

# Wastewater Treatment

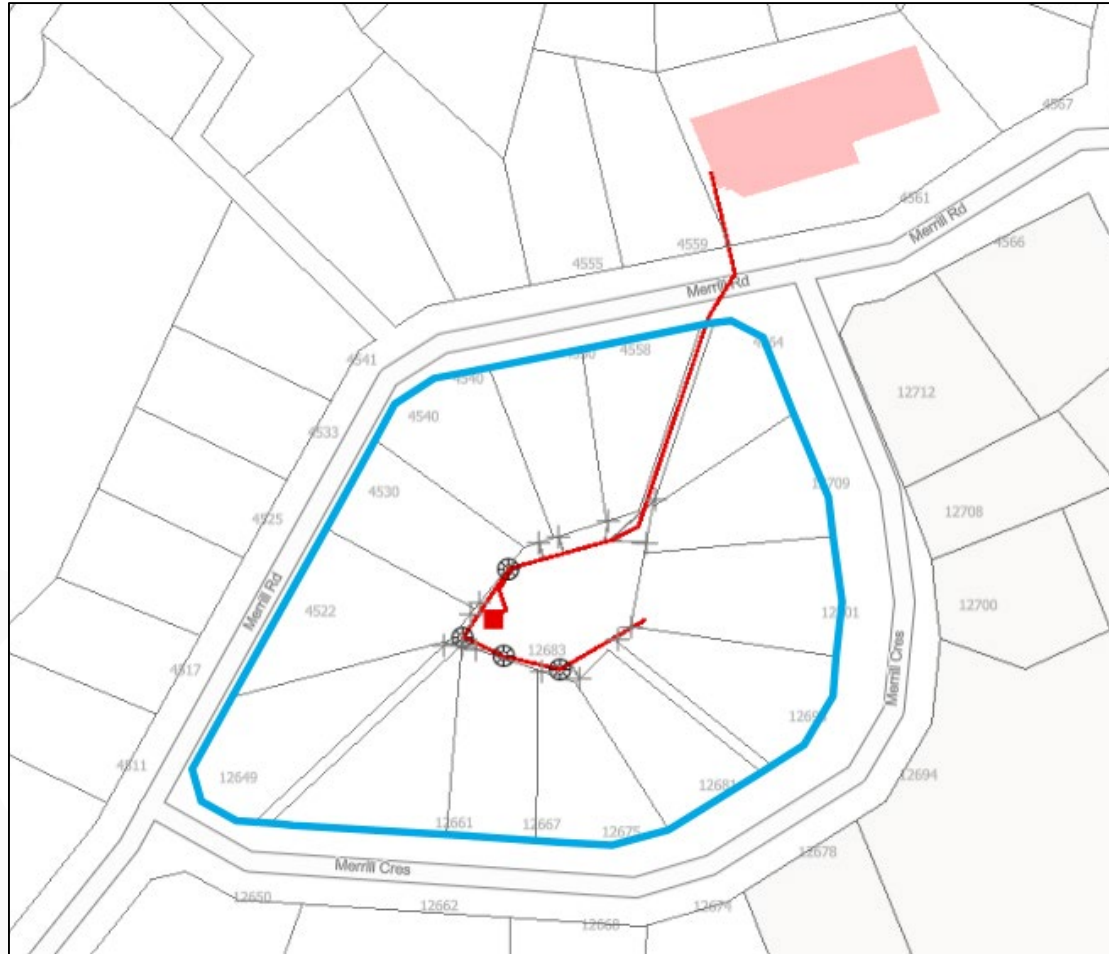
## Summer 2020 Capital Funding Update

Area A – Merrill Crescent

[www.scrd.ca](http://www.scrd.ca)



# Merrill Crescent Wastewater Service Area



# Topics

- Summary of previous review
- Capital Funding Update
- What's next?
- Questions



# Summary of previous review

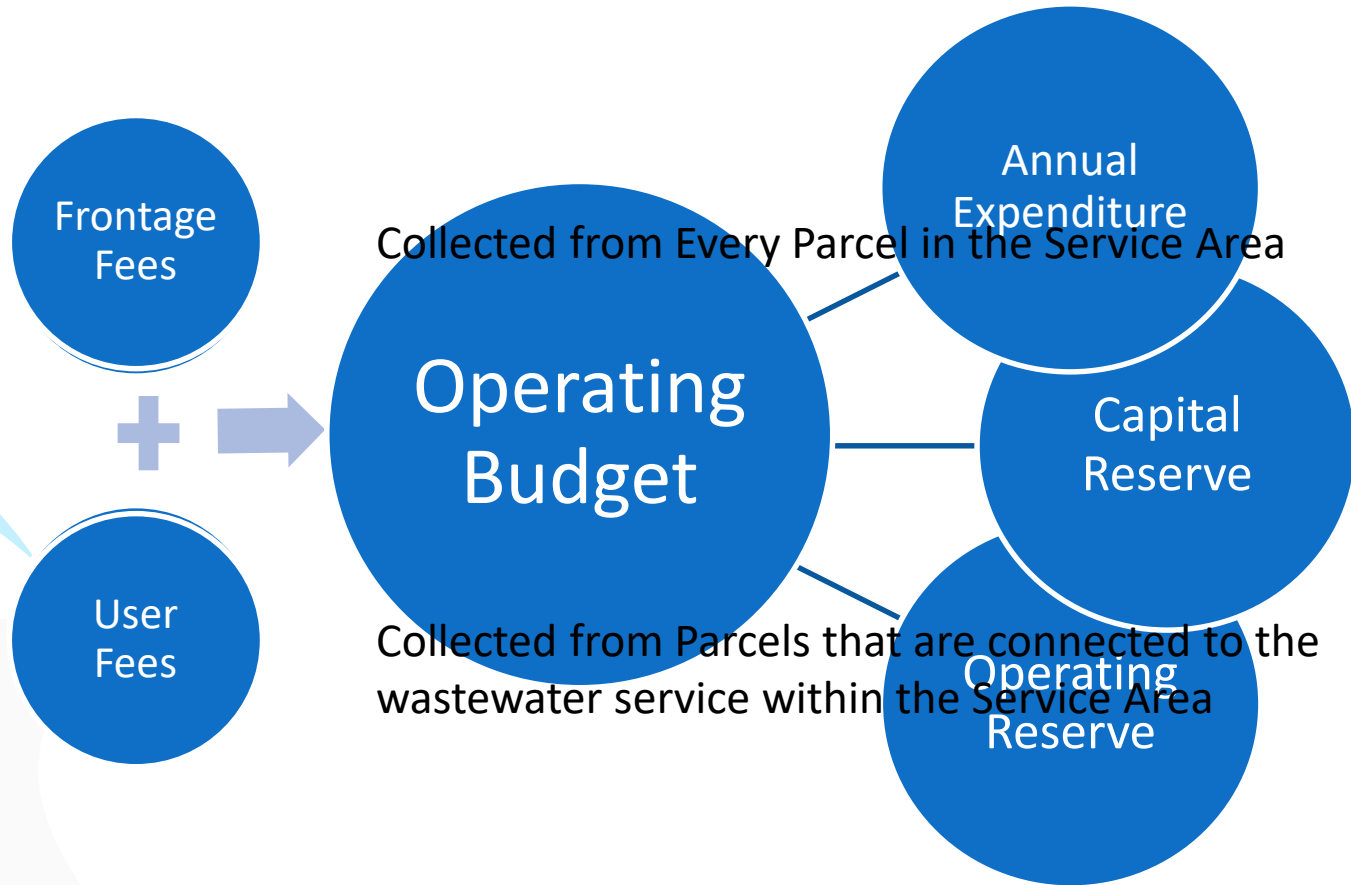
- **Wastewater Service Review:** High-level review of wastewater services within the SCRD [www.scrd.ca/wastewater](http://www.scrd.ca/wastewater)
- **Asset Management Plans:** Service-specific review. Summary of service establishment, relevant bylaws and asset inventory. Preliminary life-cycle and operational cost analysis.
- **Community Engagement:** SCRD hosted information sessions to share findings and gather feedback from residents.
- **Fact Sheets:** Created to provide residents with a quick glance of the preliminary service review findings.
- **Budget Revision:** Staff prepared revised budget models to reflect new datasets and to align with resident feedback.
- **Rate Adjustment:** Some User Rates and Frontage Fees were adjusted to reflect updated budget information.

# Summary of previous review

- **Key Findings – 2019 Wastewater Service Review**
  - Existing revenue is unsustainable
    - Operations Budget often greater than revenues generated from User Fees
    - Contributions to Reserve funds deferred frequently
  - Future capital expenditures not planned for
    - Ratio of Capital Reserves : Future Capital Expenses too low



# Previous Funding Model - Recap



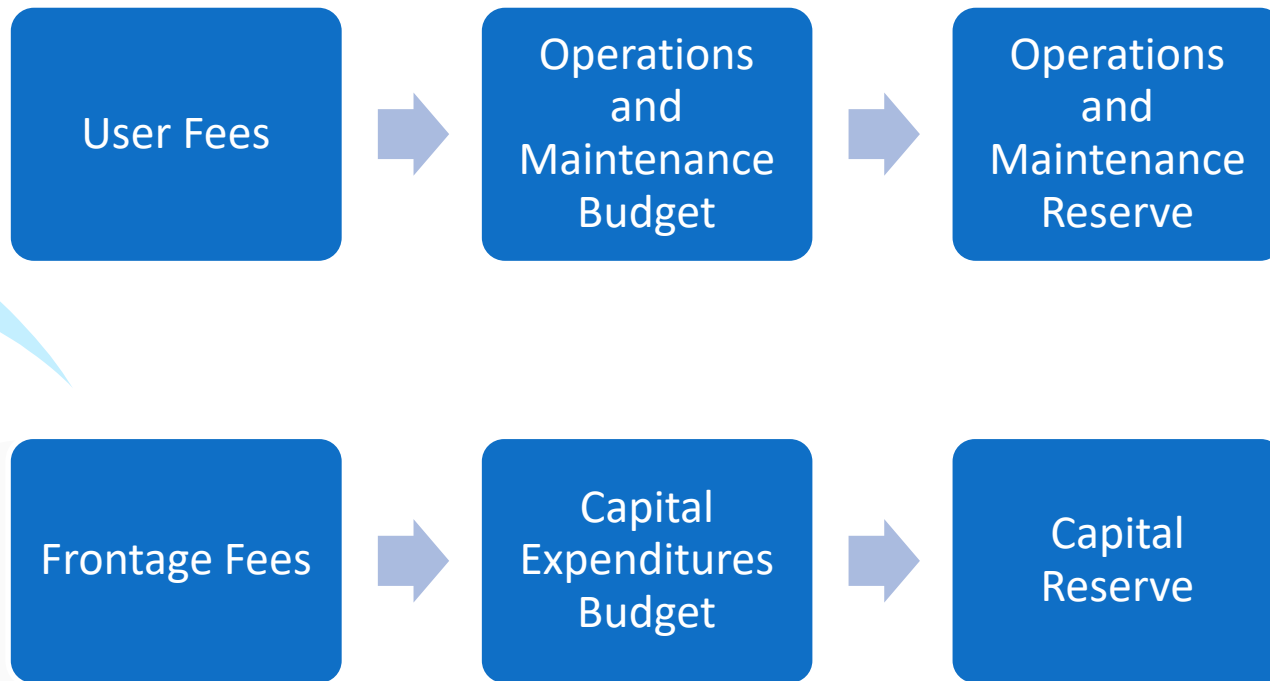
# Summary of previous review

- **Key Outcomes**

- Decoupled User Fee and Frontage Fees
  - User Fee revenue only fund Operation and Maintenance
  - Frontage Fees only fund Capital Expenses
- Extensive Review of Operation & Maintenance requirements
  - Audited Operation and Maintenance activities
  - Revised O&M Budget to ensure adequate funding
  - Established O&M Reserve minimum targets
  - **Continue to be reviewed annually**
- Developed Capital Funding Models to plan for future capital expenses.



# Sustainable Long-Term Funding Model





# Summary of previous review

## “Why Do We Need an Operating Reserve?”

- Unforeseen repairs can exceed annual operating budget
- Unable to borrow for Operational Expenses

Operating Reserves are withdrawn **only** for your service area.



# Summary of previous review

- **Impact on wastewater rates:**

- Merrill Crescent Wastewater O&M Budget Increase ~ 92%

**Merrill Crescent Rate Changes 2019-2020**

<i>Year</i>	<i>User Fee</i>	<i>Operating Reserve Contribution*</i>	<i>Frontage Fee</i>	<i>Debt Payment</i>	<i>Total</i>
2019	\$684.25	\$0.00	\$265.20	\$226.72	\$1176.17
2020	\$1499.00	\$240.43	\$0	\$226.72	\$1966.15
Increase	\$814.75	\$240.43	\$-(265.20)	0	\$789.78

\*5-year term if necessary



# New Developments

- We Listened to Resident Feedback:
  - Analyzed historical SCRD contract data to refine long-term Capital Model
    - Reduced Engineering Allowance Estimates ~3%
    - Reduction of contingency ~15%
  - Tolerance for Debt
    - Considered financing larger portions of projects
  - Creation of 5-year rate structure proposal
    - Revised Annually
    - Provides residents advance notice of rate structure



# New Developments

- Updated Savings/Borrowing Rates to match current rates
  - Variable borrowing rates based on term of loan
- Applied variable Construction Cost Index to better reflect construction inflation rate over time

## Construction Inflation

Period	Rate
(1-10 Yrs)	1.90%
(11-20 Yrs)	3.24%
(21-30 Yrs)	2.95%
(31-40 Yrs)	3.51%
(41-50 Yrs)	4.64%
(51-60 Yrs)	4.42%



# Let's Talk Infrastructure Funding

- Provincial Legislation – Local Government Act
  - Local Service Areas in Regional Districts can be funded ONLY by participants
  - Costs are shared by a small number of people
- All infrastructure degrades over time
  - Reduced performance
  - Higher maintenance costs
- Infrastructure costs inflate over time



# Capital Funding Plan – Method

## Expenditures:

- Developed timeline of anticipated replacement using Estimated Useful Life of infrastructure
- Used most recent replacement cost estimates
- Inflated to future value using Construction Cost Indexes built from historical data
  - Variable rates based on replacement date
- Included Debt Financing Costs

## Revenue:

- Applied annual interest accrual



# Capital Funding Plan – Method

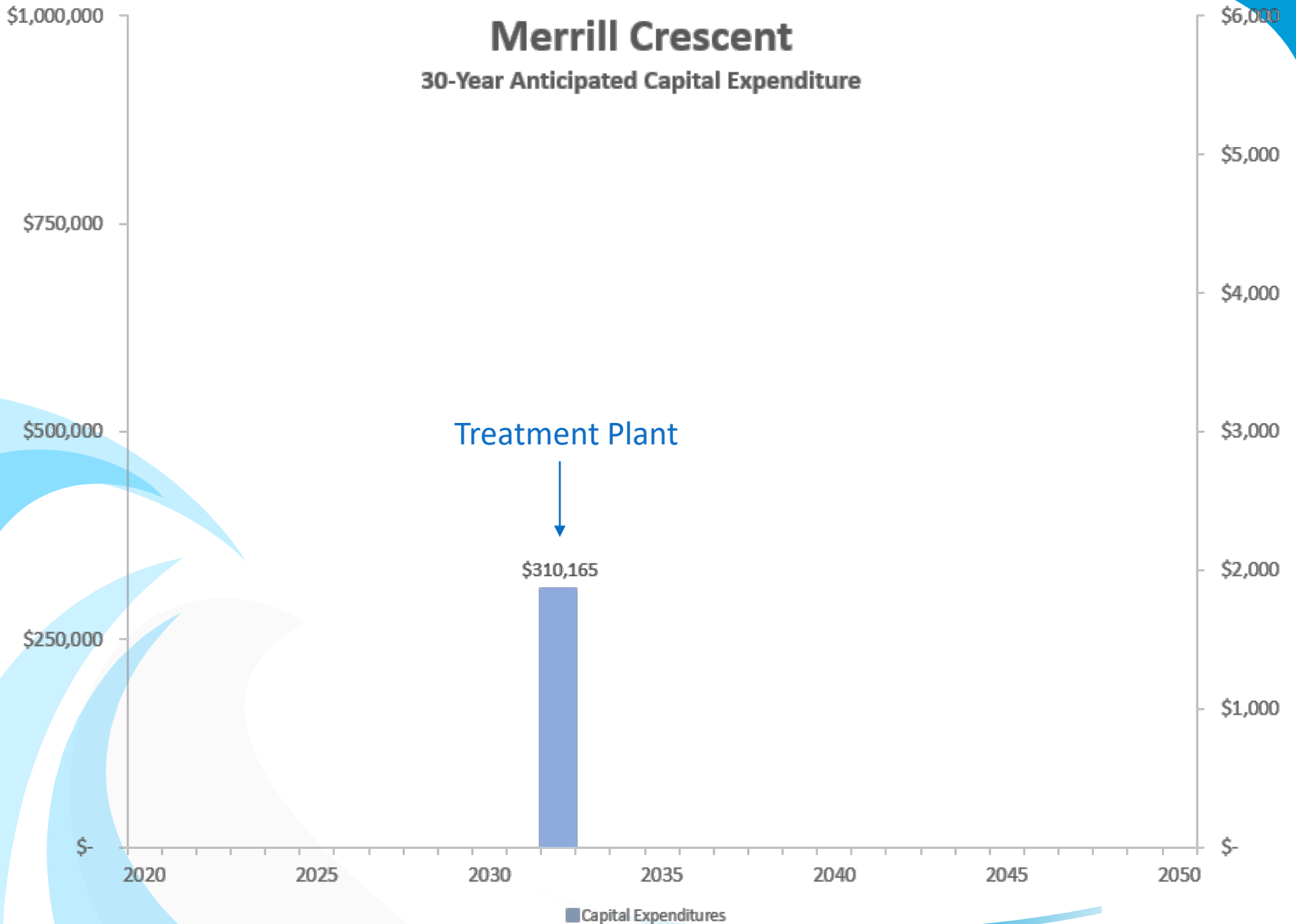
## Expenditures:

- Developed timeline of anticipated replacement using Estimated Useful Life of infrastructure
- Wastewater services have 3 main components:
  - Treatment Plant – 50 Year Life  
(Some have minor components with shorter lifespan eg. Filters)
  - Disposal System – 40 Year Life
  - Collection System - ~80 Year Life



# Merrill Crescent

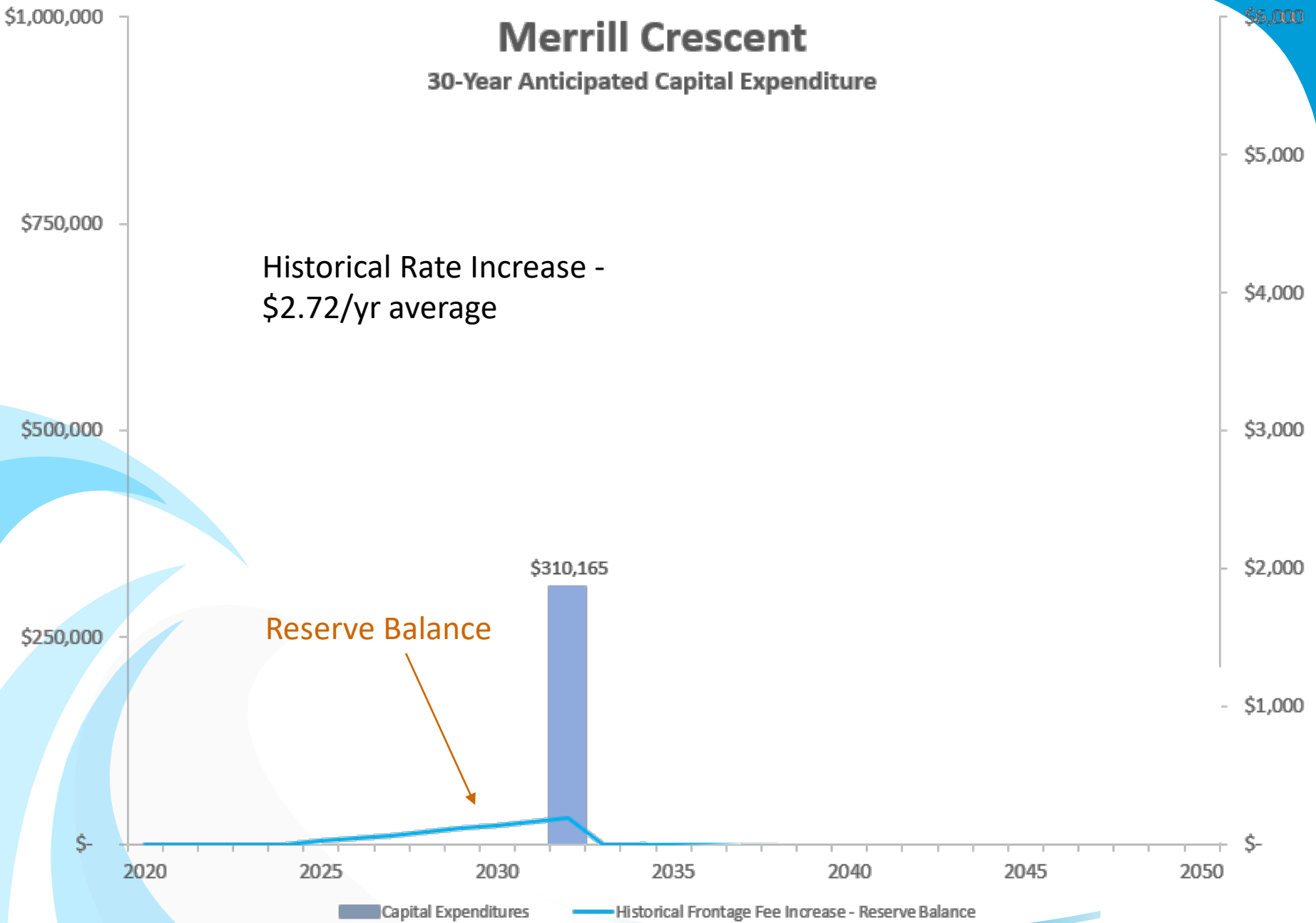
## 30-Year Anticipated Capital Expenditure





# Merrill Crescent

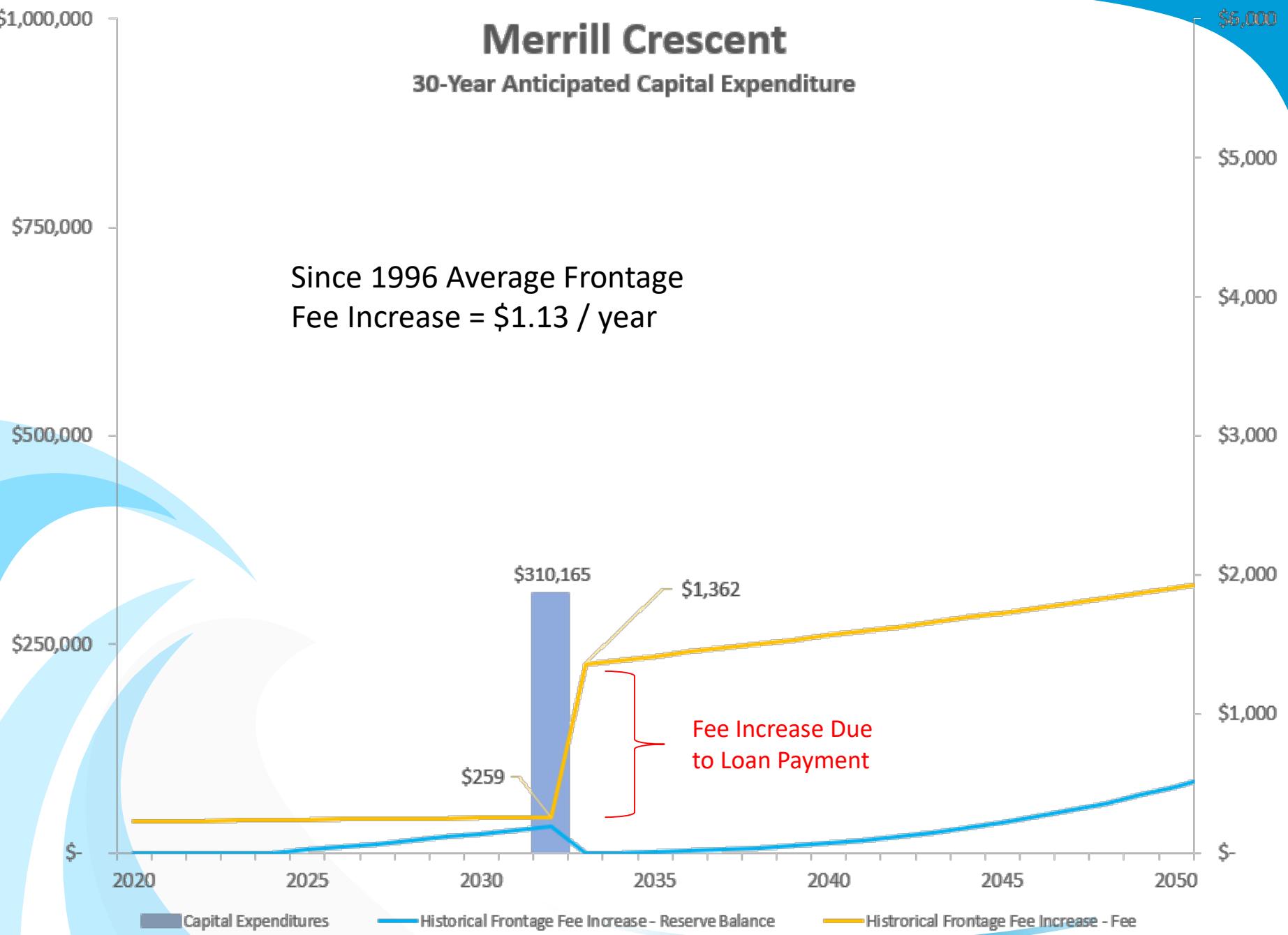
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# Merrill Crescent

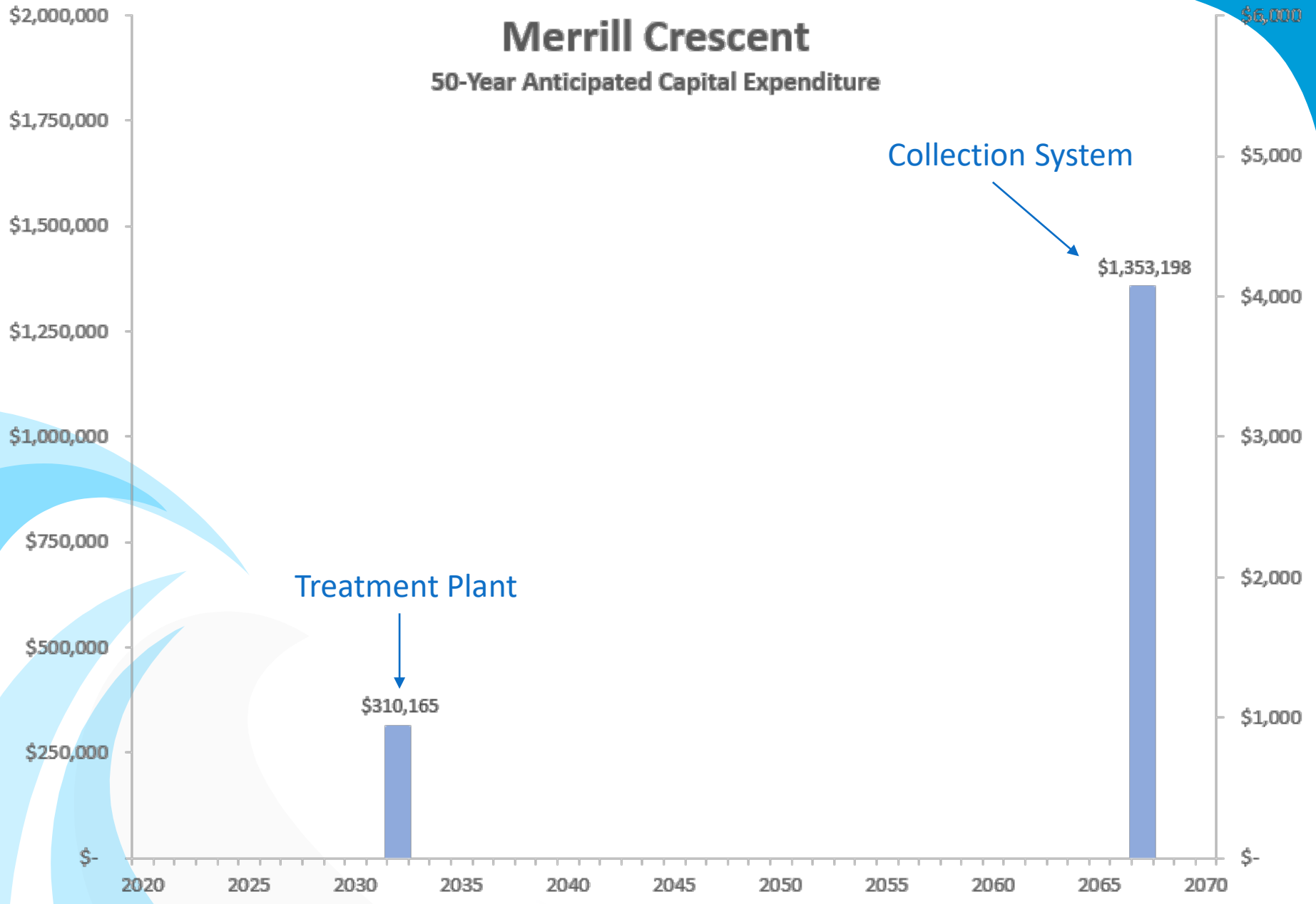
## 30-Year Anticipated Capital Expenditure

Since 1996 Average Frontage Fee Increase = \$1.13 / year



# Merrill Crescent

## 50-Year Anticipated Capital Expenditure



Treatment Plant

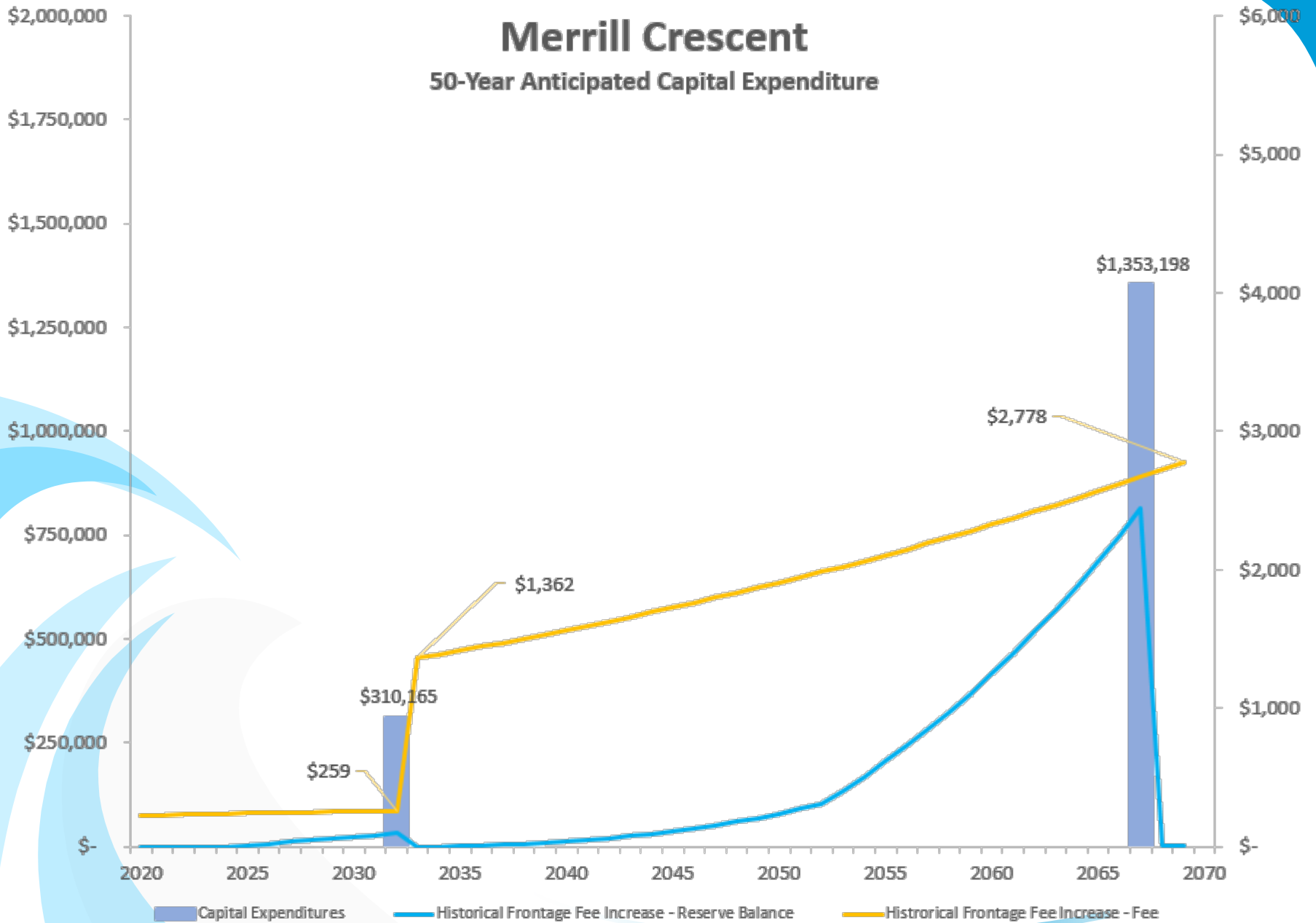
\$310,165

Collection System

\$1,353,198

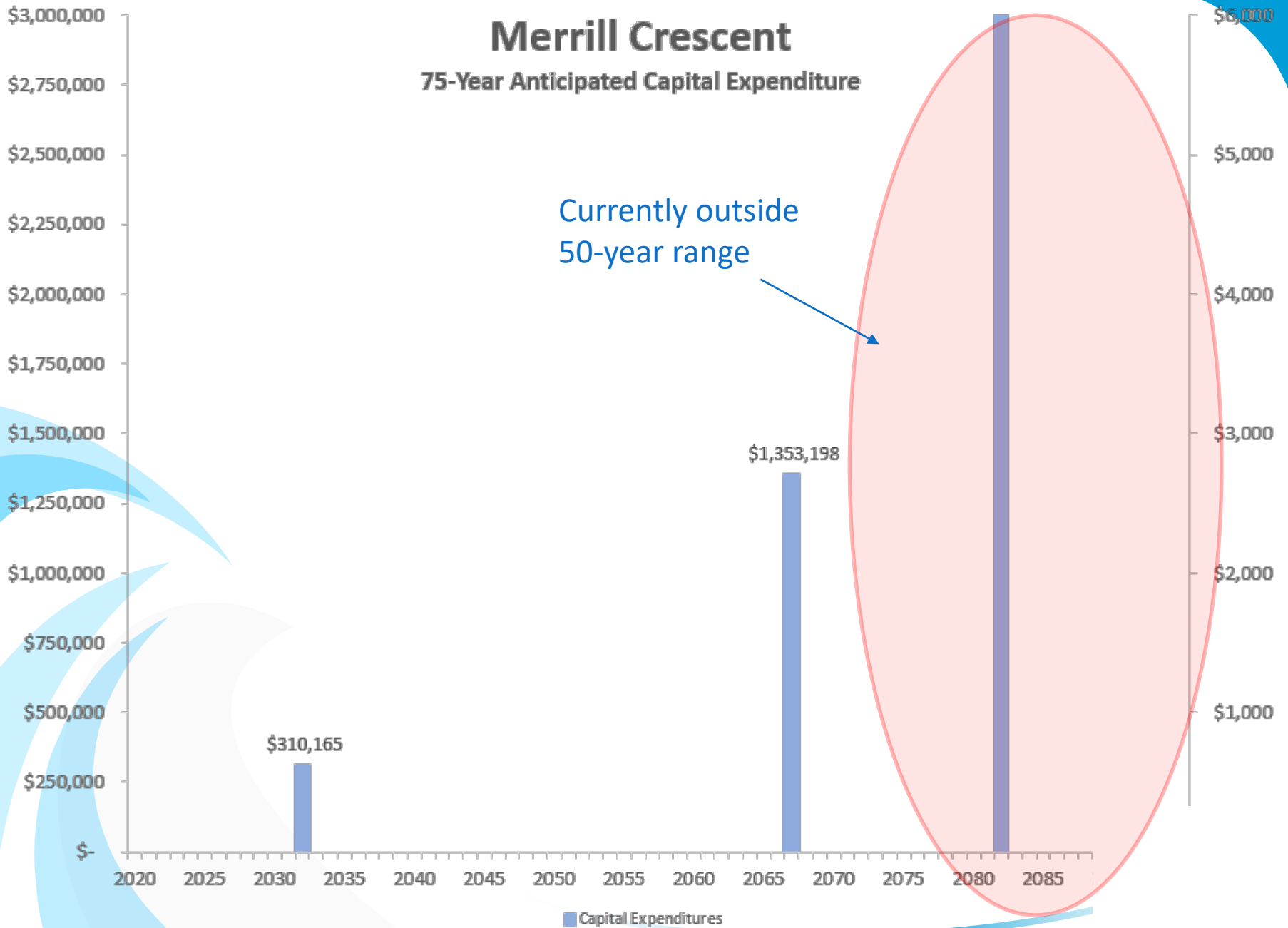
# Merrill Crescent

## 50-Year Anticipated Capital Expenditure



# Merrill Crescent

## 75-Year Anticipated Capital Expenditure

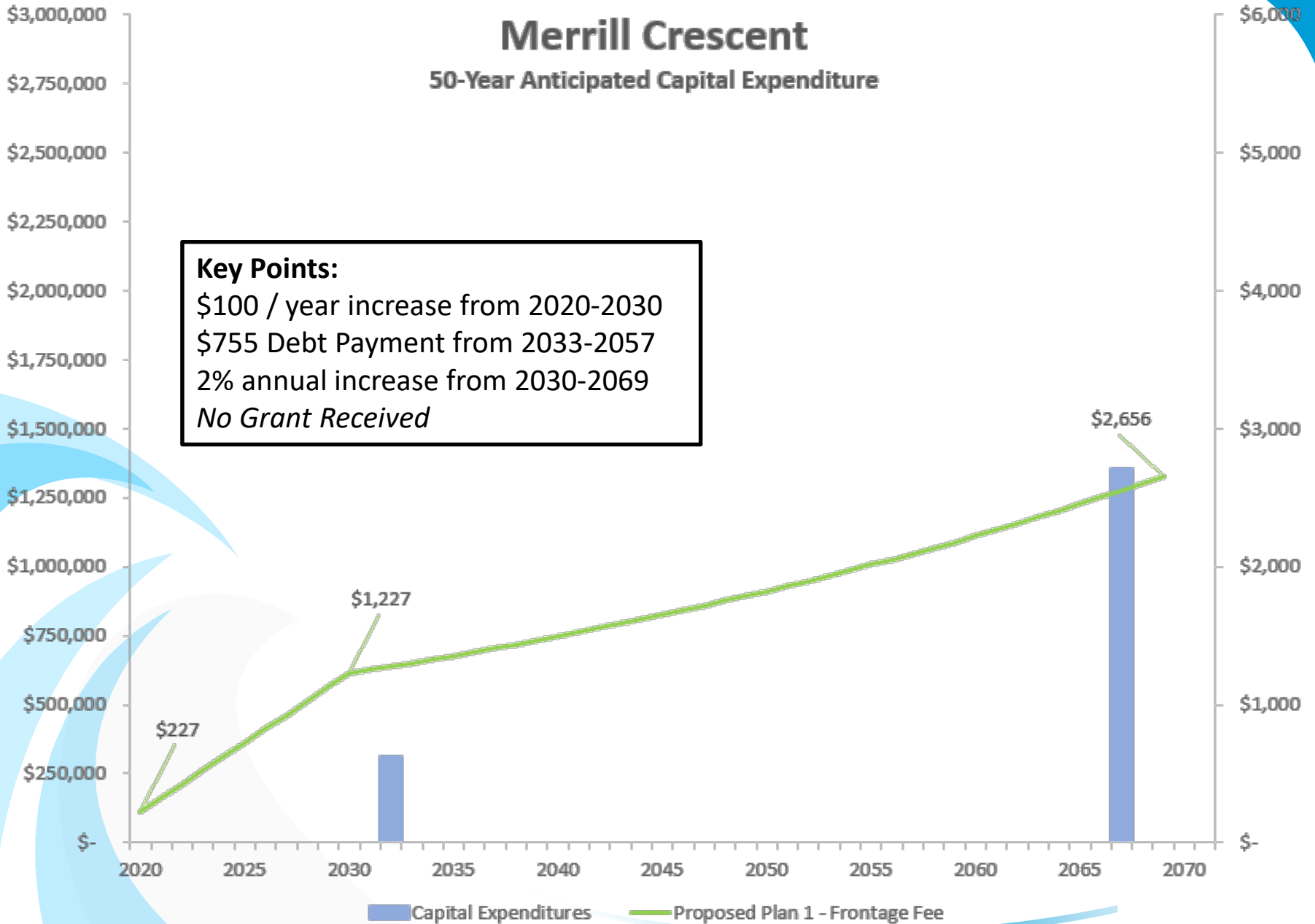


# Merrill Crescent

## 50-Year Anticipated Capital Expenditure

### Key Points:

- \$100 / year increase from 2020-2030
- \$755 Debt Payment from 2033-2057
- 2% annual increase from 2030-2069
- No Grant Received*

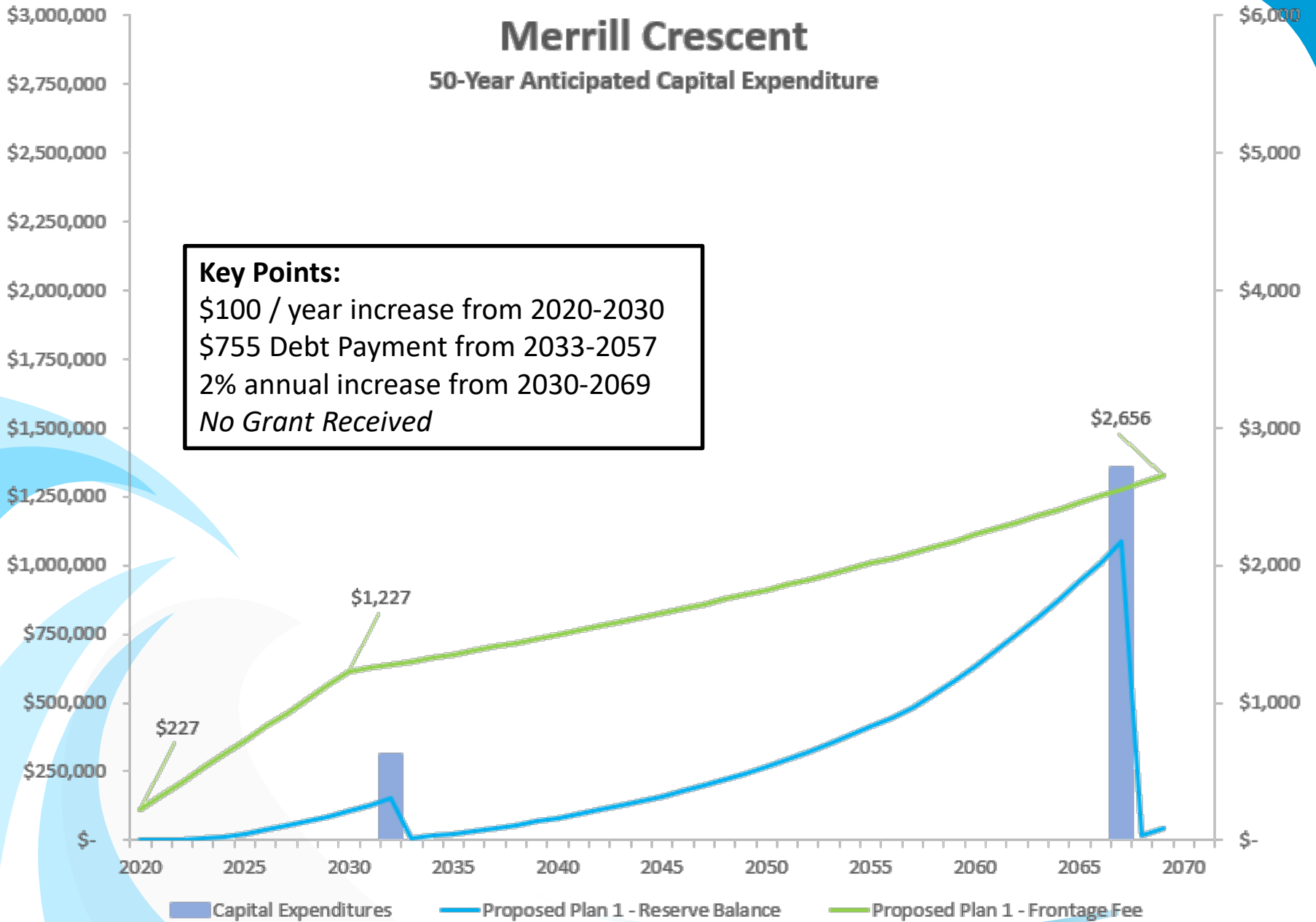


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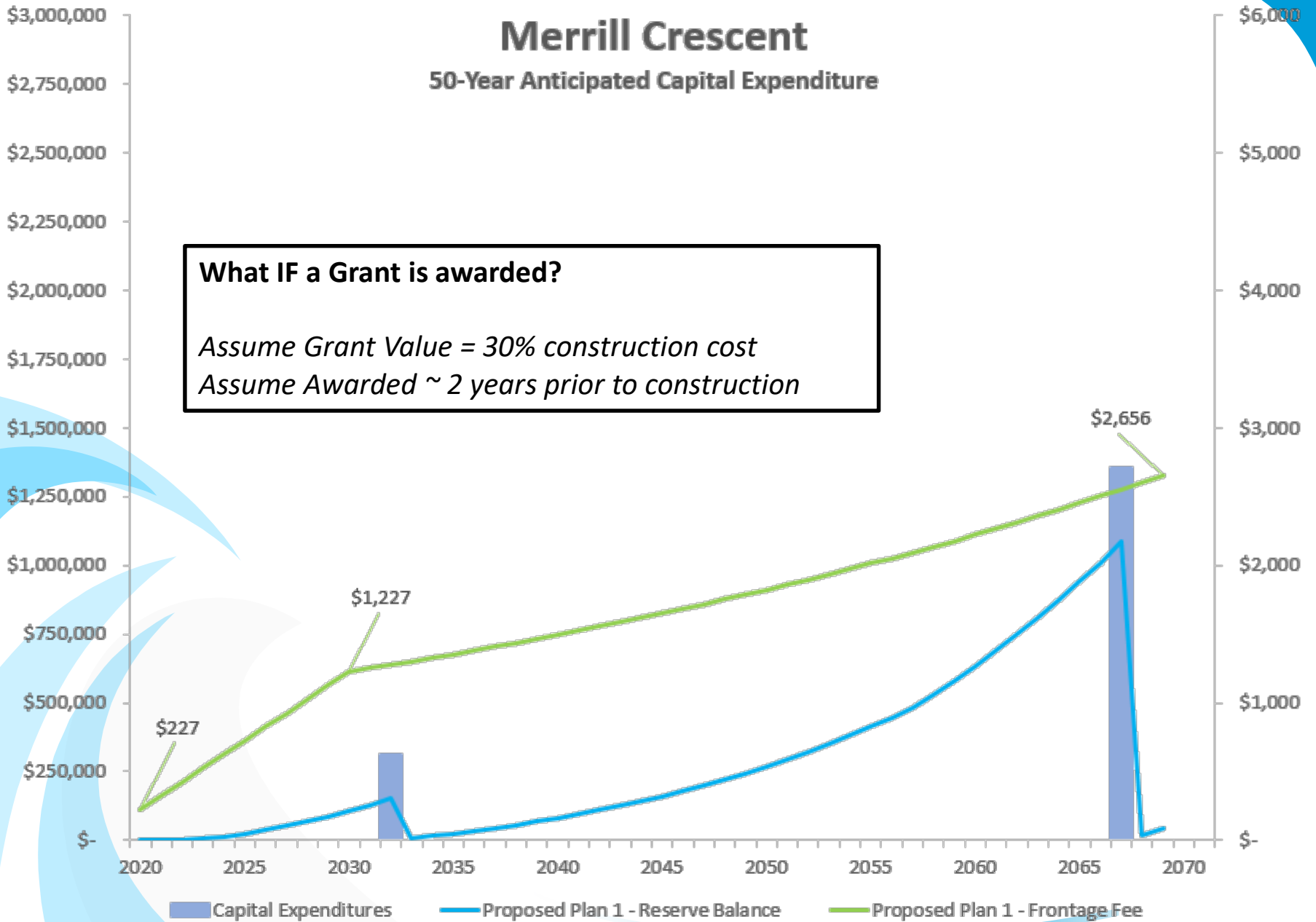


# Merrill Crescent

## 50-Year Anticipated Capital Expenditure

**What IF a Grant is awarded?**

*Assume Grant Value = 30% construction cost  
Assume Awarded ~ 2 years prior to construction*

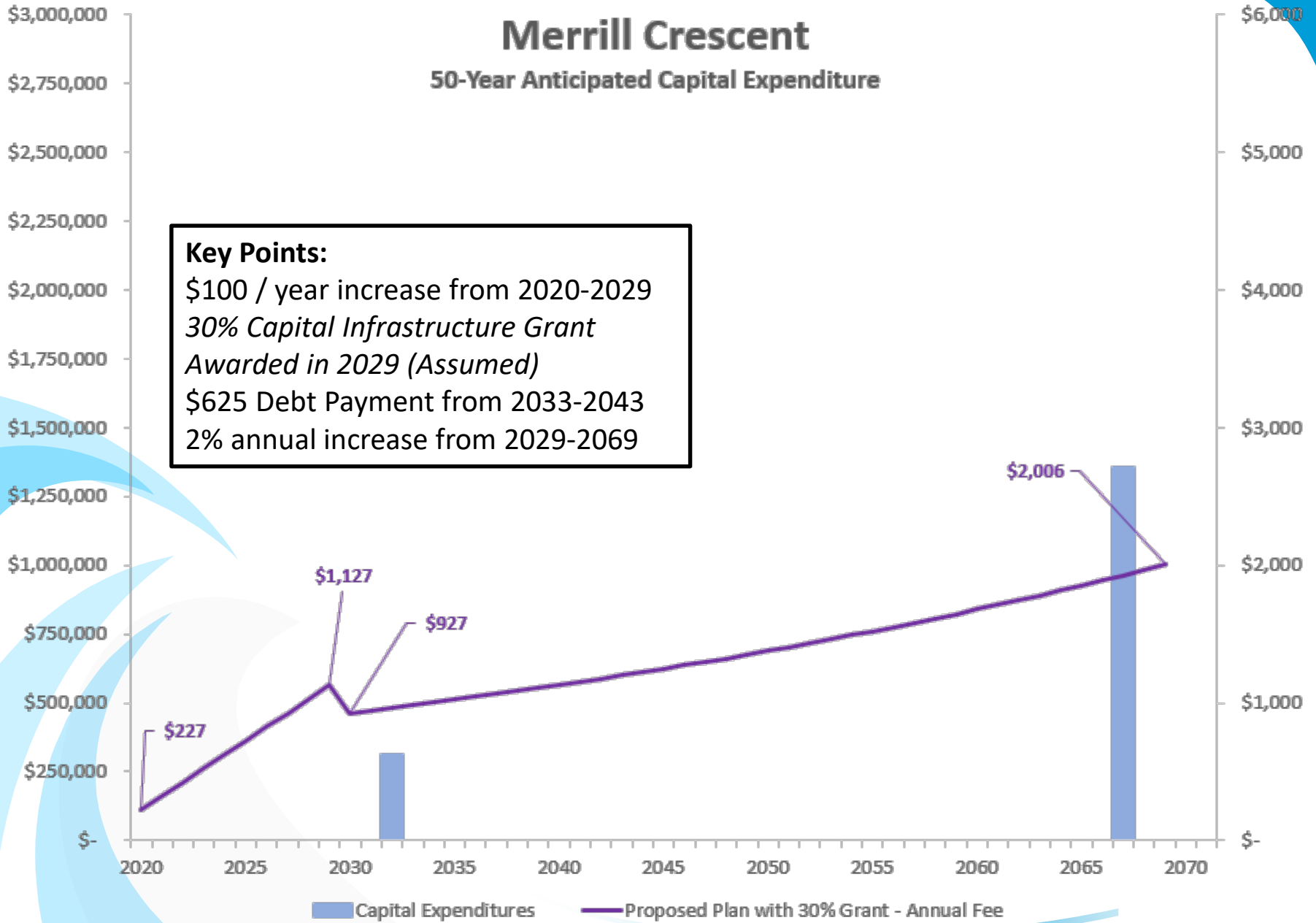




# Merrill Crescent

## 50-Year Anticipated Capital Expenditure

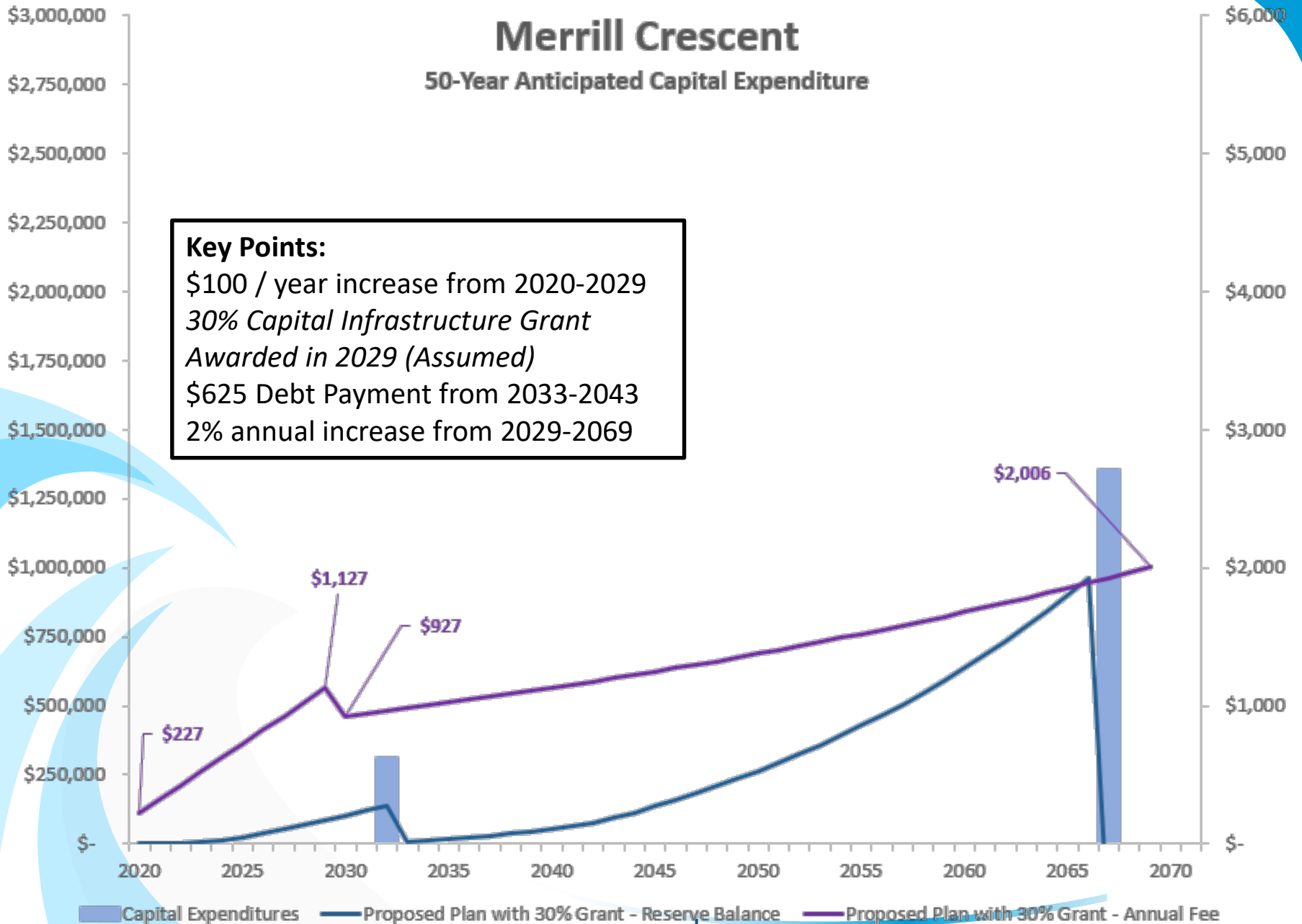
**Key Points:**  
 \$100 / year increase from 2020-2029  
 30% Capital Infrastructure Grant  
 Awarded in 2029 (Assumed)  
 \$625 Debt Payment from 2033-2043  
 2% annual increase from 2029-2069



# Merrill Crescent

## 50-Year Anticipated Capital Expenditure

**Key Points:**  
 \$100 / year increase from 2020-2029  
 30% Capital Infrastructure Grant  
 Awarded in 2029 (Assumed)  
 \$625 Debt Payment from 2033-2043  
 2% annual increase from 2029-2069

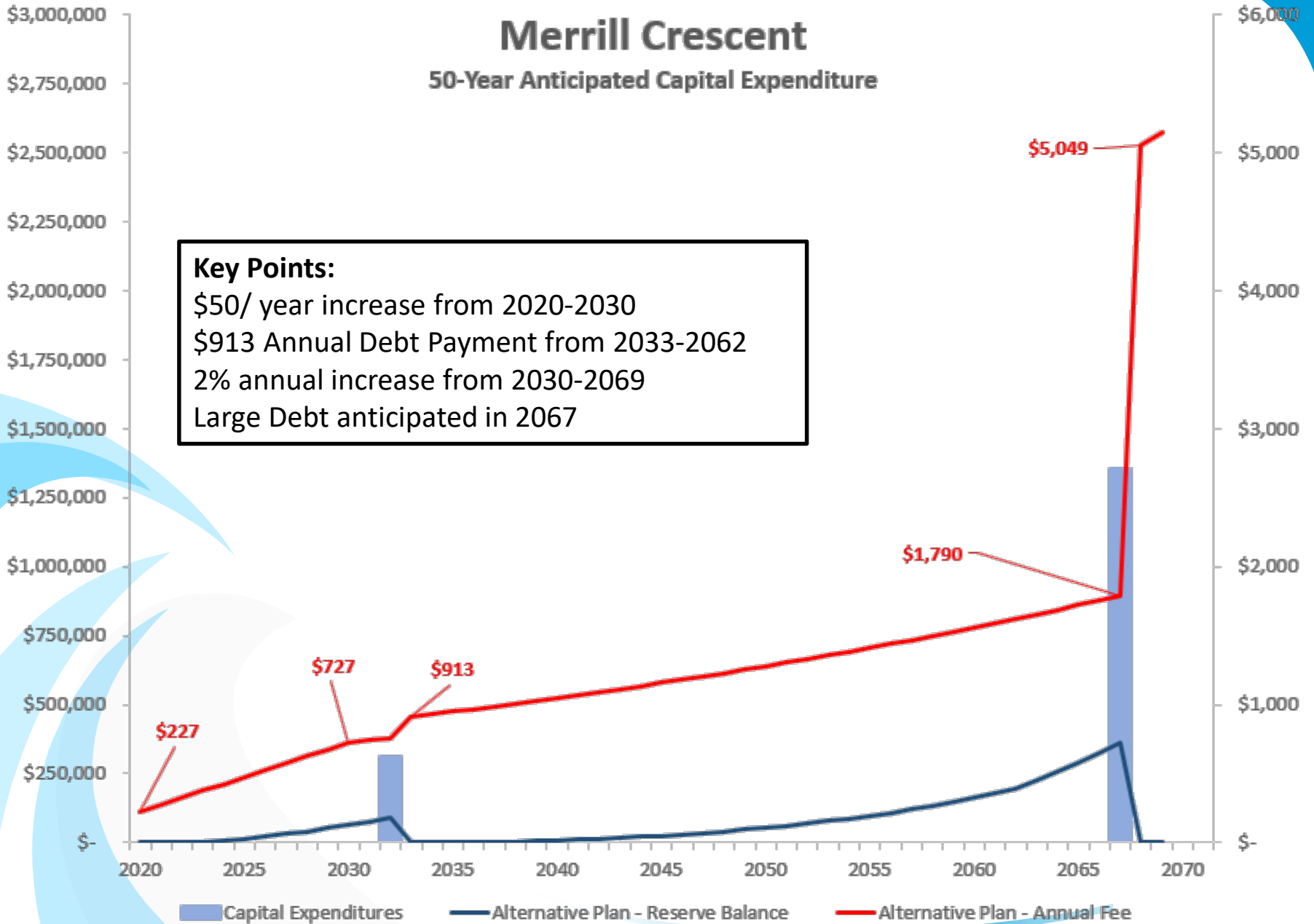


# Merrill Crescent

## 50-Year Anticipated Capital Expenditure

**Key Points:**

- \$50/ year increase from 2020-2030
- \$913 Annual Debt Payment from 2033-2062
- 2% annual increase from 2030-2069
- Large Debt anticipated in 2067

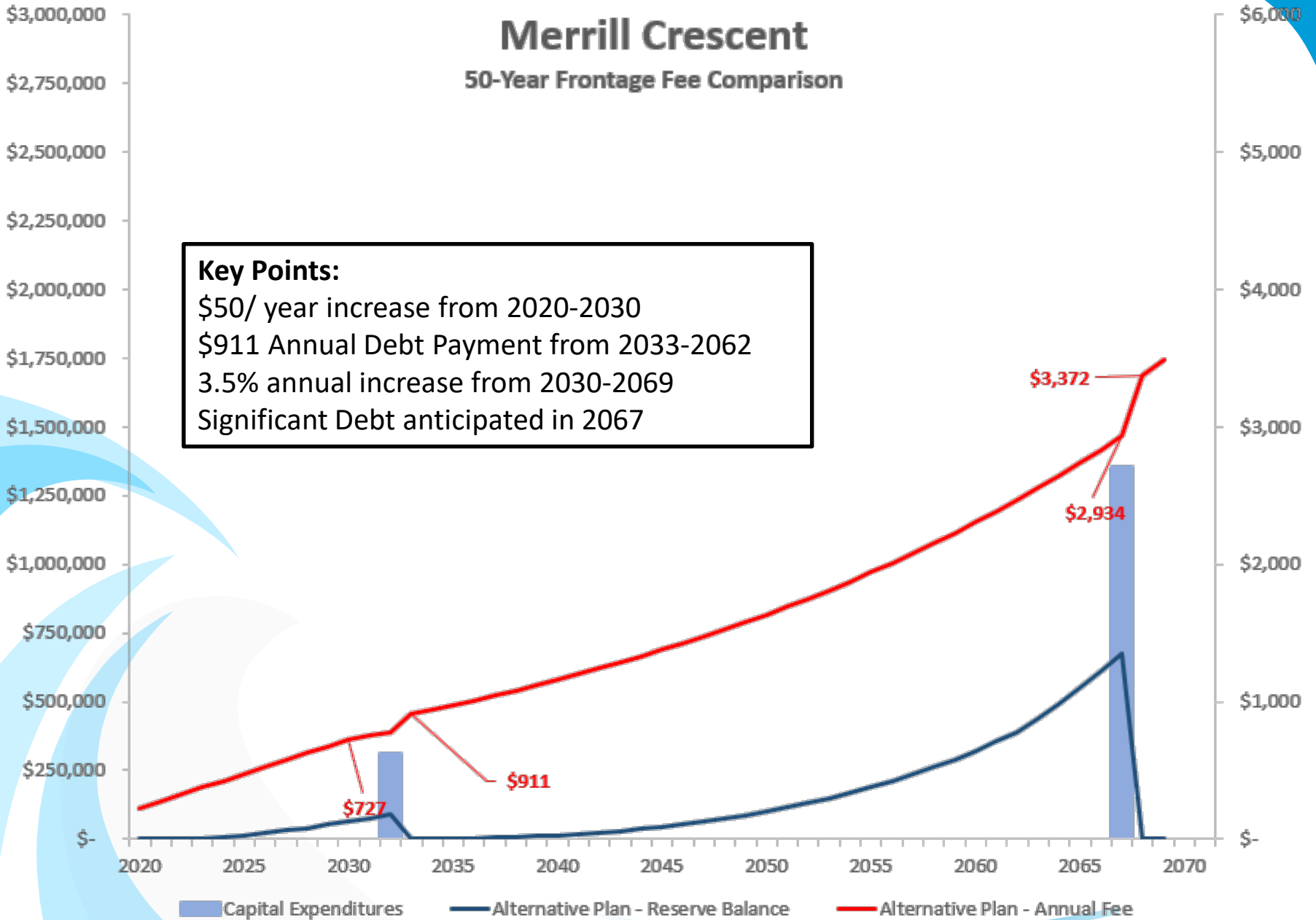


# Merrill Crescent

## 50-Year Frontage Fee Comparison

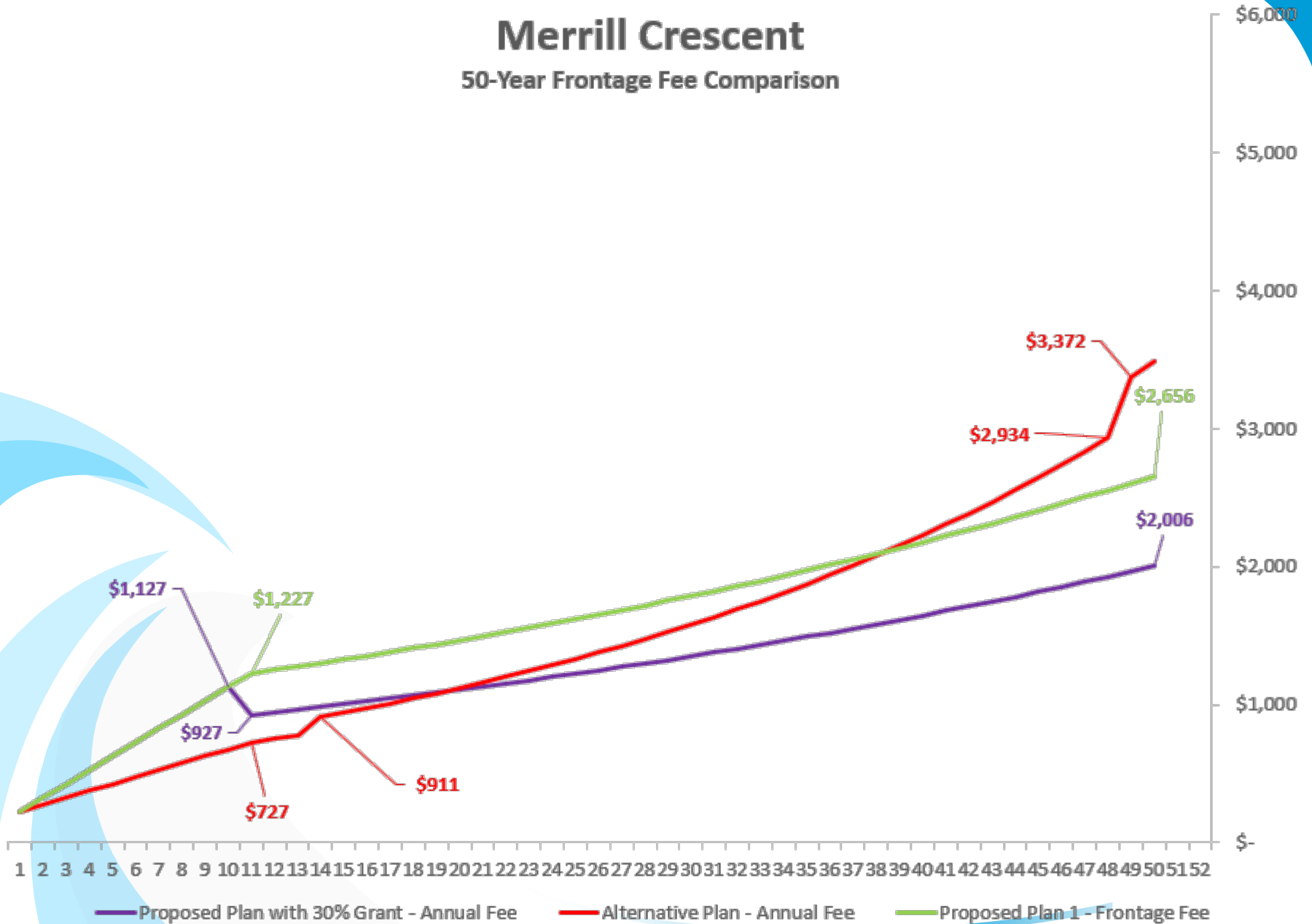
**Key Points:**

- \$50/ year increase from 2020-2030
- \$911 Annual Debt Payment from 2033-2062
- 3.5% annual increase from 2030-2069
- Significant Debt anticipated in 2067



# Merrill Crescent

## 50-Year Frontage Fee Comparison



# Five Year Rate Structure

- Proposing to introduce a Five Year Rate structure to create cost certainty
- Future rate adjustments will be introduced five years in advance



# Five Year Rates

## Merrill Crescent Frontage Fees (2020-2025)

	User Fee*	Reserve Contribution	Plan 1	Total	Plan 2	Total	Alternative	Total
2020	\$1499	\$240.43	\$227	\$1966.43	\$227	\$1966.43	\$227	\$1966.43
2021	\$1499	\$240.43*	\$327	\$2066.43	\$327	\$2066.43	\$277	\$2016.43
2022	\$1499	\$240.43*	\$427	\$2166.43	\$427	\$2166.43	\$327	\$2066.43
2023	\$1499	\$240.43*	\$527	\$2266.43	\$527	\$2266.43	\$377	\$2116.43
2024	\$1499	\$240.43*	\$627	\$2366.43	\$627	\$2366.43	\$427	\$2166.43
2025	\$1499	\$0	\$727	\$2226.00	\$727	\$2226.00	\$477	\$1976.00

\*operating budget subject to annual review



# Upcoming work

- Finalize Capital Funding Model
  - Final review of work to date.
- Present 5-year Rate Structure for Board Consideration
  - Provide residents with near-term rate certainty.
- Review Results of Feasibility Study
  - Apply for Grants for upcoming work
- Review O&M Budget (Annual Process)
  - Refine annual projection of maintenance costs.
  - Ensure appropriate Operating Reserve





# Conclusion

- Several ways to finance 50-year Capital Expenditures.
- Important to update estimates as new cost information becomes available.
- Current rates are not financially sustainable.
- Grant was received for feasibility study!



# Questions?

[www.scrd.ca](http://www.scrd.ca)



# More Information Available

[www.scrd.ca/merrill-crescent](http://www.scrd.ca/merrill-crescent)

[www.scrd.ca/wastewater](http://www.scrd.ca/wastewater)

[info@scrd.ca](mailto:info@scrd.ca)

