

South Burlington, Vermont Stormwater Utility

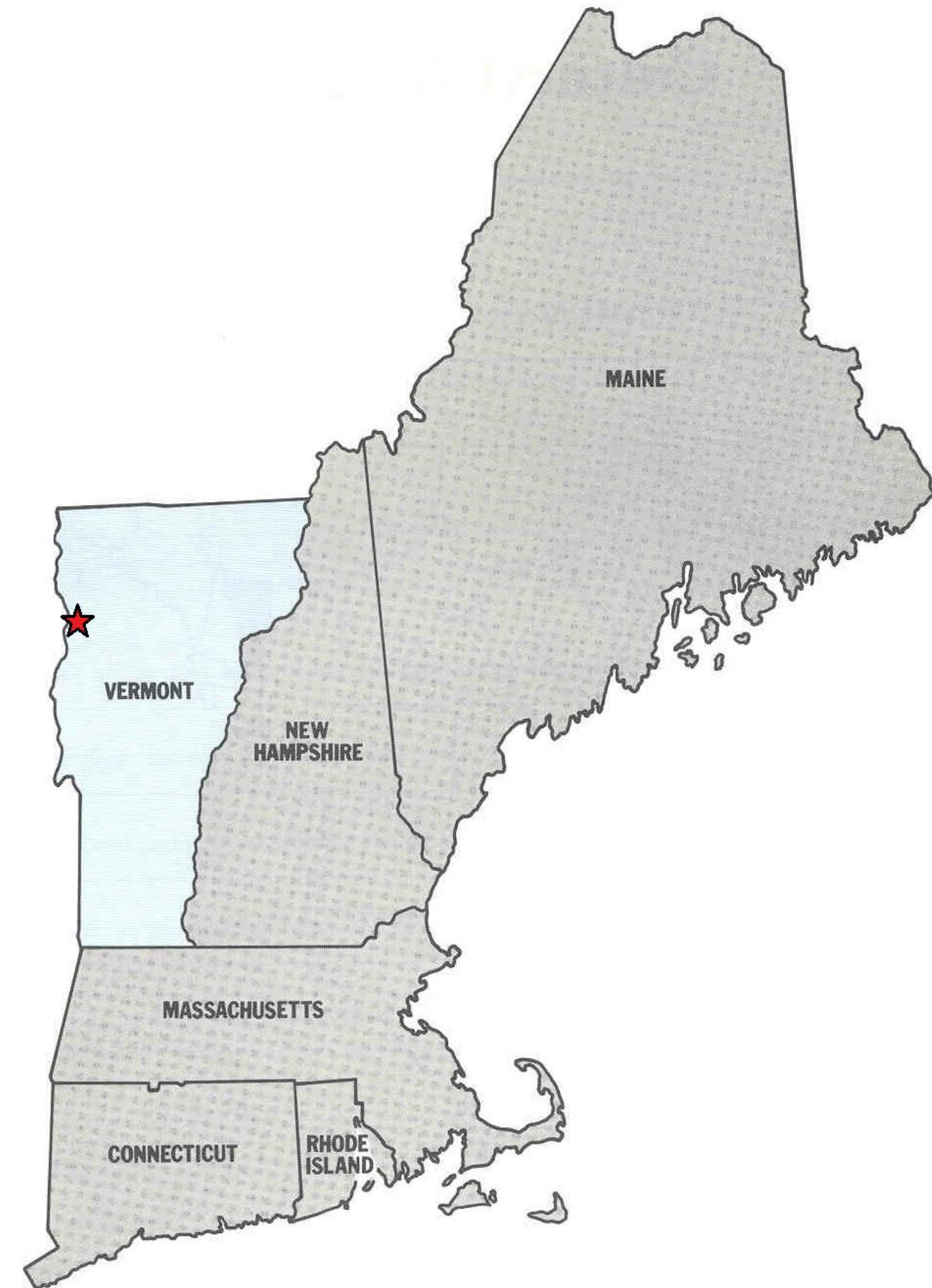
November 15, 2016

Presentation by:

David P. Wheeler, Assistant Stormwater Superintendent
South Burlington Department of Public Works

South Burlington, Vermont

- Population: ~18,000
- Area: 16.6 mi²
- Stormwater Infrastructure:
 - 6,210 Catch Basins (3,116 public)
 - 176 Miles of Pipe (91 miles public)
- Major Features:
 - Airport, Mall, University



Town	Total CIP	Annual Operating Costs	Approximate Population
Bellingham	\$29,700,000	\$905,000	15,800
South Burlington	\$24,000,000	\$1,200,000	18,000
Franklin	\$74,600,000	\$1,839,000	32,000
Milford	\$75,800,000	\$1,061,000	27,600



Burlington-Port Kent

Burlington-Port Kent

Burlington Bay

Shelburne Bay

North Ave

Main St

Winooski

E Allen St

University of Vermont

Burlington

Burlington Country Club

S Willard St

South Burlington

Burlington International Airport

Kennedy Dr

Vietnam Veterans Memorial Hwy

Essex

Lincoln St

Park St

72A

22

2

7

189

89

87

7

110

22A

Reason for Stormwater Utility:

- Most Vermont State SW permits (141)
- Most expired Vermont State SW permits (98)
- Most Stormwater Impaired watersheds (5)
 - Streams are impaired for “stormwater”, based on flow TMDL
- Most streams discharging into Lake Champlain (5)
 - Lake is impaired for phosphorous, based on nutrient TMDL
- Most annual housing starts (average of 250)
- Most CLF lawsuits in 5 year period (7)

Stormwater Utility Timeline

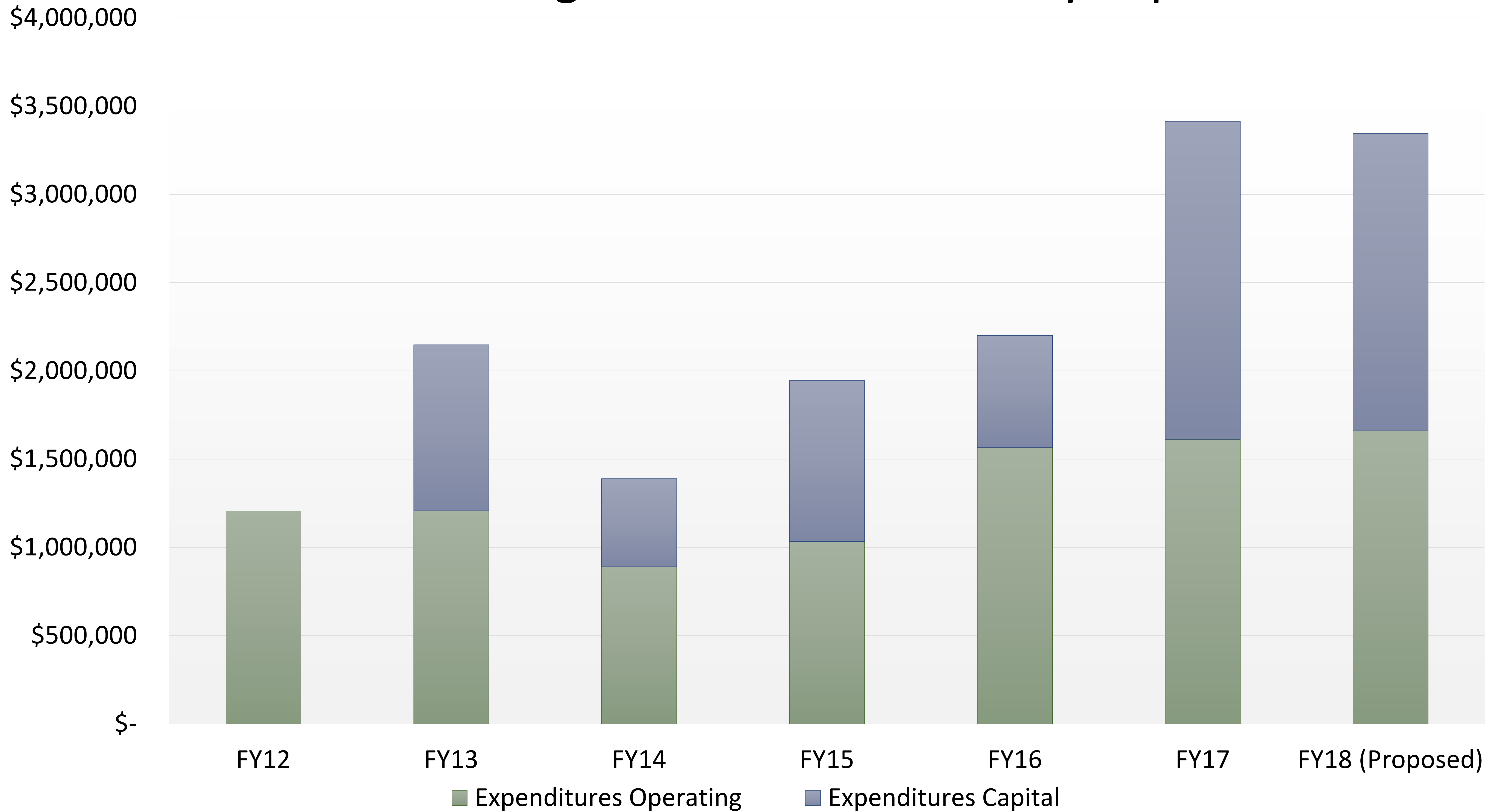
- Feasibility study – December 2003
- Public outreach and utility development – 2003 to 2005
- Sewer ordinance updated - March 2005
- First stormwater fees assessed - April 2005
- Stormwater Superintendent hired - May 2005
- Requirements for City take over of residential stormwater treatment systems – August 2006

Stormwater Utility Development Costs

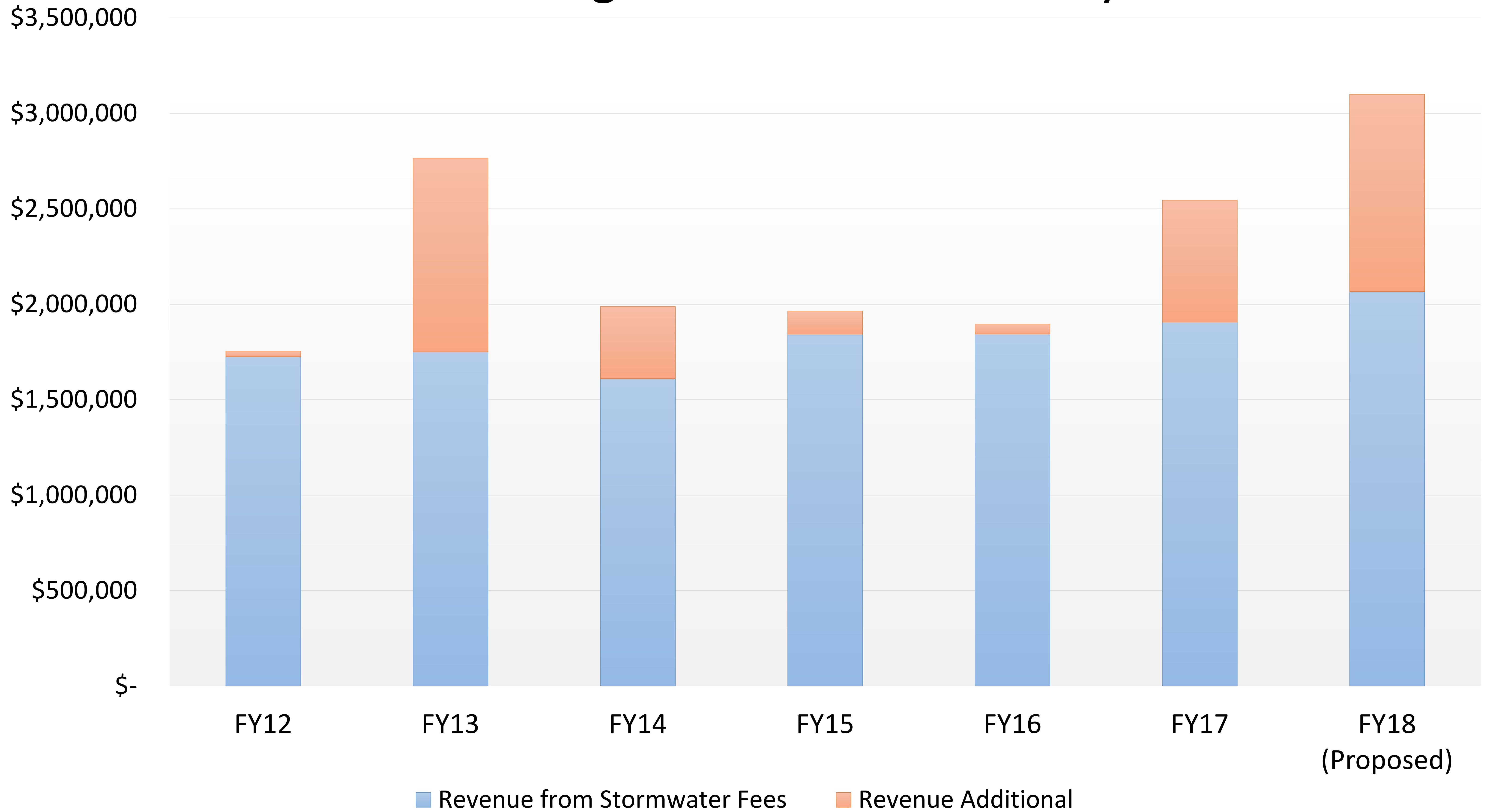
- Stormwater Utility Feasibility Study - \$70,000
- Development and Implementation of Stormwater Utility ~\$330,000
 - Included five policy papers, a cost of services study, a credit manual, ordinance development, and public outreach
- The City took \$1M loan to pay for this work.
 - Included design/construction of large stormwater treatment practice.

South Burlington Revenue & Expenditures

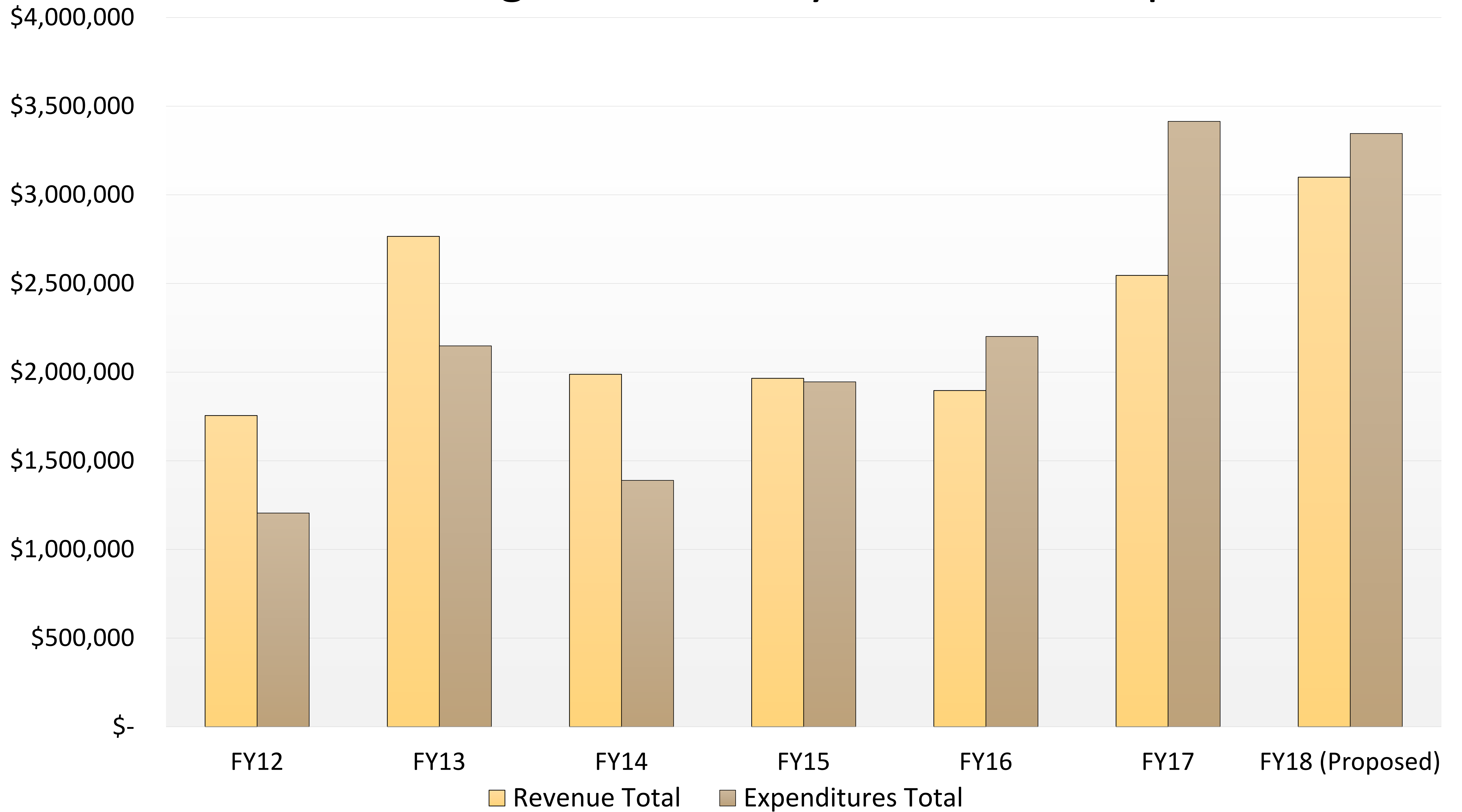
South Burlington Stormwater Utility Expenditures



South Burlington Stormwater Utility Revenue



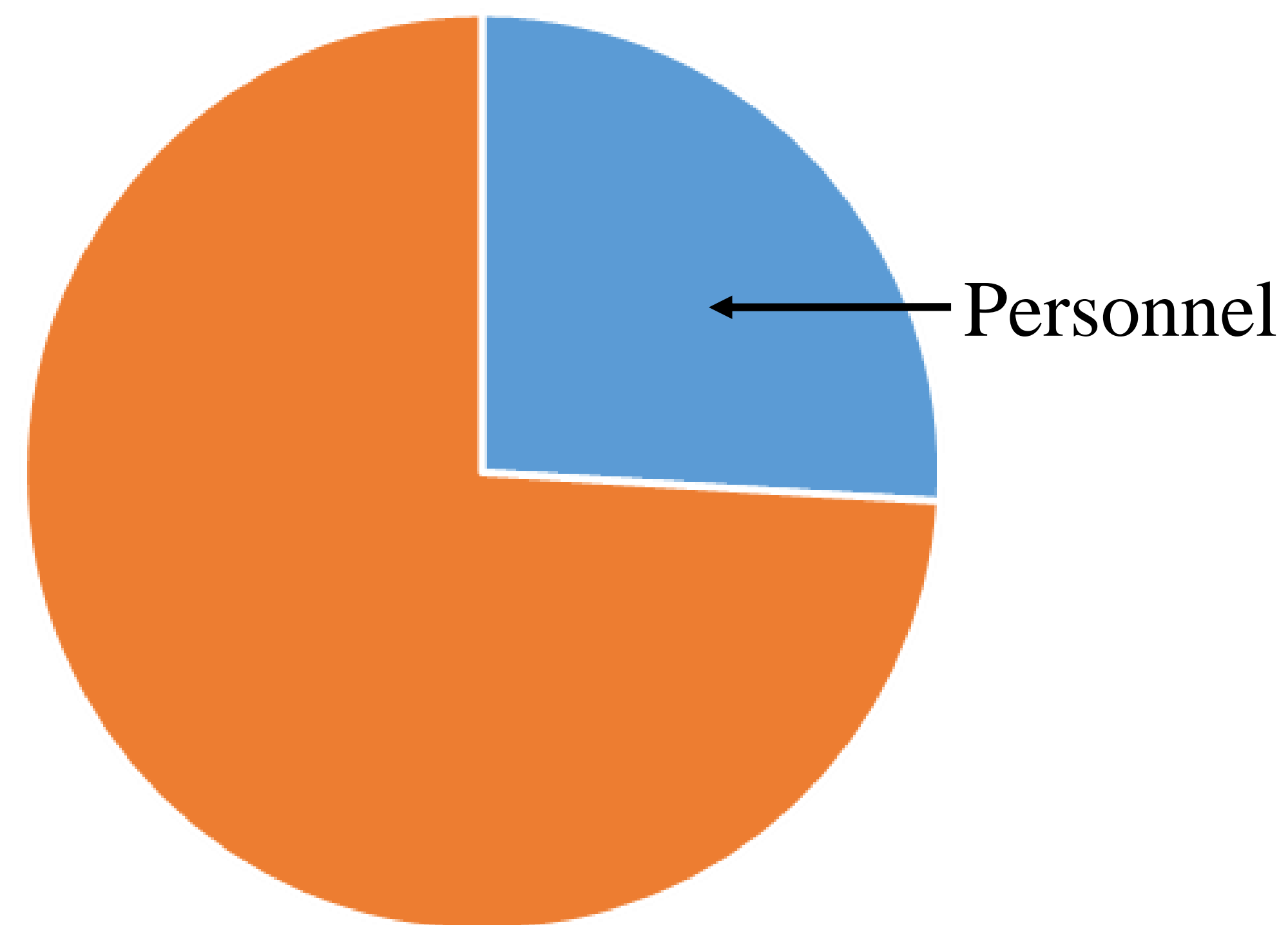
South Burlington SW Utility Revenue & Expenditures



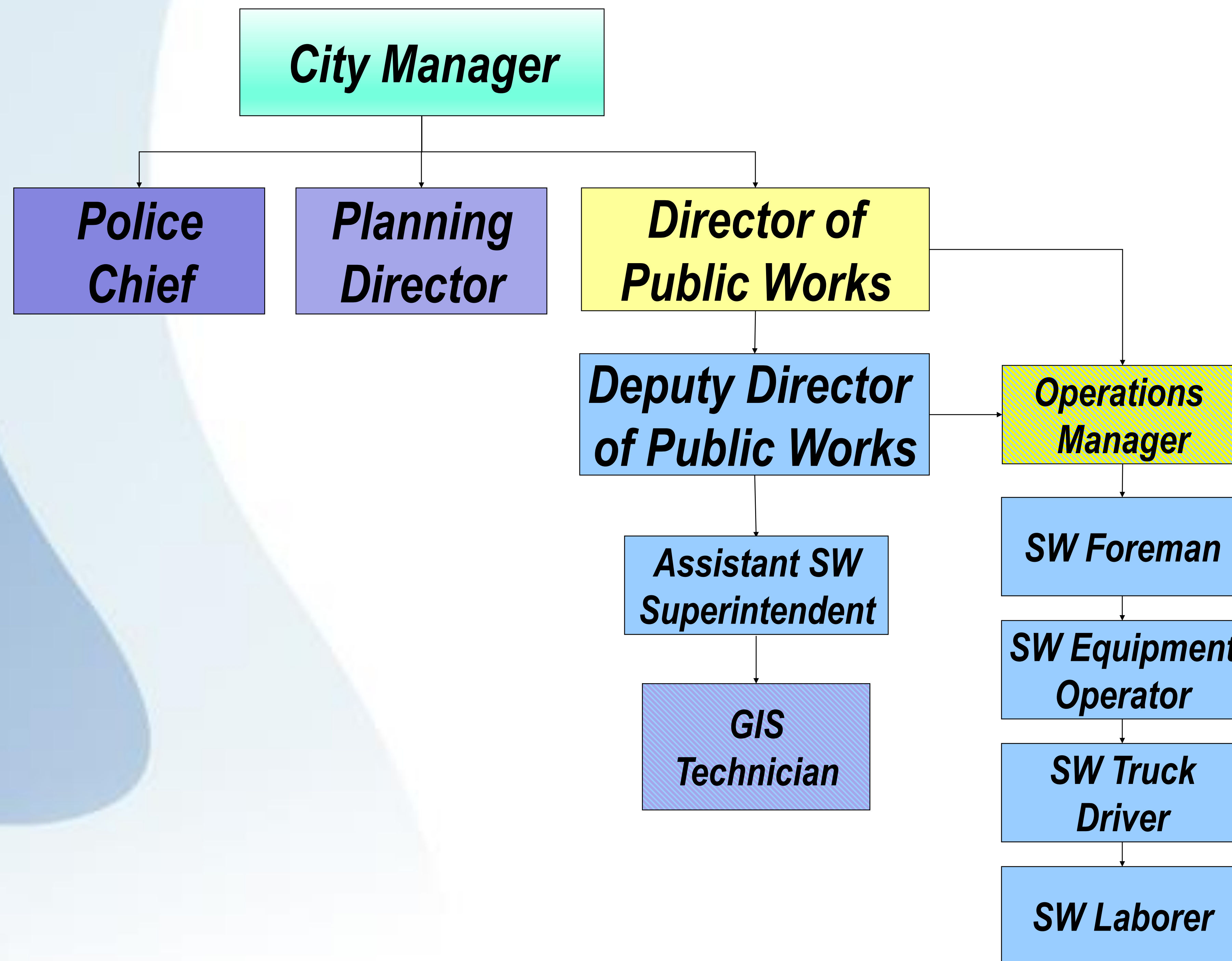
Stormwater Utility Expenditures

- Personnel:
 - 7 full time employees
 - Salary, OT, Health, Insurance, Pension, etc.

26% of FY17 Budget



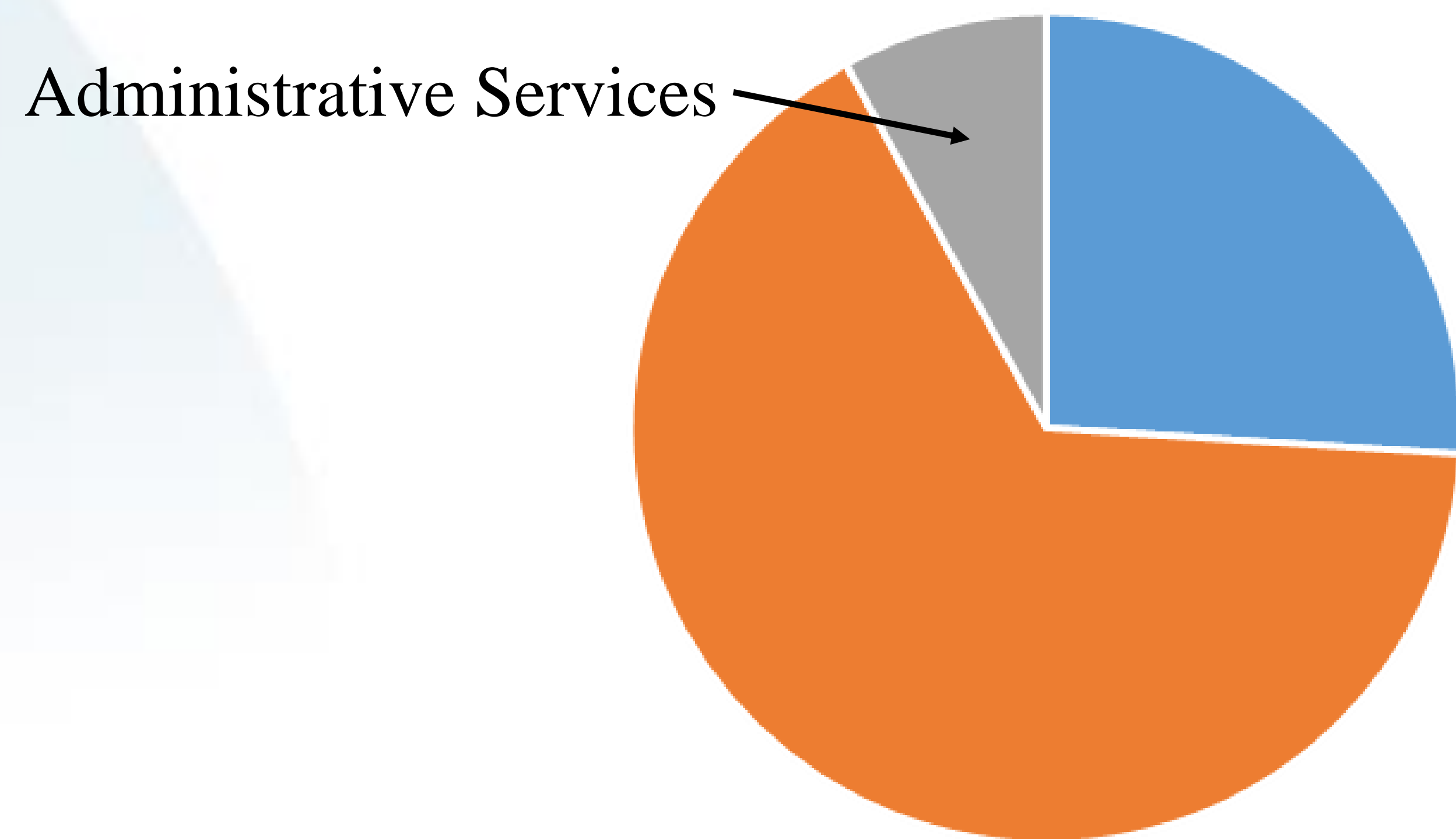
Stormwater Utility Staff In FY17



Stormwater Utility Expenditures

- Administrative Services:
 - Office Supplies, Telephone, Utilities, Postage, Property Insurance, IT, Software, Printing, Building/Grounds, Billing

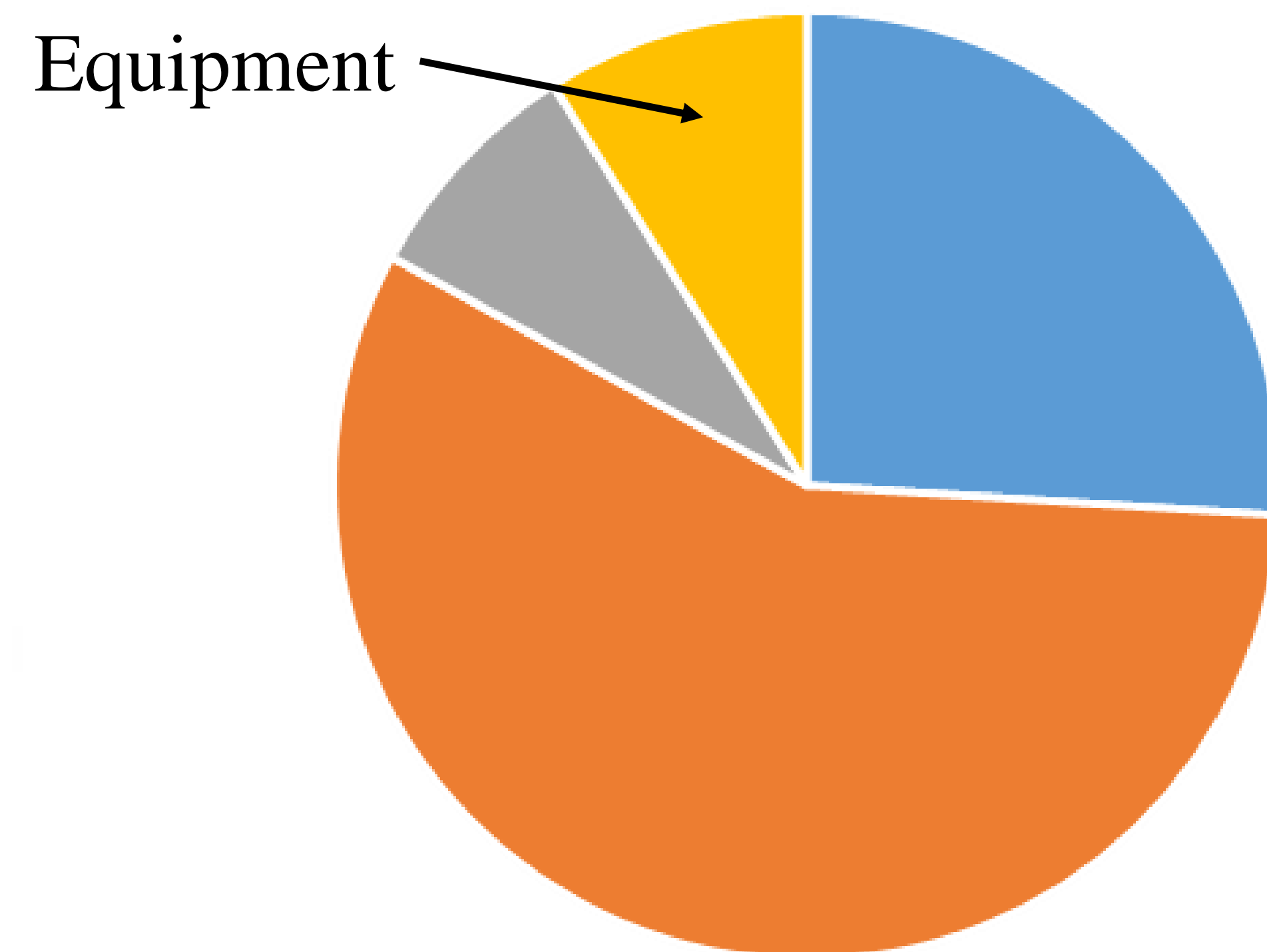
8% of FY17 Budget



Stormwater Utility Expenditures

- Equipment:
 - Trucks, Fuel, Vehicle Maintenance, Tools, etc.

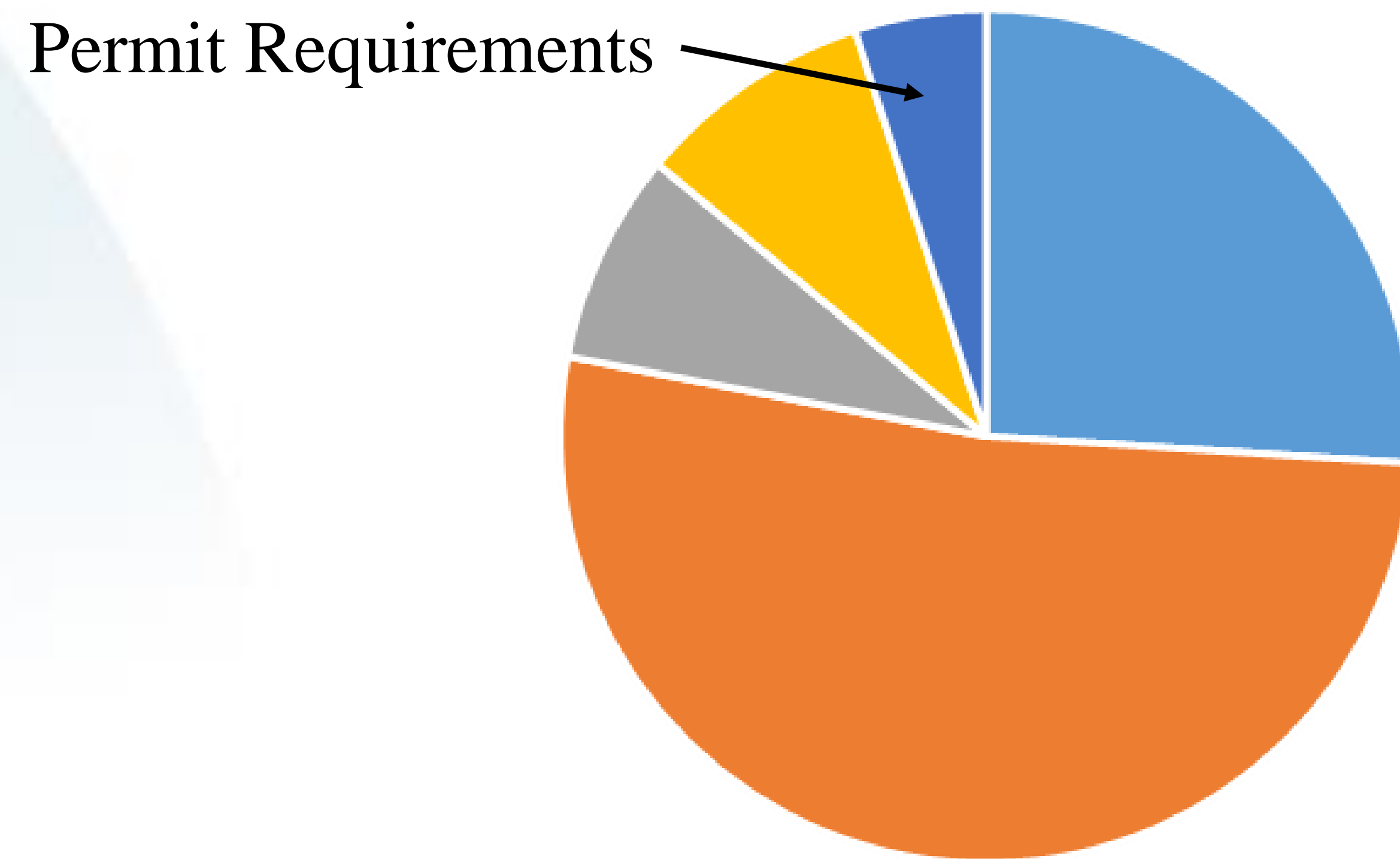
9% of FY17 Budget



Stormwater Utility Expenditures

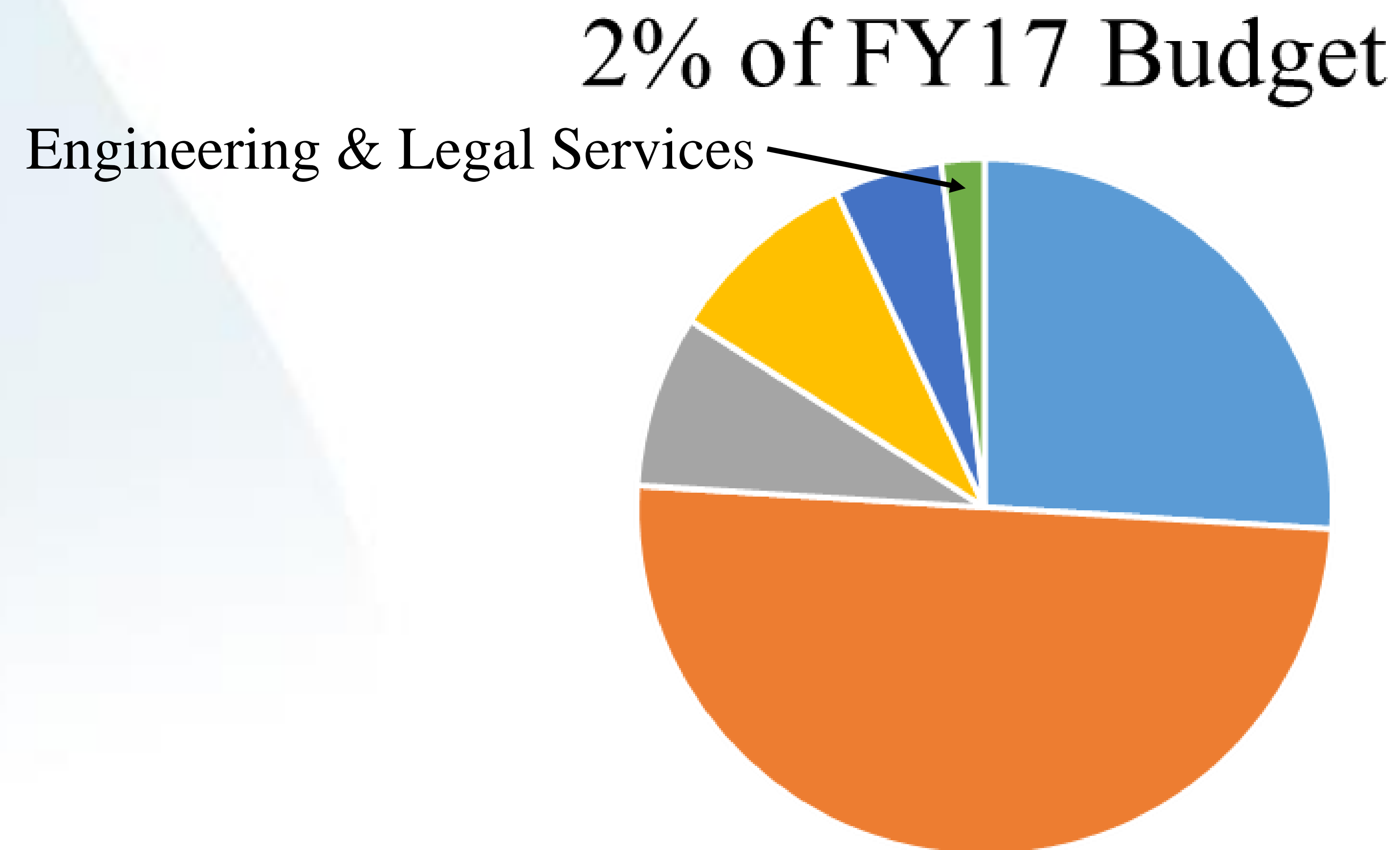
- Permit Requirements:
 - Permit Renewal, Water Quality Monitoring, Sediment Disposal, Education/Outreach, etc.

5% of FY17 Budget



Stormwater Utility Expenditures

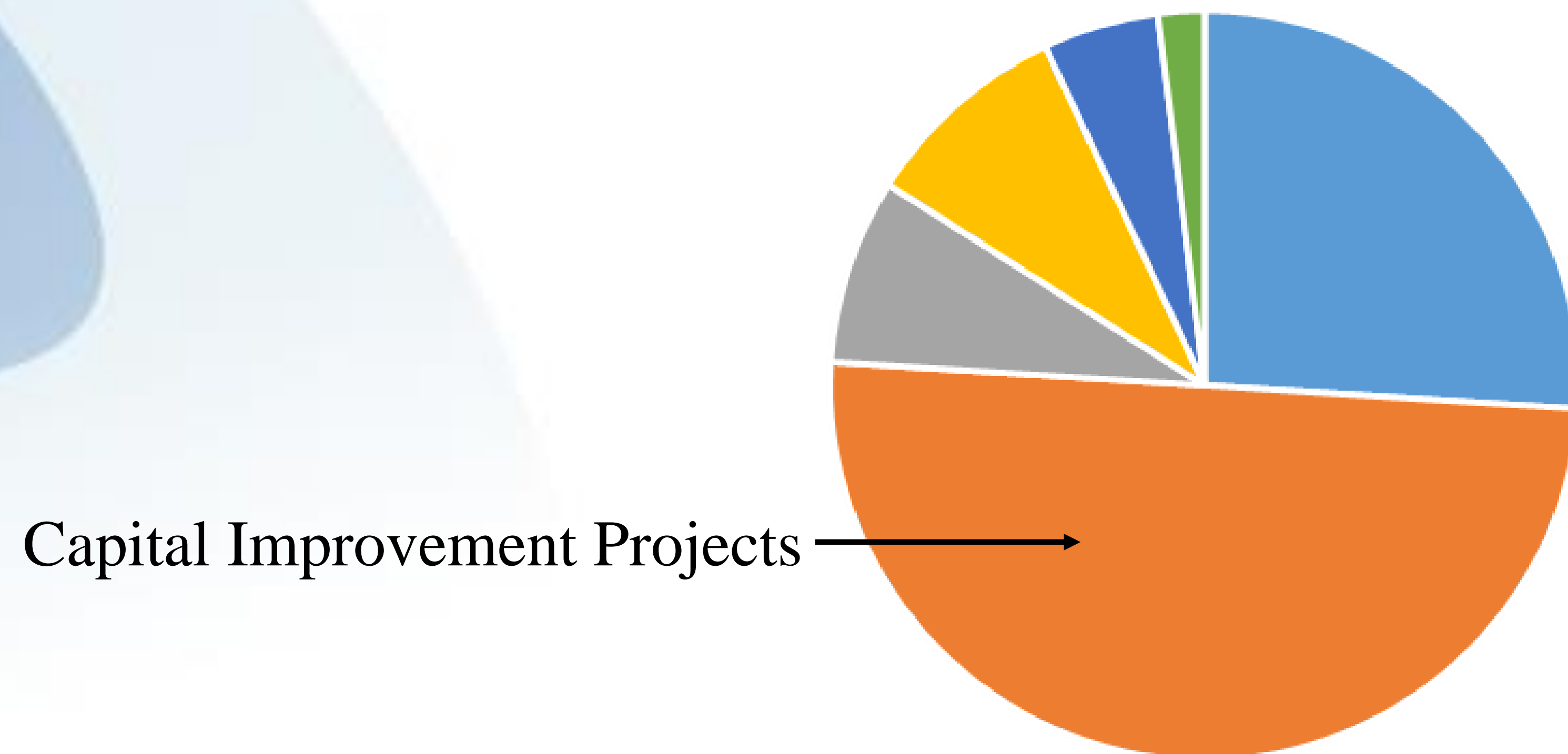
- Engineering & Legal Services:
 - Residential Permit Coverage, Design Services, Flow Restoration Plan



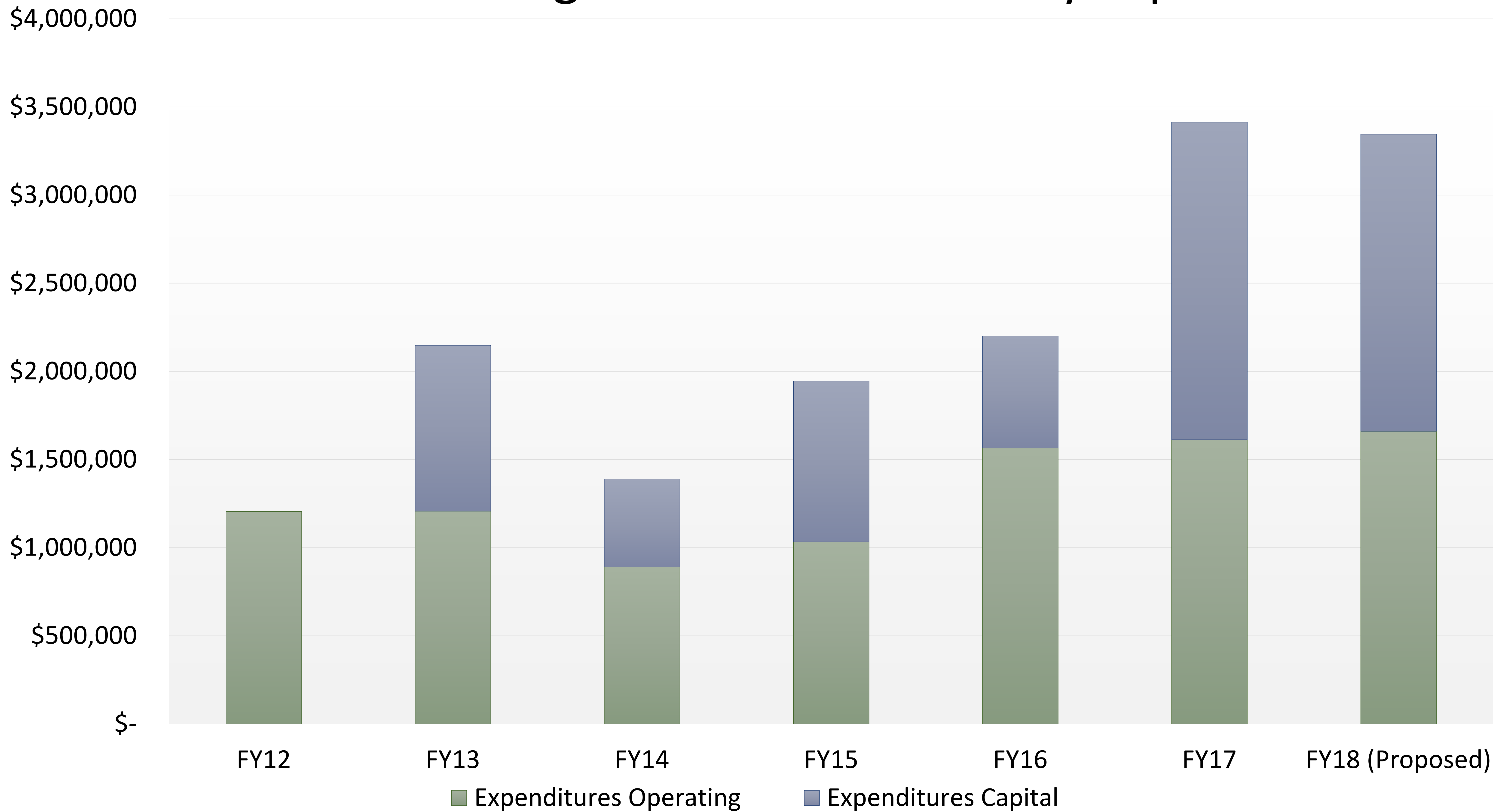
Stormwater Utility Expenditures

- Capital Improvement Projects:
 - Stormwater Treatment Practices, Storm Drain Repair, Culvert Upgrades, Construction Engineering

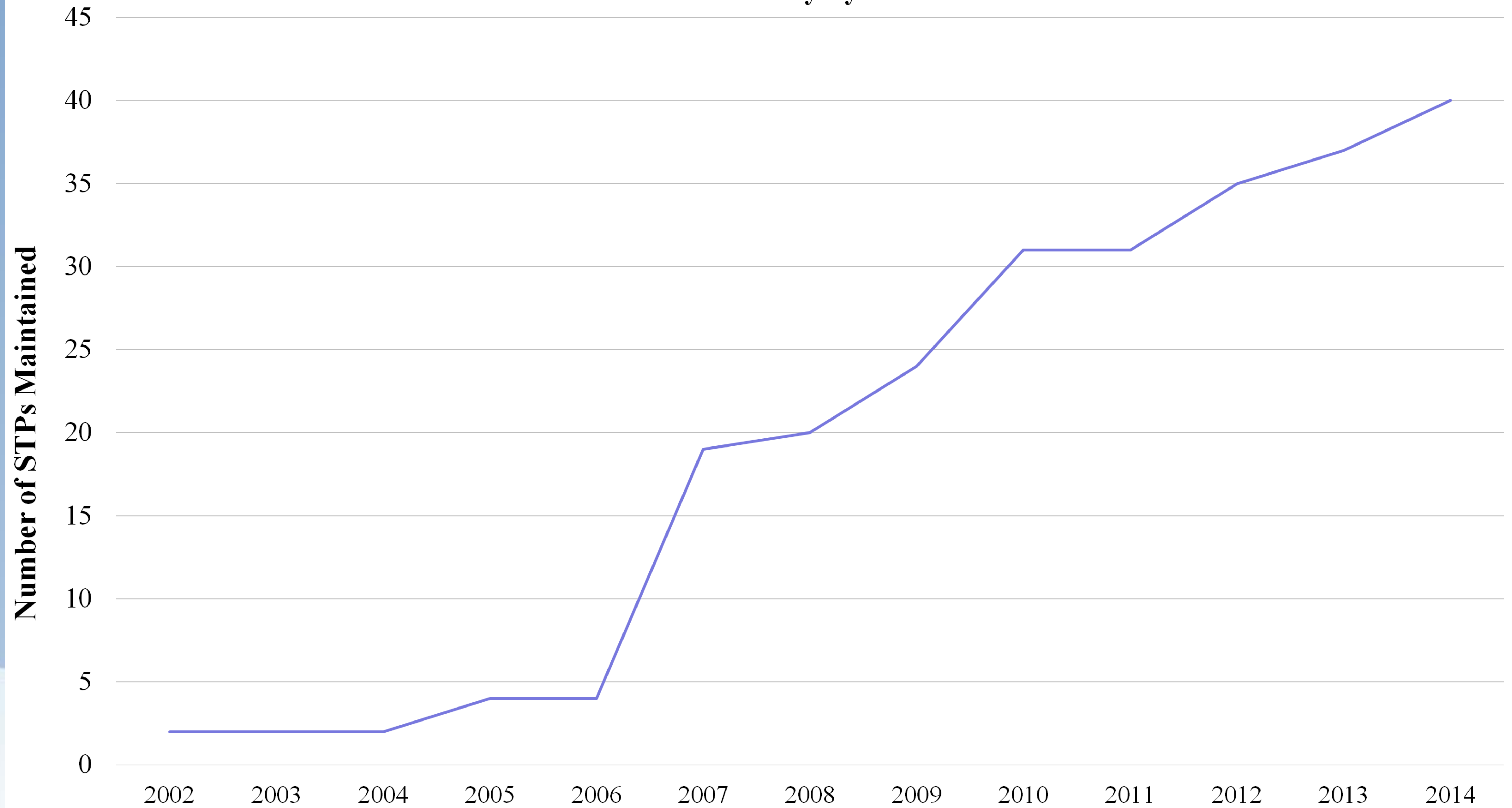
50% of FY17 Budget



South Burlington Stormwater Utility Expenditures

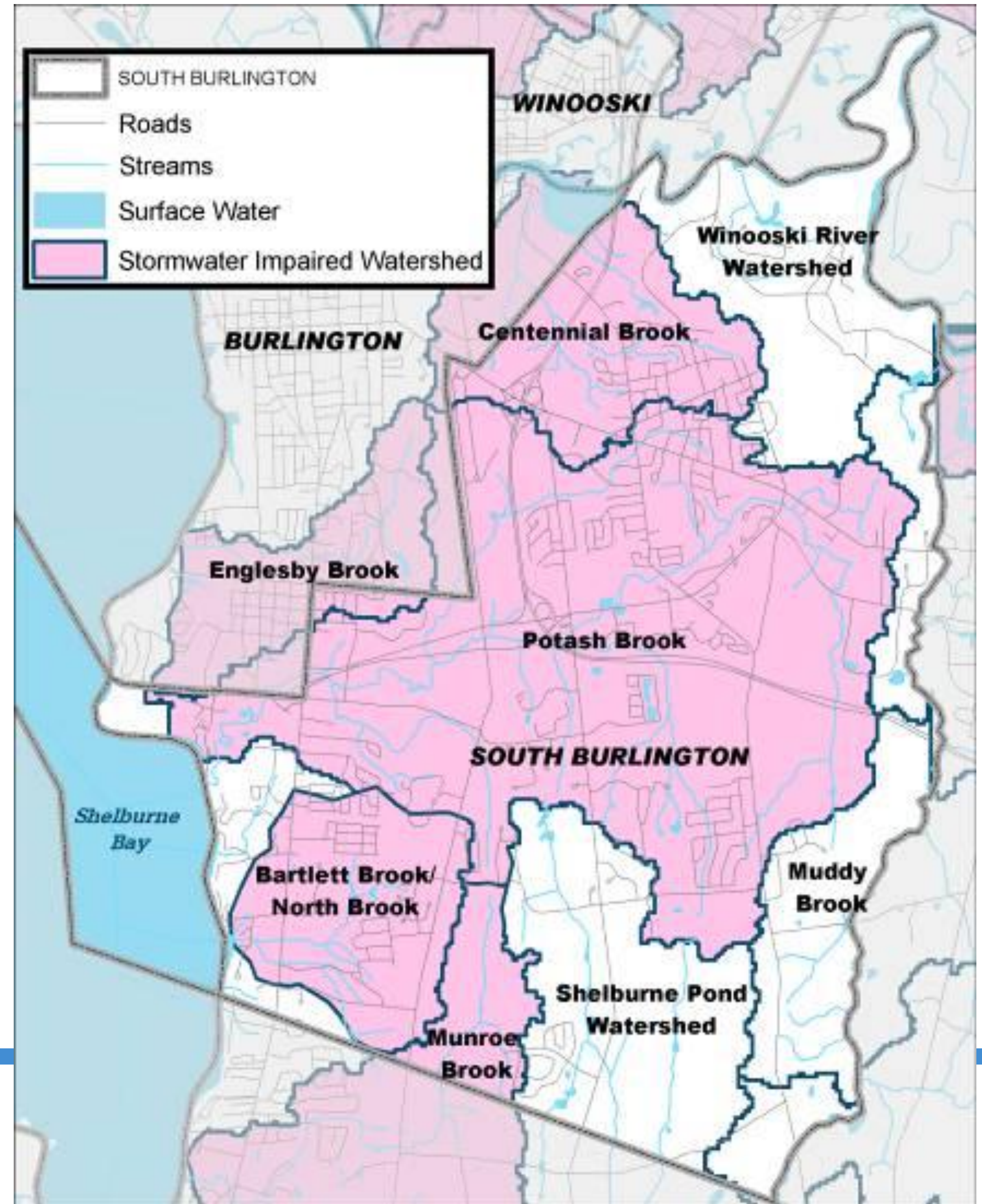


Number of Stormwater Treatment Practices Maintained by the South Burlington Stormwater Utility by Year



Stormwater Impaired Streams

- Five different Stormwater Impaired watersheds.
- Approximately 61% of land area in South Burlington.
- Lake Champlain is Phosphorous Impaired.



FRP Schedule

- Vermont MS4 Flow Restoration Plan
Permit Requirements:
 - Submit a FRP to VTDEC by October 1, 2016.
 - Implement the FRP by December 5, 2032.

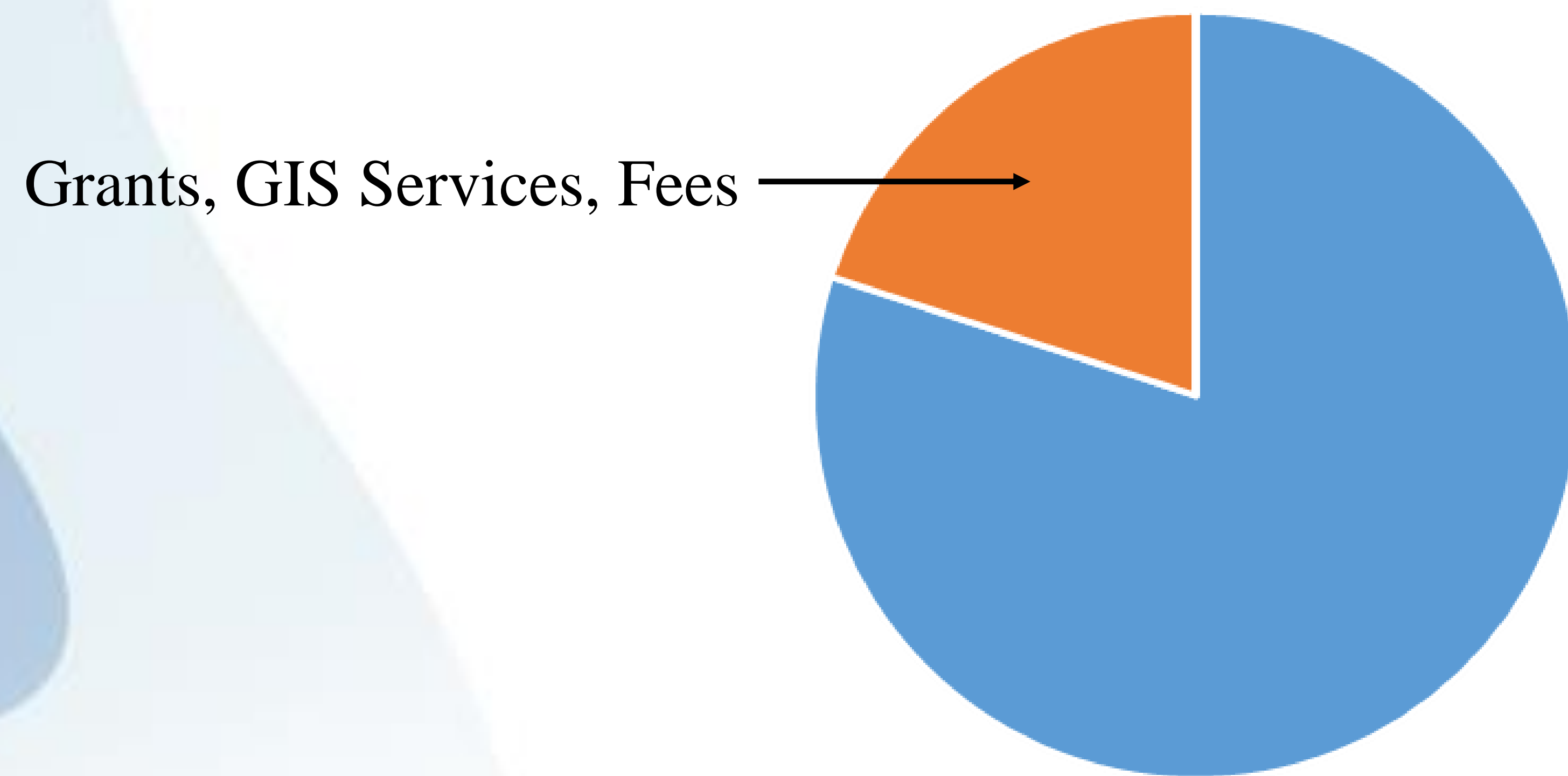
FRP Projects & Cost

Watershed	Number of BMPs in Flow Restoration Plan	FRP Cost	South Burlington's "Share"
Bartlett Brook	18	\$3,500,000	\$3,450,000
Centennial Brook	27	\$10,250,000	\$6,694,000
Englesby Brook	5	\$900,000	\$128,700
Munroe Brook	3	\$7,000,000	\$48,000
Potash Brook	109	\$17,000,000	\$13,750,000
Total	162	\$38,650,000	\$24,070,700

Stormwater Utility Revenue

- Grants, GIS Services, Fees

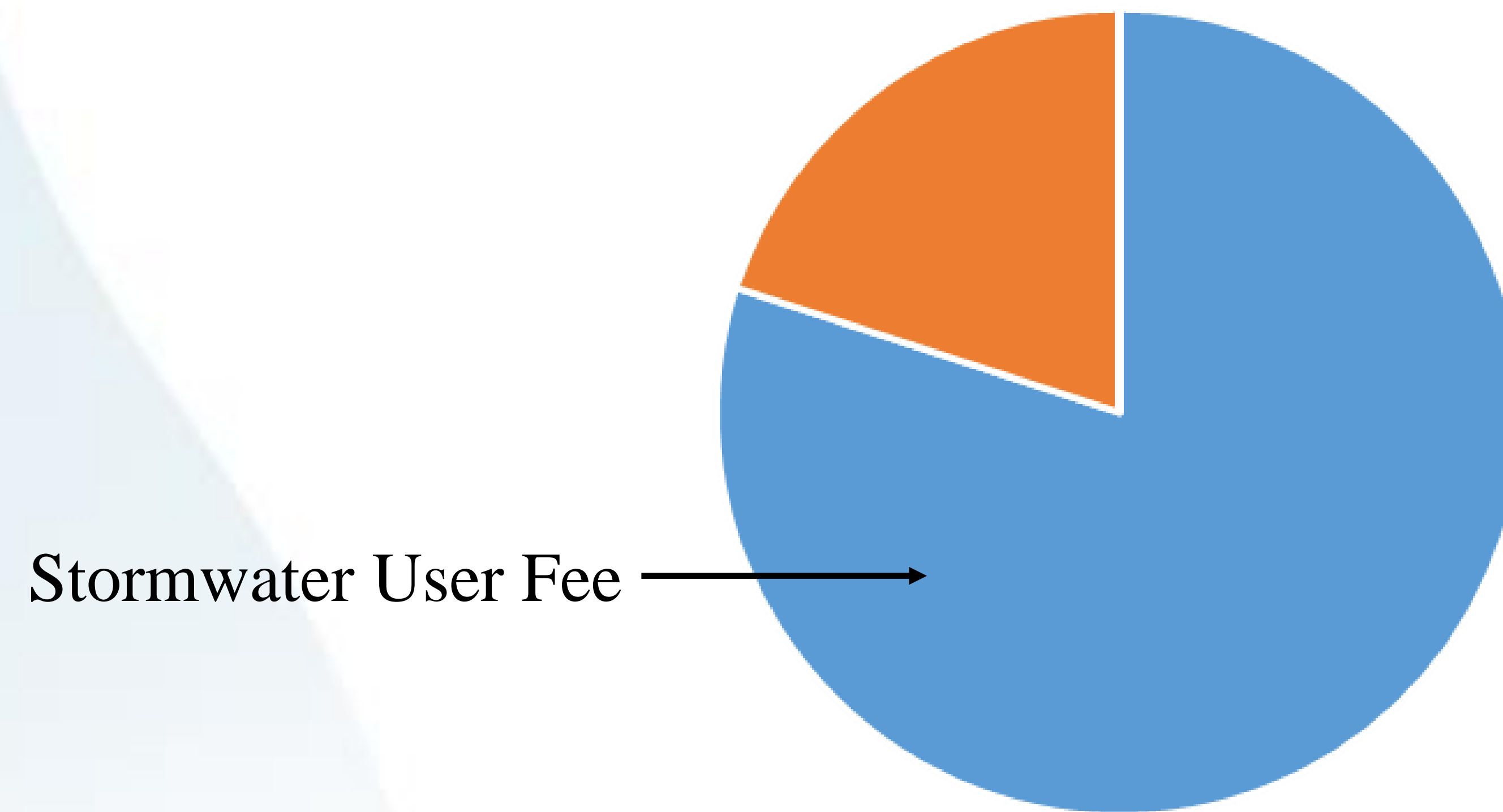
20% of FY17 Budget



Stormwater Utility Revenue

- Stormwater User Fee:

80% of FY17 Budget

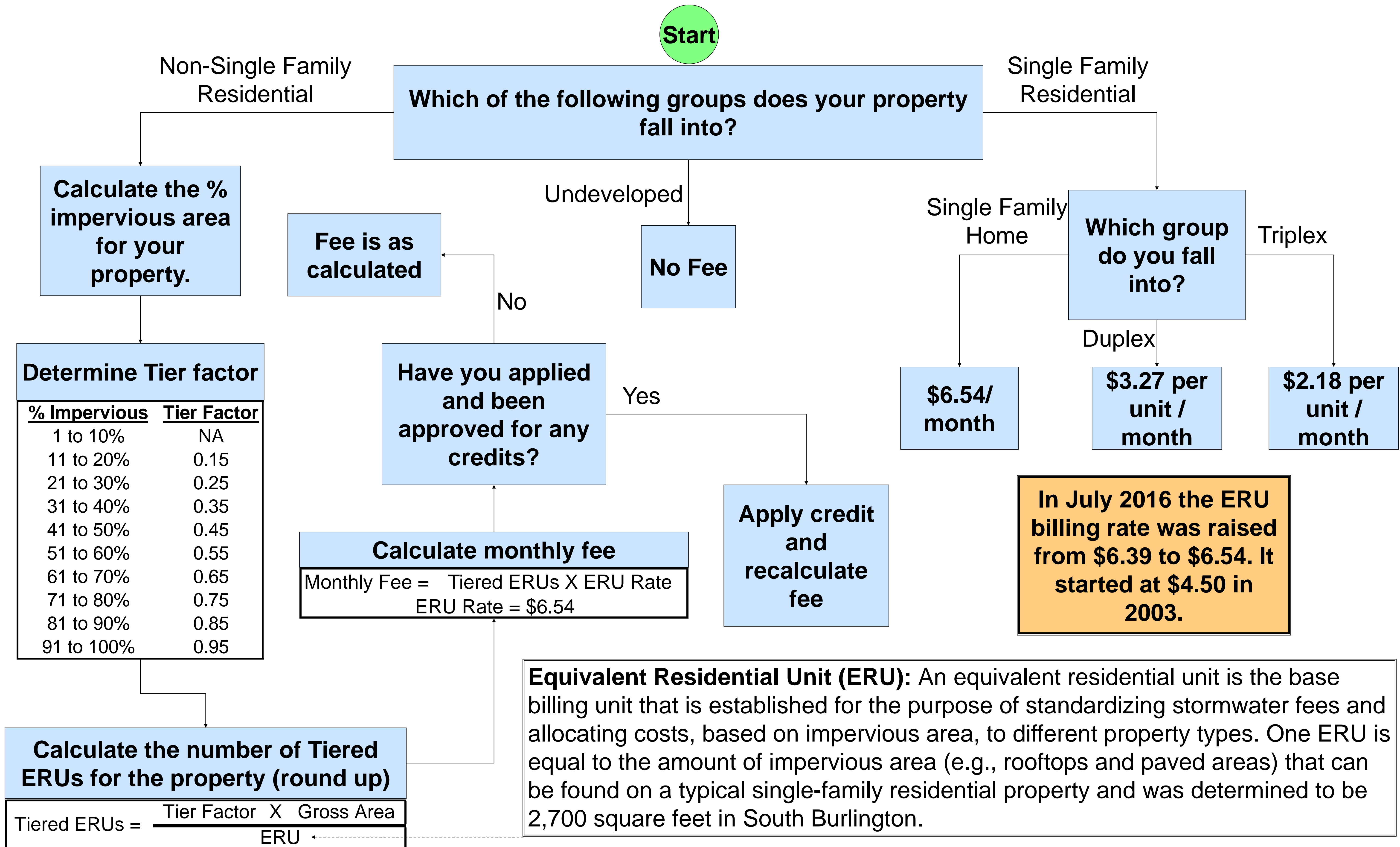


- Leveraged to obtain grants.

Stormwater Utility Revenue

- ERU = Equivalent Residential Unit
- In South Burlington, the average residential parcel has 2,700 square feet of impervious area
- 1 ERU = \$6.54/month

Process Flowchart For Calculation of Stormwater Utility Fee



Stormwater Credits

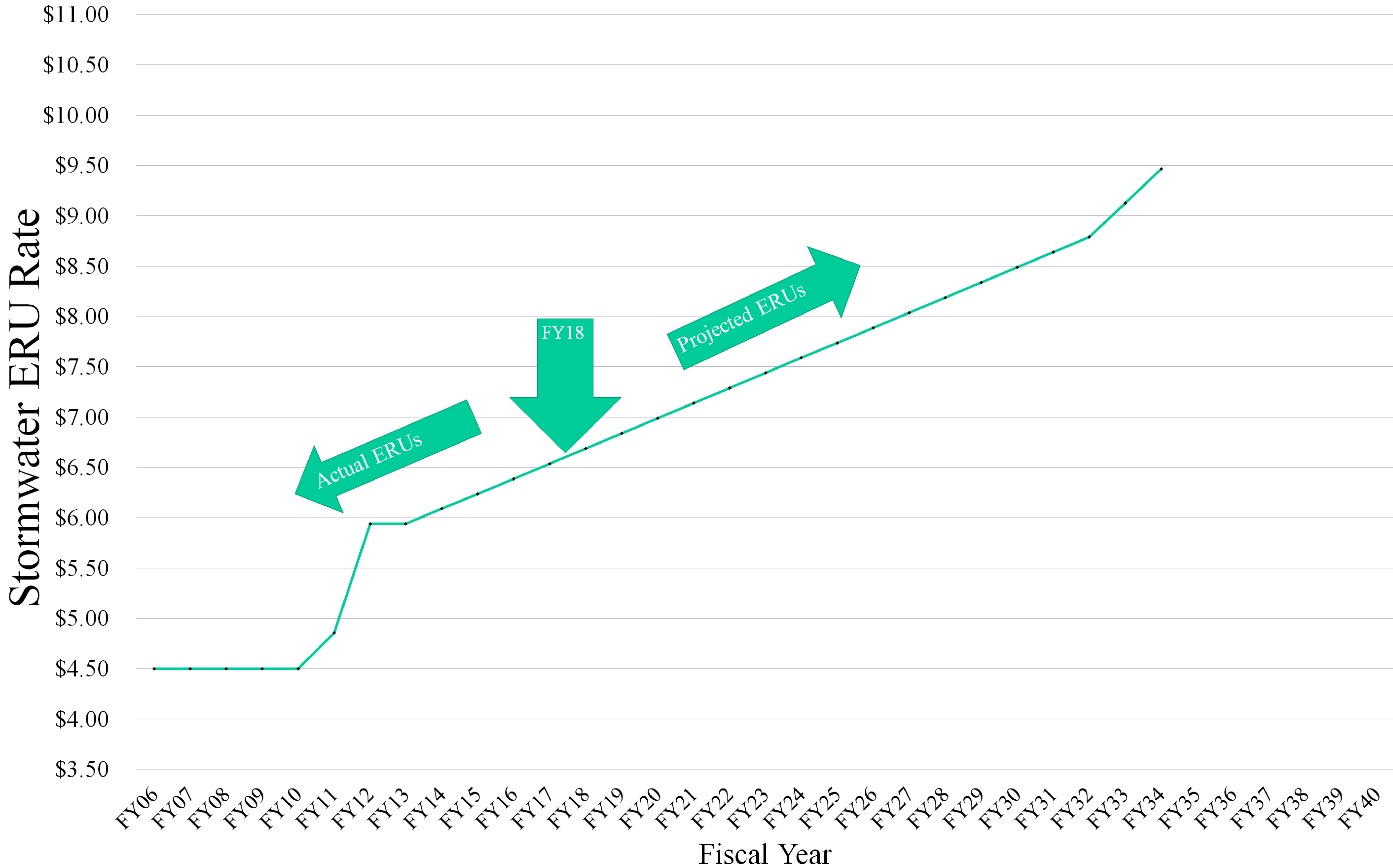
- By installing storm water treatment practices a facility can reduce its fees by up to 50%

Treatment Standard or Criteria	Credit Amount
Water Quality (WQ_v)	15%
Groundwater Recharge (Re_v)	15%
Channel Protection (CP_v)	15%
Overbank Flood (Q_{p10}) or Extreme Storm (Q_{p100})	10%
Non-structural practices	10%

Credit System - Lessons Learned

- Credit System not utilized as anticipated.
 - Planned for 10% of billable ERUs be credited.
 - Currently ~1.5% of billable ERUs are credit.

Projected Stormwater ERU Rate By Fiscal Year



Projected Annual Stormwater Fee

Fiscal Year	Funding Scenario 1 Receive No Grants and No Loans		Funding Scenario 2 Receive \$250,000 in Grants Annually	
	Single Family Residential Property	Commercial Property 1 Acre Impervious Area	Single Family Residential Property	Commercial Property 1 Acre Impervious
2018	\$80.28	\$1,364.76	\$80.28	\$1,364.76
2019	\$82.44	\$1,401.48	\$82.08	\$1,395.36
2020	\$84.60	\$1,438.20	\$83.88	\$1,425.96
2021	\$87.12	\$1,481.04	\$85.68	\$1,456.56
2022	\$90.00	\$1,530.00	\$87.48	\$1,487.16
2023	\$93.24	\$1,585.08	\$89.28	\$1,517.76
2024	\$96.84	\$1,646.28	\$91.08	\$1,548.36
2025	\$100.80	\$1,713.60	\$92.88	\$1,578.96
2026	\$105.12	\$1,787.04	\$94.68	\$1,609.56
2027	\$109.80	\$1,866.60	\$96.48	\$1,640.16
2028	\$114.84	\$1,952.28	\$98.28	\$1,670.76
2029	\$119.88	\$2,037.96	\$100.08	\$1,701.36
2030	\$124.92	\$2,123.64	\$101.88	\$1,731.96
2031	\$129.96	\$2,209.32	\$103.68	\$1,762.56
2032	\$135.00	\$2,295.00	\$105.48	\$1,793.16

Recognition


In 2008, the South Burlington Stormwater Utility received the following awards:



EPA Merit Award for Environmental Excellence



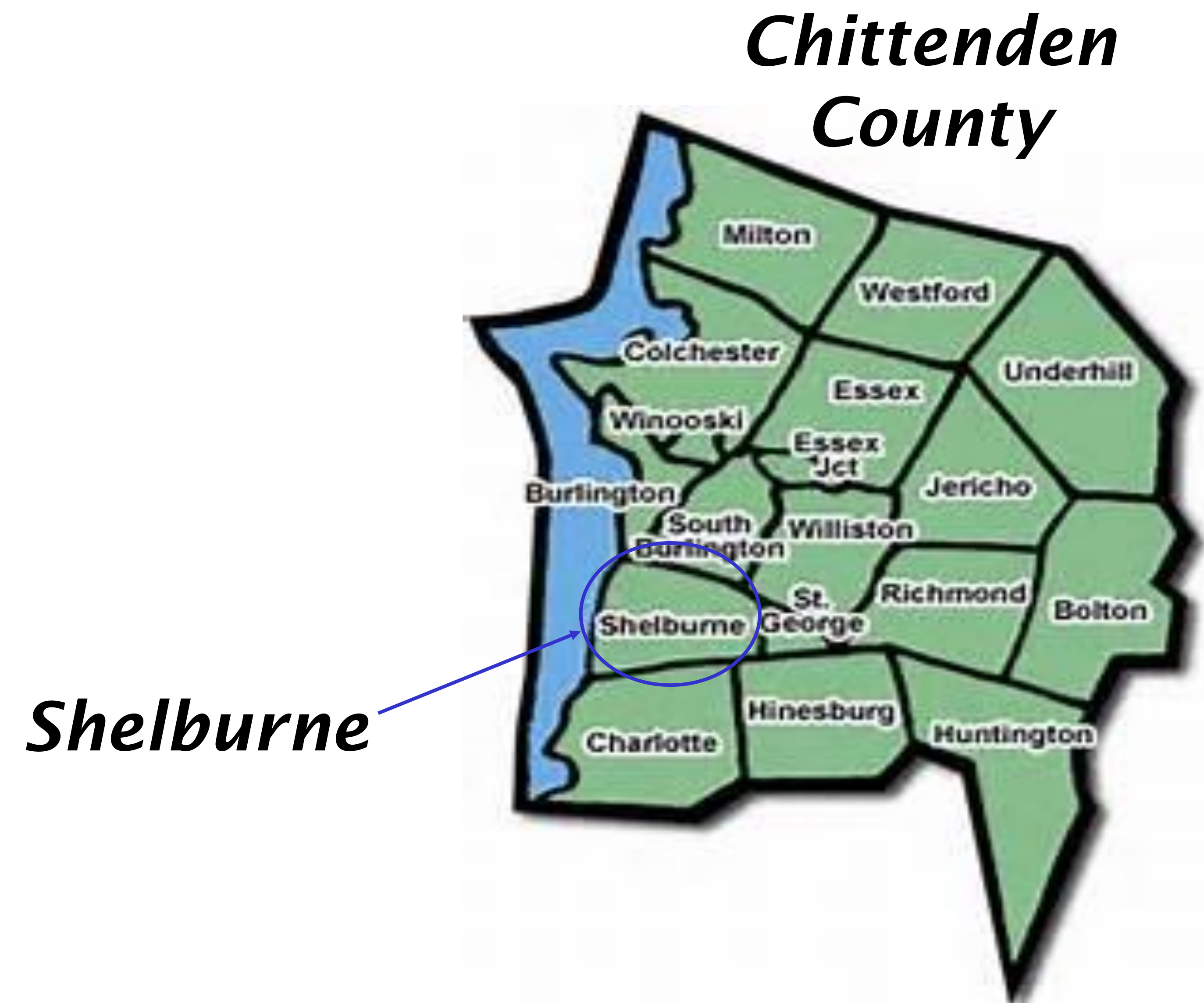
NEWEA Utility of the Year Award



The Town of
SHELBURNE
Vermont

Shelburne Overview

- Population: ~ 7,750
- Area: 24.3 mi²
- Catch Basins: 887
- Major Features:
 - Shelburne Museum
 - Shelburne Farms
 - Vermont Teddy Bear Factory
 - Fiddlehead Brewery



Town of Shelburne, Vermont

CHARTERED 1763

P.O. BOX 88 5420 SHELBURNE ROAD SHELBURNE, VT 05482

Current Annual Cost

- 12 Stormwater Permits \$11,500
- South Burlington Contract \$50,000
- MS4 Permit \$5,133
 - Minimum Measures \$11,800
 - Flow Restoration Plan \$12,500
 - Flow Monitoring \$12,200
- **TOTAL ANNUAL COST \$103,133**



Town of Shelburne, Vermont

CHARTERED 1763

P.O. BOX 88 5420 SHELBURNE ROAD SHELBURNE, VT 05482

Shelburne & South Burlington SW Agreement

- Inter-Municipal agreement in place that allows Shelburne to obtain assistance from South Burlington SW Utility for specific tasks.
- Assistance limited to \$50,000 for FY17.
- Includes both “field work” and “administrative work”.
- Storm drain cleaning and street sweeping have already been completed under this agreement.

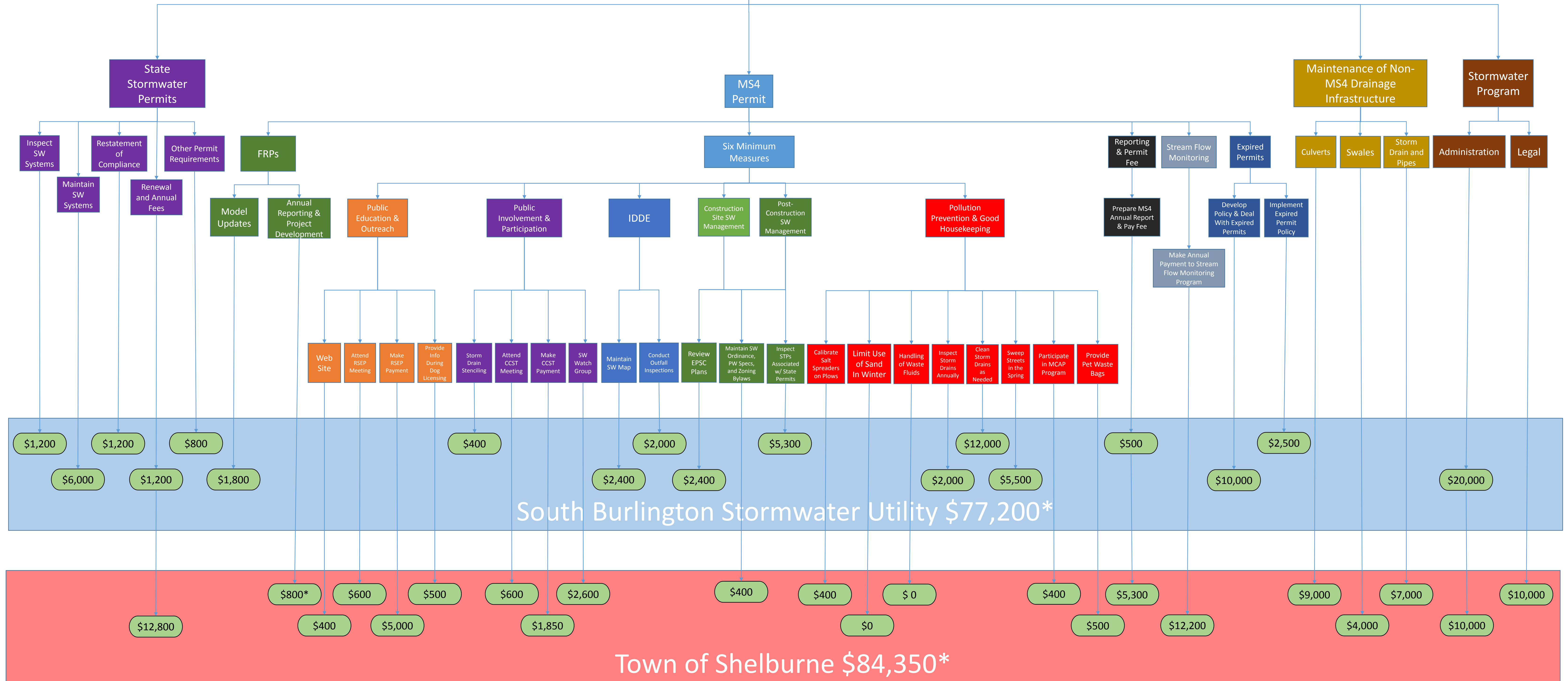


Town of Shelburne, Vermont

CHARTERED 1763

P.O. BOX 88 5420 SHELBURNE ROAD SHELBURNE, VT 05482

Shelburne Stormwater Requirements



Total Annual Stormwater Cost: \$161,550*

*Doesn't include costs associated with development or construction of stormwater treatment projects required by Flow Restoration Plans or expired permits. Does not include costs associated with stormwater billing or utility development.

Benefits of Inter-Municipal Agreement: South Burlington

- Allows us to more efficiently utilize our equipment.
 - Street sweepers are parked for much of the year.
- Helps us pay for our equipment.
 - Added line item for revenue.
- Allows us to hire additional staff.
- Watersheds cross political boundaries. Municipalities need to work together to find the most effective solutions.
- Allows us to share the expertise we've gained with others.



Town of Shelburne, Vermont

CHARTERED 1763

P.O. BOX 88 5420 SHELBURNE ROAD SHELBURNE, VT 05482

Benefits of Inter-Municipal Agreement: Shelburne

- Allows them to forego additional staffing & equipment
- Allows them to partner with an industry leader
- Allows them to retain local control
- Allows them one-stop shopping
 - Maintenance – equipment & manpower
 - Technical expertise – permitting & design review
 - Management – policies and potential stormwater billing
- Economy of scale
- Why reinvent the wheel?



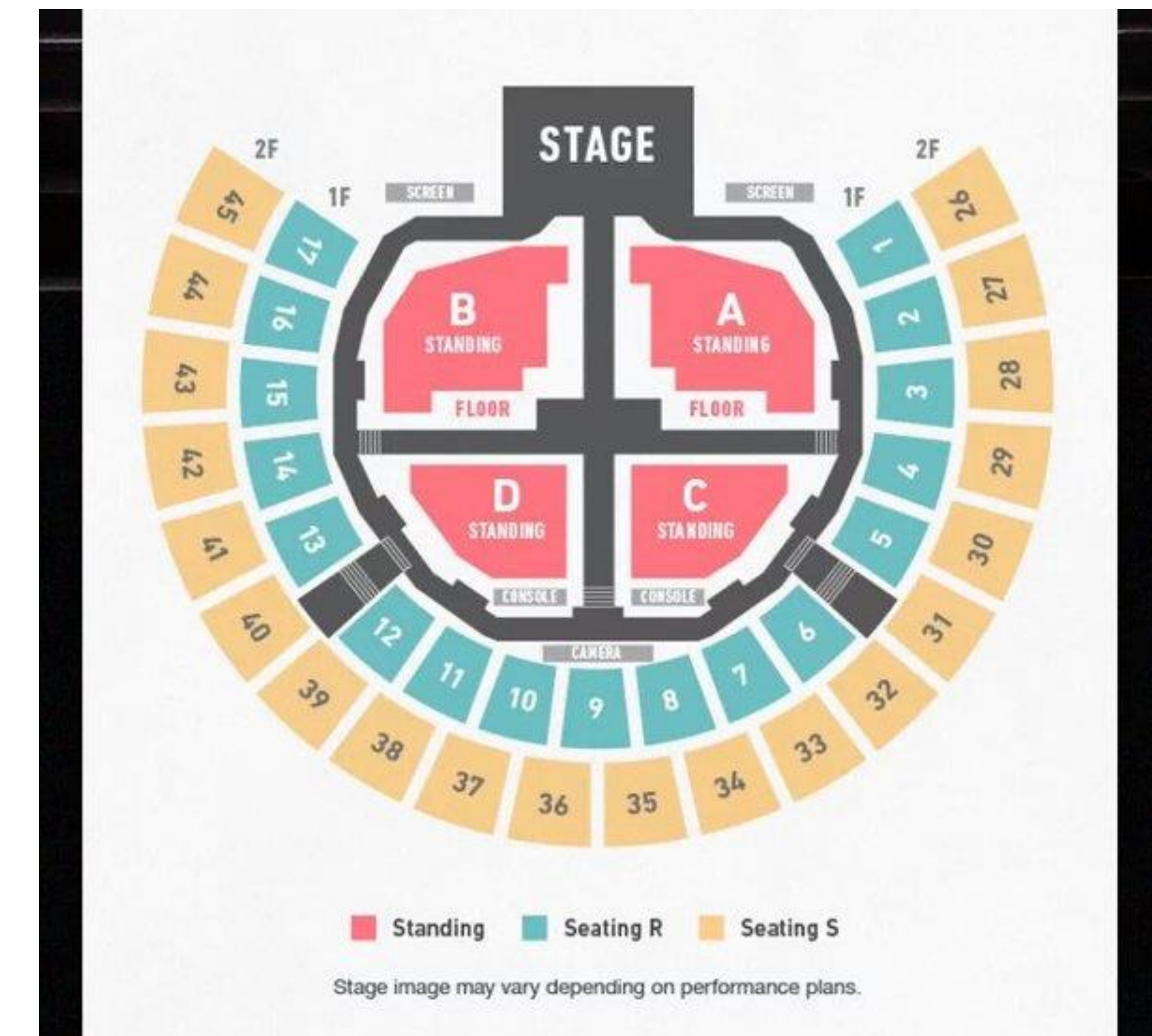
Town of Shelburne, Vermont

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Varying “Costs of Admission”

- State/Federal Regulations
- Local Concerns
- Location
- Age of Infrastructure
- Natural Conditions
- Development Rate
- Partnerships



Admissions

*Recommended
No extra charge for special exhibitions*

Adults **\$25.00**

Seniors ^{*}65 and over **17.00**

Students **12.00**

Members *Join Today!* **Free**

Children under 12 free

Contact Information

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www.sburlstormwater.com