Investing In Transformational Change

City of Saint John Bi-Lateral Funding Priorities 2020-2026

SAINT JOHN

Saint John Water

DEVELOP SAINT JOHN

The City of Saint John is preparing a bold strategy for investments in catalytic projects that will transform its core urban neighbourhoods, enhance its image and brand, and leverage significant growth and reinvestment.

As part of its 10 year capital and financial plans, the City has identified strategic projects that action Council priorities related to growth and fiscal responsibility and result in significant environmental benefits, economic and tax base growth, climate change solutions, improvements to public and active transportation, and that will build a stronger community and improve social inclusion.

This document provides a list of transformative capital projects that will achieve the goals set out above. A summary of key projects for the City of Saint John are outlined as follows:

1. Fundy Quay Project

- ***200 - 300*** New Jobs Created
- $100M - $400M in New Provincial Tax Revenues
- Property Tax Base Increase of ***$85M-$150M***
- Municipal Property Tax Increase of ***$1.7M – $3.1M***
- Improve cultural and recreational infrastructure
- Reduce GHG emissions by over 21,718 tonnes of CO2 by 2035
- Reduce Energy Costs by over ***$8.7 Million*** annually
- Displace over 400,000 GJ of natural gas and over 1 million liters of oil
- Divert over ***$430M*** in energy into the local economy

2. Green Infrastructure Development

- Improve infrastructure capacity to drive growth
- Enable development of ***680 new residential units*** on the Central Peninsula
- Increase tax base by ***$95M***
- Increase in property tax of ***$1.7M***
- Improve capacity to manage storm water
- Improved environmental performance
- Improved operational efficiencies and reduced operational costs to support the City's asset management program

Assumptions regarding economic benefits and tax base growth are outlined in the attached documents. Some numbers are preliminary and have full economic impact assessments in progress.

1. Fundy Quay Project

$38.62 Million over Five Years

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Fundy Quay Project

The Fundy Quay Site is at the heart of Uptown Saint John and represents the single greatest opportunity for transformational change and urban development in New Brunswick. Located at the Centre of Saint John's inner harbour, the site boasts the potential to add roughly 500 metres in new public waterfront access and 25,000 square metres of developable waterfront land, doubling the length of accessible waterfront in Uptown Saint John. The realization of the Fundy Quay development opportunity is identified as a strategic priority for the City of Saint John, energizing the local economy and improving the quality of life of the 7,500 residents who live in the Central Peninsula neighbourhood, the 15,000 employees who work in the Uptown, and creating a new destination for the 127,000 residents in the greater Saint John region and more than 1.6 million visitors to the City each year.

With the support of FCM and the Province, the City is nearing completion of its Central Peninsula Neighbourhood Plan which envisions significant population and economic growth through repositioning and densifying underutilized lands, reversing decades of decline and harnessing the positive momentum building in the core. The Plan sets ambitious growth targets to attract 1,500 new residential units and 3,000 new residents, 4,000 additional jobs, and $350,000,000 new tax base to the core in the coming years. The Fundy Quay development project is a strategic big move identified in the Plan to catalyze the transformation of the Central Peninsula and Uptown waterfront.

Working with the City and the Province, Develop Saint John has taken the critical first step and completed a call for expressions of interest to secure a development partner for the site in May of 2019. The call was successfully completed and a private sector partner has been secured. Work is now underway to coordinate future private sector investment with proposed municipal infrastructure investments. Additionally, the City of Saint John was successful in securing funding from the federal Disaster Mitigation and Adaptation Fund for the repairs and vertical extension of the sea wall for the Fundy Quay. This is a critical first step in the realization of the City of Saint John's urban waterfront.

The repair, renewal and remediation of waterfront infrastructure for the Fundy Quay site represents an important investment that will support the transformation of the site and the attraction of substantial private sector reinvestment that will provide a positive return on investment for both the City of Saint John and the Province of New Brunswick. The full build out of the Fundy Quay project is anticipated to be in the magnitude of $200 million to $250 million, predominantly fromt the private

$85 - $150 Million Property Tax Base Growth

1,850 Construction Jobs
200 - 300 New Permanent Jobs

21,718 Tonnes of CO_2 Reduced

Conceptualization of Fundy Quay Redevelopment from the Central Peninsula Neighbourhood Plan.

$8.7 Million in Energy Savings

$430M Energy Savings Diverted to Local Economy

$100M - $400M in Tax Revenue Over 25 Years

sector. It is projected that the economic impact of construction activity alone will result in:

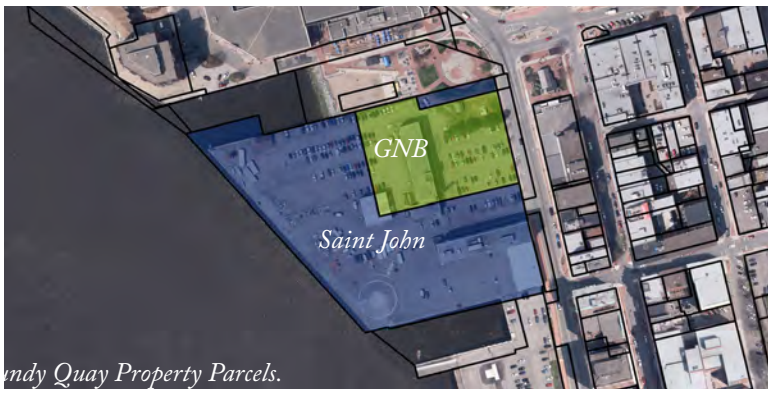
- 1,849 Full, part time and seasonal jobs
- $155M in GDP generated within New brunswick
- $104M in labour income

At full build out, it is estimated that the economic impacts of the full redevelopment of the Fundy Quay could generate:

- ***200 - 300*** Full and part time jobs
- Property Tax Base Increase of ***$85M-$150M***
- ***$100M - $400M*** In government revenues over the next 25 years *(varies according to potential private sector uses developed)*
- A Provincial Return-On-Investment of 3-to-1 or greater *(Economic Impact estimates are preliminary and a full report will be provided at the time of full application)*

The proposed Fundy Quay development project has been strategically designed to increase foot traffic along the waterfront and promote active mobility in the urban core of Saint John though the extension of Harbour Passage, which will enhance connections between the City's urban neighbourhoods. The proposed pedway system between the Market Square atrium and the Fundy Quay will further provide a weather protected space to promote the use of the downtown facilities in all weather. A complimentary component of this project is the development of an energy program to reduce greenhouse gas (GHG) emissions by promoting sustainable development and clean energy use through renewable energy at the Fundy Quay site.

Climate Change and extreme weather vulnerabilities are top of mind in Coastal Saint John, which experiences some of the highest tides in the world. Sea level rise, storm surge flooding, and power outages are all realistic climate impacts which have been considered throughout planning of the Fundy Quay site. From the innovative design of the energy system to withstand power outages, to coastal protection measures to be more resilient to sea level rise, preparing for climate change has been top of mind throughout planning of the Fundy Quay.



ndy Quay Property Parcels.

Fundy Quay Project

Project 1
Soil Remediation

Funding Stream
Green Infrastructure: Environmental Quality

Objective
Increased capacity to reduce and/or remediate soil and/or air pollutants

Description
Contaminated surface and subsurface soils and groundwater, which present a potential risk to human health and the environment, have been identified at the Fundy Quay. A strategy for effective management of the contamination on site is therefore required in order to support ongoing site redevelopment. As remediation of all contamination is considered to be both impractical and cost prohibitive, a risk management approach is used in order to achieve the best possible site remediation while balancing fiscal responsibility. A brief overview of the proposed site remediation strategy is described below.

In keeping with the intent of the Atlantic RBCA (Risk-Based Corrective Action) process, a risk management strategy for the development of Fundy Quay will include the use of a Waste Management Plan (WMP) to manage excavated contaminated soil as well as dewatering activities required during construction. Soil management may include such measures as off-site management or re-use onsite. Additional assessment through testing, in the next project phase, will further characterize soil and groundwater that will be uncovered in future excavations as part of site redevelopment and could lead to WMP refinements.

On-site testing information will provide additional site specific details for incorporation into an Environmental Protection Plan (EPP) and the development of Construction Monitoring Plan (CMP) which guide remediation activities on-site. The EPP will be based on best management practices providing environmental protection and will serve to mitigate potential environmental effects during construction. Contingency plans developed as part of the EPP will address environmental issues of non-compliance and unplanned events. Further, construction oversight and environmental monitoring and inspection completed as part of the CMP will ensure that developed procedures and mitigation measures are followed and effective.

Proposed remediation activities also include the maintenance of surface cover during the redevelopment of Fundy Quay and will restrict direct contact with contaminated materials. Suitable cover will be designed and maintained for contaminated soil over the lifecycle of the redevelopment project. This cover will act to mitigate the direct contact exposure pathway to contaminated soils, which may cause adverse human health effects to those in direct contact with the impacts. Surface cover is a requirement of the "conditional closure" issued by the New Brunswick Department of Environment and Local Government (NBDELG) for the Fundy Quay.

The Remedial Plan identifies the measures required to protect human health and the environment, including the adjoining marine environment, both during and following site re-development activities. The Remedial Plan also presents opportunities for cost savings through such measures as re-use of some excavated soils, avoidance of time delays associated with real-time assessment of contaminated materials, decision making, and the ability to obtain optimal pricing for off-site management of contaminated materials.

The proposed project outlined in this EOI follows a fiscally and environmentally responsible risk-based approach to site remediation, in order to support development of the Fundy Quay.

Project 2
Coastal Flood Protection & Structural Stability Advancement

Funding Stream
Green Infrastructure: Adaptation, Resilience, and Disaster Mitigation

Objective
Increased structural capacity and/or increased natural capacity to adapt to climate change impact, natural disasters and/or extreme weather events

Above: 1: 100 Year Storm Surge

Description

Flooding can occur on New Brunswick's coastal shorelines during unusually high tides or storm surge events. Storm surge is the main component of coastal flooding and can be triggered by high winds, low air pressure systems, or by tropical storm systems (hurricanes). More commonly, coastal flooding occurs in the fall and winter to early spring when the strongest offshore low pressure systems are expected to pass New Brunswick and coincide with high tides.

For the Fund Quay site, positioned on a harbour front lot in the City of Saint John peninsula, the effects of storm surge can cause problematic flooding today – particularly when coinciding with high astronomical tides. When projecting to the future, these impacts are amplified by the presence of sea level rise (SLR).

Coastal flood protection methods in excess of the repair and vertical extension of the existing sea wall (project funded through DMAF) are required to protect the Fundy Quay from climate change impacts. Due to the unique topography of the local site, positioned at the lower end of the peninsula, flooding is possible from multiple directions. Flood vulnerabilities include: SLR, storm surge, wave attack, and sewer flooding.

The extension of the sea wall was an essential phase in a two part protection strategy, including:
1) Protection of the site from storm surge and wave attack by extending the sea wall height; and
2) Re-grading the site in parallel with the sea wall extension to prevent flooding through bypassing of the sea wall or through sewer surcharging.

Re-grading of the site is the second phase in an overall adaptive strategy to reduce flood vulnerabilities on the Fundy Quay site. Given the added weight of material behind the sea wall from site re-grading, structural stability advancements may be required in order for the wharf structure to absorb the additional load. A geotechnical study of the site is currently underway in order to determine exactly what stability advancements are required, the results of this study and updated cost estimates will be presented at the time of the full application.

Project 3

Loyalist Plaza Upgrades, Pedway Connection & Waterfront Promenade

Funding Stream

Community, Culture and Recreation

Objective

Improved Access to and/or increased quality of cultural, recreational and/or community infrastructure for Canadians, including indigenous peoples and vulnerable populations

Description

Loyalist Plaza is a central plaza and waterfront boardwalk located at the heart of Uptown Saint John.
With the potential development of the Fundy Quay, improvements will be required to effectively integrate with the design of new development and to provide an adequate connection to the waterfront boardwalk system. Loyalist Plaza is the City's primary location for hosting concerts, festivals, vendors and has been a gathering spot for tourists, visitors and citizens. Redevelopment of this highly utilized public space will add to the value proposition of working and living in the urban core.

As part of this project, an internal below grade pedway connection

Fundy Quay Project

between the Fundy Quay and Market Square will be developed. This will be an important piece of community infrastructure, connecting the public space and atrium of market square, harbour station and the aquatic centre to the new community, cultural, and entertainment uses of the Fundy Quay project. This project will be integrated with the design of loyalist plaza and will facilitate the interconnection of the proposed district energy system between the Fundy Quay and Market Square.

There is nearly 5 kilometres of waterfront in the City of Saint John's Central Peninsula neighbourhood, but there are very few places where it can be accessed by the public. In fact, more than 90% of the waterfront is currently inaccessible. The development of the Coast Guard Site will provide an opportunity to extend the City's waterfront boardwalk and harbor passage system, effectively doubling the amount of accessible waterfront in Uptown Saint John. This key transportation and recreational infrastructure will improve connections from the waterfront to the rest of the harbor passage trail system, enhancing linkages between the Central Peninsula, the North End and the West Side.

The anticipated cost of the capital work to be undertaken in the next five years is approximately $11.7 million. This will support work to update designs and to enable the integration the Fundy Quay a rejuvenated Loyalist Plaza and Market Square.

Project 4
District Energy

Funding Stream
Green Infrastructure: Climate Change Mitigation

Objective
Increased capacity to manage more renewable energy; Increased access to efficiency of buildings; Increased generation of clean energy

Description
An innovative component of the Fundy Quay project is the development of a District Energy System (DES). This program will reduce greenhouse gas emissions while positively contributing to the City of Saint John's fiscal sustainability and supporting the City's growth agenda.

The project will increase the energy efficiency of existing buildings near the site such as Market Square and will provide clean, renewable energy for new development on the Fundy Quay. This will provide both cost savings for existing users and will create a financial incentive to attract new businesses and developments to a reinvigorated urban waterfront.

The City of Saint John DES will use a variety of energy sources including the Saint John Harbour and industrial waste to heat and cool existing and new government and commercial buildings. The long term goal is to connect the DES to over 30 buildings in the uptown area and to coordinate with the high energy efficiency retrofits to existing muicipal buildings.

The DES will help to reduce over 500,000 tonnes of CO2 over the project lifetime, which is equivalent to 4% reduction in GHG emissions for the community. The DES is part of the City of Saint John Community Climate change action plan which is aimed to reduce GHG emissions by 20% by 2035. It will divert over $430 million in energy costs into the local economy over the life time of the project (60 year). The City will use a multi-phase approach to implement the DES project, consisting of four phases. This proposal is for the completion of phase 1 on the district energy system at an anticipated cost of $13.75 Million.

Phase 1 (Current Proposal) will use Saint John Harbour water as its primary energy source to heat and cool buildings. It will achieve 18,254 tonnes of CO2 by 2030. This phase consists of: Retrofitting the heating and cooling system within Market Square to become the energy hub (centre) providing renewable heating and cooling to nearby buildings; connecting the energy center to the Harbour for energy transfer; connecting the energy center to 3 existing buildings and any new buildings developed on the Fundy Quay. This phase will be completed in 2022.

Phase 2 (Future) consists of upgrading the energy center to increase the load and connect additional existing (17) and new buildings to the DES as well as connecting the energy center to the Irving Pulp and Paper Mill to recover waste energy at a high temperature to heat existing buildings. This phase will be completed by 2028.

Phase 3 (Future) consists of connecting up to six large buildings including Saint Joseph Hospital to the DES. This

Fundy Quay Project

phase will be completed by 2030.

Phase 4 (Future) is the final project and will include the connection of the Saint John Regional Hospital to the DES. This phase will be completed in 2035.

Environmental Benefits

• Improved energy efficiency through improved building energy systems.

• Reduced carbon footprint by over 21,718 tonnes of CO2 by 2035 and over 1 million tonnes of CO2 over the lifetime of the project.

• Lower reliance on traditional heating and cooling technologies through the introduction of innovative technologies to improve energy and the operational efficiency of buildings.

• Reduced operational and maintenance costs for buildings integrated with the DES, eliminating the expense of maintaining individual heating and cooling faciities. Annual maintenance savings are estimated at $20,000 per building for up to 30 buildings.

• Decreased building capital costs saving new developments the cost of mechanical, heating and cooling equipment, including emergency power generators.

• Reduced energy costs, estimated in the magnitude of $8.7 million in annual energy savings.

• The localization of energy expenditures, by using local renewable energy sources to divert energy expenditures to the local economy in the magnitude of $430 million over the lifetime of the project.

• Improved energy reliability and security during climate change events and energy market fluctuation through the use of local and renewable energy sources to heat and cool the integrated buildings.

• Improved air quality and reduction of air pollution will be achieved by reducing corporate and community GHG emissions with an estimated reduction of over 1.1 million tonnes of CO2 over the lifetime of the project. The implementation of the DES will displace over 400,000 GJ of natural gas and over 1 million liters of oil and will reduce air pollution from large industrial facilities, making them more environmentally friendly.

• The DES will provide a clean growth model with the potential to be replicated in other Canadian communities in the future. The City of Saint John was one of the first Canadian municipalities to embark on creating an energy efficiency program. As a national leader in this field, the City of Saint John has received many regional and national awards for its energy efficiency programs and has supported municipalities in Atlantic Canada in undertaking similar initiatives. As part of the DES work plan, the City will continue to share their lessons learned and information regarding the DES and how this project could be a model for other communities.

Environmental Assessment

The DES project will use an open loop system to draw and discharge water from the Saint John Harbour. The required volume of water drawing and discharging is minimal and with the necessary filtration systems in place, will not have any negative environmental impact on the Harbour ecosystem or water quality. Water protection is of paramount importance. The technology and systems proposed have been implemented in Halifax and Saint John's Newfoundland, which have similar characteristics to the natural environment of Saint John.

The City of Saint John has been in discussion with the Provincial Department of Environment and Local Government and they have indicated based on our initial concept design that the project does not require a provincial EIA registration and review. The DES does not involve wells and discharged sea water returned to the harbour will vary minimally and will have no thermal effect on the water. In addition, the project does not require any approval to operate and given the proposed project location, a coastal Watercourse and Wetland Alteration permit is not required.

2. Green Infrastructure

$40.58 Million over Six Years

Green Infrastructure

Project
Separate 7.75km of Combined Sewer, Design & Construct Additional Wastewater Infrastructure, Analyze & Improve Inflow, Infiltration & Cross Connections

Funding Stream
Green Infrastructure/Sub Stream: Adaptation, Resilience and Mitigation – IM8, Environmental Quality - IM10

Objective
Increased capacity to treat and manage wastewater and Stormwater; Increased structural capacity to adapt and withstand climate related impacts, natural disasters and extreme weather events

Description
The City of Saint John has a critical need to upgrade wastewater infrastructure in order to improve environmental performance, increase wastewater and storm capacity and support efforts to drive fiscal sustainability and tax base growth. The City has some of the oldest wastewater infrastructure in the country, which includes combined terra cotta sewers dating back to 1872 in the Central Peninsula, a key growth centre for the City.

With the support of FCM and the Province, the City is nearing completion of its Central Peninsula Neighbourhood Plan which envisions significant population and economic growth through repositioning and densifying underutilized lands, reversing decades of decline and harnessing the positive momentum building in the core. The Plan sets ambitious growth targets to attract 1,500 new residential units and 3,000 new residents, 4,000 additional jobs, and $350,000,000 new tax base to the core in the coming years. In order to position the City for growth, strategic investments are needed in green infrastructure together with streetscape renewal and active transportation improvements.

The following are examples of the types of wastewater projects that would be implemented to accomplish

Unlocks $95M in Tax Base Growth

680 New Residential Units

Reduced Pumping Station Costs

Right: Vision for South End Revitalization from the Central Peninsula Neighbourhood Plan.

7.75km of Streetscape Renewal

1,225 New Residents

$1.7M in New Tax Revenue

> Urban Design Vision for South End

the goal of increased wastewater and storm capacity:

• Separate existing combined sewers to reduce combined sewer overflows during wet weather and increase the volume of wastewater directed for treatment.

• Conduct inflow, infiltration and cross connection analysis, develop strategies and implement projects to increase capacity to manage and treat wastewater.

• Design and construct additional wastewater infrastructure to direct any raw sewage discharges that are identified through the inflow and infiltration analysis.

There are several economic and other environmental benefits that would result from the above projects:

• Action the City's smart growth related plans to drive a more compact and sustainable development pattern, reducing the City's carbon footprint and enhancing tax based growth opportunities. Following sewer system separation, there will be more system capacity available for future growth and development.

• Separation of sanitary and storm, thus reducing combined sewer overflows and improving environmental performance.

• Cost savings as a result of a decrease in energy costs relating to pumping and treating storm water.

• New assets replace aged assets that have reached the end of their asset life.

• Operational efficiencies with less wear and tear on pumping and treatment equipment with separation of the storm flow from sanitary.

• Less pumping and treatment of storm water will have a positive impact on reducing greenhouse gas emissions (reduced energy demand) and reduced chemical use at the wastewater treatment facilities, which has the further benefits of decreased truck traffic by having to truck fewer chemicals to the site.

Green Infrastructure

As Canada's first incorporated city, the City of Saint John has a legacy of aging infrastructure and is facing a significant infrastructure deficit. A strategic approach is needed to optimize City assets, improve environmental performance, adapt to climate change and to drive growth. Outdated and inadequate infrastructure is a barrier to realizing the City's growth objectives which targets density to the urban core and priority suburban intensification areas to make these areas more sustainable and attractive to reinvestment and to reduce transportation related greenhouse gas emissions. With approximately 100 kilometers of combined sewer in the overall sewerage system, renewal of this system to optimize environmental performance, adapt to climate change and positionthe City for growth opportunities would not be feasible without funding assistance from the Federal and Provincial governments.

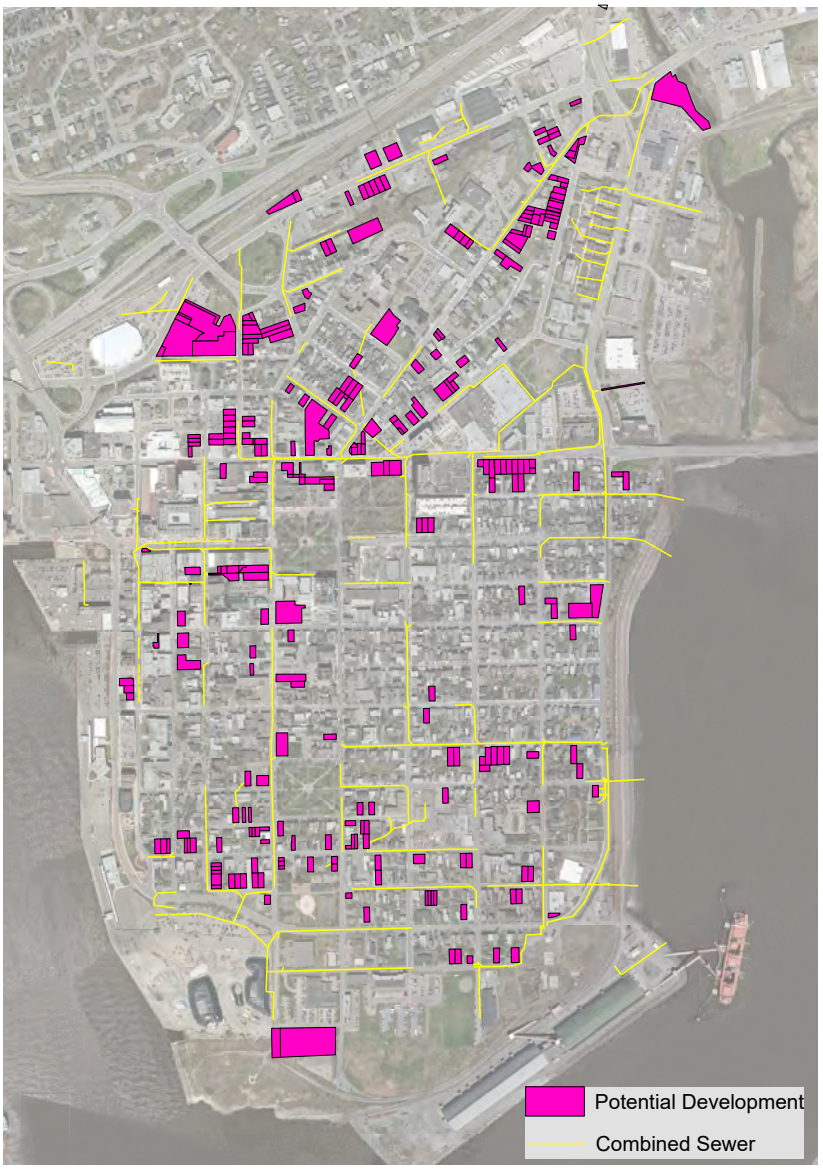
Much of the City's older combined sewer systems were placed in a common trench with the watermain above the combined sewer. In order to replace the combined sewer with a separate sanitary and storm pipe, it is also necessary to replace the watermain. The sanitary, storm and water laterals to the buildings will also require replacement to the right-of-way limits. The excavation work to replace the underground piping systems will result in excess of 2/3 removal of the surface infrastructure (asphalt, curb, sidewalk and landscaping) which would require the reinstatement of the surface infrastructure to current standards with asphalt roadways, concrete curb and sidewalks.

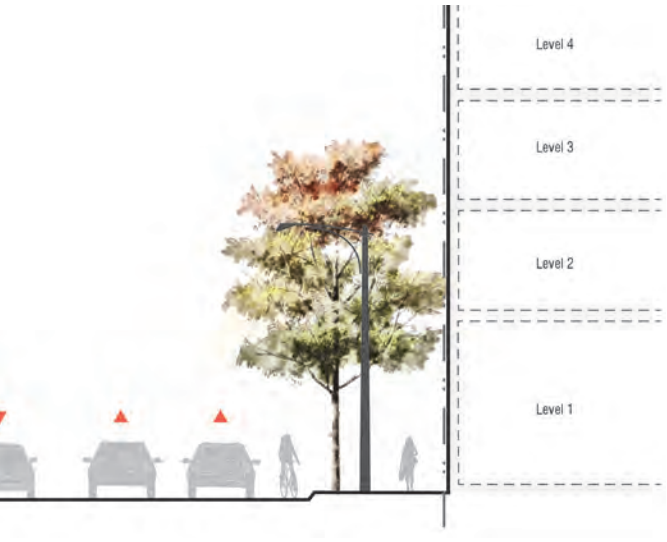
The cost to separate the combined sewer systems, replace the watermain and to reinstate the surface is estimated at $5,000,000 per kilometer. City-wide, the overall combined sewer separation program cost estimate would be $500,000,000. There are 11 kilometers of combined sewer in the Central Peninsula alone, which equates to a cost of $55,000,000. The majority of the combined sewers in the Central Peninsula are beyond the intended service life, with sections of combined terra cotta sewers dating back as far as 1872.

The City's proposal presents a strategic approach to upgrading green infrastructure in the priority growth

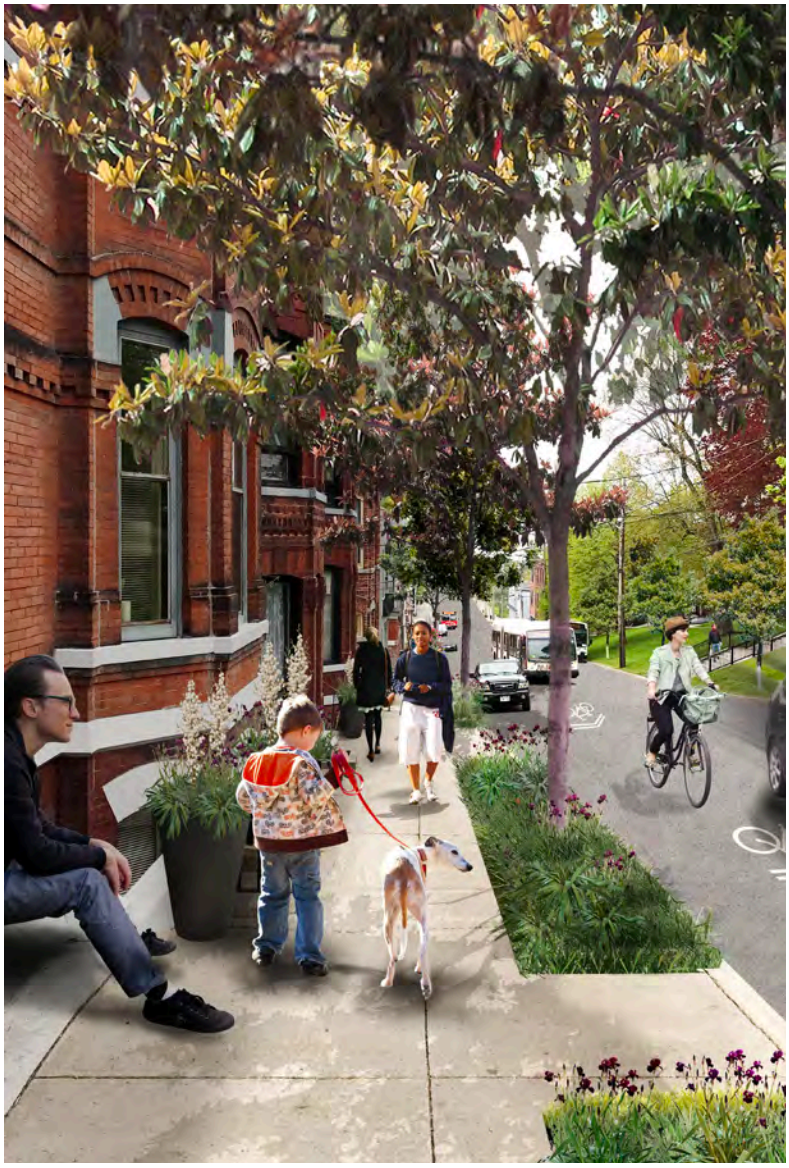
Above: Union Street Reconstruction Cross Section.

Below: Map of Combined Sewer & Potential Development Sites





Below: Conceptualization of a Re-Imagined Sydney Street Active Transportation Corridor



areas of Saint John which will yield the highest return on investment and support the City's efforts to drive fiscal sustainability and growth, by renewing already developed areas and reducing demand on urban sprawl. The City is proposing a cost sharing program of $7.325M in 2020 and $7.635M in 2021 followed by an average of $6,405,000 for each of the following four years to carry out inflow/infiltration/cross connection analysis in select areas of the City, followed by projects for the reduction of inflow/infiltration and projects for redirection for treatment of any raw sewage discharges identified reducing the need for new infrastructure ad making best use of existing assets.

The program will primarily focus on separation of combined sewers in the Uptown/Central Peninsula as there is high risk of failure of the aged combined sewer systems and the possible restriction on development in the key growth areas which in most cases date back well over a 100 years with resulting impact and disruption to residential and business customers in the high density areas of the uptown core.

Targeting renewal of streetscapes and sewer separation of 7.75 kilometres of the streets on the Peninsula will signal improved investor confidence and enhance capacity to drive the levels of growth, redevelopment and infill, which were envisioned as part of the City of Saint John's Central Peninsula Neighbourhood Plan. It is estimated that this investment would leverage and translate into the following new units and associated tax revenue:

• Increase in development on the Central Peninsula resulting in up to 680 new residential units.

• Increase tax base by $95M.

• Increase in municipal property tax by $1.7M annually.

The implementation of projects recommended from the inflow, infiltration and cross-connection analysis will also result in recovery of sewer system capacity which will allow for growth and development in critical areas of the City where growth has slowed due to sewer system capacity. The City's Municipal Plan,

Green Infrastructure

PlanSJ, targets about 2,000 new residential units to key suburban growth areas in the City, which includes areas in Millidgeville near the Tucker Park campus and in the east end near Lakewood Heights in proximity to the City's new Field House recreational infrastructure currently under construction. Development in these areas has been stalled due to localized constraints in the City's waste water infrastructure system. A strategy is needed to optimize this infrastructure and reduce stormwater inflow and infiltration into the system and improve wastewater system capacity.

This strategic investment in green infrastructure will optimize use of these assets, improve environmental performance and importantly, support growth of the urban core and priority suburban growth areas, making these areas more sustainable and attractive to development.

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