existing containers and increase capacity by offering more frequent pickups. This option was rejected due to increased operating costs.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Solid Waste Containers	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ 250	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ 250	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Solid Waste Containers	-	-	250	-	-	250	-	-	250	-
	-	-	250	-	-	250	-	-	250	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	-	250	-	-	250	-	-	250	-
	-	-	250	-	-	250	-	-	250	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 13	\$ 25	\$ 25	\$ 38	\$ 50	\$ 50	\$ 63	\$ 75
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 13</b>	<b>\$ 25</b>	<b>\$ 25</b>	<b>\$ 38</b>	<b>\$ 50</b>	<b>\$ 50</b>	<b>\$ 63</b>	<b>\$ 75</b>
<b>Debt - Principal</b> Term - 10										
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** SOLID WASTE COLLECTION CUSTOMER SERVICE IMPROVEMENTS

**DESCRIPTION:** Improve Solid Waste Collection Customer Services

**TCA LOCATION:** 717 16 Street SW **EXPECTED LIFE:** 20

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:** 1,4  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 In accordance with the Waste Management Strategy, continue to adopt new technology to assist with tracking of vehicles and inventory, and improving productivity. This project will concentrate on adding new technology to the fleet of refuse trucks, enhancing customer awareness of managing their yard waste on their own sites, and improving services to our customer base.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 We must pursue the use of new technology and industry best practices in order to provide comparable level of services to other leading municipalities.

**OPTIONS CONSIDERED:**  
 Staff have reviewed scores of different initiatives at various stages of development by industry or other municipalities. Those that show the most potential will be integrated into local operations.

	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>TCA COSTS</b>										
Customer Service Improvements	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ -	\$ 250	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Collection Customer Services	-	-	250	-	-	-	-	-	-	-
	-	-	250	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding	-	-	250	-	-	-	-	-	-	-
	-	-	250	-	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 6	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13	\$ 13
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>	<b>\$ 13</b>
<b>Debt - Principal</b> Term - 20										
<b>Increase (Decrease) in FTE's</b>										





**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** LANDFILL INDUSTRIAL CELL  
**DESCRIPTION:** Partial Closure of Landfill Working Face  
**TCA LOCATION:** SW1/4 03-013-05-W4M **EXPECTED LIFE:** 5  
**IS THIS A NEW TCA?** No

**IF NO, INDICATE BETTERMENT TYPE:**  
*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**  
 The City of Medicine Hat Residual Handling Facility includes an Alberta Environment approved Class II Landfill. In accordance with the Landfill Operating Permit a final layer must be placed over the final lift of waste. Rather than wait till the landfill is completely full, the recommended approach is close sections of the landfill as it is filled. The first partial closure was completed in 2004. This TCA recommends two partial closures in 2015 and 2023. Both of these projects will be funded from the Landfill Abandonment Funds that are set aside annually to cover the closure costs.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 Proper closure is a regulatory requirement. The Landfill Abandonment funds can only be used for closure.

**OPTIONS CONSIDERED:**  
 Postpone closure until the Landfill airspace is exhausted. Not recommended, by closing the areas as they are filled reducing risk of exposed waste. Also future regulations may be more stringent and present unforeseen costs to close.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Partial closure	\$ -	\$ -	\$ -	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Working Capital	\$ -	\$ -	\$ -	\$ 1,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Landfill Closure Program	-	-	-	1,000	-	-	-	-	-	-
	-	-	-	1,000	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Internal Funding				1,000						
	-	-	-	1,000	-	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ -	100	200	200	200	200	200	200
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>100</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>200</b>
<b>Debt - Principal</b> Term - 5										
<b>Increase (Decrease) in FTE's</b>										





## 2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

### Statement of Cash Requirements

*In thousands of dollars*

#### SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
<b>Opening Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Recycling Depot	1,400	-	-	-	-	-	-	-	-	-
	1,400	-	-	-	-	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
Debenture	1,400	-	-	-	-	-	-	-	-	-
	1,400	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ 47	\$ 93	\$ 93	\$ 93	\$ 93	\$ 93	\$ 93	\$ 93	\$ 93	\$ 93
Debt - Interest	-	42	39	35	31	27	22	18	14	9
<b>Total Incremental Expenses (Savings)</b>	<b>\$ 47</b>	<b>\$ 135</b>	<b>\$ 132</b>	<b>\$ 128</b>	<b>\$ 124</b>	<b>\$ 120</b>	<b>\$ 115</b>	<b>\$ 111</b>	<b>\$ 107</b>	<b>\$ 102</b>
<b>Debt - Principal</b> <b>10 Years</b>	-	122	125	129	133	137	142	146	150	155
<b>Increase (Decrease) in FTE's</b>										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**TCA Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** LANDFILL PARTIAL CLOSURE  
**DESCRIPTION:** Non-Hazardous Industrial Waste Cells - Repeating  
**TCA LOCATION:** SW1/4 03-013-05-W4M **EXPECTED LIFE:** 5  
**IS THIS A NEW TCA?** Yes

**JUSTIFICATION:**  
 The CMH Landfill has been operating Non-Hazardous Industrial Cells since 1998. Since 2008 non-hazardous industrial waste has generated \$8 million dollars in revenue. The revenue from a non-traditional landfill operation have been an essential source of funding for the various Solid Waste Utility Operations and supplementing the low landfill tipping fees. The cells are operated in agreement with Tervita, which stipulates that Tervita will source appropriate materials (i.e. non-hazardous industrial wastes that may lawfully be accepted in a Class II Landfill such as ours) and arrange for both initial testing and ongoing sampling and testing of materials as they leave generators' sites bound for the CMH Landfill. This TCA proposes two new cells to be constructed in 2016 and 2020.

**RISK OF NOT PROCEEDING WITH REQUEST:**  
 This non-traditional revenue from handling non-hazardous industrial waste has been a significant funding stream that offsets the Solid Waste Utility operations. The lost of this revenue will require other rates to increase significantly, and local industry to pay higher transportation costs for disposal.

**OPTIONS CONSIDERED:**  
 The option of not proceeding is not recommended due to the risks described above.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Landfill - Residual Handling Facility	\$ -	\$ -	\$ 1,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,500	\$ -
<b>2015 to 2016 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ -	\$ 1,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,500	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,500</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Landfill - Non Hazardous Industrial Cell	-	-	1,500	-	-	-	-	-	1,500	-
	-	-	1,500	-	-	-	-	-	1,500	-
<b>FUNDING SOURCE:</b>										
ACFA			1,500						1,500	
	-	-	1,500	-	-	-	-	-	1,500	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Amortization	\$ -	\$ -	\$ 150	\$ 300	\$ 300	\$ 300	\$ 300	\$ 300	\$ 150	\$ 300
Debt - Interest	-	-	-	24	20	14	9	5	-	24
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 150</b>	<b>\$ 324</b>	<b>\$ 320</b>	<b>\$ 314</b>	<b>\$ 309</b>	<b>\$ 305</b>	<b>\$ 150</b>	<b>\$ 324</b>
Debt - Principal Term -5	-	-	-	290	294	300	305	309	-	290
Increase (Decrease) in FTE's										



**2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET**  
**Capital (TCA) Budget Request**  
*In thousands of dollars*

**SOLID WASTE UTILITY**

**ASSET NAME:** DEVELOP AN ECO CENTRE

**DESCRIPTION:** Build a Waste Diversion Eco-Center in the City

**TCA LOCATION:** TBC **EXPECTED LIFE:** 20

**IS THIS A NEW TCA?** Yes

**IF NO, INDICATE BETTERMENT TYPE:** 1,4

*For Betterment type, Select either: 1. Enhances Service Potential; 2. Lowers Operating Costs; 3. Extends Asset's Useful Life; 4. Improves Output Quality*

**JUSTIFICATION:**

This project will augment the implementation of several of the 2012-2022 Waste Management Strategies, including but not limited to Strategy # 16 Construction and Demolition, Strategy # 17 ICI fiber; Strategy #15 Food Waste Collection and Composting; Strategy # 18 Curbside Recycling. These programs will increase the amount of waste diverted at the landfill therefore preserve limited landfill airspace. Increased diversion will lower the carbon footprint that is generated by residents and our waste disposal facilities. Although most Medicine Hat residents are actually closer to the existing diversion facilities at the Medicine Hat landfill than many residents in larger centers, many local residents perceive this drive is too far.

**RISK OF NOT PROCEEDING WITH REQUEST:**

Require the project to achieve the Waste Management Strategy and to provide the diversion programs that are common in Canada's leading communities.

**OPTIONS CONSIDERED:**

Many options were considered in the preparation and presentation of the Waste Strategy. Further research, analysis, and design must be considered as the projects are fully scoped and implemented. Some centers have found Eco-Centers effective at diverting waste and assisting residents with disposal of their waste.

TCA COSTS	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Build an Eco center	\$ -	\$ -	\$ -	\$ -	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -
<b>2014 to 2015 Council Approved TCA:</b>	<b>\$ -</b>	<b>\$ -</b>		<b>\$ -</b>	<b>\$ 2,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>FUNDING SOURCE:</b>										
Debenture	\$ -	\$ -	\$ -	\$ -	\$ 2,500	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Financing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>



2015 - 2024 TANGIBLE CAPITAL ASSET BUDGET

Statement of Cash Requirements

In thousands of dollars

SOLID WASTE UTILITY

TCA BUDGET REQUEST	2015 BUDGET	2016 BUDGET	2017 FORECAST	2018 FORECAST	2019 FORECAST	2020 FORECAST	2021 FORECAST	2022 FORECAST	2023 FORECAST	2024 FORECAST
Opening Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TCA COSTS (only one project per page)</b>										
Develop Eco-Center	-	-	-	-	2,500	-	-	-	-	-
	-	-	-	-	2,500	-	-	-	-	-
<b>FUNDING SOURCE:</b>										
ACFA	-	-	-	-	2,500	-	-	-	-	-
	-	-	-	-	2,500	-	-	-	-	-
Closing Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EFFECT ON OPERATIONS WHEN FULLY OPERATIONAL:</b>										
Expenses (Savings):										
Amortization	\$ -	\$ -	\$ -	\$ -	\$ 63	\$ 125	\$ 125	\$ 125	\$ 125	\$ 125
Debt - Interest	-	-	-	-	68	65	61	57	53	48
<b>Total Incremental Expenses (Savings)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 131</b>	<b>\$ 190</b>	<b>\$ 186</b>	<b>\$ 182</b>	<b>\$ 178</b>	<b>\$ 173</b>
Debt - Principal										
Term - 15					137	140	144	148	152	157
Increase (Decrease) in FTE's										