

California's New Cross Connection Control Regulation

January 21, 2025



Our Mission

To meet the water-related needs of the people through dedicated employees, providing high quality water at a reasonable cost.

Objectives

- To present the requirements of California's ***NEW*** Cross Connection Control (CCC) regulations
- To present the number of fire protection backflow prevention devices that will need to be installed.
- To present the fiscal impact that these new regulations will have on the District.
- Provide recommended funding options for consideration.



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Agenda

- Objective
- Introduction
- What is a Cross-Connection?
- Public Health Risk and Regulation
- New vs Old Policy Elements
- Backflow Prevention Assemblies
- Hazard Assessments
- CVWD Implementation Strategy
- Compliance Requirements
- Impacts to CVWD
- Program Funding Options



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Introduction

Overview of Cross-Connection Control:

- Essential for protecting drinking water from contamination
- New Regulation, known as the Cross-Connection Control Policy Handbook (CCCPH) became effective 7/1/2024

Objective of the New Regulation:

- Aims to strengthen existing measures
- Ensures safer water for all Californians



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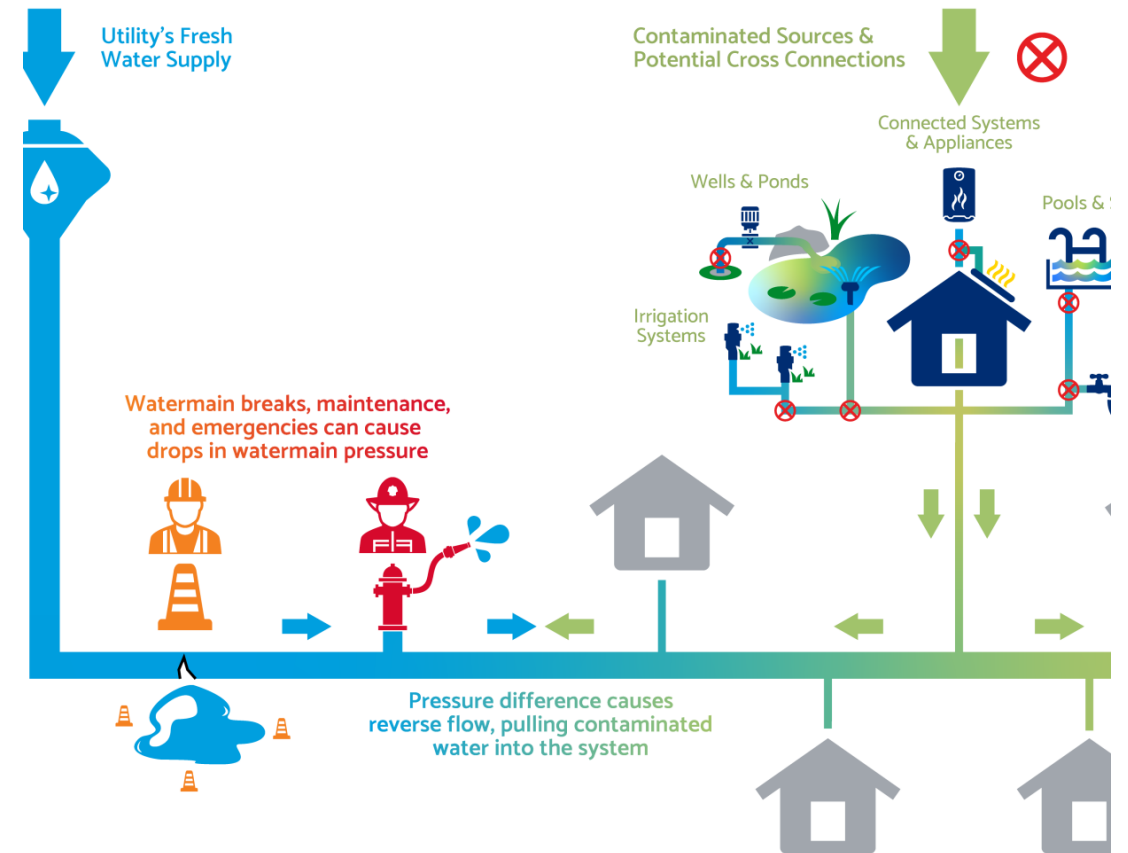
What is a Cross-Connection?

Cross-Connection:

A connection between a potable water system and a non-potable source

Examples of Cross-Connections:

- Unapproved water source connected to drinking water system
- Fire protection systems connected to the drinking water system



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Public Health Risk and Regulation

Risks of Cross-Connections:

- Can lead to contamination of drinking water
- Introduction of harmful substances
- Serious health issues
- Waterborne diseases

Regulation of Cross-Connections:

- Part of California's water safety regulations for decades
- Required Title 17 compliance
- Focused on basic backflow prevention
- Lacked comprehensive measures



New Policy Requirements

Title 17- Six Elements (OLD)

1. Operating Rules and Ordinance (Legal Authority)
2. Conducting Surveys (Hazard Assessments)
3. Backflow Protection
4. One person Trained in CCC (Coordinator)
5. Testing of Backflow Assemblies
6. Maintenance of Records

CCCPH Ten Elements (NEW)

1. Operating Rules and Ordinance (Legal Authority)
2. Conducting Surveys (Hazard Assessments)
3. Backflow Protection
4. One person Trained in CCC (Coordinator)
5. Testing of Backflow Assemblies
6. Maintenance of Records
7. NEW – Use of certified testers and specialists
8. NEW – Backflow Incident Response
9. NEW – Public Outreach and Education
10. NEW – Local Entity Coordination



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Backflow Prevention Assemblies and Standards

Types of Backflow Prevention Assemblies

- Reduced Pressure Zone (RPZ) devices
- Double check valves

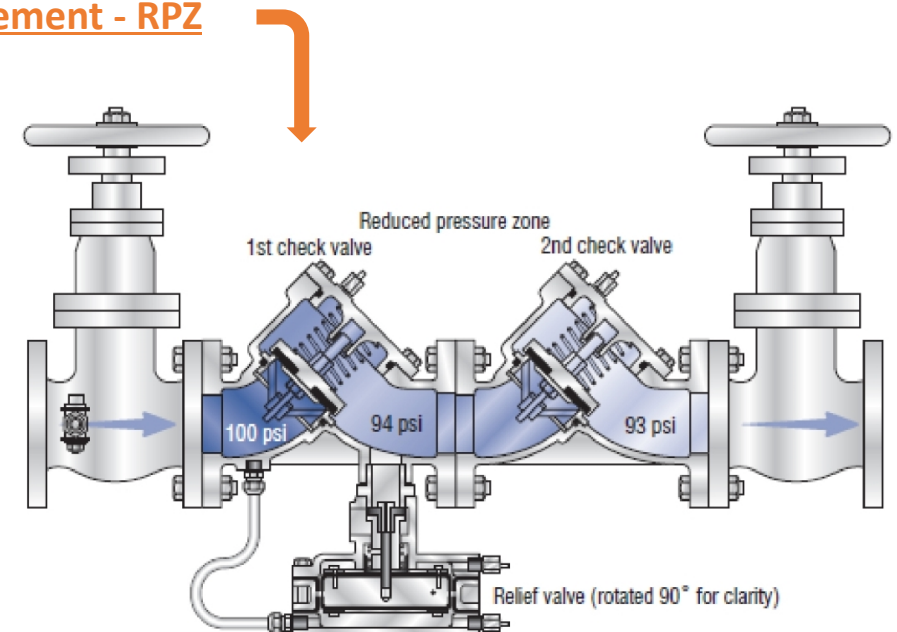
Standards for Installation and Testing

- Ensure proper functioning
- Annual testing and reporting
- Compliance with regulations

Existing Style - Single Check



New Requirement - RPZ



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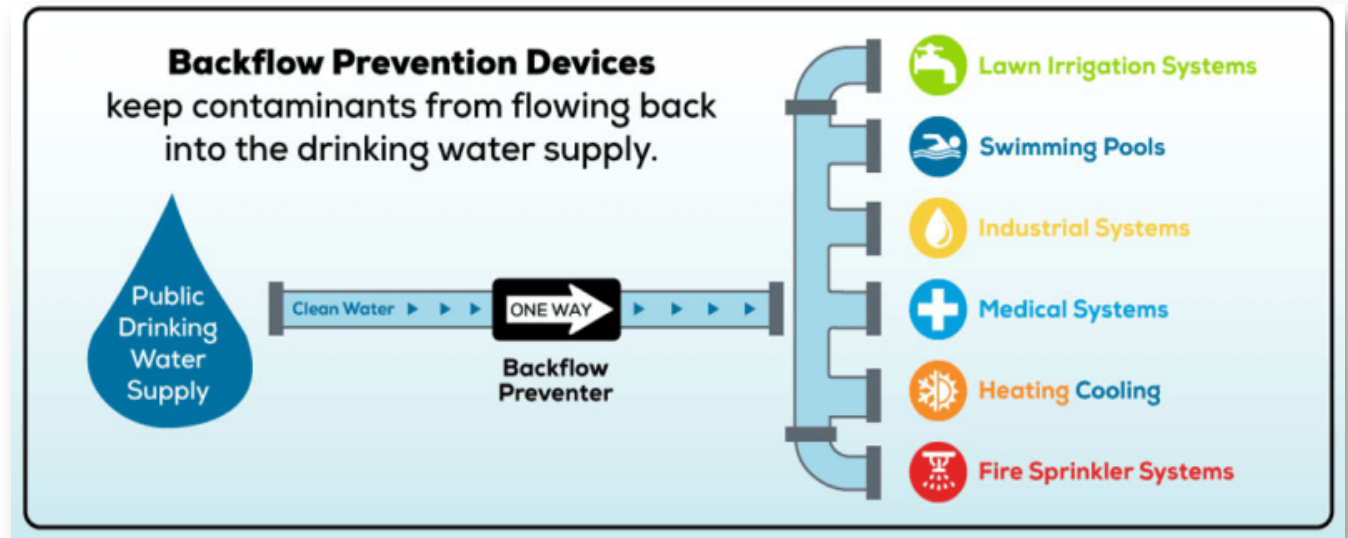
Hazard Assessments

Purpose of Assessment:

- Identify potential cross-connections
- Assess the risk of contamination

Process for Evaluation:

- Evaluate all connections in water systems
- Implement necessary controls to prevent contamination



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CVWD Implementation Strategy

CVWD must submit a Cross-Connection Control Plan by July 1, 2025

Ordinances - Update to align with new cross-connection standards

Public outreach and local entity coordination

- Educate the public and CVWD staff of the importance of backflow protection
- Coordination with local entities involved in cross connection control or public health protection

Hazard assessments - Updated minimum requirements

- Initial assessments
- Business/tenant changes
- Water use changes



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Compliance Requirements

- The PWS must outline/submit a CCC plan for to the SWRCB by July 1, 2025 (includes all 10 elements)
- The PWS must ensure the installation of testable backflow devices for commercial and residential fire protection by July 1, 2034.



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Impacts to CVWD

New backflow preventer installation required for Commercial & Residential Fire-Protection

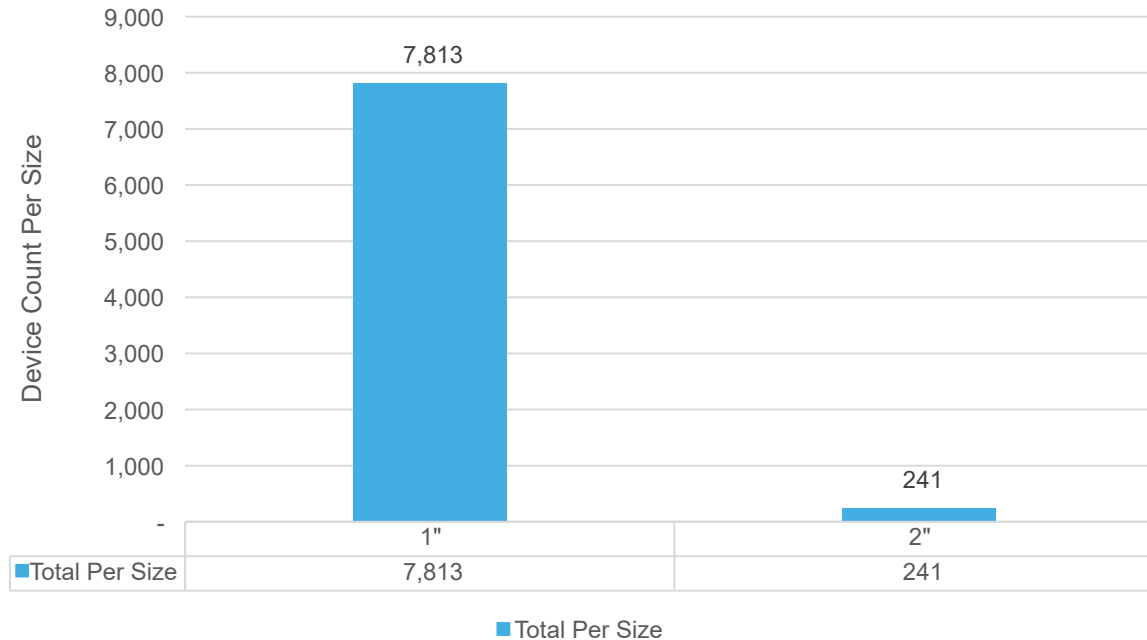
- Commercial - CVWD currently has approximately 1,800 non-testable single-check devices that must be removed and replaced with a testable backflow device.
- Residential - CVWD currently has approximately 8,000 homes with a fire-protection systems. These homes will need to be investigated to determine if a backflow device needs to be installed based on criteria provided in the CCCPH.



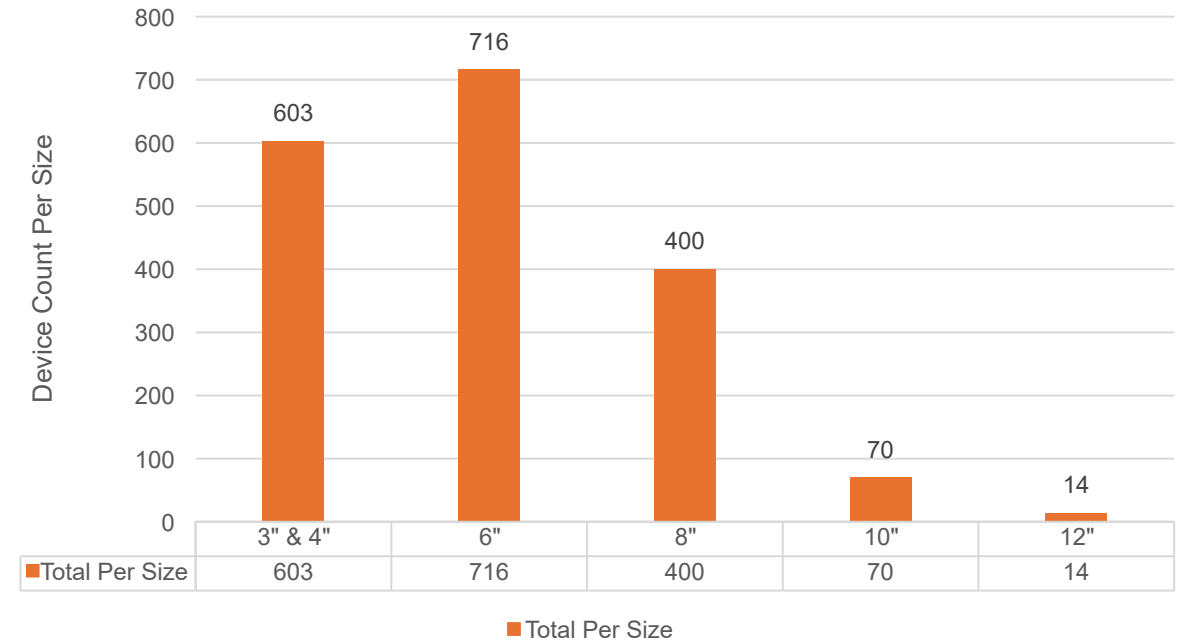
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Fire Service Protection Improvements

Residential Installations Required



Commercial Upgrades Required



Residential Customer Totals

Total Installations: 8,054 Devices

Total Cost: \$5.43 Million (2024 dollars)

Commercial Customer Totals

Total Installations: 1,803 Devices

Total Cost: \$39.9 Million (2024 dollars)



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Commercial Device Cost Projection

| Commercial Device Counts | | | | | |
|--------------------------|-----|-----|-----|-----|-------------|
| 3" & 4" | 6" | 8" | 10" | 12" | Total Count |
| 603 | 716 | 400 | 70 | 14 | 1803 |

| Size | Cost Per Device* | Total wo/Inflator | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Total w/ 5% Inflator | MONTHLY |
|-------------|------------------|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------------|---------|
| 3" & 4" | \$16,330 | \$9,846,990 | \$1,230,874 | \$1,292,417 | \$1,357,038 | \$1,424,890 | \$1,496,135 | \$1,570,941 | \$1,649,489 | \$1,731,963 | \$11,753,747 | \$325 |
| 6" | \$21,850 | \$15,644,600 | \$1,955,575 | \$2,053,354 | \$2,156,021 | \$2,263,823 | \$2,377,014 | \$2,495,864 | \$2,620,658 | \$2,751,690 | \$18,673,999 | \$435 |
| 8" | \$28,520 | \$11,408,000 | \$1,426,000 | \$1,497,300 | \$1,572,165 | \$1,650,773 | \$1,733,312 | \$1,819,978 | \$1,910,976 | \$2,006,525 | \$13,617,029 | \$567 |
| 10" | \$35,190 | \$2,463,300 | \$307,913 | \$323,308 | \$339,474 | \$356,447 | \$374,270 | \$392,983 | \$412,632 | \$433,264 | \$2,940,290 | \$700 |
| 12" | \$38,755 | \$542,570 | \$67,821 | \$71,212 | \$74,773 | \$78,512 | \$82,437 | \$86,559 | \$90,887 | \$95,431 | \$647,633 | \$771 |
| All Devices | | \$39,905,460 | \$4,988,183 | \$5,237,592 | \$5,499,471 | \$5,774,445 | \$6,063,167 | \$6,366,325 | \$6,684,642 | \$7,018,874 | \$47,632,698 | |
| | | Qty. Installs per year | 225 | 225 | 225 | 225 | 225 | 225 | 225 | 225 | | |
| | | Qty. Installs per day | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | 1.02 | | |

*Includes 15% Administrative Overhead



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Residential Device Cost Projection

Residential Device Counts

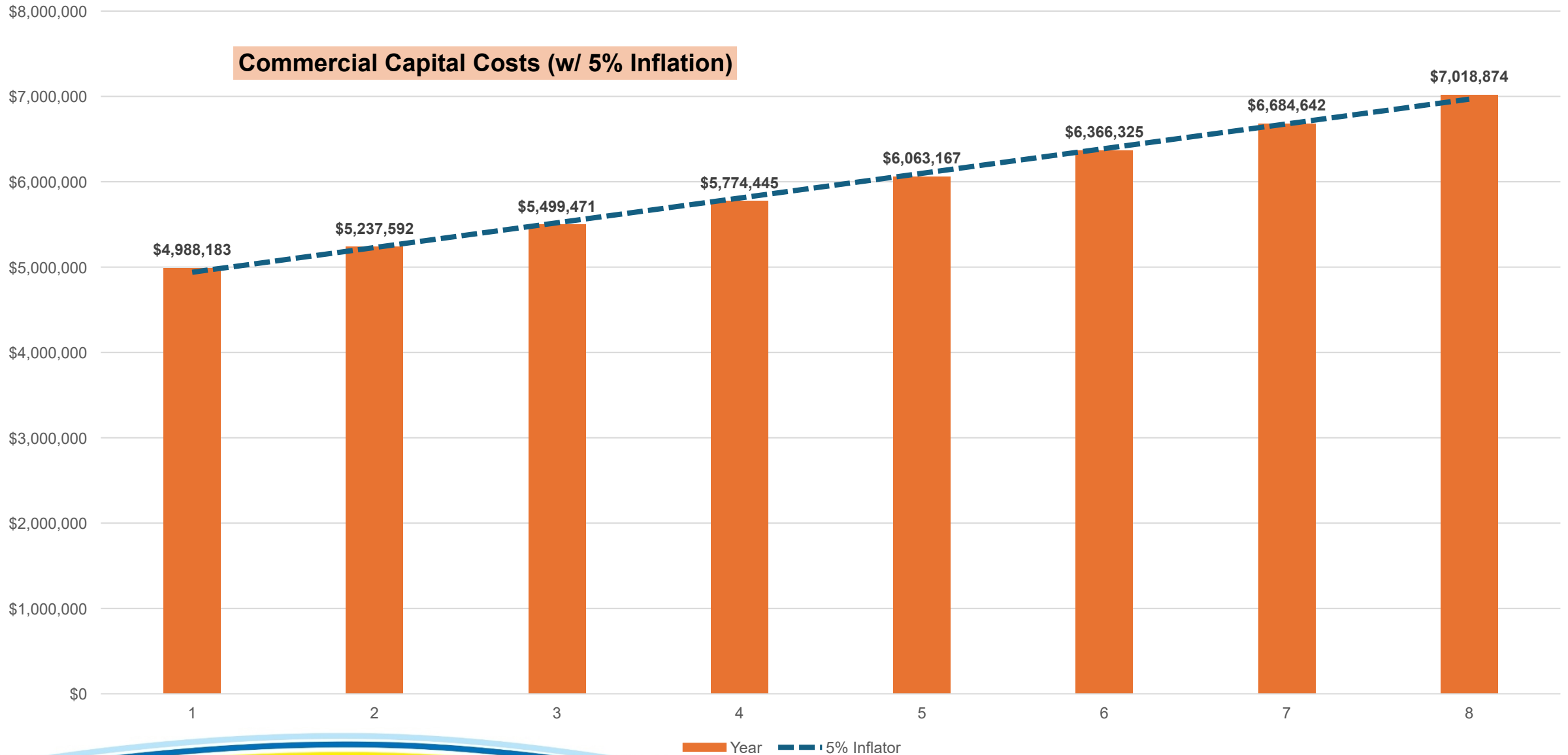
| 1" | 2" | Total Count |
|-------|-----|-------------|
| 7,813 | 241 | 8,054 |

| Size | Cost Per Device | Total wo/ Inflator | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Total w/ 5% Inflator | Monthly |
|-------------|-----------------|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|---------|
| 1" | \$649.00 | \$5,070,637.00 | \$633,829.63 | \$665,521.11 | \$698,797.16 | \$733,737.02 | \$770,423.87 | \$808,945.06 | \$849,392.3 | \$891,861.93 | \$6,052,508.10 | \$13 |
| 2" | \$1,478.00 | \$356,198.00 | \$44,524.75 | \$46,750.99 | \$49,088.54 | \$51,542.96 | \$54,120.11 | \$56,826.12 | \$59,667.42 | \$62,650.79 | \$425,171.69 | \$29 |
| All Devices | | \$5,426,835.00 | \$678,354 | \$712,272 | \$747,886 | \$785,280 | \$824,544 | \$865,771 | \$909,060 | \$954,513 | \$6,477,679.78 | |
| | | Qty. Installs per year | 1007 | 1007 | 1007 | 1007 | 1007 | 1007 | 1007 | 1007 | 8054 | |
| | | Qty. Installs per day | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |



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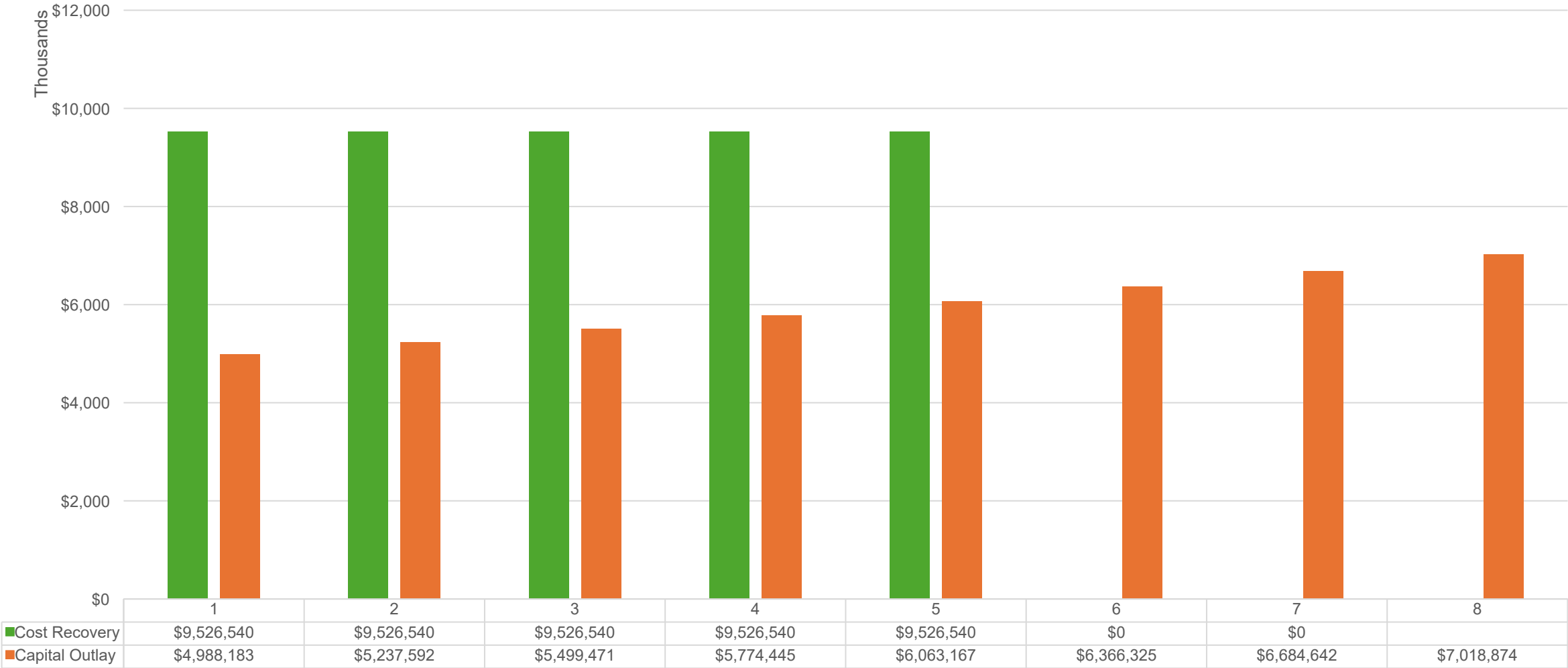
Commercial Capital Costs with Inflation



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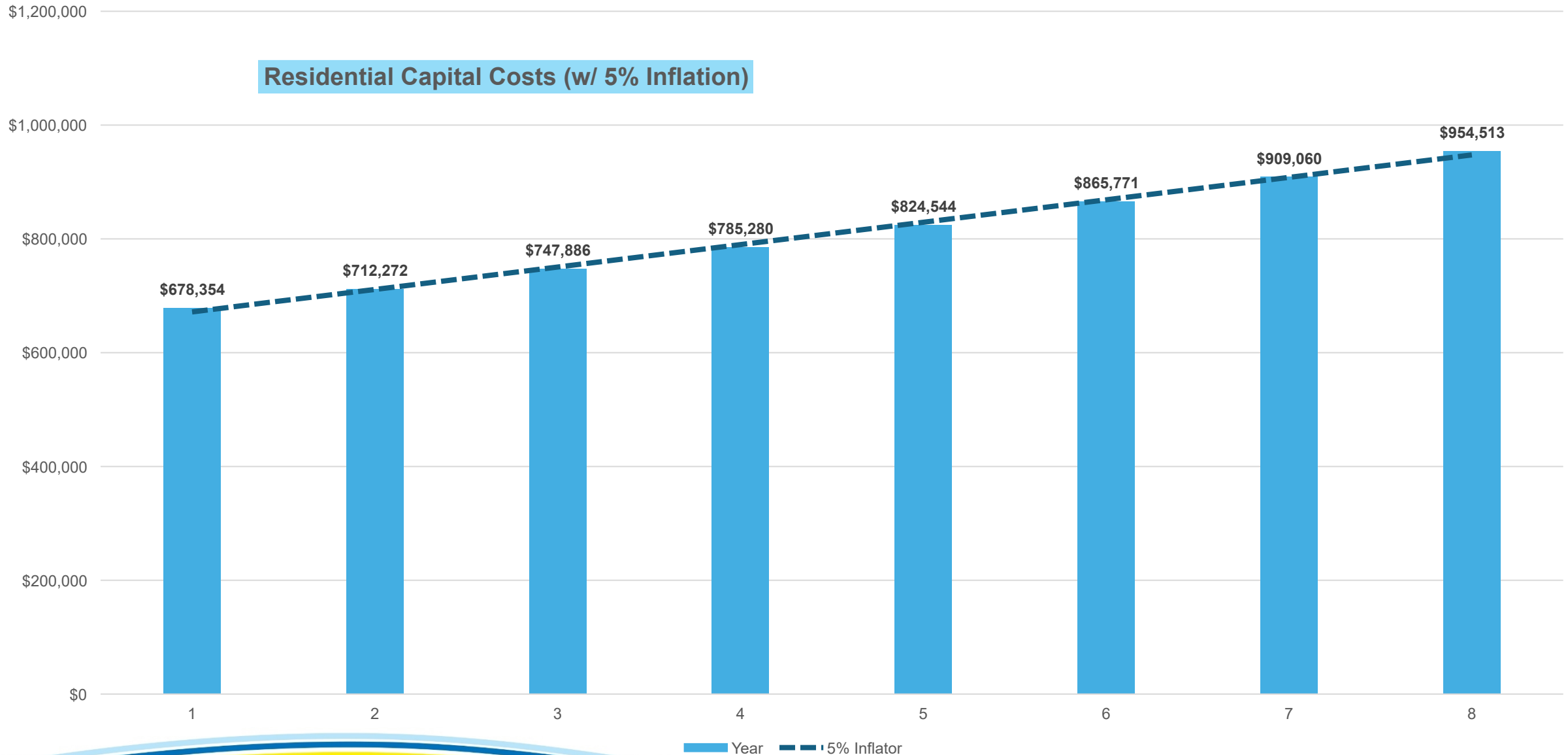
Commercial Capital Costs and Recovery

Commercial Installations - Cost Recovery, Capital Outlay by Year



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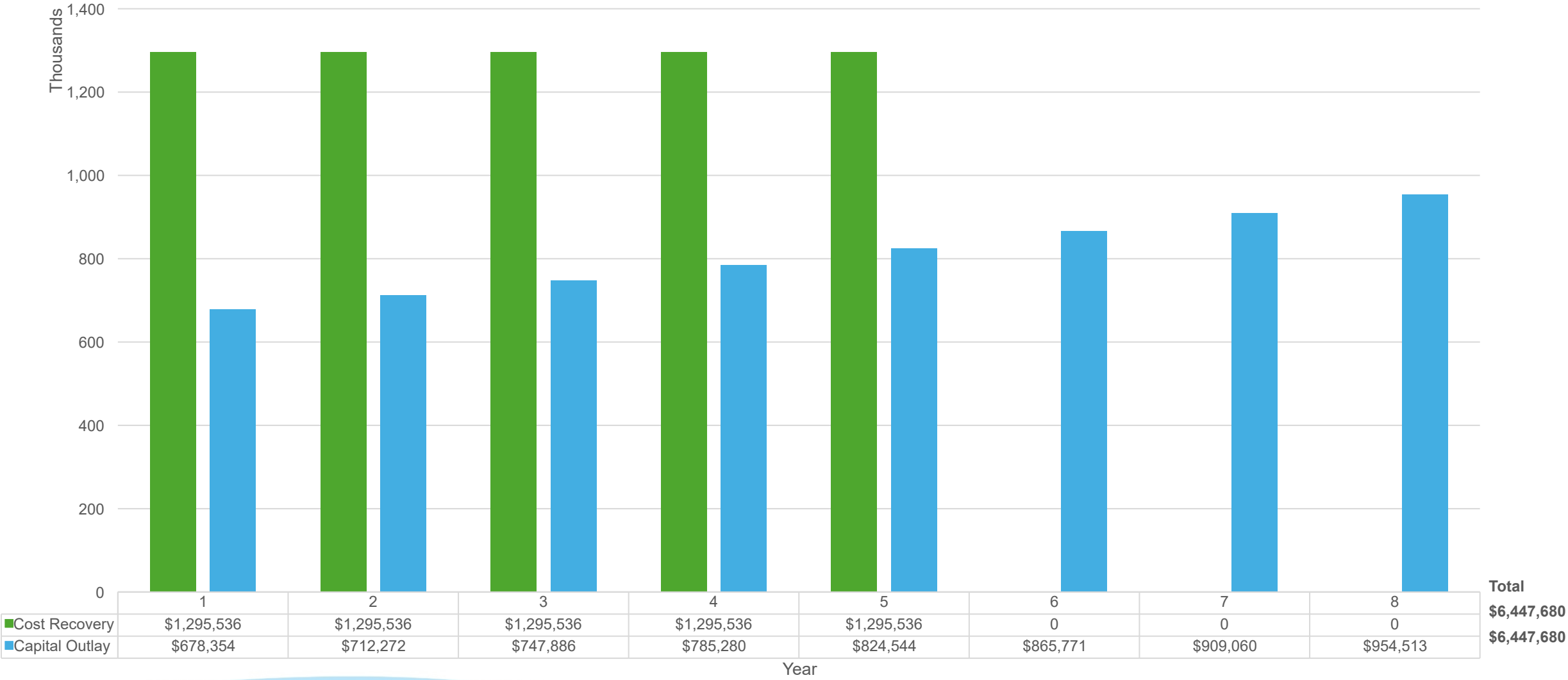
Residential Capital Costs and Recovery



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Residential Capital Costs and Recovery

Residential Installations - Cost Recovery, Capital Outlay by Year



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Program Funding Options

- Domestic Water Rate

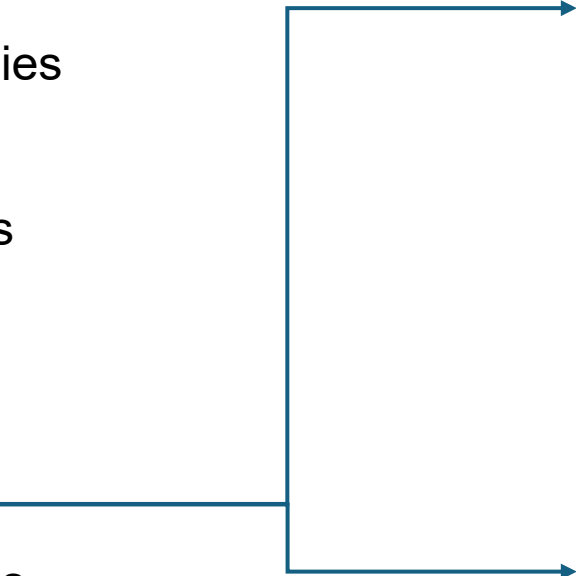
- Require a 5% rate increase
- Not recommended as the benefit only applies to select customers
- Completed after Year 8
- Competes with CAPEX and OPEX priorities

- Tax Roll

- Cost Recovery Charge

- Add a device charge to the property owner's account over 5 years to recover the cost of the backflow preventer installation
- Could be difficult to administer with rental/tenant situations

- Discretionary Tax Fund



| Residential Device Counts | | |
|---------------------------|-----|-------------|
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| Size | Total Estimate | Monthly |
|-------------|-----------------------|---------|
| 1" | \$6,052,508.10 | \$13 |
| 2" | \$425,171.69 | \$29 |
| All Devices | \$6,477,679.78 | |

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| All Devices | \$47,632,698 | |



Fee Study Updates Required

Update monthly fee for annual inspections and maintenance

Update the developer fees for new installations

Additional costs associated with new requirements:

- Public outreach and education
- Implementation of Hazardous Assessments
- Increased cost for devices
- Changes to billing software system

Consider new fees for non-compliance



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QUESTIONS?



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