South Burlington Vermont Stormwater Utility

www.sburlstormwater.com

May 4, 2022

Presentation by:
David P. Wheeler, Stormwater Superintendent
South Burlington Department of Public Works

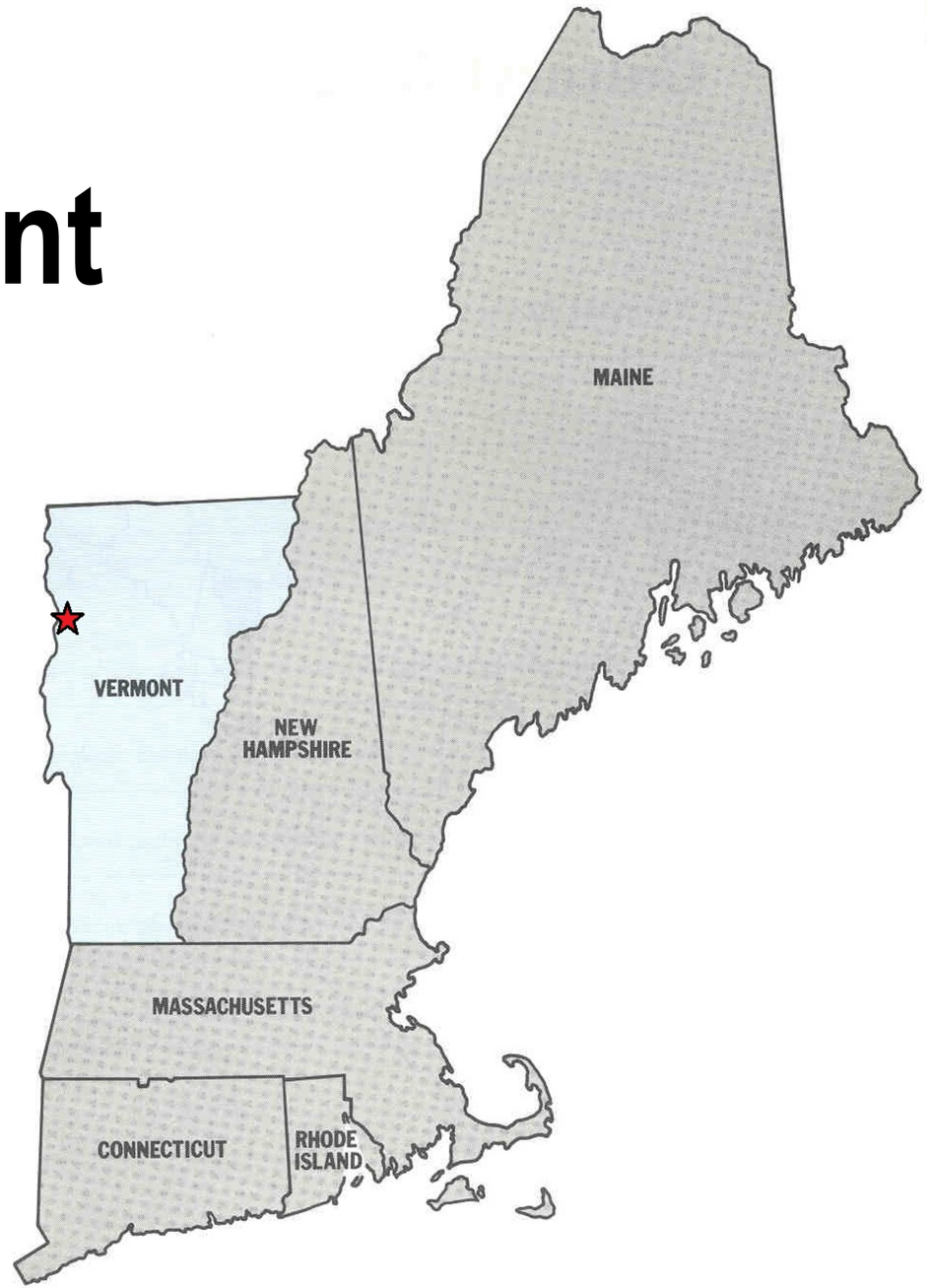
South Burlington
Stormwater Utility

Poll: Which of these steps has your community taken?

- Established a Stormwater Advisory Group or Conducted a Stormwater Utility Feasibility Study
- GIS Layers: Accurate Parcels, Current Impervious Cover & Mapped Stormwater Infrastructure
- Hired Stormwater Staff
- Adopted Zoning Regulations Requiring Stormwater Treatment for New Development
- Sued by CLF

South Burlington, Vermont

- Population: ~20,000
- Area: 16.6 mi^2
- Stormwater Infrastructure:
  - 6,750 Catch Basins (3,400 public)
  - 180 Miles of Pipe (96 miles public)
- Major Impervious Features:
  - Airport
  - Mall
  - University of Vermont



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WAMC NORTHEAST PUBLIC RADIO

WAMC
The Roundtable

NEXT UP

New England News

Algae Blooms Prompt Closure Of Some Lake Champlain Beaches

WAMC Northeast Public Radio | By Pat Bradley
Published July 12, 2021 at 5:39 PM EDT

LISTEN • 0:42

Lake Champlain International /

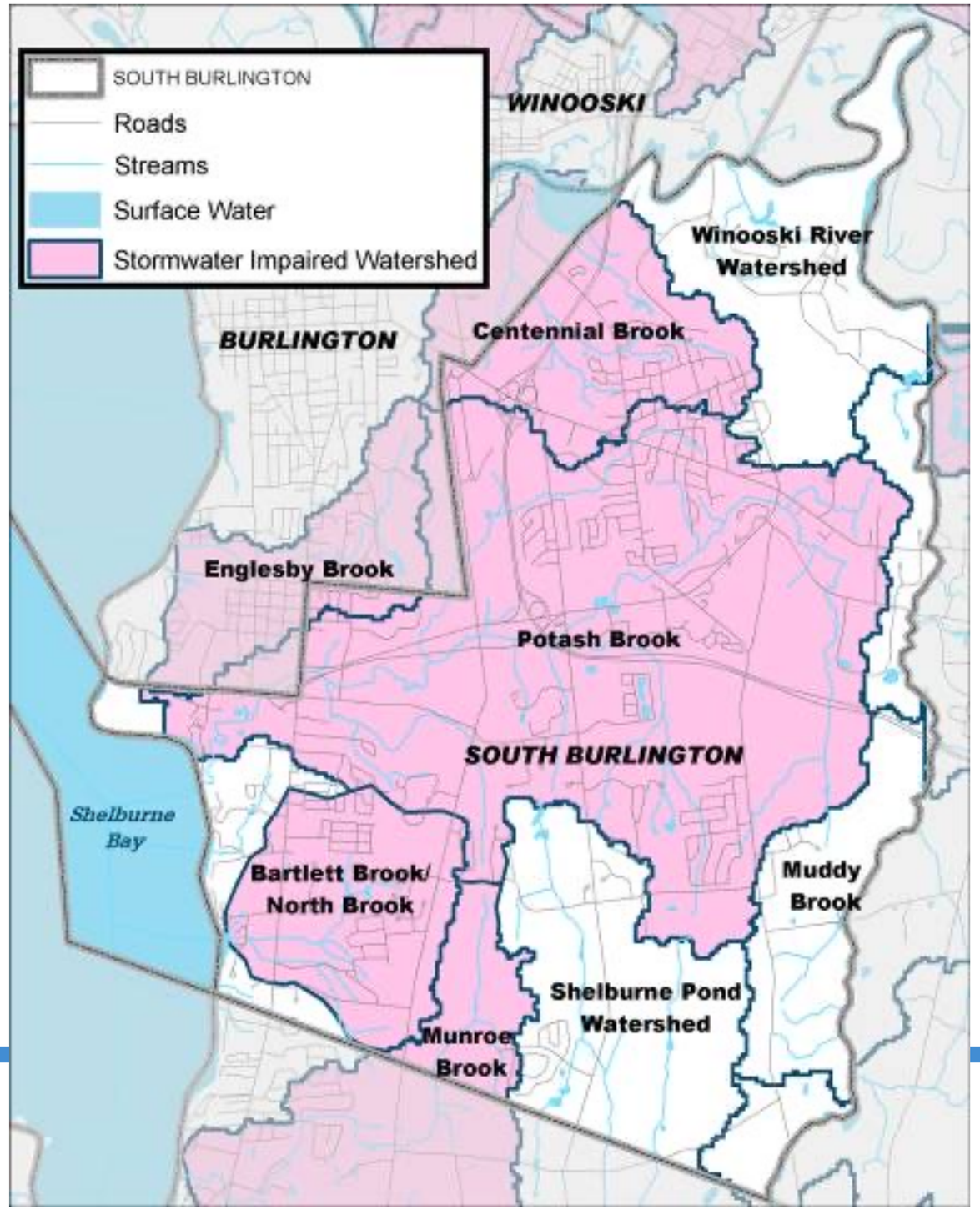
South Burlingt...
Stormwater Utility

Stormwater Utility Drivers:

- Protection of highly-valued waterbody
- Most state permits (141)
- Most expired state permits (98)
- Most impaired watersheds (6)
- Most streams draining directly into the Lake (5)
- Most annual housing starts (average of 250)
- Most CLF lawsuits in 5 years (7!)

303(d) Impaired Waters

- Stormwater Impairments:
  - Potash Brook
  - Bartlett Brook
  - Centennial Brook
  - Munroe Brook
  - Englesby Brook
- Phosphorous Impaired:
  - Lake Champlain



South Burlington Stormwater Utility

ist acts and have detained 25 people in the investigation for possible

Bush spoke by phone to Pakistani President Gen. Pervez Mu-

United States considered bin Laden the main suspect.

be 15 or 20 or 30 other people who would step in. ... Obviously, he's a

at more than 600,000 tons.

yond.

POLLUTION: Projects could be held up by ruling

Continued from Page 1A

Circumferential Highway — planned between Interstate 89 in Williston and Vermont 117 in Essex — also is subject to the ruling and could be further delayed.

Developers of the projects on the state list were guardedly optimistic that the Dean Administration, legislators, or some compromise between the state and environmentalists would ultimately soften the ruling. How long that will take is unclear.

"Fortunately, we have time with this project. It's not like we want to start tomorrow morning," said Miller, referring to possible delays. "Typically for developers, time is our worst enemy because time is money."

The issue at hand is rainwater dirtied by impurities that washes into rivers and lakes. It's a problem in rural areas, where fertilizers wash into streams, and in urban and suburban areas, where precipitation flows off roofs, roads, parking lots and driveways. That water picks up pollution and rushes straight into small brooks.

For several years, the Agency of Natural Resources has addressed the problem by requiring developers to build special retention ponds to hold storm water temporarily. The agency also is slowly studying individual waterways and developing new rules.

Environmental groups are unhappy with the pace of the state's enforcement, which has fallen behind schedule. Many local streams are polluted by government standards. Lake Champlain is slowly choking on algae blooms caused by phosphorus and nitrogen from fertilizer, acid rain, pet, livestock and wildlife waste and other sources.

The Conservation Law Foundation challenged the Natural Resources Agency's practices in front of the Water Board, and in June the panel ruled the agency is not adequately enforcing state law. State law clearly says a developer can't add any specific pollution to a waterway that is "impaired" with that pollution, the board ruled.

Scott Johnstone, the secretary of Natural Resources, has said his agency will continue to issue permits regardless of the Water Resources Board ruling until any appeals are exhausted. Johnstone said the best way to combat polluted storm water is to require tougher treatment standards for older developments, something the agency intends to do, not stopping newer projects that have state-of-the-art treatment.

Gov. Howard Dean said last week he might also ask the Legislature to amend state law to ensure the water board's ruling does not go into effect. Dean has said many streams are polluted only in a technical sense.

Environmental groups have warned they will challenge any permits issued in violation of the board's ruling. That could result in a significant slow-down of the projects at a minimum.

Contact Tom Zolper at 229-9141 or tzolper@bfp.burlingtonfreepress.com

LOTTERY

TRI-STATE MEGABUCKS: Nobody won Saturday's jackpot worth $700,000. Players who matched some of the winning numbers will share $55,894 in cash and free tickets. Wednesday's drawing is estimated at $900,000. The numbers: 11-19-24-32-34-41 bonus 40
PICK 3: 9-6-0
PICK 4: 4-9-2-1

PUBLISHED SUBSCRIPTIONS RATES

Newsstand: Daily 50¢; Sunday $1.75
By Carrier: Daily and Sunday $3.50 per week
Daily only : $2.30; Sunday Plus*: $2.15
By Motor Route: Daily and Sunday $3.85 per week
Daily only : $2.55; Sunday Plus*: $2.25

*Frequency of delivery includes the following holidays if not a scheduled delivery day: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, December 25.

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SETTING IT STRAIGHT

The Burlington Free Press strives to be fair and accurate. To notify an editor about a mistake, offer a comment or ask a question, call 865-0940 or (800) 427-3124.

BANKRUPTCY NUMBERS: The numbers were incorrect in a story that ran Sept. 9 in Business Monday in the Free Press. Business bankruptcy fil-

No immediate solution seen in water debate

By David Gram
The Associated Press

MONTPELIER — Amid all the recent discussions about a South Burlington brook stopping the flow of development in Vermont, one fact is becoming clear: State government is on the hot seat.

When the Water Resources Board ruled in June — and reaffirmed last month — that no new pollutants could be added to Potash Brook without a plan in place for cleaning up existing pollution, a troublesome fact emerged: The state has allowed a huge backlog to develop in drafting such plans for its polluted streams.

Under the legal standard the board has set up, developers would have to guarantee that no runoff from their driveways and parking lots would carry new pollutants to an impaired stream or they would have to wait for the development of a cleanup plan for the stream.

About 126 streams, lakes or sections of those waterways in Vermont are officially designated as polluted. The state Department of Environmental Conservation is required by the federal Clean Water Act and state law to draft plans for cleaning up those streams.

The state has finished two of those plans and has 11 more in draft form, officials at the Natural Resources Agency said.

Environmentalists charge that a backlog in stream planning dating back years demonstrates a lack of commitment by the Dean administration on the issues of and any possible health threats stemming from it.

"(These) streams are really not polluted; in fact some of them you could drink out of them and almost all of them you can swim in," Dean said on Vermont Public Radio's "Switchboard" program, according to a VPR transcript. "They're polluted by federal standards, and we list those because we believe we ought to improve the quality of those streams."

He later told radio talk show host Mark Johnson, whose program is broadcast on WKDR and WDEV, that he had "canoed on a lot of these so-called impaired waterways, and they're fine. In fact, I've cooked with the water."

As Dean, a physician, was making his radio remarks, his Health Department had posted on its Web site a warning about blue-green algae blooms in Lake Champlain.

"As a precaution, the Health Department recommends that young children and pets be closely supervised, and not allowed to swim or wade in areas with algae," said the message from state epidemiologist Ann Fingar, also a physician.

Kelly Lowry, water program director and lawyer with the Vermont Natural Resources Council said he had heard the governor recently refer to Potash Brook as "technically polluted."

"The streams are dead, there's no life in them," Lowry said. "That's not technical pollution. ... The fact that dogs die when they

Muddy Waters:

- 2001: VT Water Resource Board (WRB) ruled no new discharges into impaired waters
  - Developers Panic
- 2002: State passes Act 109, authorizing Watershed Improvement Plans (WIPs)
  - CLF Objects/Appeals
- 2003: WRB struck down four WIPs
  - Developers Panic Again, Uncertainty for Projects

Muddy Waters:

- 2003: WRB opens investigation to determine if WIPs are technically feasible
  - Answer: Yes, they are
- 2004: CLF petitions ANR to require NPDES permits for existing discharges into impaired waters.
  - ANR denies petition. WRB reverses denial.
  - ANR files motion against WRB's reversal in the VT State Supreme Court.

Muddy Waters:

- 2006: EPA approves Potash Brook TMDL
  - Unlike WIPs, TMDLs cannot be appealed
  - Previously, there had been a disagreement nationally, on the merits of using TMDLs for urban stormwater
- 2007: EPA approves Centennial Brook TMDL, Englesby Brook TMDL & Bartlett Brook TMDL
- 2008: EPA approves Munroe Brook TMDL

Stop stalling on stormwater

ERNIE POMERLEAU

IT'S MY TURN

As a lifelong Vermonter, I am concerned when environmental issues regress to finger pointing, lawsuits and exaggerated ads instead of finding solutions.

Example: Stormwater permits. Rather than exhaustive, expensive studies that do nothing to clean our waters, we need to work with all the stakeholders to institute immediate corrective action. Confrontational lawsuits not only do not clean water, they just stall needed economic stimulus for jobs.

Promoting a healthy economy and protecting the environment must be mutually inclusive. We can, and must, allow for desperately needed housing, additions to high-tech facilities and myriad other appropriate expansions, all providing jobs while protecting the environment. House Bill 644, the Clean Water Bill, overwhelmingly passed the House and with leadership from the House, the Senate and the administration, all the stakeholders worked on appropriate compromises that meet the needs of the environment and business without jeopardizing either's much needed position in Vermont.

Vermont is a magical place, which draws hikers, boaters, skiers and naturalists. This cache is the underpinning of why businesses are here as well. Simultaneously, however, they must be profitable. Nonprofit regional economic development organizations and state agencies constantly struggle to attract high-paying jobs to this state. Employers often spend years of planning and invest time and money in the elaborate Act 250 process to protect wetlands, agriculture and archaeology and promote historic preservation. If these requirements are satisfied, a proposal has a chance to go forward. At the moment, the stormwater standstill makes economic development a questionable matter. At the very least, we need to assure companies that are integral to our community that they can survive and grow by staying in Vermont. Companies like IBM, Husky, General Dynamics and IDX have many options available to them. If we do not support these large companies as well as all of our small, growing companies, then we cannot paint a healthy economic portrait of our state.

The stormwater issue is a flash point and has been used as a means to stop the Circumferential highway. Without the Circ, IBM cannot meet permit issues to expand a critical technological base. This puts thousands of jobs at risk while forcing commuters to waste time and run cars needlessly in stalled traffic. Technology exists to deal with stormwater in this project — using this issue in the debate, as a mask to other concerns, is inappropriate. If stormwater is the issue, let's talk about solutions — if not, let's talk about the real issues and find solutions to them.

Here's the irony, the Dean administration, the Agency of Natural Resources, Legislature, businesses and environmental groups have the same goal: clean water. The ANR acknowledges it has moved too slowly. A debate that has brought this issue to the headlines becomes counterproductive when it inspires litigation, or worse, stereotypes business people as polluters. This is less about finding a middle ground than about finding solutions that will simultaneously protect the environment and endorse sensible expansion, therefore creating jobs.

We don't need more studies or lawsuits. We need to find a new model where all the stakeholders can work together and understand the interests of all parties to create a healthier environment that we can all cherish while simultaneously promoting a healthy economy, which creates a better quality of life for all Vermonters.

Ernie Pomerleau is president of Pomerleau Real Estate and chairman of GBIC, Chittenden County's nonprofit regional economic development corporation.

The Burlington Free Press

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VERMONT

Reading program takes children around the world, Towns, 4B

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City institutes pollution plan

S. Burlington, law foundation settle conflict

By Molly Walsh
Free Press Staff Writer

SOUTH BURLINGTON — The Conservation Law Foundation and the city of South Burlington have called off their lawyers and agreed on a pollution control program that could be a model for municipalities in cleaning up Lake Champlain.

In a settlement signed by the city and the environmental group, South Burlington agreed to take measures to reduce phosphorus pollution that clouds the lake and contributes to beach closings and algae blooms. In exchange, the Conservation Law Foundation agreed to stop challenging the renewal of the state permit for the city's municipal wastewater treatment plant at Bartlett Bay.

Mark Sinclair, Vermont director of the foundation, said the agreement should be held up as a model for the 40-plus sewage treatment plants along the lake. "If we can get this kind of approach to occur throughout Vermont, Lake Champlain actually has a chance of getting cleaned up."

Scott Johnstone, secretary of the Vermont Agency of Natural Resources, praised the plans. "I'm glad to see towns and cities like South Burlington step forward and take this on," he said. "It's vitally important for our progress in cleaning up our waters."

South Burlington officials are happy to have the appeal behind them.

"We are very pleased to have this appeal settled," said Jim Condos, chairman of the South Burlington City Council, in a statement released by the city this week. "Bartlett Bay is the state's and New England's premier treatment plant, and this appeal flew in the face of everything South Burlington is doing to take a leadership role on water quality."

Phosphorus comes from several sources: sewage treatment plants, manure spread over farm fields, and rain that runs

See **LAKE**, *2B*

Stormwater Utility Timeline

- 2002 - Stormwater Utility Enabling Legislation Passed by Vermont Legislature
- 2003 – Stormwater Utility Feasibility Study
- 2003 to 2005 - Public Outreach & Utility Development
- 2005 - Sewer ordinance updated, first stormwater fees assessed, Stormwater Superintendent hired
- 2006 - Requirements for City take over of residential stormwater treatment systems

Stormwater Advisory Committee (SWAC)

- **Churches** - There is probably a ministerial association or loose network of churches that can be contacted concerning the stormwater utility and its charges.

- **Homeowners** - The position of homeowners can be partially represented by the Reality Board. Often, there are no overarching homeowners groups or more outstanding associations. Another approach would be to select specific homeowners, some of whom have been flooded or have water quality issues, to meet and review the stormwater policies.

- **Landlords** - A large portion of the housing stock in the City of South Burlington may be held in the hands of landlords and apartment complexes in the area. Thus, they constitute a specific group. They can be represented by the Reality Board as well as individually by the major property owners.

- **City Council** - The elected political leadership constitute a specific group of stakeholders - perhaps the most important group in terms of approval of the stormwater utility. The Council must be treated with special attention during the development of the utility and its policies.

- **City Staff** - Other City staff should be coordinated with in terms of the implications of the policies and data collection and development for their agencies and responsible areas. For example, GIS data can be used by several agencies in pursuit of their programs. Stormwater master planning can be integrated with parks, etc.

- **The "Top 100" Ratepayers** - There is a concern that the largest ratepayers be handled in a more personal way concerning their rate, credits, the program benefits and other questions that may arise. These will be identified specifically during the master account file development process, though the City staff knows many of them now.

- **The Press** - The press can be a great ally in South Burlington because they are generally supportive of City goals and programs. They need to be given clear and concise information in the appropriate format and to meet deadlines. They should be given notice of and access to important meetings and granted interviews when requested. White papers and other information are also helpful to insure they understand the concept and can portray it properly.

- **The General Public** - It is critical to directly portray, with stories and pictures, the state of the stormwater system and the message that it is important for all citizens to pay their fair share in fixing the problems. If it can be conveyed that this is logical, fair, well thought out, and that other cities are going in this direction…many citizens won't give it a second thought.

9.4 Specific Information Pieces & Activities

Based on our experience, the information pieces and public awareness and education activities described herein have been identified as important components to many successful PI&E Plans.

Information Pieces:

- **General Information Brochure** - this brochure is designed to give the following information in non-technical terms:
  - There are needs in the community that are currently not being met;
  - We have a plan to meet these needs that is well thought out, effective and not extravagant;
  - This plan costs more money, but this additional investment is well worth it;
  - The method to generate this new revenue is fair, adequate and stable;
  - The method is not a tax but a user fee;

- The cost to each homeowner is minimal; and
- You will see results.

- **"Your Job - My Job" Brochure** - this brochure is designed to tell residents what the City's policy is on maintenance and capital improvements, what the City will do and what is the resident's responsibility. This type of brochure can be handed out when a complaint is received. It should reiterate the information told to a resident by the complaint investigator.

- **What is this Fee? Bill Stuffer: Residential** - this brochure can be a stuffer in the first bill. Its purpose is to explain the fee for a homeowner. It explains what is being done with the generated funds and, if applicable, the residential tier structure. It will have a hotline number to call if there are questions.

- **What is this Fee? Brochure: Non-residential** - this brochure, with personal letter, will be sent out to non-residential ratepayers (perhaps the top 100 or so accounts) explaining, in slightly more technical terms, how their bill was calculated and giving them the hotline number if they have a question.

- **Project Booklets** - A list of planned stormwater capital improvements along with a projected schedule for construction. Such a booklet would be helpful giving focus on the construction of numerous smaller capital and remedial maintenance projects around the city. The booklet should be matched with a planned and prepared set of capital improvements that would be previously contracted and ready to construct the day the first bills go out. These projects should become media events so that the reporting in the media on the stormwater utility is one of progress in fixing long standing problems and not one of a new "rain tax".

Public Awareness & Education Activities:

- **Presentations** - This is anticipated to be a fairly simple slide or overhead show with script that can be given by any of several staff or consultant personnel. Alternate slides can be inserted depending on the audience.

- **News Articles** - Some news organizations allow, and even appreciate, the City providing informative pieces about the stormwater utility. They are not normally accounts of events but rather interesting stories about flooding, the utility method, etc.

- **Radio Shows** - There may be a morning talk show that the City can participate in. This type of medium can be very effective if the staffer has coherent and short answers to the questions.

- **Individual Meetings** - There are some individuals who, when convinced, carry an important weight of authority and influence. And when unconvinced they can obfuscate progress. The individual meetings should demonstrate recognition of their position and influence, listen very carefully to their concerns, if possible solicit their support, and respond to questions that cannot be answered on the spot.

- **Customer Service** - The mailing of a stormwater bill will generate a lot of complaints and inquiries to the sender of the bill and/or to the City. Having a well-conceived and responsive customer service capability that rapidly and effectively responds to these calls is, perhaps, one of the best public relations options available. There will be a number of complaints that can be handled relatively easily by a trained customer service representative (even a temporary position for a few months of billing). But many of the calls will need to be handled by City personnel either due to the complexity of the call or the importance of the caller.

SWAC Recommendations

- Hire Staff: Stormwater Administrator, Stormwater Engineer, Maintenance Staff
- Establish Funding
- Planning Needs: Watershed Planning, GIS Mapping, Monitoring & Inspections
- Address O&M and Capital Improvements
- Preliminary Program Budget: $700,000/year

Stormwater Program Funding Options

1. Tax Funded Program
   - ❖Increase property taxes
2. User Fee Funded Program
   - ❖Develop funding methods & credits
3. Combination of Tax and User Fee

1.2 Existing Program Issues and Priorities

As summarized in **Table 1**, below, the City has a current annual stormwater budget of approximately $177,000 per year, funded using the City's General Fund.

Table 1 - Current Stormwater Program Cost Estimate

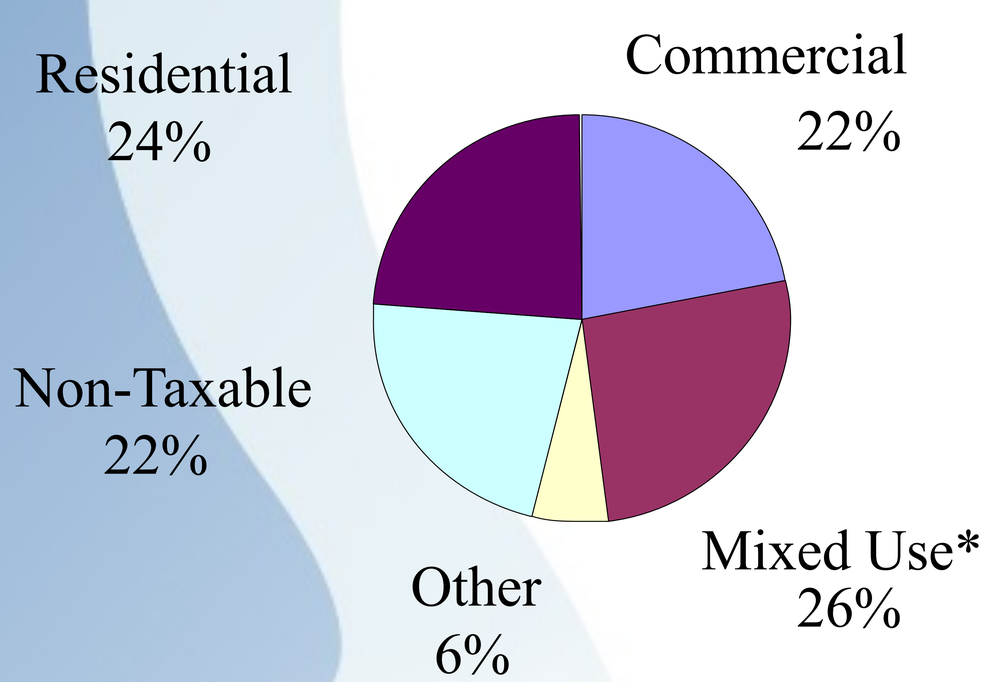
CATEGORY	AMOUNT
Administration & Engineering	$45,000
Operations & Maintenance	$50,000
Capital Improvements	$60,000
Miscellaneous Costs	$15,000
Phase II/WQ Compliance	$7,000
TOTAL	**$177,000**

Tax vs. User Fee

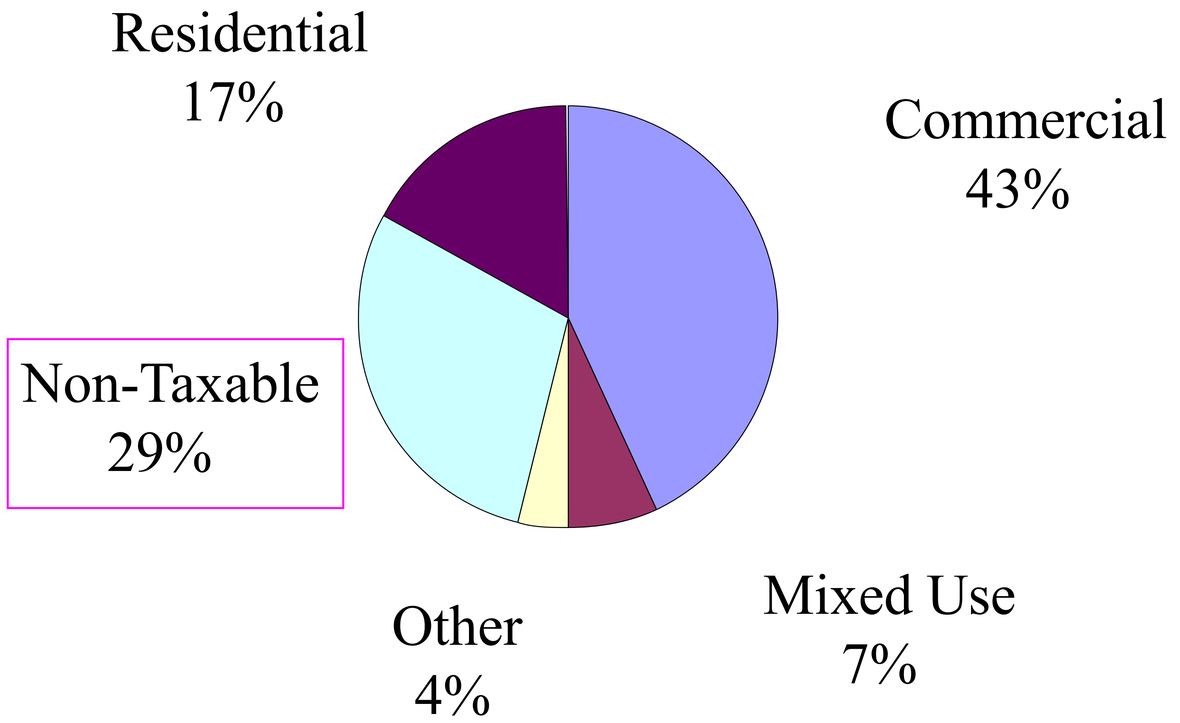
- **Tax**
  - Easy to collect
  - Little added administrative cost
  - Invisible to the citizen month to month
  - About 5 cents per $100
  - Vote on budget changes (?)

- **User Fee**
  - Equitable:
    - Based on amount of runoff
    - Collects from tax exempt parcels
  - Dedicated and grows with growth
  - Flexible - allows credits and fees to enhance equity and tailor program
  - Incentive to reduce impervious area
  - Others uses of databases/mapping
  - Added administrative cost

Total Area by Existing Land Uses



Impervious Area by Existing Land Uses



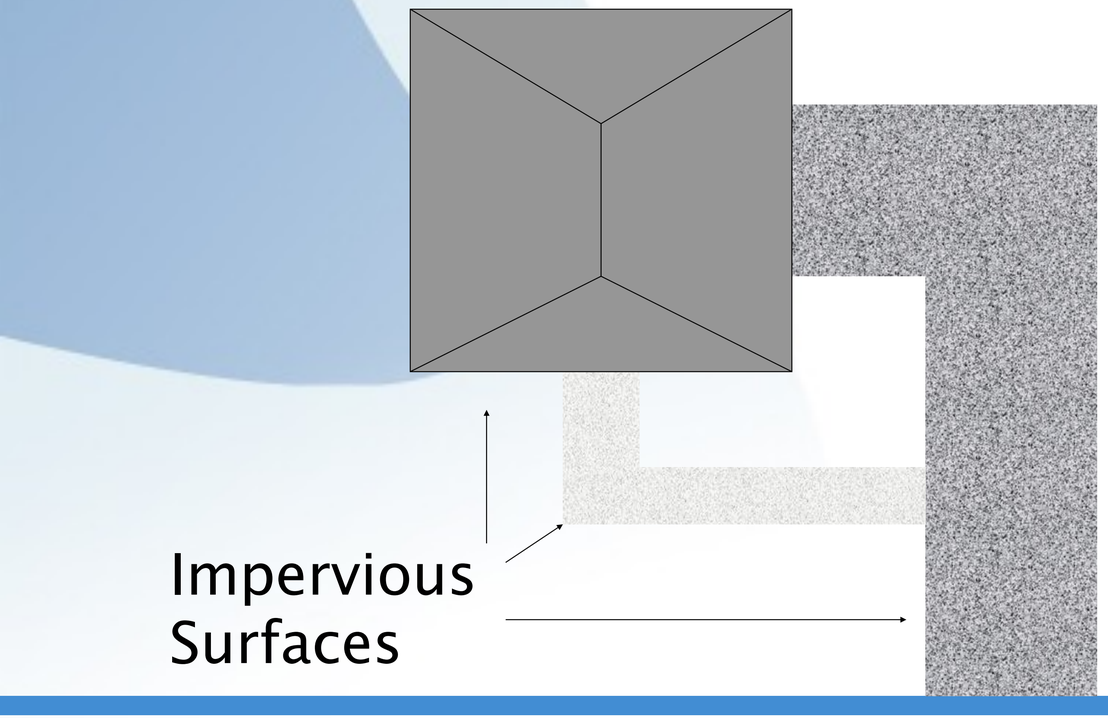
*Mixed Use includes farm, open space, misc.

Stormwater Utility Rate Structure

- ERU = Equivalent Residential Unit
- In South Burlington, the average residential parcel has 2,700 square feet of impervious area
- 1 ERU = $7.20/month

The User Fee Concept

- The Utility is funded on a user fee basis, similar to an electric, sewer, or water utility.
- The more stormwater you generate, the larger your fee.



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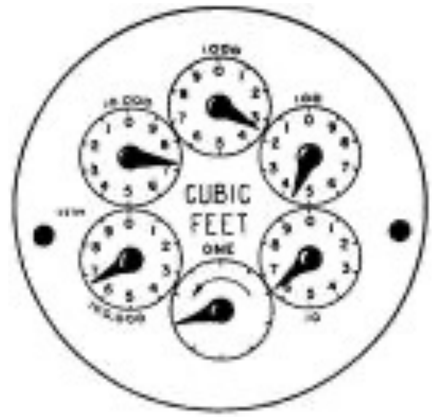


Water, Electric, and Sewer Use

Data Needs

- Tax Database (Grand List)
- GIS Parcel Layers
  - w/Accurate Parcel IDs
- Current Impervious Layer
  - Requires Aerial Imagery
- Land Use
  - Commercial vs. Residential

Stormwater Credits

- By installing storm water treatment practices a facility can reduce its fees by up to 50%
- No credit for SFR
  - A typical rain barrel installation would not even meet standards for WQv treatment

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%

BILLING & DATABASE

- South Burlington SW Utility:
  - Over 6,600 accounts total
  - Engage in sufficient public outreach before the first bills go in the mail.

How to Bill?

- Utilize existing water & sewer billing database
- Billing Scenarios:
  - Properties w/ single water account
  - Properties w/ multiple water accounts
  - Properties w/ no water account (“SW Only” accounts)
- Condo Properties – how are utilities currently billed?, Multiple associations, etc.
- Large Customers – UVM, Airport, VTrans
- Tenant / Owner Issues

Ongoing Billing & Database Maintenance

- Construction/demolition – update satellite imagery
- Property transfers & new leases
- Response to customer complaints – appeals and adjustments
- Activating approved SW Fee Credits

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.

Key Takeaway: A loan at "Year 0" can get the utility off the ground

South Burlington
Stormwater Utility

What Does the Utility Do?

- Maintains stormwater infrastructure
- Stormwater system assessment, inventory & mapping
- Maintains State and Federal permit compliance
- Illicit Discharge Detection and Elimination (IDDE)
- Water quality sampling
- Erosion control (during construction in the City)
- Watershed planning
- Capital improvement projects
- Public outreach and education
- Residential stormwater treatment system take-over

STORMWATER: Bill offers local solutions

Continued from Page 1A

sounded like a plan, which is better than where we were before."

Surprise

Winding Brook's problems surfaced a year ago when an attorney helping one resident sell a unit discovered the whole complex lacked a valid stormwater discharge permit, explained John Canning, vice president of the homeowner's association. The last valid permit had expired in 1985.

State officials confirm at least 300 stormwater permits were allowed to expire.

Winding Brook hired engineers to study the stormwater controls at the condo complex. Canning said a series of ditches direct water to a small pond intended to filter pollutants. Water in the pond is piped to a marshy area. "Stormwater seeps through there to Potash Brook."

Before the association could apply for a new permit, the Water Resources Board issued a decision invalidating the state's stormwater permit system. "We were caught in limbo," Canning said.

As a result, most real estate transactions at the condo complex last year included a requirement that $1,000 or more be set aside toward the cost of updating the stormwater system, Canning said.

Retirees in the complex worry about higher dues to cover expensive upgrades, Canning said. The association set aside money to cover future expenses, but "we don't know if it will be $7,000 or $70,000."

The association will hire engineers to determine how to achieve zero discharge. "If you do that analysis and get that price, that is going to be the worst it could be," Wennberg advised. Once state officials write a cleanup plan for nearby Potash Brook, he said the complex might not need to achieve zero discharge.

Wennberg promised Thursday the Potash Brook plan would be the first one written and it could be ready early next year.

Ready to go

From the door to his company's ground-floor headquarters, architect John Hausner can see a nearby site, overgrown with brush, for the next building in the planned village at Essex Town Center.

Homestead Design Inc. would like to break ground this summer on six town houses that would piggyback over small shops. The problem is its location adjacent to Indian Brook, one of the 17 impaired streams.

Hausner, Homestead Design's vice president, anxiously awaits the Legislature's remedy to the stormwater stalemate. Passage of the pending bill would allow Homestead Design to go forward with the town houses this summer, he said. He notes the proposed legislation also would force up the cost.

Until state officials write a cleanup plan for the Indian Brook watershed, the bill says new development such as Homestead Design's town houses and shops may not add a drop of new pollution to the brook. Hausner said that tough standard — net zero discharge — will force Homestead Design to reconstruct several sediment-collecting ponds at a cost of $70,000 to $100,000.

Hausner worries the no-new-discharge standard encourages sprawl. It would be easier to build in less-developed areas, he said, "where you don't have to deal with all this stuff."

Still, Hausner welcomes an end to the current regulatory stalemate. "It's is obviously terrific that something is coming out that is going to actually clean up state waters," he said. "I'm a fanatic fisherman so I welcome that development."

A remedy

Mike Barsotti, water-quality director for the Champlain Water District, unlocks the gate to a fenced, manmade pond. It's the first stop for murky rainwater draining off Shelburne Road near Shearer Chevrolet in South Burlington.

In a storm, the pond fills up, Barsotti explains. The water slowly drains to an adjacent marsh, leaving a layer of heavy sediments. In the marsh, the water meanders through native plants that absorb fine sediments. At the far end, the water cascades over rocks into Bartlett Brook on its way to Shelburne Bay in Lake Champlain.

"This is a demonstration project showing what can be done," Barsotti said. "When you look at how murky the water is here compared to what is coming out the other side — it is really remarkable."

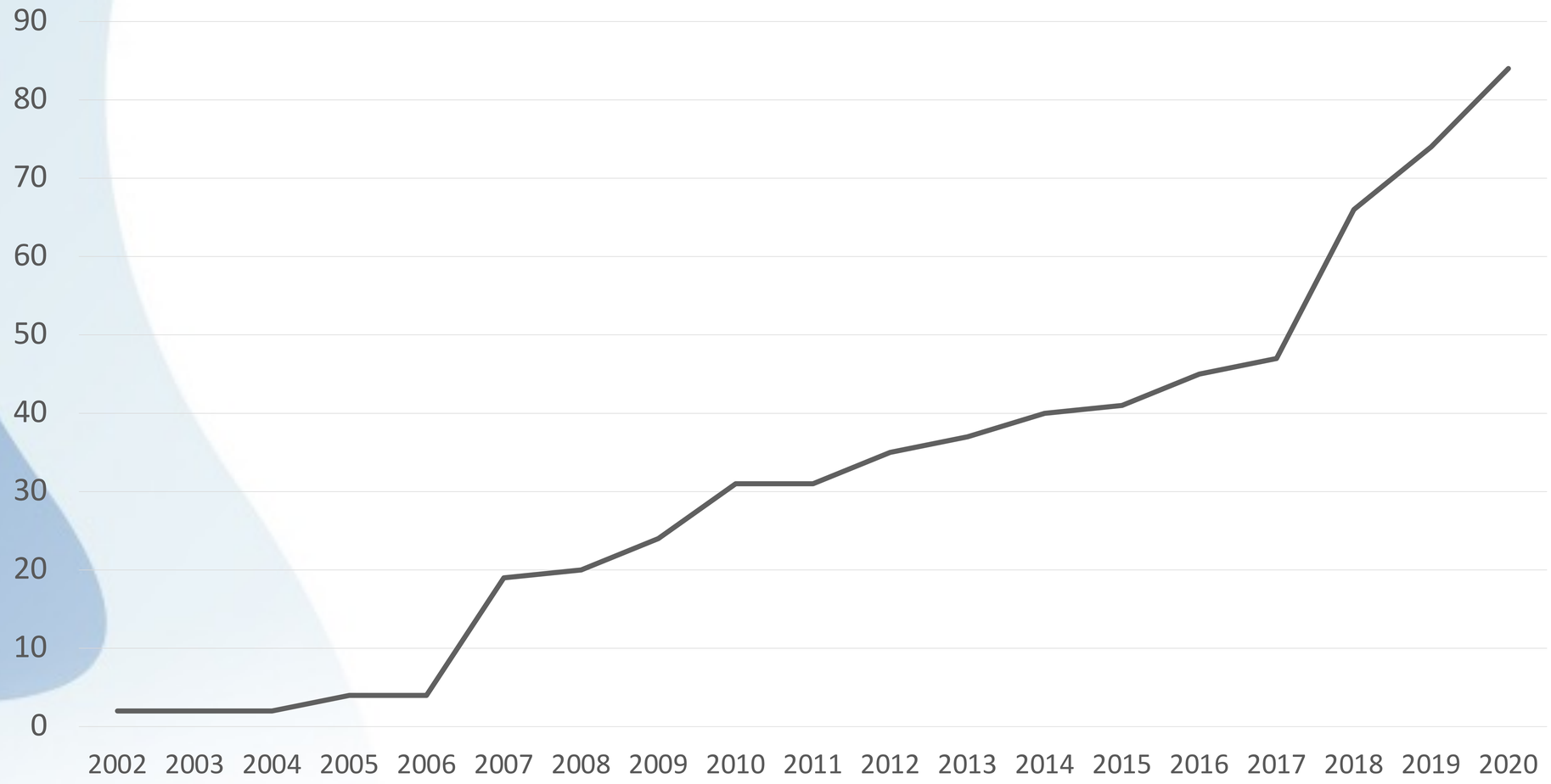
Lawmakers want to encourage similar projects that collect and treat stormwater

Residential Stormwater System Take-over

- Exclusively residential properties can apply to have the City take-over their State issued stormwater permit. Once transferred, the City will complete maintenance of the system.
- Commercial properties can apply to obtain permit coverage under the City's MS4 permit. They do their own maintenance and report to the City.

South Burlington
Stormwater Utility

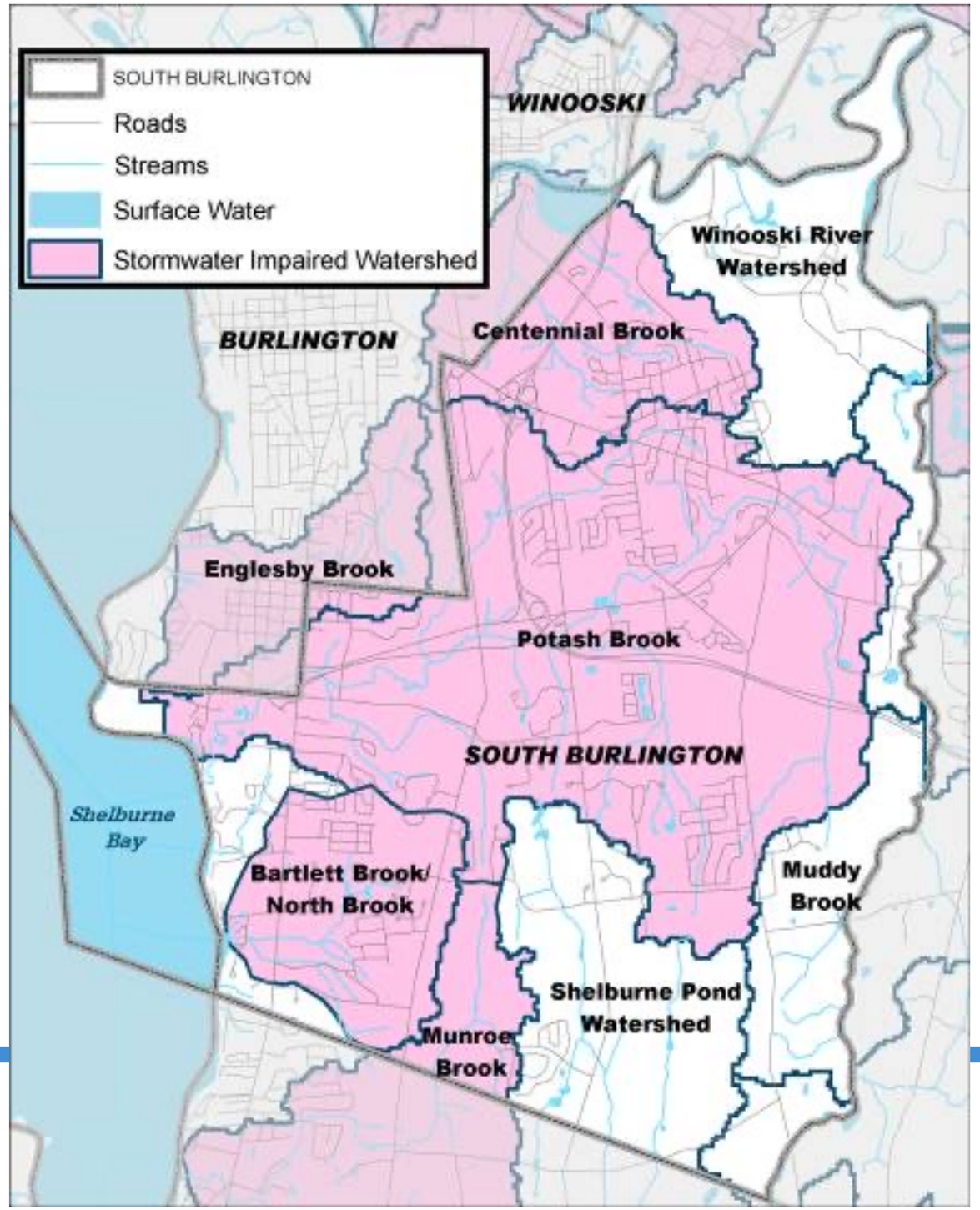
Number of Stormwater Treatment Practices (STPs) Maintained by South Burlington Stormwater Utility by Year



South Burlington
Stormwater Utility

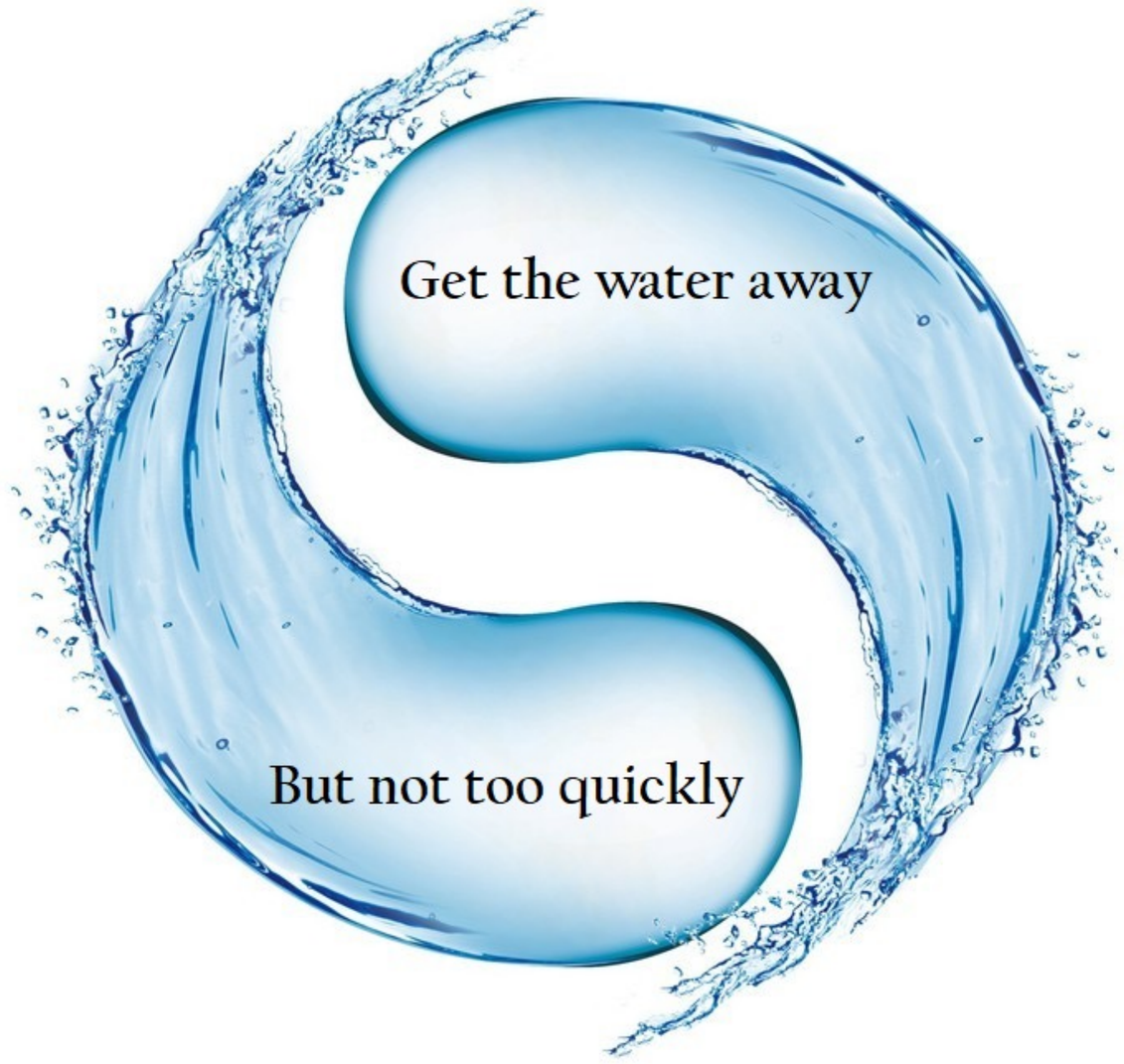
Total Maximum Daily Loads (TMDLs)

- Stormwater TMDLS:
  - Potash Brook
  - Bartlett Brook
  - Centennial Brook
  - Munroe Brook
  - Englesby Brook
- Phosphorous TMDL:
  - Lake Champlain
- 3-Acre Permits
- Driver of State & Local Regulations



South Burlington Stormwater Utility

The Dichotomy of Stormwater



South Burlington
Stormwater Utility

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**

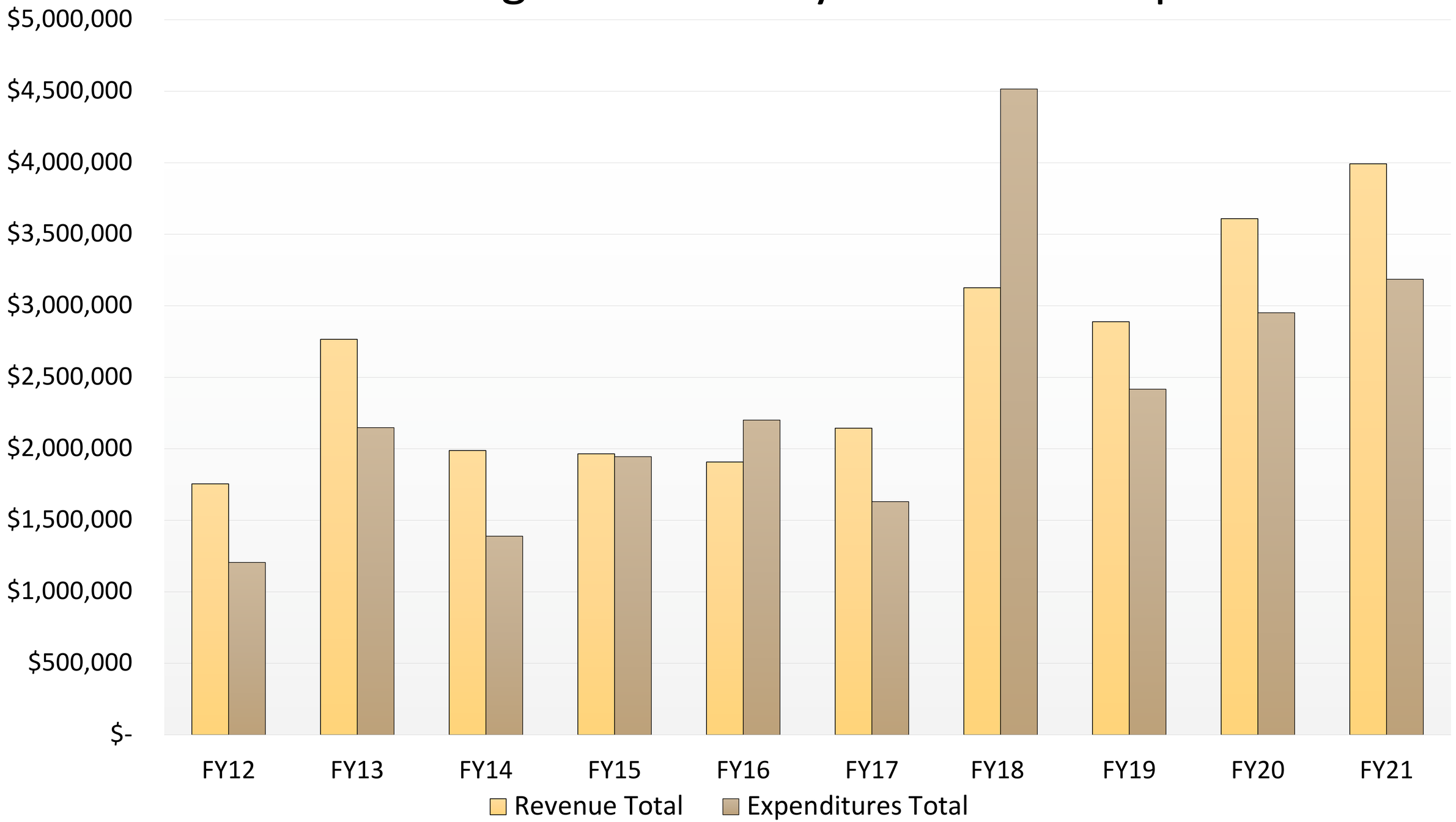
What the Utility Does Not Do

- Issue permits - Stormwater permits are issued by the Vermont Agency of Natural Resources.
- Settle disputes related to runoff or drainage between private property owners.
- Maintain stormwater infrastructure associated with commercial or industrial development.
- Solve problems related to wet basements.
- Go back in time and show developers what we now think is the correct way to design neighborhoods and build homes.

South Burlington Stormwater Revenue & Expenditures

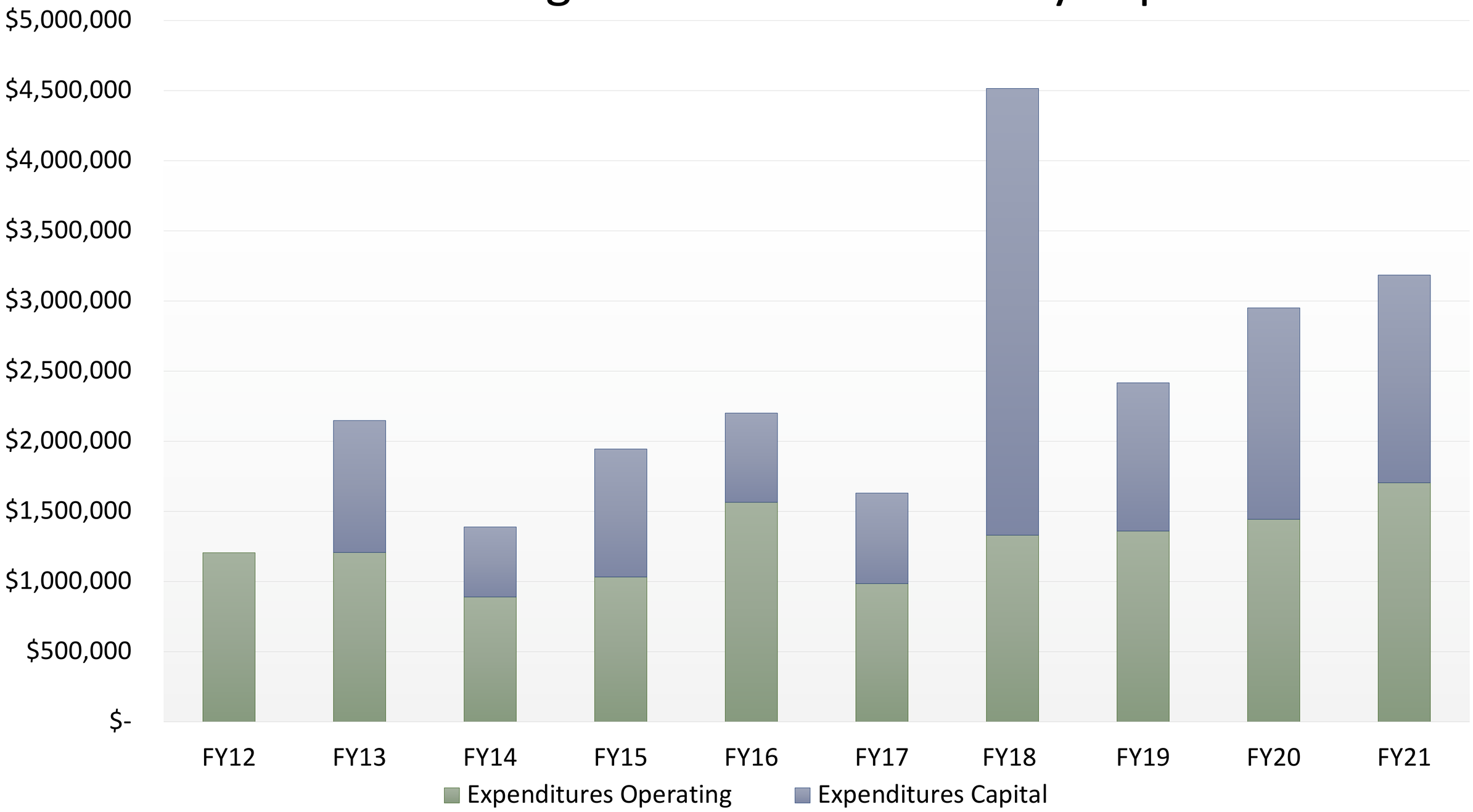
South Burlington
Stormwater Utility

South Burlington SW Utility Revenue & Expenditures



South Burlington
Stormwater Utility

South Burlington Stormwater Utility Expenditures

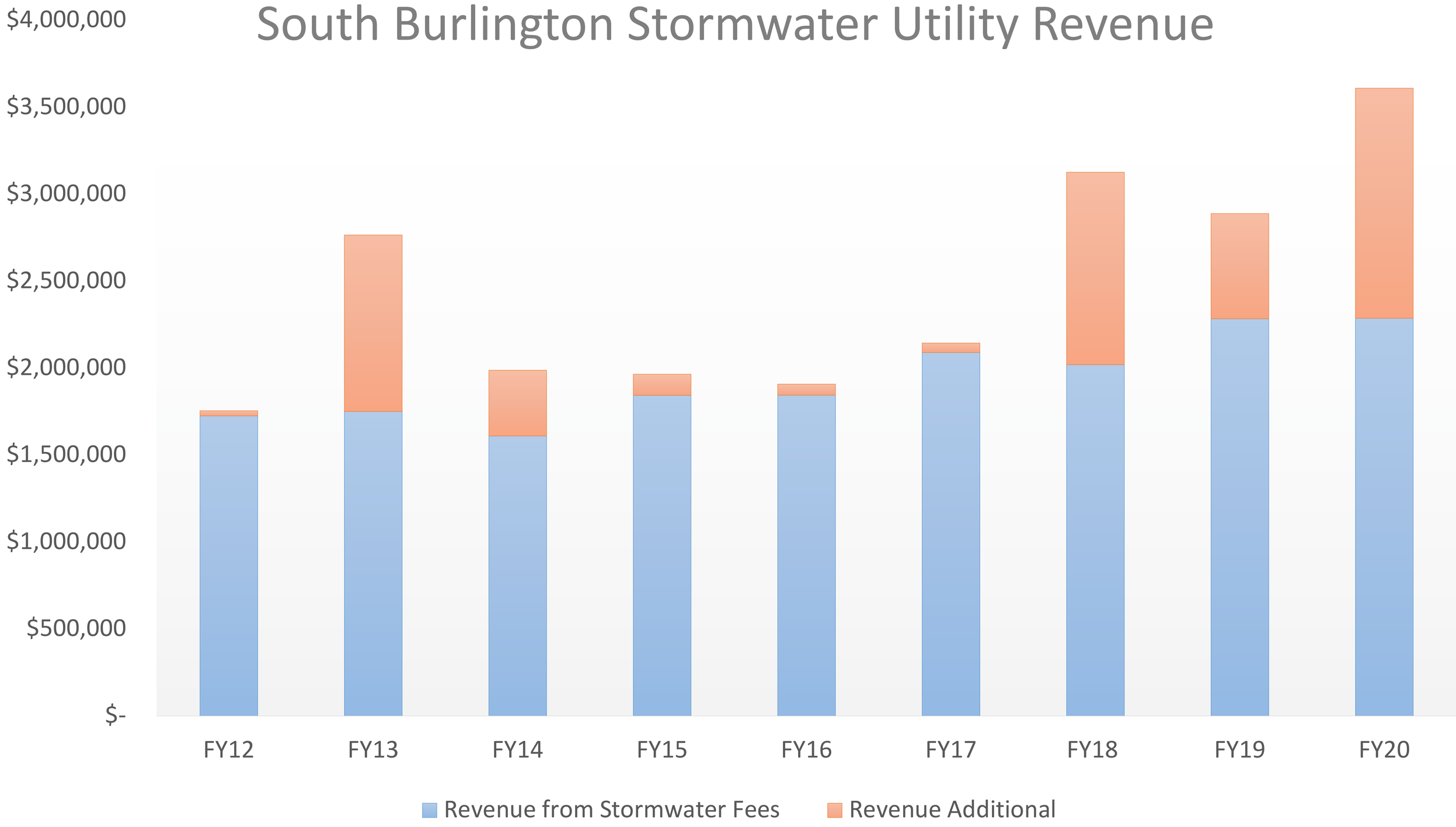


South Burlington
Stormwater Utility

Enterprise Fund - Cashflow

- Cashflow from one FY to another if projects are accelerated or delayed
- Cashflow to pay contractors and then submit for grant reimbursement
- Cash on hand for emergency repairs
- Cash match available to secure grant funding

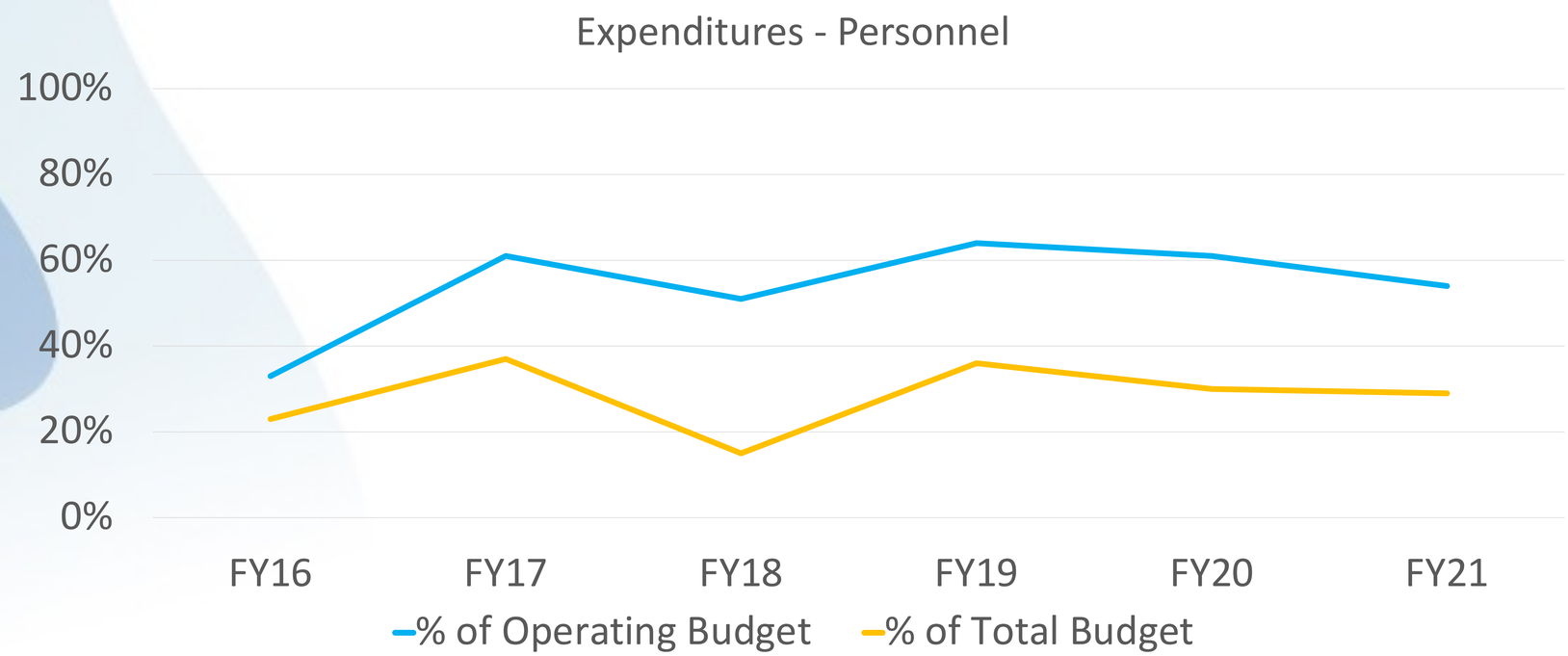
South Burlington Stormwater Utility Revenue



South Burlington
Stormwater Utility

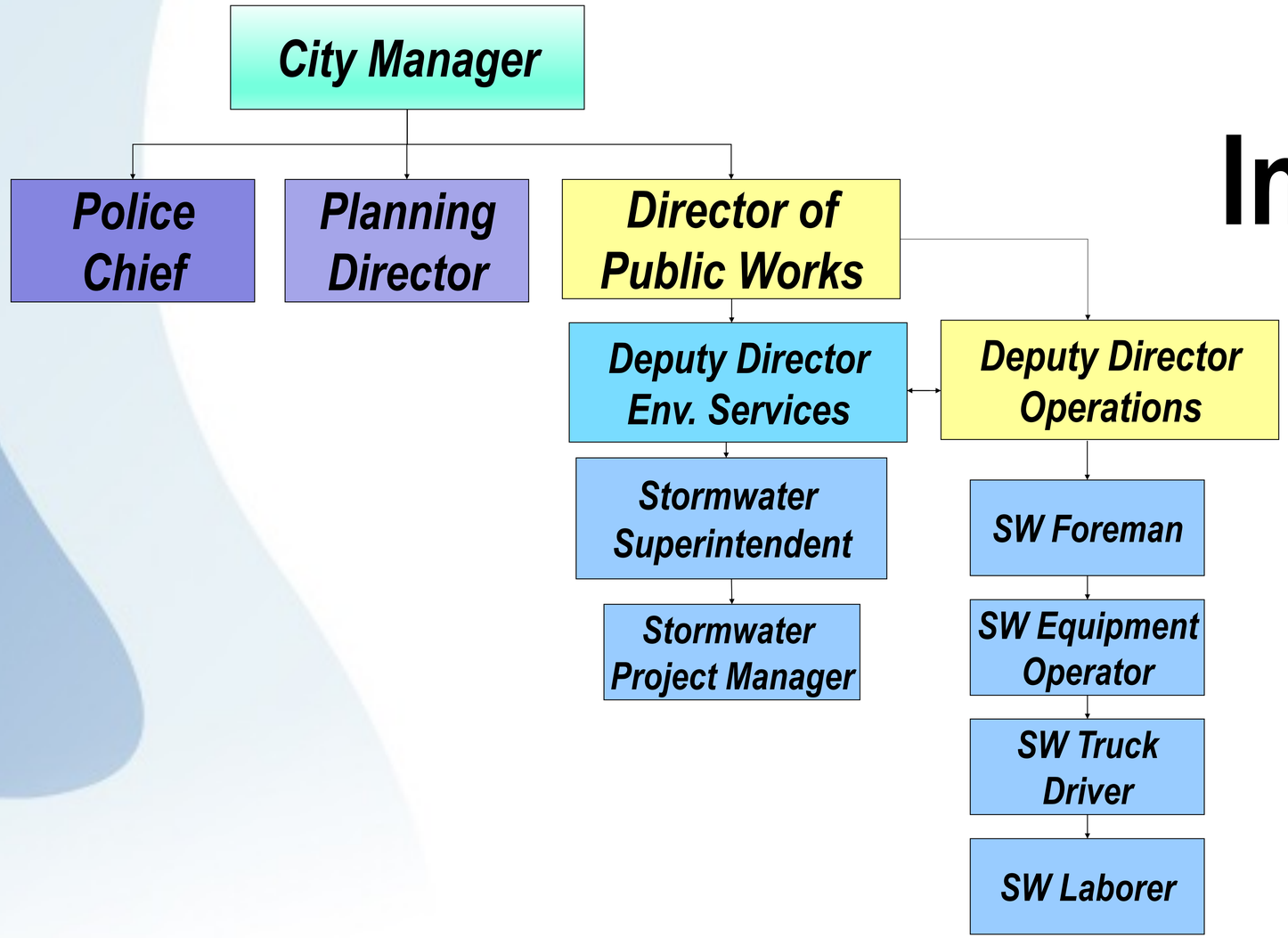
Stormwater Utility Expenditures

- Personnel: (~$800K)
  - 7 full time employees
  - Salary, OT, Health, Dental, Life Insurance, Pension, etc.



South Burlington
Stormwater Utility

Stormwater Utility Staff In FY22

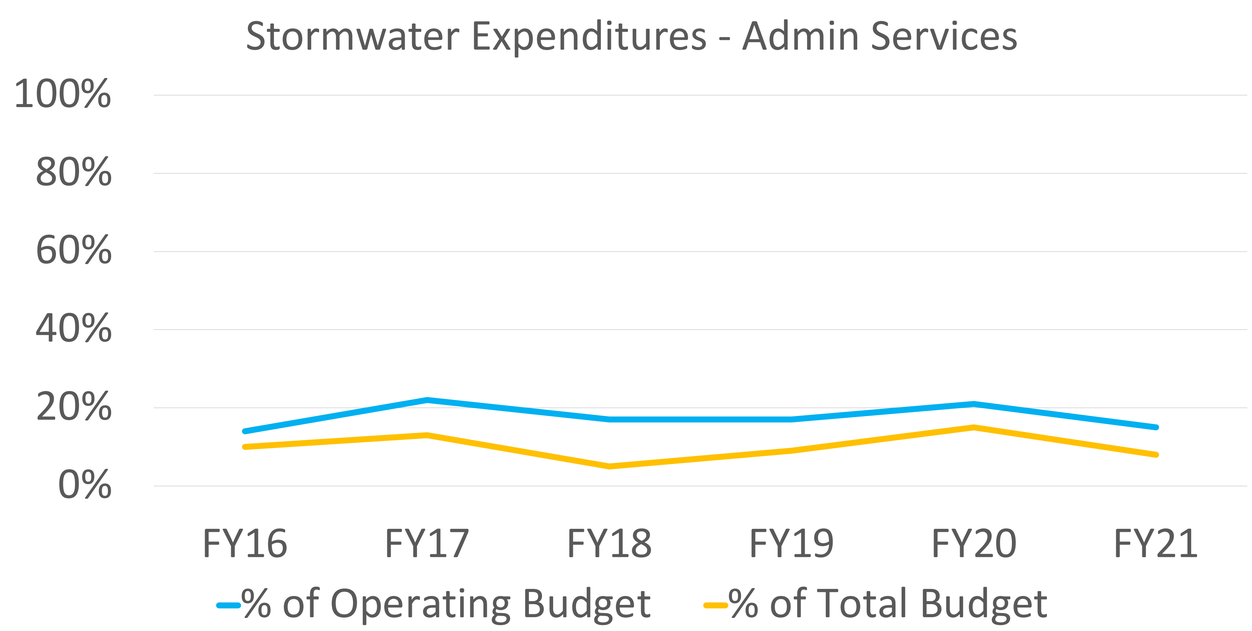


Stormwater Utility Expenditures

- Personnel: (~$800K)
  - Pond Mowing
  - STP Inspection
  - Catch Basin Cleaning & Inspection
  - IDDE Inspections
  - Construction Site Inspections
  - Construction Oversight
  - Plan Review
  - Project Planning
  - Public Outreach & Education

Stormwater Utility Expenditures

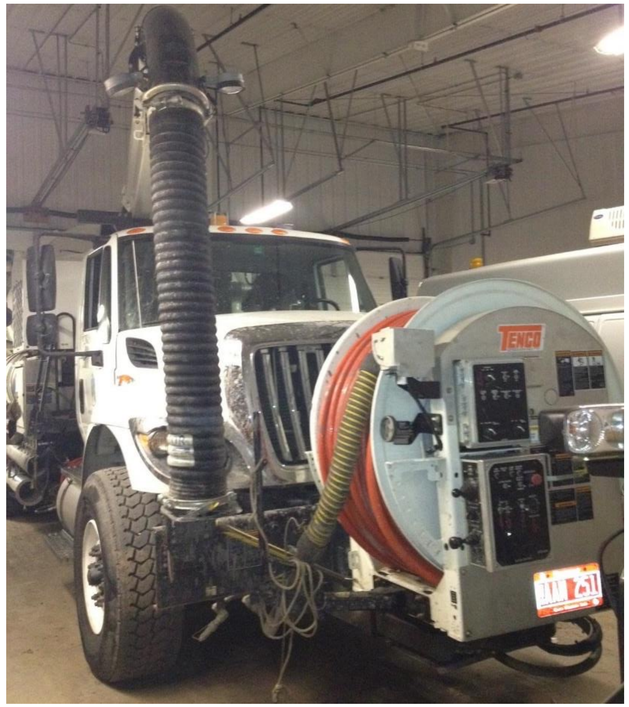
- Personnel: (~$800K)
- Administrative Services: (~$250K)
  - Office Supplies, Telephone, Utilities, Postage, Property Insurance, IT, Software, Printing, Building/Grounds, Billing



Stormwater Utility Expenditures

- Personnel: (~$800K)
- Administrative Services: (~$250K)
- Equipment: (~$200K)
  - Trucks, Fuel, Vehicle Maintenance, Tools, etc.

Equipment Overview



South Burlington
Stormwater Utility

Equipment Overview

South Burlington
Stormwater Utility

Equipment Overview

South Burlington
Stormwater Utility

Stormwater Utility Expenditures

- Personnel: (~$800K)
- Administrative Services: (~$250K)
- Equipment: (~$200K)
- Permit Requirements: (~$50K)
  - Permit Renewal, Water Quality Monitoring, Sediment Disposal, Education/Outreach, etc.

Stormwater Utility Expenditures

- Personnel: (~$800K)
- Administrative Services: (~$250K)
- Equipment: (~$200K)
- Permit Requirements: (~$50K)
- Engineering & Legal Services: (~$75K)
  - Residential Permit Coverage, Design Services, Flow Restoration Plan

Stormwater Utility Expenditures

- Personnel: (~$800K)
- Administrative Services: (~$250K)
- Equipment: (~$200K)
- Permit Requirements: (~$50K)
- Engineering & Legal Services: (~$75K)
- Capital Improvement Projects: (~$1.5M*)
  - Stormwater Treatment Practices, Storm Drain Repair, Culvert Upgrades, Construction Engineering

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
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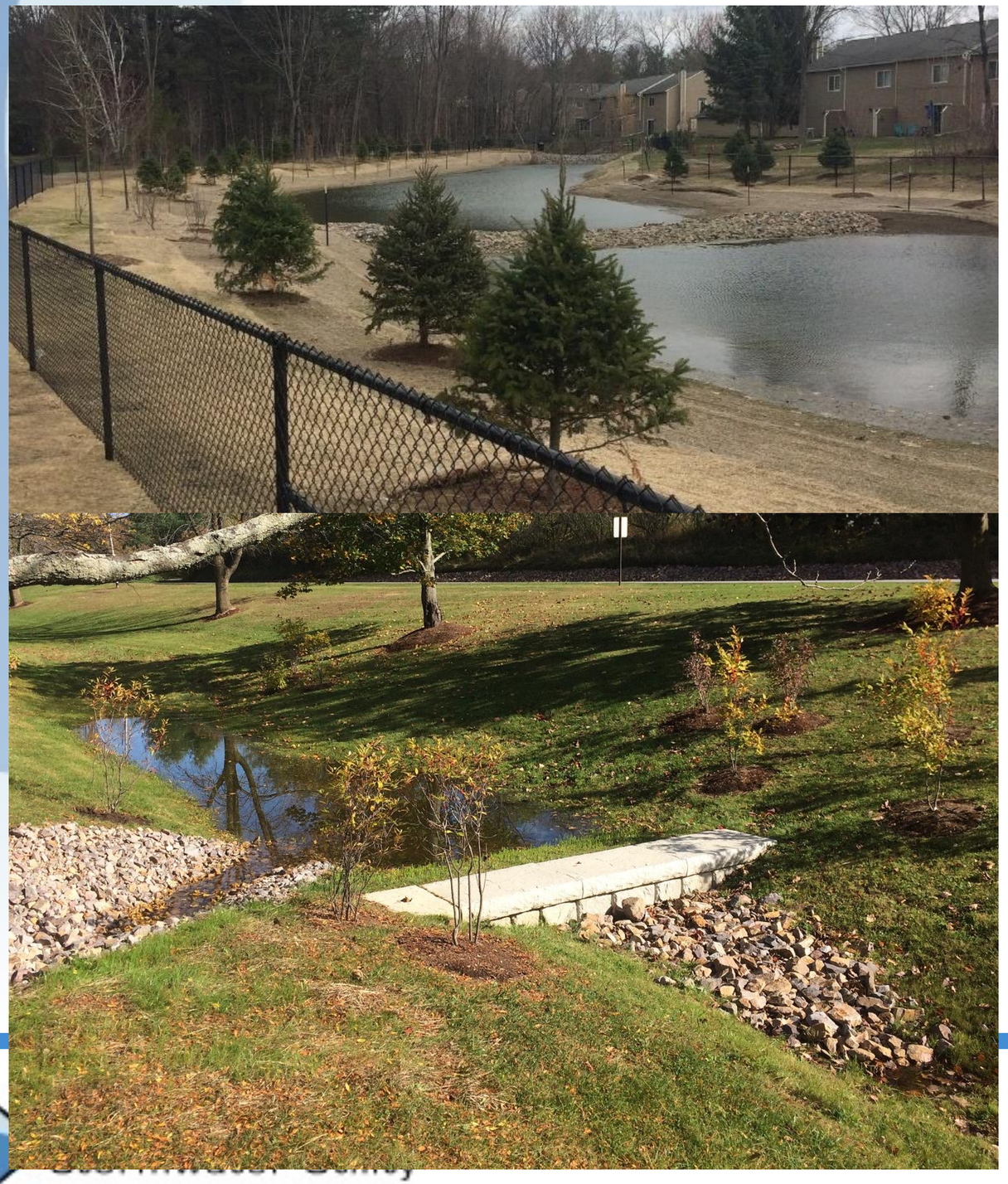
Total	**162**	**$38,650,000**	**$24,070,700**

Village at Dorset Park - 2017

View of Village at Dorset Park Pond 3 – Project included the upgrade of 3 stormwater treatment ponds to current standards.

- State Stormwater Permit Issue Resolved
- Retrofit of 3 Stormwater Ponds
- Project Cost: $520,000
  - –ERP Grant: $250,000

Stonehedge Stormwater Project – 2017



- Project Included: Construction of a Stormwater Pond, Installation of 3 Bio-Retention Areas, and Drainage Improvements
- Project Cost: $543,730
  - –Project Partnership Agreement with U.S. Army Corp of Engineers

Market Street Culvert Replacement – 2017

View of Replaced Culvert Facing Upstream

- Replaced Aging and Undersized Infrastructure
- Improved Aquatic Organism Passage (AOP)
- Increased Culvert Size to Address Climate Change
- Project Cost: $634,000

South Burlington
Stormwater Utility

Replacement of Two Culverts in Oak Creek Village – 2017

Placing Precast Culvert Sections Under Moss Glen Lane – The project included replacement of two undersized culverts in Oak Creek Village

- Replaced Aging and Undersized Infrastructure
- Improved Aquatic Organism Passage
- Increased Culvert Size to Address Climate Change
- Reduced Risk of Flooding
- Project Cost: $515,000
  - –TAP Grant: $ 300,000

South Burlington
Stormwater Utility

Laurel Hill South Drainage Improvements - 2017

Dual Pipe Installation – The project replaced old and undersized drainage pipe to prevent flooding and slow the rate at which stormwater flows to Bartlett Brook

- Reduced risk of neighborhood flooding
  - Allowed some homes to obtain homeowners insurance again!
- Slightly reduced TSS and TP reaching Bartlett Brook
- Slight reduction in stormwater flow to Bartlett Brook
- Project Cost: $745,429
  - Project Partnership Agreement with U.S. Army Corp of Engineers

South Burlington
Stormwater Utility

Bartlett Brook Central Treatment Wetland – 2017

The Bartlett Brook Central Stormwater Treatment Wetland Shortly After Construction – The project included construction of the treatment wetland and drainage improvements to direct additional water to treatment.

- Significant Reduction in Stormwater Flow To Bartlett Brook
- Significant Reduction in TSS and TP Reaching Bartlett Brook and Lake Champlain
- Project Cost: $767,140
  - –ERP Grant: $ 400,000

BMP Drainage Area	Impervious Area Managed (acres)	Project Cost	Cost per Impervious Acre Managed
70.71	16.37	$767,138	$46,862

South Burlington
Stormwater Utility

Iby Street Gravel Wetland - 2018

Iby Street Gravel Wetland During Construction – Project included construction of a small gravel wetland at the entrance to Dumont Park. Stormwater from the street and neighborhood previously discharged untreated to Potash Brook

- Reduced TSS and TP Reaching Potash Brook and Lake Champlain
- Flow reduction benefits to Potash Brook
- Provides Opportunity for Water Quality Education at Park Entrance
- Project Cost: $91,326
  - ERP Grant: $ 83,497

South Burlington
Stormwater Utility

Kennedy Drive Pond 3 - 2019

- The Project Will Reduce The Amount Of TSS and TP Reaching Potash Brook and Lake Champlain.
- The Project Will Provide Flow Reduction Benefits To Potash Brook (SW Impaired)
- Project Cost: $320,920
  - DEC Grant: $ 298,000

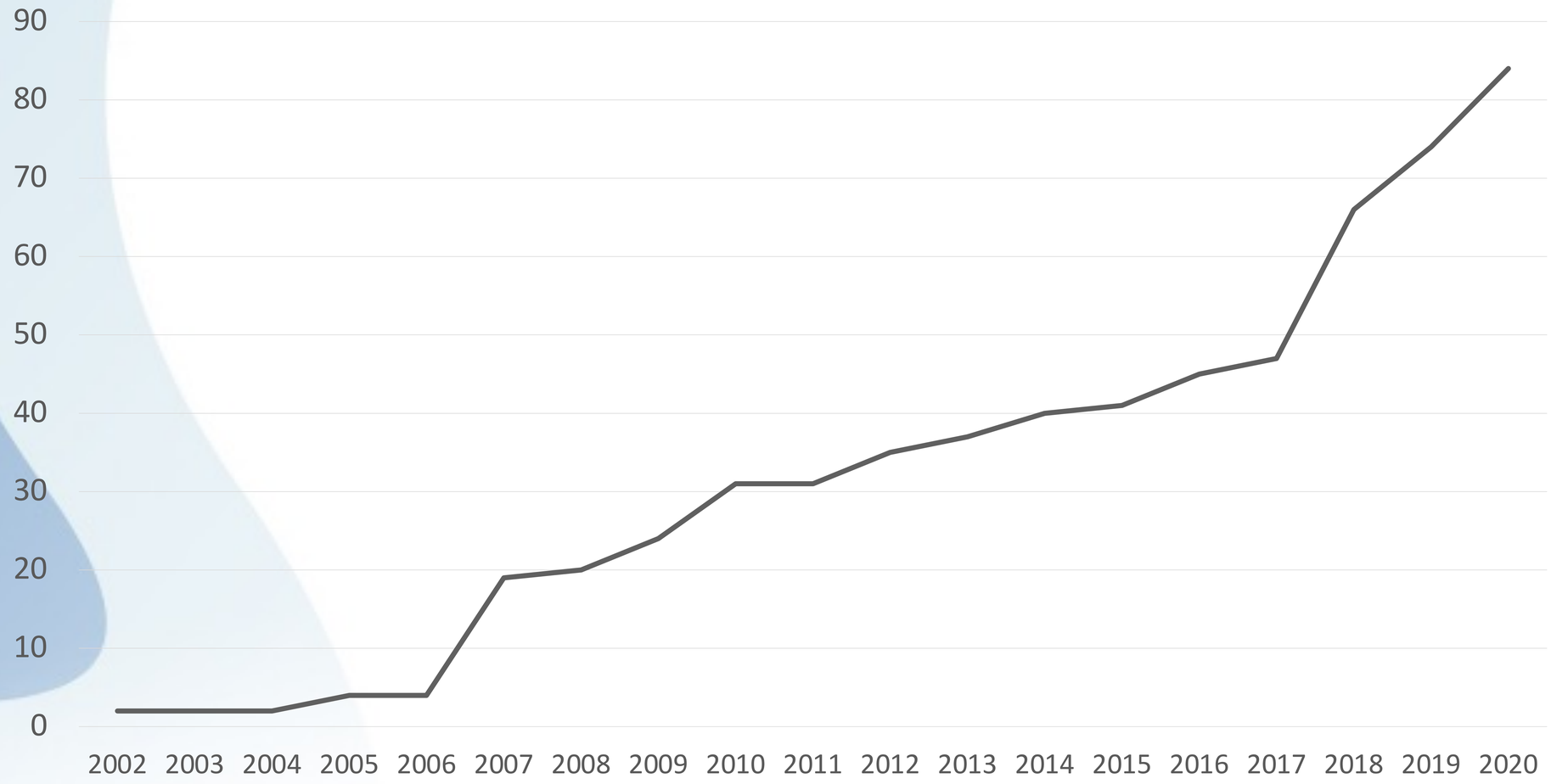
Pinnacle at Spear – 2019

- Resolved A State Stormwater Permit Issue
- Reduces TSS and TP Reaching Lake Champlain
- Provides Flow Reduction Benefits To Munroe and Bartlett Brooks (SW Impaired)
- Project Cost: $498,300
  - ERP Grant: $109,612
  - LCBP Grant: $125,000
  - CW Block Grant: $85,100
  - Total Grants: ~$319,712

Picard Circle - 2019

- The Project Reduces the Amount of TSS and TP Reaching Centennial Brook and Lake Champlain.
- The Project Provides Flow Reduction Benefits to Centennial Brook (SW Impaired)
- Project Cost: $695,000
  - Vtrans Grant: $229,600

Number of Stormwater Treatment Practices (STPs) Maintained by South Burlington Stormwater Utility by Year



South Burlington
Stormwater Utility

Pause for Questions?

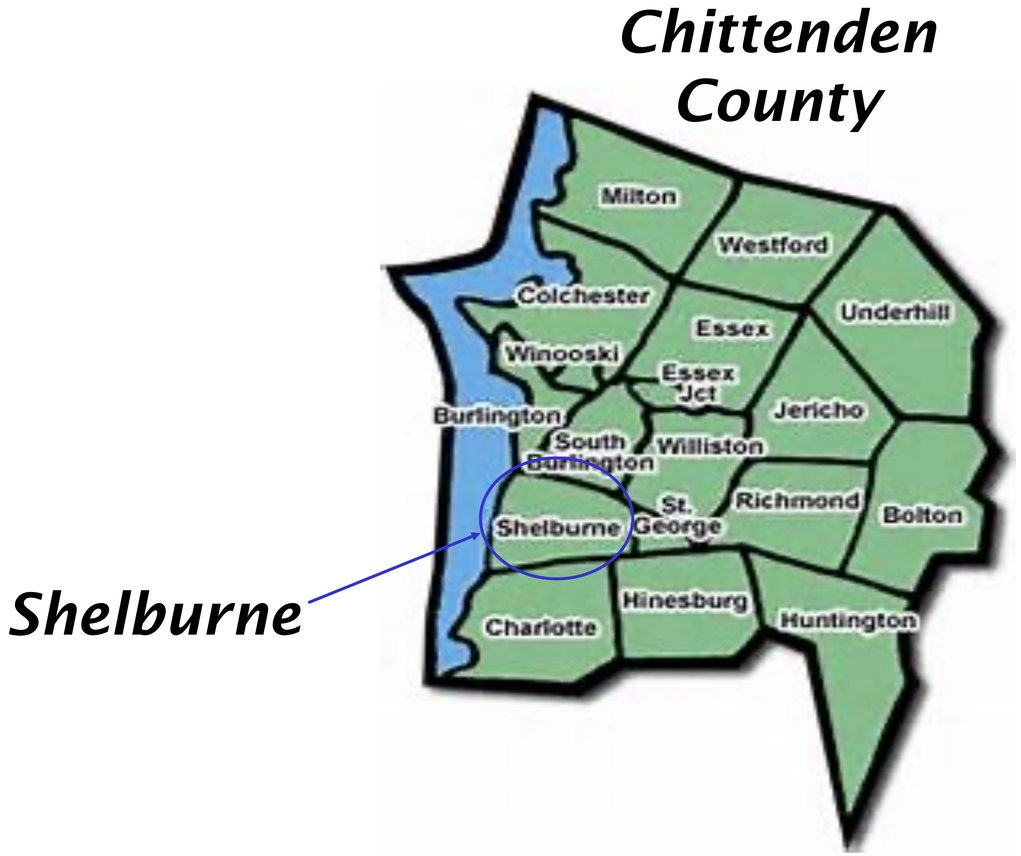
Up Next: Shelburne Collaboration

South Burlington
Stormwater Utility

The Town of SHELBURNE Vermont

Shelburne Overview

- Population: ~ 7,750
- Catch Basins: 887
- Major Features:
  - Shelburne Museum
  - Shelburne Farms
  - Vermont Teddy Bear Factory
  - Fiddlehead Brewery
- No Public Works Director



Town of Shelburne, Vermont

CHARTERED 1763

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

Shelburne's Stormwater Requirements

- MS4 Designated (since 2002)
- Flow Restoration Plan (2012) – Munroe Brook
- Expired Permits: 12 (7 potential Town-owned)
- Town owned permits: 13 currently

Shelburne & South Burlington Stormwater Agreement

- Inter-Municipal agreement in place that allows Shelburne to obtain assistance from South Burlington SW Utility for specific tasks.
- Includes both “field work” and “administrative work”.

Shelburne Stormwater Requirements

- State Stormwater Permits
  - Inspect SW Systems — $1,200
  - Maintain SW Systems — $6,000
  - Restatement of Compliance — $1,200
  - Renewal and Annual Fees — $1,200
  - Other Permit Requirements — $800
  - FRPs
    - Model Updates — $1,800
    - Annual Reporting & Project Development — $12,800
- MS4 Permit
  - Six Minimum Measures
    - Public Education & Outreach
      - Web Site — $800*
      - Attend RSEP Meeting — $400
      - Make RSEP Payment — $5,000
      - Provide Info During Dog Licensing — $500
    - Public Involvement & Participation
      - Storm Drain Stenciling — $400
      - Attend CCST Meeting — $600
      - Make CCST Payment — $1,850
      - SW Watch Group — $2,600
    - IDDE
      - Maintain SW Map — $2,400
      - Conduct Outfall Inspections — $2,000
    - Construction Site SW Management
      - Review EPSC Plans — $2,400
      - Maintain SW Ordinance, PW Specs, and Zoning Bylaws — $400
    - Post-Construction SW Management
      - Inspect STPs Associated w/ State Permits — $5,300
    - Pollution Prevention & Good Housekeeping
      - Calibrate Salt Spreaders on Plows — $400
      - Limit Use of Sand In Winter — $0
      - Handling of Waste Fluids — $ 0
      - Inspect Storm Drains Annually — $12,000
      - Clean Storm Drains as Needed — $2,000
      - Sweep Streets in the Spring — $5,500
      - Participate in MCAP Program — $400
      - Provide Pet Waste Bags — $5,300
  - Reporting & Permit Fee
    - Prepare MS4 Annual Report & Pay Fee — $500
  - Stream Flow Monitoring
    - Make Annual Payment to Stream Flow Monitoring Program — $12,200
  - Expired Permits
    - Develop Policy & Deal With Expired Permits — $2,500
    - Implement Expired Permit Policy — $10,000
- Maintenance of Non-MS4 Drainage Infrastructure
  - Culverts — $9,000
  - Swales — $4,000
  - Storm Drain and Pipes — $7,000
- Stormwater Program
  - Administration — $10,000
  - Legal — $20,000

South Burlington Stormwater Utility $77,200*

Town of Shelburne $84,350*

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.

SB Stormwater Utility Assets

- Two (2) vacuum assisted street sweepers (~$250,000 each)
- Two (2) vacuum trucks ($500,000 each)
- One (1) small excavator ($52,000,shared with highway department)
- One (1) large excavator ($180,000, shared with highway department)
- One (1) dump truck ($150,000)
- Two (2) pickup trucks (~$28,000 each)
- Multiple mowers and attachments (shared with highway department)

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?

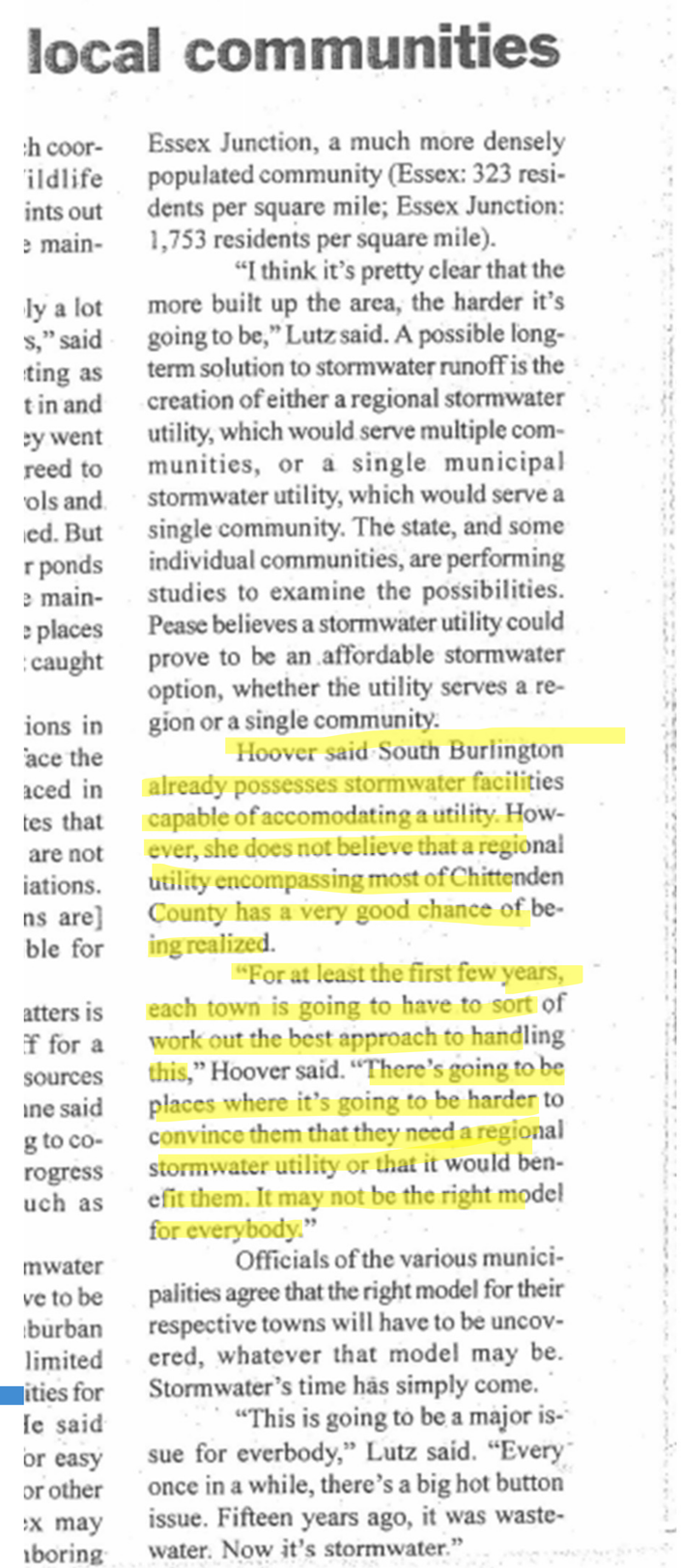
Town of Shelburne, Vermont

CHARTERED 1763

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

Why Don't We See More of This?

- No strong county government to enable this.
- Municipalities want to retain control of operations and "do things their own way".
- Difficult determining a workable structure.
- Concerns over accountability.



local communities

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Essex Junction, a much more densely populated community (Essex: 323 residents per square mile; Essex Junction: 1,753 residents per square mile).

"I think it's pretty clear that the more built up the area, the harder it's going to be," Lutz said. A possible long-term solution to stormwater runoff is the creation of either a regional stormwater utility, which would serve multiple communities, or a single municipal stormwater utility, which would serve a single community. The state, and some individual communities, are performing studies to examine the possibilities. Pease believes a stormwater utility could prove to be an affordable stormwater option, whether the utility serves a region or a single community.

Hoover said South Burlington already possesses stormwater facilities capable of accomodating a utility. However, she does not believe that a regional utility encompassing most of Chittenden County has a very good chance of being realized.

"For at least the first few years, each town is going to have to sort of work out the best approach to handling this," Hoover said. "There's going to be places where it's going to be harder to convince them that they need a regional stormwater utility or that it would benefit them. It may not be the right model for everybody."

Officials of the various municipalities agree that the right model for their respective towns will have to be uncovered, whatever that model may be. Stormwater's time has simply come.

"This is going to be a major issue for everbody," Lutz said. "Every once in a while, there's a big hot button issue. Fifteen years ago, it was wastewater. Now it's stormwater."

Town of Shelburne, Vermont

CHARTERED 1763

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

Overcoming Challenges

- First attempt to pass Stormwater Ordinance failed
- Held additional public meetings and met with Non-Profit Organizations to discuss concerns
- Tailored Stormwater Ordinance to better fir the community, including an updated Credit Policy
- Passed the revised Stormwater Ordinance

Collaboration Potential

- MCM 1 : Pubic Education ✓ ✓
- MCM 2: Public Participation ✓ ✓
- MCM 3: IDDE ✓
- MCM 4: Construction Site Stormwater Runoff Control ✓
- MCM 5: Post-Construction Stormwater Control
- MCM 6: Good Housekeeping
- Capital Projects: ?

RETHINK RUNOFF

THE STREAM TEAM

Beg, Steal or Borrow

- Look at what has been done in neighboring communities/States when:
  - Establishing Ordinances
  - Developing Policies
  - Adopting Zoning Regulations
- This provides consistency for local residents, contractors, developers, engineers and regulators

Contact Information

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South Burlington
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dwheeler@southburlingtonvt.gov

South Burlington
Stormwater Services

www.sburlstormwater.com