

# **Drainage Financial Plan 2015-2018**

**2014 February 26**

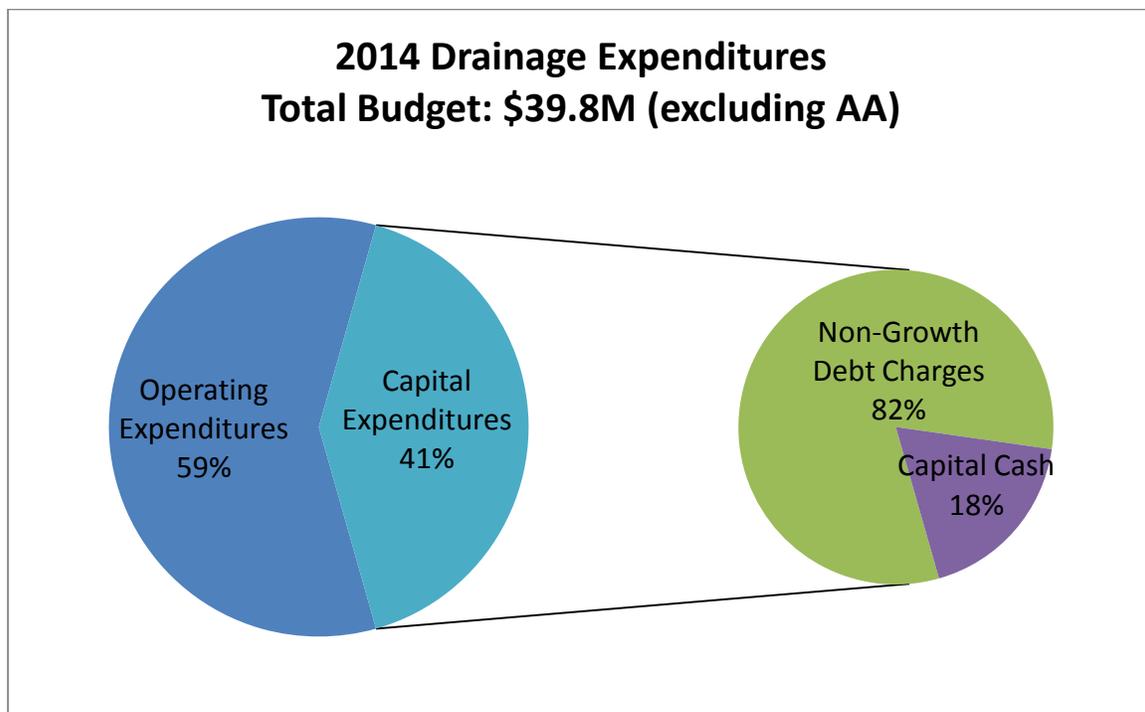
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**Introduction:**

This report provides Administration’s recommendations for a financial plan for Drainage that includes financial targets. The goal of the plan is to set targets and increase the financial sustainability of the Drainage line of service and ensure its ability to remain a self funded operation. Annually, the Drainage line of service generates \$39.8 million of revenue from the current flat rate fee. Of this, \$23.5 million is directed toward operating expenditures (Figure 1). The remaining drainage fee revenue of \$16.3 million supports a \$30 million capital program through a combination of cash and debt financing. The Drainage line of service is still relatively small compared to the water and wastewater Utilities. The Utilities generate an annual revenue of approximately \$500 million which supports a capital program of about \$200 million.

Figure 1: 2014 Drainage Expenditures, Total Budget: \$39.8M (excluding AA)



**Context for Financial Policies and Targets:**

In 2011, the Utilities conducted an analysis of the financial policies and practices of the Water and Wastewater Utilities. As a result of the analysis, financial policies and practices were revised and financial targets were established to monitor progress. The Drainage line of service was excluded from the analysis in 2011 since it does not operate under the same utility business model.

In 2012, the Water Utilities initiated the riverbasin and watershed management workplan (UCS2012-0229). The workplan included the preparation of a Drainage financial plan based on programs for water quality improvements, flood protection and community drainage

improvements and infrastructure lifecycle operation and maintenance. As part of the workplan, reports were presented to the Standing Policy Committee on Utilities and Corporate Services in June 2013 on the Riparian Strategy (UCS2013-0048), Community Drainage Improvements Priorities (UCS2013-0047) and the Drainage Operation and Maintenance Requirements (UCS2013-0070). The analysis and information from these reports were used as inputs into the Drainage Financial Plan.

In 2013 April, Council approved the new financial policies established for Drainage (UCS2013-0044). The financial policies focus on several aspects of finance: capital financing and debt management, revenue stability and sufficiency and the management of expenditures. These policies are aligned with the financial policies of the Water and Wastewater Utilities and the 2011 City of Calgary Long Range Financial Plan. The financial targets outlined in this report will integrate with the Drainage financial policies and allow the Utilities to monitor progress.

### **The Drainage Business Model:**

The Drainage line of service operates as a self funded activity. In this model, the stormwater drainage fees and charges are set to recover the full costs of providing the drainage services. Key differences between the self funded activity and the full utility financial model include the application of amortization (depreciation) of significant assets as well as the payment of franchise fees, and return on equity to the Corporation. All of these key differences add to the revenue requirements of the water and wastewater Utilities.

The Drainage revenue consists primarily of fee revenue which is generated from the flat rate stormwater drainage fee. Currently, the same flat rate is billed to all customers. In addition to the fee revenue, Drainage collects a Stormwater Acreage Assessment Levy on new development. The acreage assessment levy is used to fund the full cost of infrastructure investments required to support new growth.

As a self funded operation, the total revenue collected from fees must cover all of the Drainage expenses. Expenses include all operations and maintenance costs to keep the system running, all capital costs for non-growth related infrastructure and programs, and all capital costs to maintain the system. The stormwater acreage assessments collected cover the cost of infrastructure required for growth.

To develop the Drainage financial policies, a review of the Drainage business model was conducted by Administration to confirm that the self funded model was still compatible with the financial policies established. It is recommended that Drainage should transition its financial and business practices in phases. Implementation of the financial policies and practices, along with integrated targets should be completed prior to any further review of the current business model. Council confirmed these recommendations in April 2013 (Report UCS2013-0044 Drainage Financial Plan).

The demand for new drainage services is growing in response to population growth, environmental objectives and the recent 2013 flood event. As part of the development of an overarching Drainage Financial Plan, an analysis was undertaken of the long term capital and operating pressures facing the Drainage line of service. The pressures facing the Drainage line of service are different than the pressures facing the water and wastewater Utilities.

### **Capital and Operating Pressures:**

#### *Regulatory*

The regulatory environment for stormwater continues to evolve. The City of Calgary has a stormwater management strategy in place that sets targets for sediment loadings to The Bow and Elbow rivers. Efforts to manage total suspended solids are focused on stormwater management because the majority of the sediment loadings to the river and streams are from stormwater.

The sediment loading targets are based on water quality objectives set out in The City of Calgary's Wastewater Approval to Operate. The targets aim to reduce sediment loadings to 2005 levels by 2015. Water Resources is on track to meeting these targets but recognize that additional investments will be required to meet the long-term goals.

A portion of the capital budget has been established for the design and construction of stormwater treatment facilities to improve the quality of water entering our rivers and achieving the targets set out in the Wastewater Approval to Operate. These facilities are wet ponds or constructed wetlands that are built within existing developed areas across the city. In new development areas stormwater management facilities are incorporated as development occurs. This typically occurs in the form of a wetpond.

With increasingly stringent regulatory requirements now and in the future, traditional stormwater infrastructure is not sufficient to maintain water quality and quantity. The quantity of the stormwater being returned to our rivers and streams is also an important environmental consideration. In recent years, there has been a move to integrate Low Impact Development (LID) designs and source control practices, placing more emphasis on source or 'lot-level' stormwater management, and stormwater reuse strategies.

Based on a review of the current stormwater quality objectives and anticipated future regulations, Water Resources has identified additional capital budget needs to install local stormwater quality projects, which include LID designs. These projects would be in addition to the major stormwater quality retrofit program currently in place. New operating requirements related to these new local stormwater quality projects have also been identified.

#### *Maintaining Assets*

The implementation of both traditional stormwater management facilities and LID features in new and existing communities is an important part of our stormwater quality management program. These facilities and features also have operation and maintenance requirements to ensure that they continue to function as intended. While the stormponds help to reduce the sediment loading to the rivers and streams, sediment is accumulating in the ponds. Eventually the accumulated sediment needs to be removed from the pond to restore the original design performance and to ensure continued compliance with our water quality objectives.

Many of Calgary's storm ponds are at the point in their lifecycle where sediment removal is necessary. Many municipalities across Canada face similar challenges with their stormwater ponds. With current practices the costs to remove and dispose of sediment from one pond costs approximately \$5.5 million. Generally it is assumed that ponds will require to have sediment removed every 15 to 25 years depending on local conditions. Of the 120 ponds currently in place, many have been in service for more than 30 years.

Research needs averaging \$2 million per year have been identified for the next budget cycle to inform and refine operational and maintenance best practices. The key research focus areas are:

- Optimization of pond maintenance and sediment repurposing options;
- LID performance and maintenance requirements;
- Erosion and sediment control practices, policies and education;
- Odour and algae control on stormwater ponds

Additional pond cleanings will be required while the research is being conducted to ensure continued compliance with our water quality objectives. Capital budget needs have been identified to conduct pond cleanings over the next 10 years. This includes one pond cleaning per year over the next budget cycle, increasing in 2019 onwards once the research is concluded.

The stormwater pipe network also has operation and maintenance requirements. Typical maintenance activities on the pipe network include pipe flushing, catch basin cleaning and lift station maintenance. Based on available information, approximately 15 percent of the stormwater pipe network and lift stations have been in service for over 50 years and is considered to be in the latter stages of its lifecycle.

Drainage does not currently have a proactive condition assessment or main replacement program, a best practice that is currently used for the water and wastewater lines of service. The water and wastewater utilities are substantially more advanced in terms of knowledge of asset condition and on-going condition assessment and rehabilitation programs. The information obtained through condition assessments helps to identify pipe infrastructure in need of replacement before a major main break or service interruption. Capital budget needs have been identified for the next budget cycle to start Drainage condition assessment and main replacement programs. As these programs become more established and more information is gathered, the budgets for these programs may need to be refined. This approach enables the

development of a more comprehensive and prioritized program of rehabilitation and replacement for Drainage infrastructure. The condition assessment information gathered will be key in determining the capital investment plan and program delivery timeframe needed for an on-going main replacement program.

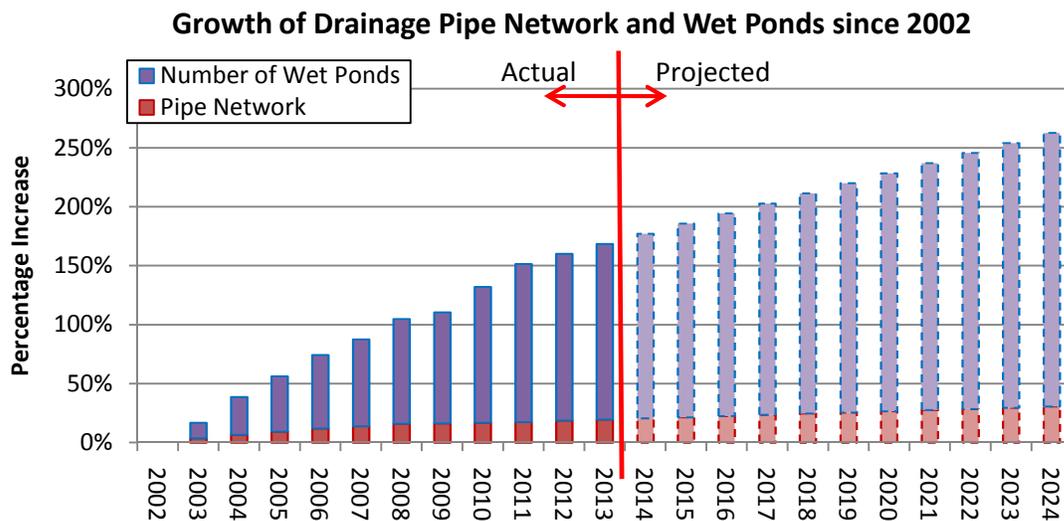
Budget needs have also been identified to assess the condition of stormwater lift stations and preliminary capital budget needs have been included for on-going lift station replacement work.

*Growth*

The City of Calgary has undergone significant growth over the last few years. New growth projections show annual growth of approximately 24,800 people. Urbanization and growth removes ground covers and natural wetland settling areas and increases the amount of hard surfaces. This increases the amount of surface runoff and total sediment loading that flows into our streams and rivers.

As more growth occurs in new communities, more Drainage infrastructure is required. Since 1980 the length of the drainage pipe network has doubled to over 3,900 Km and in the past 10 years it has grown at an average annual rate of 1.9 percent. More markedly, the number of stormwater ponds has doubled since 2003 to over 120, corresponding to an average annual growth rate of 10 percent. This significant increase in infrastructure puts pressure on the Drainage operating budget.

Figure 2: Growth of Drainage Pipe Network and Stormponds



*Community Drainage Improvements*

Before 1988, stormwater management design practices did not incorporate deliberate overland grading in combination with drainage sewers to handle runoff. Drainage sewers accommodated

the one in five year design storm (20 percent chance event), or less, not the one in one hundred year (or 1 percent chance) event now designed for in new communities. As a result, many older communities have had recurring flooding, high street flows and sanitary sewer back-ups. In addition, as more redevelopment infills are being installed, more impervious surface is typically created resulting in additional runoff volumes.

A portion of the capital budget is used to deliver on the Community Drainage Improvement (CDI) program. The CDI program delivers stormwater infrastructure upgrades in older communities that were built before the use of modern drainage techniques and standards. There are currently \$170 million worth of projects identified for this program. At the current funding levels, the list of upgrades will take over twenty years to complete. Additional capital budget would be required to accelerate the delivery of this program. Additional operating requirements to deliver the accelerated program have also been identified.

Table 1: CDI Program Delivery Options

Total CDI Program Investment (\$Million)	Rate of CDI Investment (\$Million/year)	CDI Program Delivery Span (years)
170	7	24
170	8.5	20
170	10.6	16
220	18.3	12

### *Environmental Protection*

Riparian areas are ribbons of the landscape along edges of rivers, creeks, lakes and wetlands where water and land interact. Riparian areas are an integral part to a healthy watershed and provide critical functions such as water quality protection, river bank stabilization, flood control and aesthetic, recreational and economic benefits. A significant percentage of riparian areas have been lost to development along major rivers and creeks in Calgary and remaining riparian areas continue to be at risk of degradation. In 2013, Water Resources developed a riparian strategy in consultation with key stakeholders. Capital budget needs have been identified for the implementation of the strategy which includes the installation of riparian protection. Additional operational budget needs have been identified to complete additional monitoring and site condition assessments. Moving forward, riparian protection will require a balance of conservation, flood protection and recreation. The implementation of the riparian strategy will also need to include policy and planning changes to guide development practices in riparian areas.

## Flood

The recent 2013 flood event has put significant pressure on the Drainage capital budget. The flood significantly impacted riverbank areas and stormwater infrastructure throughout the city. In the current budget, a portion of the Drainage budget is allocated for flood control. The operating budget is used to cover the cost of river monitoring, flow forecasting, and emergency preparedness. A small portion of the capital budget is allocated for bank restoration and flood control. As part of the Utilities 2014 budget adjustments, the Utilities brought forward a budget request for \$61.9 million in capital for flood recovery and resiliency projects. The 2015-2018 capital budget requirements related to the flood recovery and resiliency projects will be refined as more information is available.

Table 2: Drainage Capital Budget Related to Flood

	2012	2013	2014	2015-2018
Budget	\$2.6M	\$2.6M	\$2.6M	
2013 Budget Adjustment		\$12.8M		
2014 Budget Adjustment			\$61.9M	
2015-2018 Action Plan				\$125.3M
<b>Total</b>	<b>\$2.6M</b>	<b>\$15.4M</b>	<b>\$64.5M</b>	<b>\$125.3M</b>

Riparian sites that had previously been identified as unhealthy suffered considerable damage in the June flood event. A large number of sites with significant erosion damage were also identified. Recovery efforts are underway and some projects are scheduled for completion in 2014. However, it will take years to restore all of the impacted riverbanks and infrastructure which includes outfalls and lift stations back to pre-flood conditions. As work continues and more assessments are completed, estimates for the capital recovery projects and the eligible provincial funding will be refined. In addition, investments are needed in the infrastructure to reduce impacts from future flooding events. Capital budget needs have been identified to cover the costs of recovery projects not eligible for provincial funding and for resiliency projects in the next budget cycle. In addition, operating requirements to deliver the additional flood related capital projects have been identified. Additional capital needs may be identified once recommendations have been developed by the River Flood Mitigation Panel this spring.

### Financial Targets

With a comprehensive review of the capital and operating pressures facing the Drainage line of service, financial targets were evaluated for each of the Drainage financial policies (Appendix A). The integration of the recommended financial targets (Table 3) with the previously approved Drainage financial policies will allow Water Resources and Water Services to measure progress towards long term goals and provide the flexibility to respond to changing circumstances. The selection of the financial targets was considered in the context of The City of Calgary Long Range Financial Plan (2011) which the water and wastewater Utilities' financial targets are aligned with.

Table 3: Recommended Financial Targets:

Policy Area	Target
Debt vs. Cash Financing	100% cash financing of capital maintenance
Debt Limit	\$300 million
Debt Servicing Limit	40% of revenues
Sustainment Reserve	10% of revenues

### Levels of Service

The review of the capital and operating budgets needs for the Drainage line of service have been incorporated into a service level matrix (Figure 3). Five program elements have been identified for the Drainage line of service. These include regulatory and environmental protection, maintaining assets, CDI, Flood Recovery and Resiliency and financial policy and target compliance. The service level matrix defines each program element under the following three service levels:

1. Current service level based on current capital and operating budgets
2. Meets Requirements and Standards is based on anticipated future regulation, and current best practices and design standards
3. Accelerated Delivery is based on accelerating specific programs.

The level of service identified to Meet Requirements and Standards includes additional investments required to meet anticipated regulations, and to bring the Drainage asset management practices in line with industry standards and to align with the water and wastewater Utilities. This includes additional investments in the CDI program, riparian areas, flood protection and control, and operation and maintenance. The additional investments allow for the CDI program to be delivered over a 16 year horizon compared to the current outlook of 25 years. Additional investments in riparian areas will allow for the implementation of the riparian strategy and ongoing condition assessments. The increase in the maintaining assets budget will allow for one pond cleaning per year research to inform and refine operational and maintenance best practices, and the start of proactive asset management programs. This level of service would include achieving compliance to the new financial targets within two budget cycles.

The Accelerated Delivery service level includes the options to more quickly deliver specific programs such as CDI, riparian strategy implementation, pond cleanings and the new condition assessment and main replacement programs. This level of service includes achieving compliance to the new financial targets within one budget cycle. Recommendations from the River Flood Mitigation Panel expected this spring may fall under this level of service as well.

Figure 3: Drainage Service Level Matrix

Program Service Level	Regulatory and Environmental Protection	Maintaining Assets	Community Drainage Improvements	Flood Recovery and Resiliency	Financial Policy and Target Compliance
Current Service Level (12-14)	<ul style="list-style-type: none"> <li>Meets current Wastewater Approval to Operate water quality objectives for sediment loadings to the river.</li> <li>Achieved through the implementation of stormwater treatment facilities</li> </ul>	<p>Typical O&amp;M activities include:</p> <ul style="list-style-type: none"> <li>Pipe flushing</li> <li>Catch basin cleaning</li> <li>Lift station maintenance</li> <li>Vegetation control</li> <li>Select storm pond cleaning and maintenance activities</li> </ul>	<ul style="list-style-type: none"> <li>With current investment, 24 years to deliver all projects on the list. Total program cost \$170 million.</li> </ul>	<ul style="list-style-type: none"> <li>Coordination of flood preparedness</li> <li>Coordination of flood recovery and resiliency projects</li> <li>** 2014 capital and operating related to flood were funded by FSR</li> </ul>	Targets are being established.
	<b>Total Capital Budget \$30M</b>				
	<b>Total Operating Budget \$23.5M</b>				
Meets Requirements & Standards	<ul style="list-style-type: none"> <li>Meets anticipated future regulatory requirements with more stringent water quality objectives.</li> <li>Development of an implementation plan for the riparian strategy</li> </ul>	<ul style="list-style-type: none"> <li>Pond cleanings to restore WQ function</li> <li>Maintenance for new assets</li> <li>Establish asset condition assessment, main replacement and rehabilitation programs</li> <li>Research to inform and refine operational and maintenance practices.</li> </ul>	<ul style="list-style-type: none"> <li>Accelerate program to deliver upgrades to all projects on the list within 16 years. Total program cost \$170 million.</li> </ul>	<ul style="list-style-type: none"> <li>Flood recovery and resiliency projects including bringing infrastructure up to current design standards</li> </ul>	Compliance by 2022 of debt limit, debt servicing limit, cash financing of capital maintenance and reserves
Accelerated Delivery	<p><b>Additional Capital \$3.5M</b> <b>Additional Operating \$3.7M</b></p> <ul style="list-style-type: none"> <li>Accelerate delivery of local stormwater infrastructure and features</li> <li>Accelerate the implementation of the riparian strategy to start in the 2015-2018 budget cycle</li> </ul>	<p><b>Additional Capital \$8.0M</b> <b>Additional Operating \$4.6M</b></p> <ul style="list-style-type: none"> <li>Expand research scope to include emerging operational and maintenance issues.</li> <li>Accelerate storm pond cleanings</li> <li>Accelerate condition assessment, and trunk / main replacement program</li> </ul>	<p><b>Additional Capital \$4.3M</b> <b>Additional Operating \$0.1M</b></p> <ul style="list-style-type: none"> <li>Accelerate program delivery to 12 years, and include additional projects from study areas still to be completed. Total program cost \$220M.</li> </ul>	<p><b>Additional Capital \$1.5M</b> <b>Additional Operating \$0.5M</b></p> <ul style="list-style-type: none"> <li>Implementation of recommendations from the River Flood Mitigation Panel</li> <li>Accelerate recovery and resiliency projects</li> </ul>	Compliance by 2018 of debt limit, debt servicing limit, cash financing of capital maintenance and reserves
	<p><b>Additional Capital \$7.0M</b> <b>Additional Operating \$3.9M</b></p>	<p><b>Additional Capital \$11.0M</b> <b>Additional Operating \$5.6M</b></p>	<p><b>Additional Capital \$11.3M</b> <b>Additional Operating \$0.2M</b></p>	<p><b>Additional Capital \$11.5M</b> <b>Additional Operating \$1.0M</b></p>	

\*\* The 2014 capital and operating budget related to flood recovery and resiliency, including the operating costs for 3 FTEs are not included in the matrix and were funded using a one-time transfer from the Fiscal Stability Reserve.

## **Drainage Fee Impacts**

The review of the capital and operating needs and the financial policies and targets form the foundation of the Drainage Financial Plan. The level of service selected for each program element, including the timeline to achieve compliance with the financial policies and targets will influence the indicative Drainage charges for the 2015-2018 budget cycle.

The service level matrix (Figure 3) identifies estimates for the capital and operating budget impacts for each program element within the three service level options. Varying service levels can be selected for each of the five program elements since each element is independent of the others. Based on the capital and operating budget estimates, a review of the fee impacts of each program element within the three service levels will be undertaken. To accurately determine the impacts on fees, it is important to separate the operating and capital expenses. Operating expenses are paid directly from revenues and therefore, have a more significant impact on rates compared to debt financed capital expenses. Capital expenses can be financed by cash or debt. Debt financed capital is paid over the term of the debt resulting in less of an impact to rates. Capital financed by cash, as per the financial policies, is paid through revenues, and has a similar impact to Drainage fees as operating budget requirements.

### **Conclusion:**

The demand for drainage services is growing in response to new capital and operating pressures. A review of the capital and operating pressures related to regulatory requirements, growth, environmental protection and the 2013 flood event has identified additional investment requirements.

Water Resources and Water Services recognize that the Drainage line of service will benefit from the implementation of a financial plan that aligns with the Utilities Financial Plan. The recommended financial targets implemented with the previously approved financial policies will ensure the financial sustainability of the Drainage line of service.

## APPENDIX A – Drainage Financial Policies and Targets

### *Self-sustaining Operation*

The financial policy statement previously approved by Council states: *Drainage services are provided under a self-sustaining, cost recovery model and all costs shall be recovered through user rates, levies, fees, and sources other than the municipal tax base.*

Drainage currently operates as a self-funded, cost recovery centre with no reliance on tax support. The revenue for Drainage is comprised mostly from rate revenue and acreage assessments. A very small portion of the revenue comes from licenses, permits, fines and penalties. The total revenue currently covers all of the Drainage capital and operating expenditures. No additional targets are required at this time.

### *Debt versus Cash Financed Capital Expenditures*

The financial policy statement previously approved by Council states: *Drainage shall debt finance capital projects that are substantial in cost and size and where the benefits will extend over a relatively long period. Subject to funding availability, Drainage shall cash finance capital projects that are part of an ongoing improvement program, or will reduce operation and maintenance costs.*

An appropriate mix of debt and cash financing derived from maximum debt limits and minimum cash requirements is necessary to deliver Drainage services. Operating costs are currently fully funded from rate revenue. Current capital expenditures are either cash financed or debt financed. Cash financing is derived from retained earnings – the return to capital portion of the net income. With the increased pressures on the operating budget for the Drainage line of service there is a need to establish capital and preventative maintenance programs that will result in ongoing improvement and reduced operating and maintenance costs. As a matter of practice, the Drainage line of service should cash finance one hundred per cent of these capital maintenance activities.

**A target of 100% cash financing of capital projects that are part of an on-going improvement program or will reduce operation and maintenance costs has been established.**

The capital intensive nature of the Drainage line of service and the increased capital budget pressures such as the changing regulatory environment, growth, redevelopment, and the 2013 flood event require Drainage to continue to debt finance significant infrastructure investments. Debt financing spreads the costs of the infrastructure over an appreciable portion of the useful life of the assets.

Debt limits and debt servicing limits are normally established by lending institutions to ensure that debt and related interest costs are repaid in a timely manner. The City as a whole has both a debt limit and a debt servicing limit as required by the Municipal Government Act (MGA). The

MGA outlines that for The Corporation, debt may not exceed a limit of twice the revenue generated and debt servicing may not exceed a limit of 35 per cent of the revenue generated. The City has set an administrative target of 80% of the MGA total debt and debt servicing limits. The debt from the Utilities and Drainage both contribute to The City debt levels and are subject to this target.

The Utilities had previously set targets for total debt and debt servicing. In June 2011, as part of the Utilities Financial Plan a target of \$2 billion was set for total debt for the water and wastewater Utilities. A debt servicing target of 40% was also set for the water and wastewater utilities. These targets excluded expenditures under the Drainage line of service.

The Drainage line of service also requires targets for debt and debt servicing. Operating within these debt limits will safeguard the financial health and sustainability of the business and will ensure cash flow is available to fund ongoing operating and capital maintenance costs.

**A debt limit target of \$300 million for growth and non-growth related capital has been established.**

**A debt servicing target of 40% has been established.**

**These targets were determined based on the investments required to achieve the 10 year capital plan for Drainage.**

#### *Debt Term*

The financial policy statement previously approved by Council states: *Drainage will employ a 25 year debt term on major projects. Shorter terms may be employed on projects where the benefits will extend over shorter periods.*

Drainage currently employs a 25 year debt term on major projects. The same 25 year debt term is also used to determine the Storm Acreage Assessment. No additional targets are required at this time.

#### *Amortization and Depreciation*

The financial policy statement previously approved by Council states: *Drainage will employ amortization accounting practices, and maintain depreciation rates that are aligned with generally accepted accounting practices. Depreciation on donated assets is not charged as an operating expense for the purpose of rate setting.*

Recent changes to the accounting practices have resulted in the application of amortization to capital assets for the Utilities and Drainage as a self funded operation. As with the Utilities depreciation policy, Drainage does not apply depreciation to donated assets since the costs of these assets is not recovered through user rates. To meet PSAB-3150 requirements,

depreciation is applied to other significant Drainage capital assets. A target for amortization and depreciation is not required at this time.

#### *Debt to Equity Ratio*

The financial policy statement previously approved by Council states: *Drainage will report annually the debt to equity ratio.*

Since many of the growth related assets under the Drainage line of service are donated by the development industry, The City, as the owner of the Drainage line of service does not currently contribute significantly in the equity held by Drainage. Currently the Drainage debt to equity ratio remains less relevant to Drainage than compared to the Water and Wastewater Utilities. With the increased investments in non growth related Drainage assets, the debt to equity ratio will become more relevant and may become a useful indicator of the financial health of the line of service. A target for the debt to equity ratio is not necessary at this time.

#### *Reserve*

The financial policy statement previously approved by Council states: *Drainage will maintain sufficient reserves to mitigate risks.*

In 2011, The City of Calgary created the Utilities Sustainment Reserve to provide a measure of financial flexibility and to mitigate revenue fluctuations, the financial impact of significant unexpected events, or to cover any annual deficits. The water and wastewater Utilities had previously set a target of ten per cent of total revenues collected for the reserve. Drainage should also maintain a sufficient reserve to mitigate risks.

Historically the Drainage revenues have been more predictable than that of the water and wastewater Utilities because of the flat rate stormwater drainage charge. With a flat rate, there is less risk of revenue fluctuation compared to that of consumption based rates. An option for a smaller sustainment reserve (five per cent) contribution from Drainage was considered since there was less risk to the revenue. However, increased pressure on the capital budget from the 2013 flood event has demonstrated a need to maintain a larger reserve. Since the total revenue for Drainage is significantly smaller than that of the water and wastewater Utilities a similar percentage was appropriate to ensure a sufficient level of funding.

**A target of ten per cent of the Drainage revenues has been established.**