Halifax Water

STRAIGHT from the SOURCE

Welcome – RDC Breakfast Engagement Session

May 17, 2022

Agenda

- **Safety Moment**
  - Rebekah Cluett-Chan
- **Welcome and Introductions**
  - Kenda MacKenzie, Director, Regulatory Services
- **What is RDC? Why is it needed?**
- **Key Infrastructure Initiatives for Halifax Water**
  - Reid Campbell, Director of Engineering and Technology Services
- **Key Assumptions for RDC and Rates**
  - Kevin Gray, Manager Engineering Approvals, Regulatory Services
- **Meaningful Engagement and a collaborative path forward**
  - Kenda MacKenzie, Director, Regulatory Services
- **Open Discussion**
  - Rebekah Cluett-Chan

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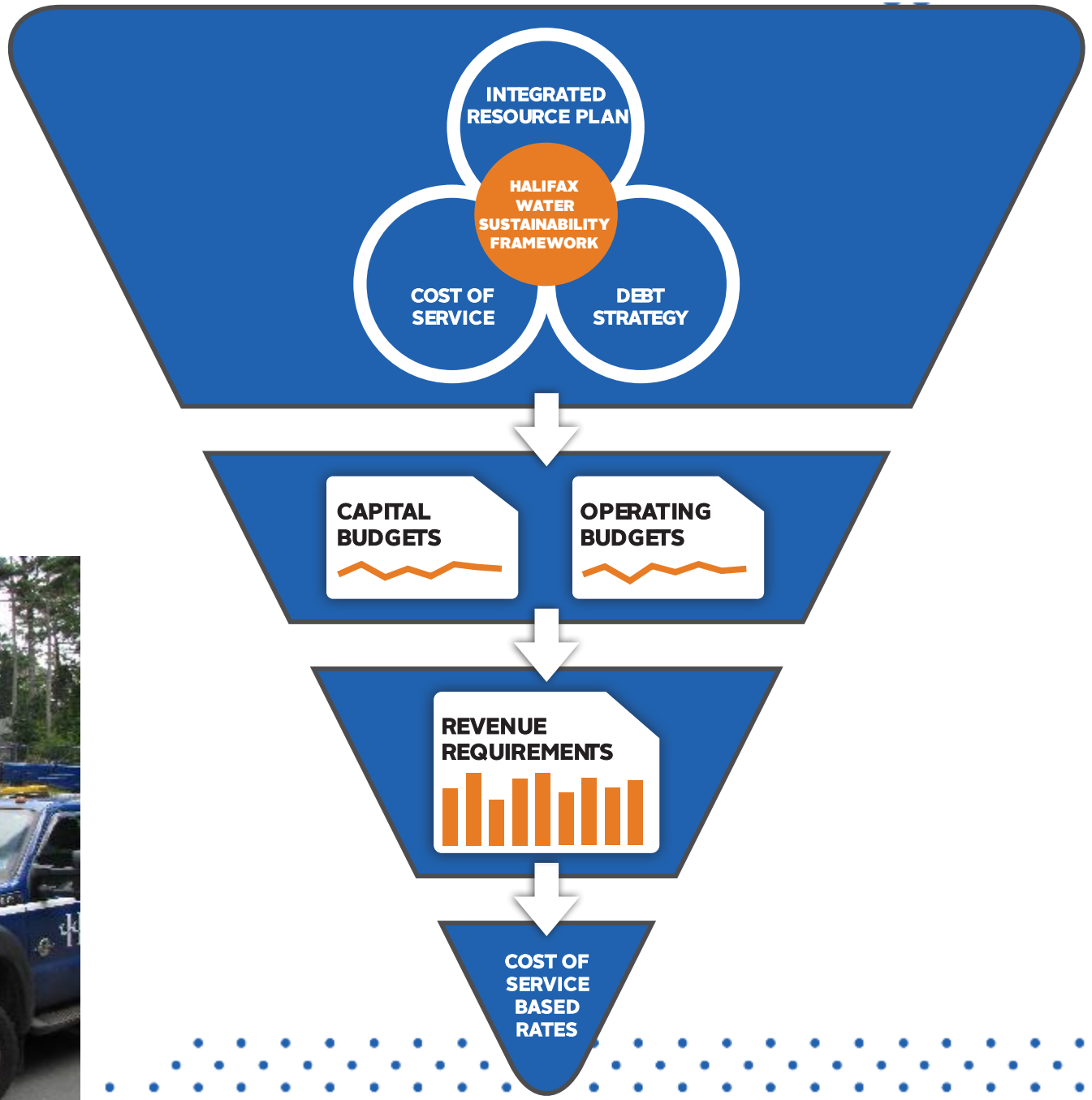
Welcome and Introduction

Kenda MacKenzie, Director of Regulatory Services,
Halifax Water

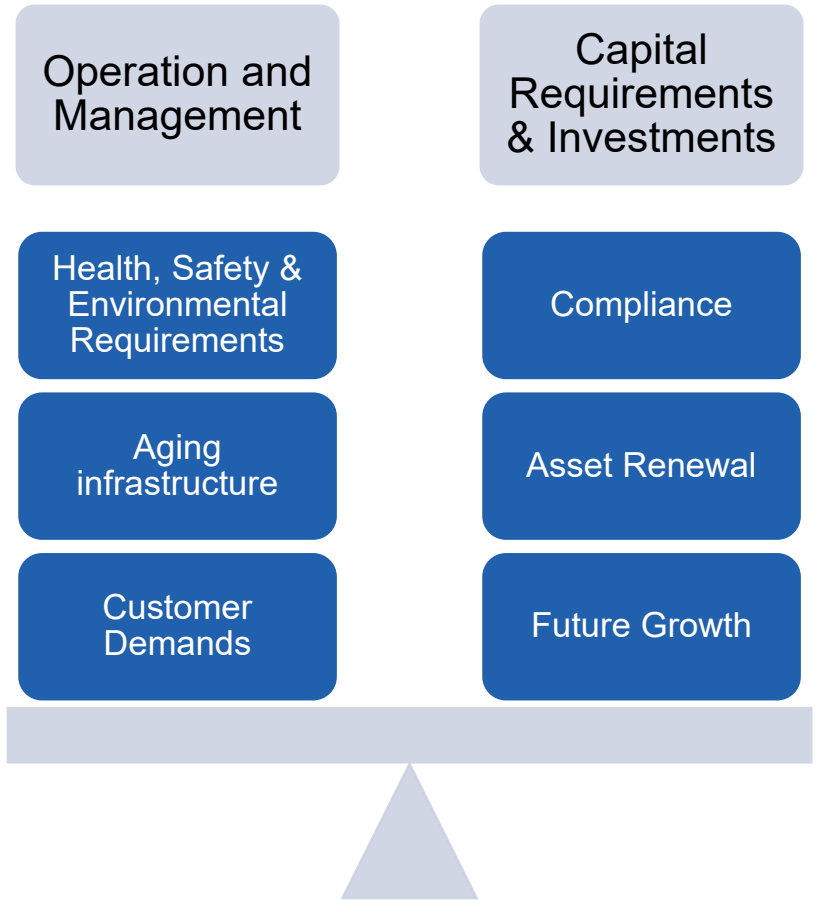
STRAIGHT from the SOURCE

Meeting the needs of a growing municipality



Halifax Water Drivers

Balancing Critical Infrastructure



Our role and economic impact

- Halifax Water supports economic development in many ways
  - We must ensure that there is infrastructure and capacity to support new growth
  - We must ensure reliable services for our customers
  - We must be prudent, developing cost-competitive rates developed with a concern for affordability
  - Similar to the development community, our work has a direct impact on the local economy
  - The capital budget for 22/23 is $106.5 million, and the total expenditures is $164.4 million
    - Employs hundreds of people directly and indirectly

History on RDC in Halifax

- In 2012, a financing study identified the following for Halifax Water:
  - Its rates would triple by the end of the 30-year planning horizon for water and wastewater
  - It did not have the ability to fund future infrastructure requirements
  - It should develop charges to fund growth-related infrastructure requirements
  - Based on this, Halifax Water established the first RDCs in 2014

What is a Regional Development Charge (RDC)?

- The RDC is used to fund regional water and wastewater infrastructure
- These charges are commonly used by municipal governments and utilities to fund the infrastructure required to support new growth
- The Halifax Water RDC is designed to “break even” with no surplus or deficit at the end of the planning period
    - It also has an adjustment mechanism that ensures that the charge will be adjusted every five years or when a condition changes that results in an impact of 15% (+/-) on the charges
        - Halifax Water will be filing a report with the NSUARB on June 30th to provide an update

Why RDCs are needed?

- To help protect affordability and equity of existing ratepayers
- To support user-pay, and intergenerational equity principles
- Growth pays for growth, and today's customers should not pay for the infrastructure required to support future customers

Objectives for Today

- We are committed to being transparent and having an open dialogue with our customers and stakeholders
- Our goal today is to continue to build on the positive and constructive relationship with the development community
- We want to create a forum to openly discuss the RDC process and how we can work together to find mutual benefits on various topics
- Over the long-term, we want the development community actively engaged on topics such as:
    - Long term planning
    - Refining allocation Methods, Inputs and Calculations

Questions

Halifax Water

Halifax Water's Infrastructure Initiatives

Reid Campbell, Director of Engineering and Technology Services

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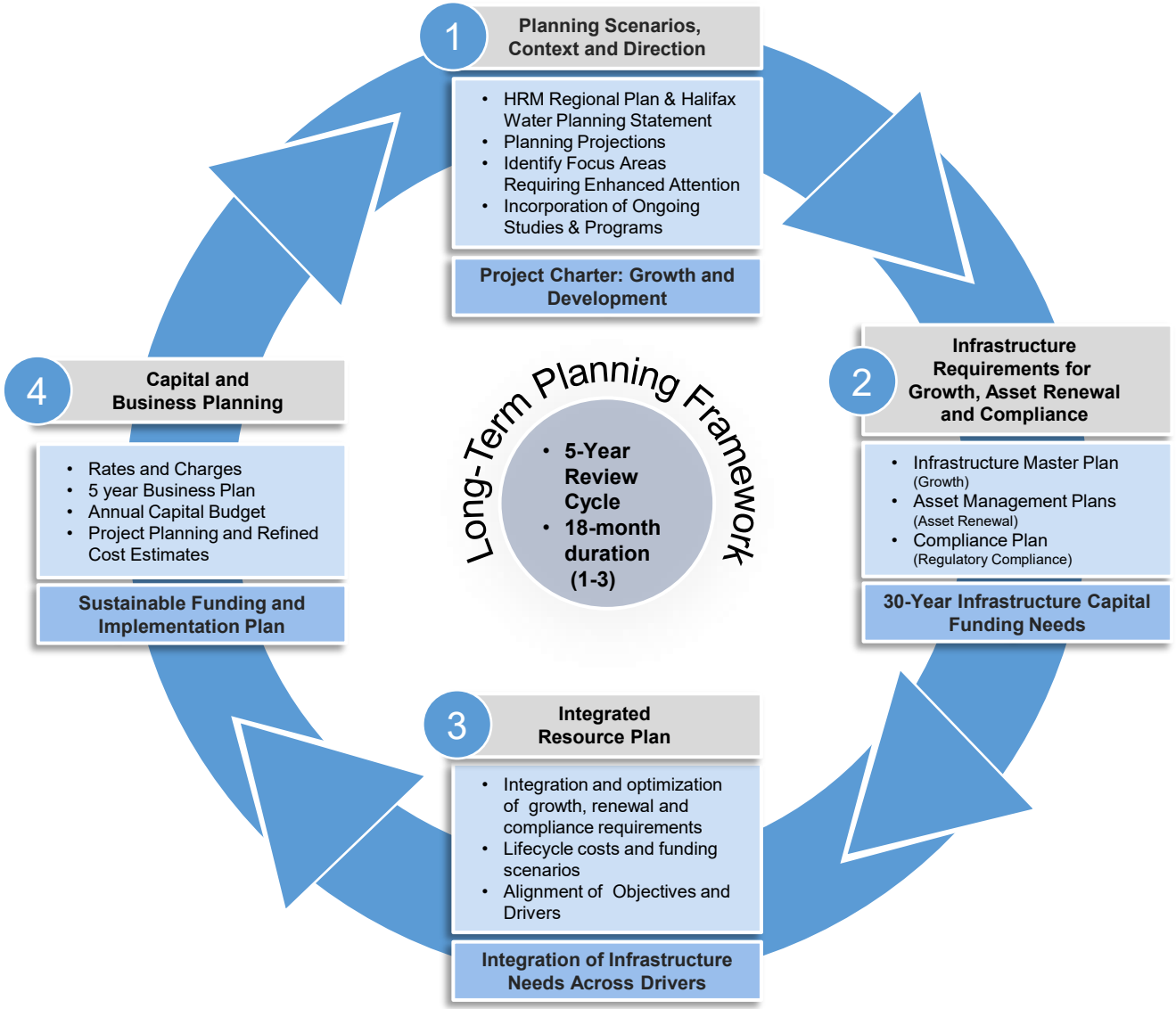
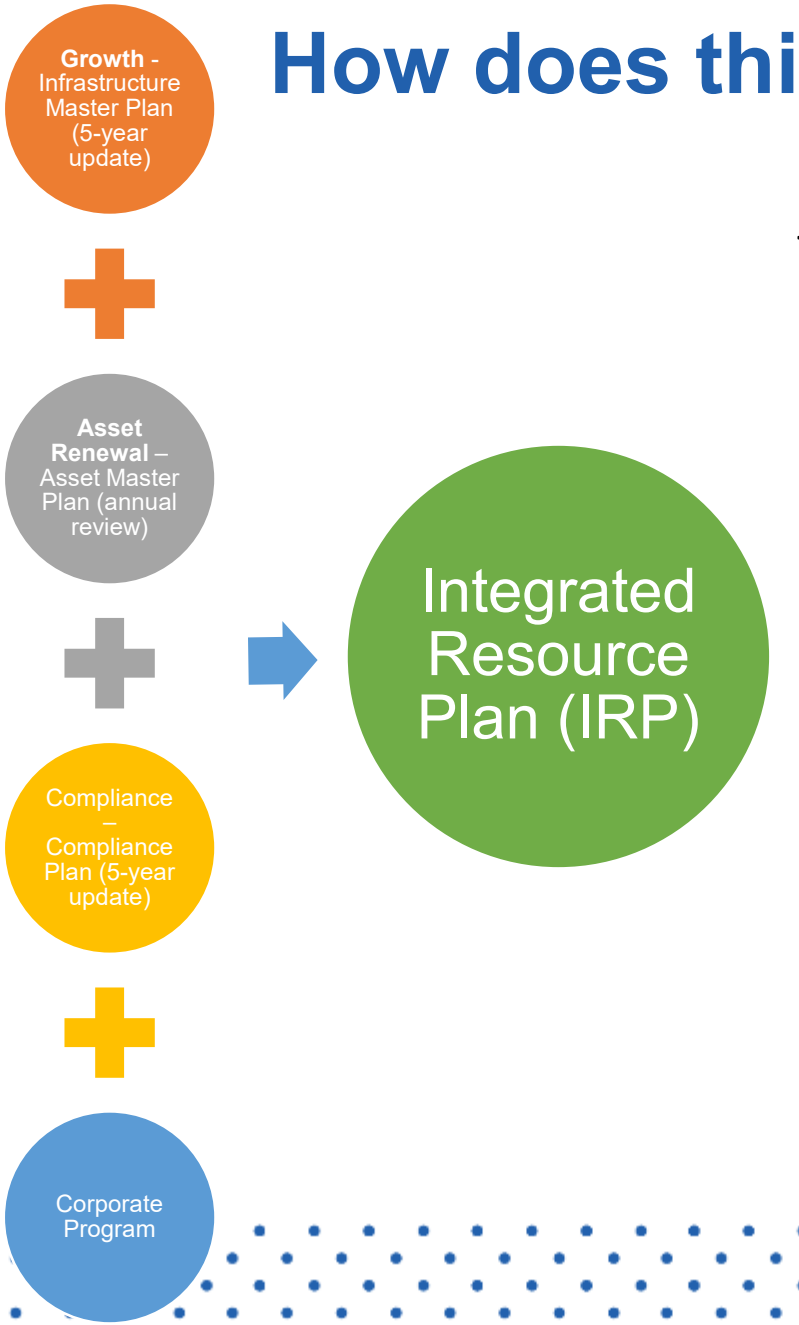
Long-Term Planning Framework



How does this all fit together?



Halifax Water's Integrated Resource Plan (IRP) is based on the following inputs:

Infrastructure Master Plan
- Capital program to ensure we can accommodate growth to 2046
- Wastewater and water infrastructure
- Informs the regional development charge

Compliance Plan
- Focuses on wastewater and water compliance
- Documents long term (30 years) infrastructure needs

Asset Management Plans
- Asset inventory and replacement costs for each asset class

Corporate Program
- Projects that have not been identified in other plans, such as:
  - Corporate Projects, Land, Energy, Equipment, Security
- IRP Capital Program forecasts the cost for these projects for the next 30 years

Integrated Resource Plan - Drivers and Objectives

Driver		Infrastructure System	Objective
Compliance	Regulatory	Wastewater	1. Meet or exceed current Nova Scotia Environment WWTF Permit to Operate Requirements
		Water	2. Meet or exceed current Nova Scotia Environment WSP Permit to Operate
		Wastewater / Stormwater	3. Meet Current Overflow Compliance (Monitor and Report)
		Wastewater	4. Meet or exceed Future WWTP Compliance
		Water	5. Meet future drinking water compliance
	Level of Service	Wastewater/ Stormwater	6. Meet future overflow compliance
		Water, Wastewater, Stormwater	7. Endeavour to provide existing systems that are adequately sized to meet Halifax Water Level of Service
		Stormwater	8. Meet Future Stormwater Quality Compliance
		Water, Wastewater, Stormwater	9. Ensure planning and sizing of infrastructure considers the impact of climate change
Asset Renewal		Water, Wastewater, Stormwater	10. Implement optimal level of asset re-investment
		Water, Wastewater, Stormwater	11. Enhance the reliability, redundancy and security of the water, wastewater and stormwater systems with attention to high risk and critical areas
		Water, Wastewater	12. Reduce energy consumption, operating costs and GHG contributions
Growth		Water, Wastewater, Stormwater	13. Provide regional water, wastewater and Stormwater infrastructure needed to support planned growth
		Water, Wastewater	14. Manage flow and demand to maximize capacity for growth and minimize the need for new hard infrastructure

Infrastructure Master Plan (IMP)

What is the IMP?

- It is the regional level Infrastructure Servicing Study that is developed to accommodate growth to 2046 and:
  - Includes servicing assessments of water and wastewater infrastructure for all regions
  - Is based on best available population planning data, consistent with HRM estimates
  - Utilizes updated and calibrated water and wastewater hydraulic models to replicate existing conditions and simulate future growth scenarios
  - Includes detailed analysis of observed flow monitor data to inform Inflow and Infiltration reduction priorities

Population Projections

- 30-Year planning horizon (2016-2046)
- Based on best available information
  - Census Data
  - HRM's traffic survey zones
  - Regional Centre Local Wastewater Servicing Capacity Analysis (LoWSCA, 2016)
    - Anticipated growth pockets (Young Street, Wyse Rd, Canal St, Spring Garden)
  - Draft Centre Plan (2017)
  - Regional Municipal Planning Strategy (2014)
  - Integrated Mobility Plan (2017)
  - Active Development Applications

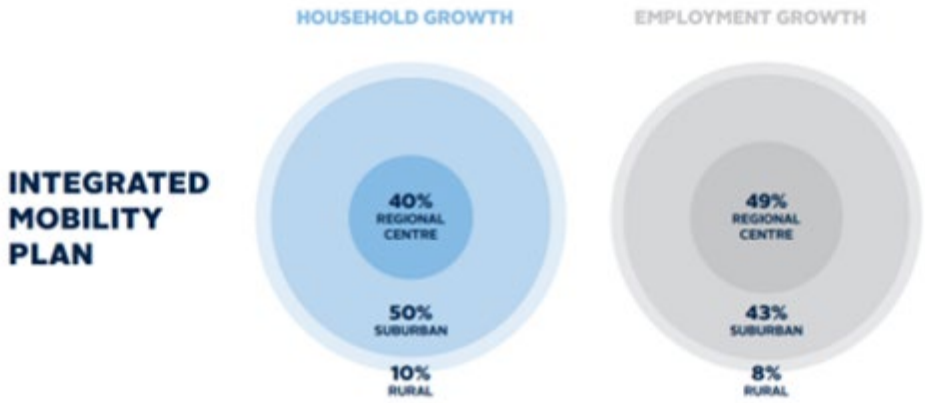


Figure: Intergrated Mobility Plan Household and Employment Allocation

Design Criteria

- Includes various trend analyses using customer water meter consumption data and SCADA data from treatment plant production and district meter areas (DMA).
- The design criteria review summarizes industry best practice and assesses Halifax Water's existing specifications.

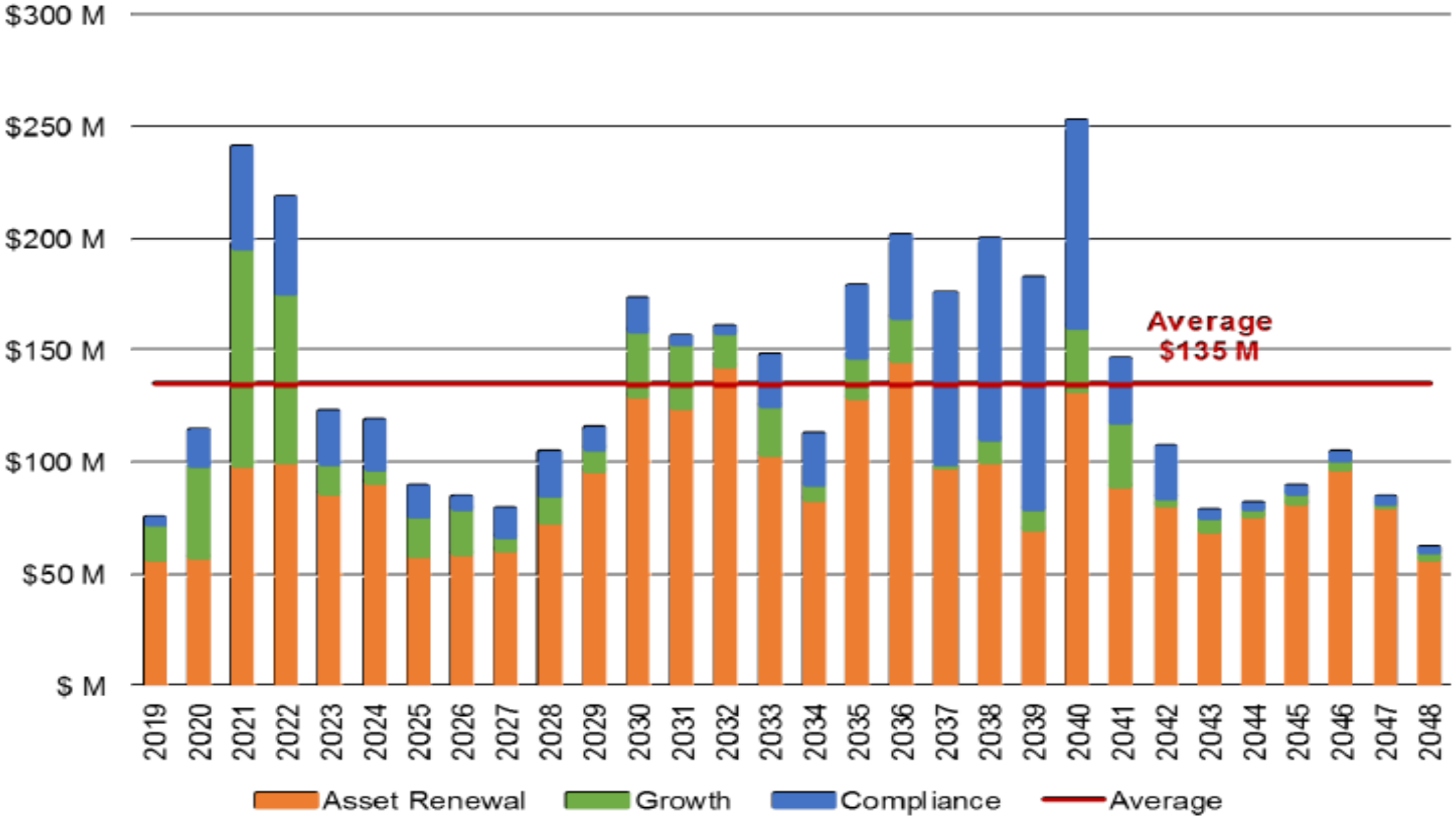
The recommended design criteria to be used in the Infrastructure Master Plan are as follows:

- Per capita average day demand = 375 L/cap/day
  - A decrease from 410 L/cap/day
  - In line with the observed ratio of DWF treatment being 80% of water production
  - Wastewater design criteria = 300 L/cap/day
- Peaking factors summarized in Table 6.

Table 6: Peaking Factors for Infrastructure Planning

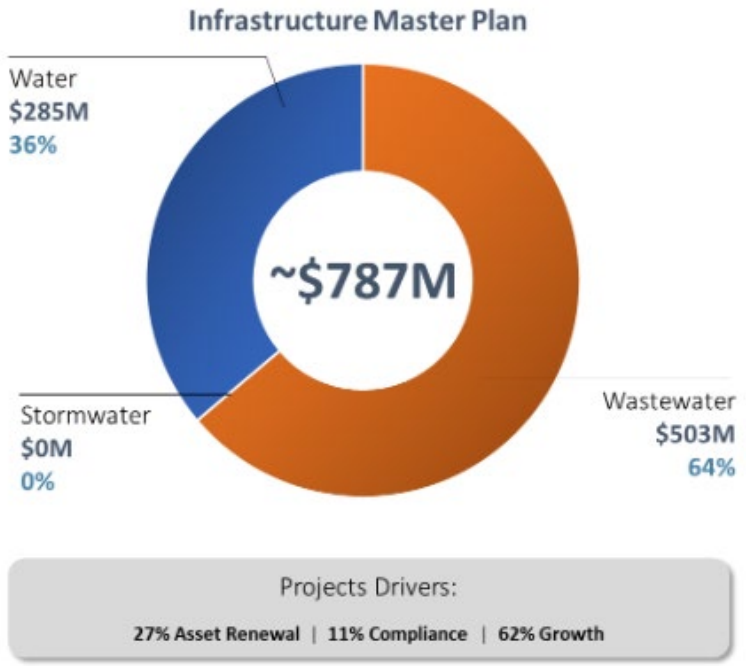
Category	MDD	PHD
System Supply	1.30	-
Storage	1.80	-
Pumping and PRVs	-	3.60

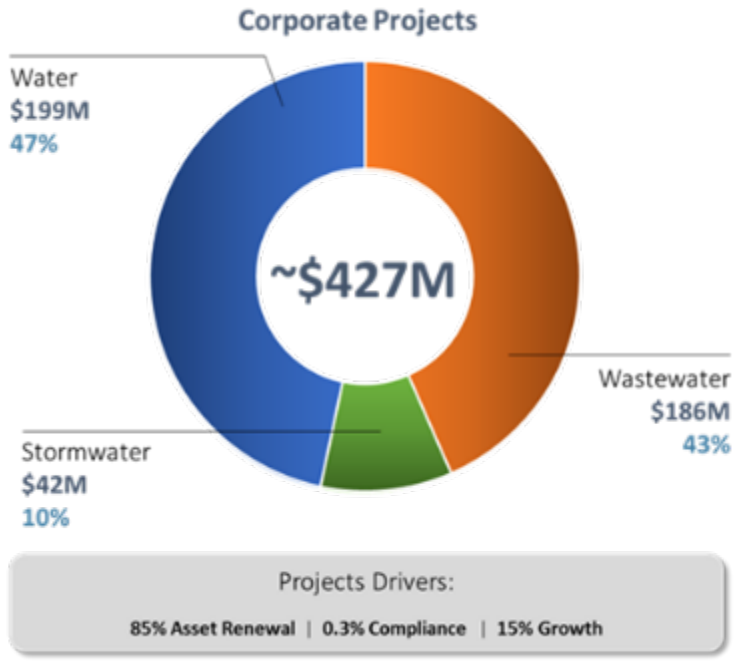
IRP Capital Program as Outlined in 2019



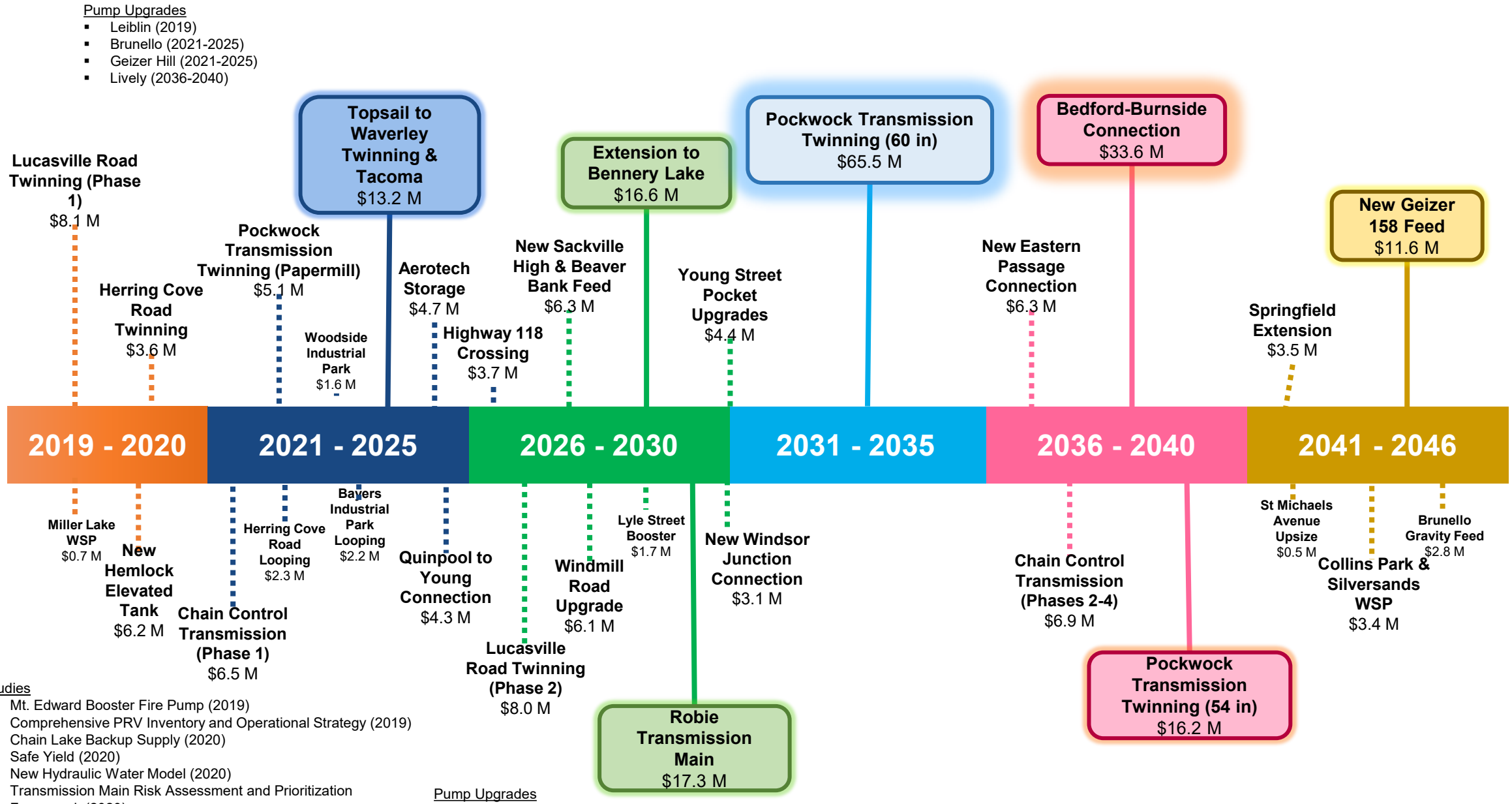
IRP Inputs

- A breakdown of our inputs between our core service areas:
  - Water
  - Wastewater
  - Stormwater

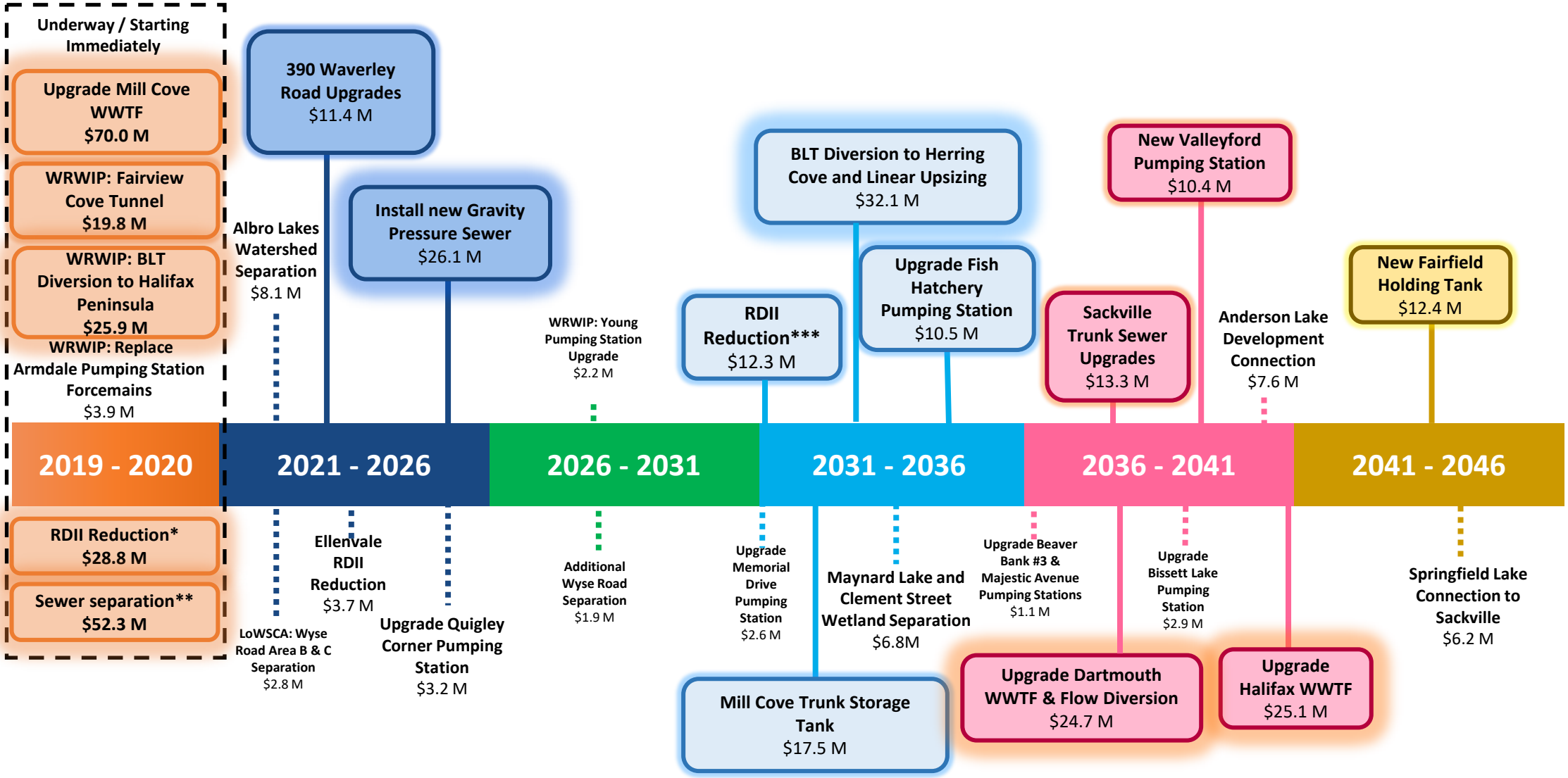




IRP WATER CAPITAL PROGRAM TIMELINE 2019-2046



IRP WASTEWATER CAPITAL PROGRAM TIMELINE 2019-2046



Studies and minor works

- Additional flow monitoring in Dartmouth (2019)
- Dartmouth CSO Management Plan (2036)
- Upgrade Anderson Pumping Station (2031)
- Upgrade Beaver Crescent Pumping Station (2036)
- Upgrade Caldwell Road Pumping Station (2039)

Capital Project ≥ $10 M Capital Project < $10 M

- *Including: Central (Lower Sackville and Bedford Common area), East (Loon Lake area, Eastern Passage area) and West (Bridgeview, Clayton Park and Fairview)*

*** Including: East (LoWSCA: Canal Street and Wyse Road Area A) and West (LoWSCA: Spring Garden Area and Young Street Area and Upstream of Kempt CSO)*

**** Including: Central (Glen Moir and Millview area) East (Cole Harbour and Woodside areas)*

Capital Budget Projects up to 21/22 Budget

Studies
- Climate Change Management Program (vulnerability studies)
- Transmission Main Risk Assessment project
- Safe Yield Study
- New Hydraulic Model
- Water Efficiency Study
- Backup Supply Feasibility Study
- Mt Edward and Robie Booster Assessments
- PRV Assessments

Water
- Asset Renewal spend (valve replacement, etc.)
- North End Feeder Replacement
- Highway 118 Crossing
- New Orchard Control Study
- WSP Programs – JD Kline and Lake Major
- Peninsula Transmission Main Improvements

Wastewater
- Fairview Cove Tunnel
- RDII Reduction (Fish Hatchery and Eastern Passage sewersheds)
- Sewer separation program
  - Albro Lakes, Maynard Lake
  - Young Street, Bayers Road, South Park Street
- Quigley's Corner Pump Station Optimization
- Mill Cove Wastewater Plant Upgrade

Stormwater
- Sawmill Creek Ph 2


Questions

Halifax Water

Regional Development Charges

Kevin Gray, Manager Engineering Approvals, Regulatory Services

May 17, 2022

STRAIGHT from the SOURCE

Halifax Water Infrastructure

- Local Infrastructure
  - Residential streets
  - Initial installation funded 100% by the developer
  - Local Improvement Charges, By-law L100, administered by the Municipality
- Area Master Infrastructure
  - Collector streets
  - Infrastructure installed to the benefit of multiple developers
  - Capital Cost Contributions, administered by Halifax Water
- Regional Infrastructure
  - Highways
  - Infrastructure installed to the benefit of multiple communities
  - Regional Development Charges, administered by Halifax Water

Regional Development Charges

- Cost recovery mechanism within the cost causer pay strategy ensuring the cost impact of growth to Halifax Water is neutralized.
- Infrastructure Master Plan identifies regional upgrades required to support the Municipality's predicated growth.
- Five-year cycle.
- Initially created in 2014, updated in 2021 (2019 NSUARB application).
- Charges allow for regional upgrades be installed in advance of growth.
- Wastewater capacity and water availability no longer shape growth.

Regional Development Charge – Wastewater

"Regional Wastewater Infrastructure" means core regional Wastewater treatment facilities and trunk sewer systems directly conveying Wastewater to, or between, such facilities, including

(i) existing Wastewater treatment facilities (WWTF) that provide a regional Service including the facilities generally known as the Halifax WWTF, Dartmouth WWTF, Herring Cove WWTF, Eastern Passage WWTF, Mill Cove WWTF Beechville/Lakeside/Timberlea WWTF, and Aerotech WWTF,

(ii) trunk sewers and related appurtenances which directly convey Wastewater to regional treatment facilities,

(iii) trunk sewers and related appurtenances which divert Wastewater from one regional treatment facility to another due to environmental concerns, capacity constraints or operational efficiency, and

(iv) inflow and infiltration reduction and/or sewer separation projects for the purposes of gathering capacity within the wastewater system for the benefit of planned growth but does not include infrastructure within or directly adjacent to approved or planned development areas which is required to directly support development within an approved or planned development area

Regional Development Charge – Water

"Regional Water Infrastructure" means core regional water supply facilities and the water transmission systems directly conveying water from such facilities to the various distribution systems, including

(i) existing water supply facilities that provide a regional Service including the facilities generally known as the J.D. Kline water supply facility at Pockwock Lake and the Lake Major water supply facility at Lake Major,

(ii) water transmission mains and related appurtenances which directly convey water from regional treatment facilities to the distribution system,

(iii) water transmission mains and related appurtenances which divert water from one regional treatment facility supply area to another due to environmental concerns, capacity constraints or operational efficiency, and

(iv) demand reduction measures to provide capacity for growth and are a cost-effective alternative to new regional hard infrastructure are considered eligible. but does not include infrastructure within or directly adjacent to approved or planned development areas which is required to directly support development within an approved or planned development area

Regional Development Charges – Methodology

- Infrastructure Master Plan
  - Remove Benefit to Existing Halifax Water Customer (non-growth component)
    - Asset Renewal
    - Compliance
  - Remove Post Period Benefit
- Population Projections
  - Single Unit & Multi-Unit
  - Commercial
- Annual Reporting
  - Reconcile with actual spent and actual collected
  - Confirmation of the Charge, +/- 15% (Report will be filed with the NSUARB on June 30)

Regional Development Charges – Financial Assumptions

- Project Cost Estimation
  - Escalation
  - External funding, Infrastructure Canada
- Annual Charge Indexing
  - Consumer price Index – Halifax
- Balance Financing
  - Accrued Interest

Regional Development Charge Rates

Water Regional Development Charge (all areas within HRM with water service.)

Type of Development		April 1, 2022
Single Unit Dwellings / Townhouses		$1,791.07 / unit
Multiple Unit Dwellings		$1,202.95 / unit
Industrial / Commercial / Institutional Buildings		$ 8.84 / m^2

Wastewater Regional Development Charge (all areas within HRM with wastewater service.)

Type of Development		April 1, 2022
Single Unit Dwellings / Townhouses		$ 5,710.01 / unit
Multiple Unit Dwellings		$ 3,835.08 / unit
Industrial / Commercial / Institutional Buildings		$ 28.18 / m^2

*An adjustment for CPI will be made annually to the RDC on April 1.

RDC Activities

Charge	2014-2020	2021	Expenditures	Balance
Water	$3,689	$3,583	$3,730	$3,004
Wastewater	$67,648	$18,413	$23,356	$63,788

RDC Funded Projects – Next Five Years	Project Cost	RDC Funding	RDC Spend
Main Upgrades - Churchill Drive Corridor	$9,420	75%	$7,065
Main Looping - Quinpool to Young	$4,322	75%	$3,242
Lucasville Twinning – Phase 2	$9,964	100%	$9,964
Connection – Bedford to Burnside	$41,524	47%	$18,900
Aerotech Reservoir	$5,286	75%	$3,965
Bayers & Kempt Sewer Separations	$16,413	95%	$15,592
Young to Harbour Sewer Separations	$24,342	75%	$18,256

Questions

Meaningful Engagement – a path forward

- Industry has a key role to play in the long-term planning for Halifax, especially from a water infrastructure perspective
- Halifax Water is committed to working with the development community to have positive and productive discussions on issues that may arise from RDC-related matters.
- Both the UDI and the DLG are significant groups to engage with, but there is an opportunity to engage on specific RDC-related issues and find mutual benefits where possible.
- Our goal is to work with you to identify key issues and then form working groups to further discuss and collaborate.
- Key topics:
    - We are committed to active engagement and collaboration in the refining of the following:
        - Closing information gaps in Wet Weather Management, Asset Management Plans, Stormwater Management efforts & WWTF Study
        - Benefit to Existing methodology and calculation
        - Review of the RDC annually for +/- 15%
        - Advancement of new ICI RDC Methodology
    - Identification and informing of advancement of potential DSM program/projects
- Who needs to be involved in each?


Open Discussion